

**SPECIFICATIONS
FOR
IMPROVEMENTS TO WATCHUNG STABLE EQUESTRIAN CENTER
BOROUGH OF MOUNTAINSIDE, COUNTY OF UNION, NEW JERSEY
BA#33-2015; UNION COUNTY ENGINEERING PROJECT #2010-020**

JULY 2015

**UNION COUNTY OFFICIALS
BOARD OF CHOSEN FREEHOLDERS**

Mohamed S. Jalloh, Chairman
Bruce H. Bergen, Vice Chairman
Linda Carter, Freeholder
Angel G. Estrada, Freeholder
Sergio Granados, Freeholder
Christopher Hudak, Freeholder
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Vernell Wright, Freeholder

CLERK OF THE BOARD

James E. Pellettiere, RMC

COUNTY MANAGER

Alfred J. Faella

**DEPUTY COUNTY MANAGER
DIRECTOR OF ECONOMIC DEVELOPMENT**

William Reyes, Jr.

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

Joseph A. Graziano, Sr., CPWM, Director

**COUNTY ENGINEER
DIVISION OF ENGINEERING**

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

**Neglia Engineering Associates
1119 Raritan Road**

Clark, New Jersey 07066

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**IMPROVEMENTS TO WATCHUNG STABLE EQUESTRIAN CENTER
BOROUGH OF MOUNTAINSIDE, COUNTY OF UNION, NEW JERSEY
BA#33-2015; UNION COUNTY ENGINEERING PROJECT #2010-020**

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(Draft form until contract is awarded)

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION AIA DOCUMENT A-201/2007
(Draft form until contract is awarded)

TECHNICAL SPECIFICATIONS

GEOTECHNICAL REPORT

**COUNTY OF UNION
NOTICE TO BIDDERS**

Sealed bids will be received by the director of the Division of Purchasing, or his designee, at the County of Union, New Jersey on August 20, 2015 at 2:30 p.m., prevailing time, in the 3rd Floor Conference Room, U.C. Administration Building, 10 Elizabethtown Plaza, Elizabeth, New Jersey for:

**IMPROVEMENTS TO WATCHUNG STABLE EQUESTRIAN CENTER
BOROUGH OF MOUNTAINSIDE, COUNTY OF UNION, NEW JERSEY
BA#33-2015; UNION COUNTY ENGINEERING PROJECT #2010-020**

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.

A **pre-bid meeting** will be held on August 4, 2015 at 10:30 am. The meeting will be located at the Watchung Stables, 1160 Summit Lane, Mountainside, New Jersey. Specific questions regarding the project will be addressed at the pre-bid meeting.

Bidders on this project are required to be classified by the State of NJ, Division of Property Management and Construction (DPMC) under classification(s) C008 and/or C009 and/or C054 and C019 as well as other documentary requirements in the INSTRUCTION TO BIDDERS found in the bid specification. If the Bidder himself does not have the required classification(s) as stated above, the Bidder must include and identify a subcontractor(s) who has the required classification(s) in the List of Subcontractors.

The County reserves the right to reject any and all bids and to waive any and all informalities in the bid.

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

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

MICHAEL M. YUSKA – DIRECTOR OF PURCHASING

**UNION COUNTY BOARD
OF CHOSEN FREEHOLDERS**

We're Connected to You!

NB-1

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

DEFINITIONS

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

OWNER/COUNTY:

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

ADDRESS BIDS AND SUBMIT TO:

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

**TITLE OF PROJECT: Improvements to Watchung Stable Equestrian Center
Borough of Mountainside, County of Union, New Jersey
BA#33-2015; Union County Engineering Project #2010-020**

BIDDER: Bidder shall be a single overall contract bidder

**ARCHITECT/ENGINEER: Neglia Engineering Associates
1119 Raritan Road
Clark, New Jersey 07066**

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

COUNTY ENGINEER:

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

CONSTRUCTION MANAGER:

GENERAL SPECIFICATIONS

1. BID FORM

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

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

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

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

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 39, Change Orders, of these general specifications for further details.

Refer to Bid Document Submission Checklist for all required documents.

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

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

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

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

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

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

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

2. WITHDRAWAL OF BID DUE TO MISTAKE

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

A bidder claiming a mistake under N.J.S.A. 40A:11-23.3 must submit a request for withdrawal, **in writing**, by certified or registered mail to Michael M. Yuska, QPA, Director, Division of Purchasing, County of Union, New Jersey, Union County

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

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

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

3. QUALIFICATIONS OF BIDDERS AND REQUIRED SUBMISSIONS

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

4. INTERPRETATIONS AND ADDENDA

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

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

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

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

5. OBLIGATION OF BIDDER TO INSPECT SITE AND CONTRACT DOCUMENTS

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

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

6. BID AND PERFORMANCE GUARANTEE

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

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

A one-year Maintenance Bond will be required upon acceptance of the Project by the County in the amount as stated in Section 17 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. CLASSIFICATION AND QUALIFICATION OF BIDDERS

Pursuant to Ordinance Number 557-2002 as adopted by the County on September 5, 2002, all bidders on contracts for public works shall be classified and qualified in accordance with NJSA 40A:11-25 as well as NJSA 52:35-1 et. seq. (See Section 52 of the General Specifications)

This provision shall not apply to subcontractors.

10. UNCOMPLETED CONTRACTS (BUILDING PROJECTS ONLY)

The Bidder shall submit a current Classification/Prequalification Certificate and accompanying form(s) indicating the dollar amount of uncompleted contracts, and a notarized and itemized list of these uncompleted contracts in the form provided, with their bid. (See form enclosed)

11. 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."

12. 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.

13. 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 on-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.

14. 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."

15. 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.

16. 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".

17. 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.

18. 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.

19. 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.

20. 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)

21. 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.

22. 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.

23. COMPLIANCE WITH NEW JERSEY PREVAILING WAGE ACT

The County of Union, in order to fulfill the requirements of N.J.S.A. 34:11-56a.25 et seq, requires that the following additional conditions be strictly followed. The bidders represent that he is not listed or is not on record in the Office of the Commissioner or the Department of Labor and Industry as one who failed to pay prevailing wages in

accordance with the provisions of this Act. The bidder agrees to the inclusion of a contract provision upon award which specifically requires said Contractor to fully comply with each and all of the requirements of the aforesaid Act as it relates to prevailing rates of wages on public contracts as set forth in the New Jersey Prevailing Wage Act, P.L. 1963, Chapter 150 and P.L. 1974, Chapter 64.

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

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

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

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

In addition to compliance with the New Jersey Prevailing Wage Act, the County requires compliance with procedures established by Resolution No. 2014-0408 adopted by the Union County Board of Chosen Freeholders on May 8, 2014. The resolution is furnished in Section 53 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)

24. 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.

25. 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.

26. NUMBER OF WORKING DAYS

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

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

27. PROMPT PAYMENT OF CONSTRUCTION CONTRACTS (NJ Prompt Payment Act)

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

1. All contractor bills shall be either approved for payment, or notice provided as to why the bill or any portion of it will not be approved by the representative(s) of the governing body no later than the public meeting following 20 calendar days of the billing date as defined in the statute.
2. If the billing is approved, said bill shall be paid in the payment cycle following the meeting.

28. 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.

29. 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.

30. 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.

31. 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.

32. 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.

33. SUB-LETTING OF WORK

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

All Subcontractors will be subject to NJSA 34:11-56 et al.

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

34. SAFETY

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

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

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

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

35. 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.

36. 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.

37. PERMITS

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

38. 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.

39. 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.

40. 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 38. 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.

41. FORM OF CONTRACT

Contracts will be let on the attached Form of Agreement Between County (“Owner”) and Contractor (AIA 101), and General Conditions (AIA 201), as supplemented.

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.

42. PROGRESS PAYMENTS

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

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

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

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

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

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

When the Project is completed, the final cost of the Project will be based on actual quantities of authorized Work done under each item scheduled in the bidding sheet and approved Change Orders, if any. The money due to the Contractor as determined by said final certificate after deduction of previous monthly payments on account, will be paid to the Contractor in accordance with the terms of the contract dealing with Prompt Payment, providing, however that before such final payment is made, all outstanding claims against the Contractor must be satisfied. Before final payment is released, the Contractor must furnish: **a)** Maintenance Bond (see Section 17 of these general specifications); **b)** Certification of Compliance, New Jersey Prevailing Wage Act (see Sections 23 & 53); and **c)** General Release (see Section 38) 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.

43. 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.

44. 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.

45. 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.

46. 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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47. INVESTMENT ACTIVITIES WITH IRAN

Pursuant to P.L. 2012, c.25, codified as NJSA 52:32-55 *et seq.*, prohibits State and local public contracts with persons or entities engaging in certain investment activities in energy or finance sectors of Iran.

48. COMPLIANCE WITH THE PUBLIC WORKS CONTRACTOR REGISTRATION ACT - (NJSA 34:11-56.48 *et. seq.*)

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

49. 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.

50. 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.

51. 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.

52. 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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**53. RESOLUTION NO. 2014-0408 ADOPTED ON
MAY 8, 2014 BY THE UNION COUNTY BOARD OF CHOSEN
FREEHOLDERS**

In addition to compliance with the New Jersey Prevailing Wage Act, the Contractor shall comply with the requirement as set forth in Resolution No. 2014-0408 adopted on May 8, 2014 by the Union County Board of Chosen Freeholders.

**UNION COUNTY BOARD OF CHOSEN FREEHOLDERS RESOLUTION
NO. 2014-0408 DATED: 05/08/2014**

WHEREAS, the County of Union recognizes there is a need to ensure that all work on significant public construction and maintenance contracts is performed by responsible, qualified firms that maintain the capacity, expertise, personnel, and other qualifications and resources necessary to successfully perform public contracts in a timely, reliable, and cost-effective manner; and

WHEREAS, in order to effectuate the purpose of selecting responsible contractors for significant public contracts and to protect Union County's capital investments in such contracts prospective contractors and subcontractors should be required to meet pre-established, clearly-defined, minimum standards relating to contractor responsibility, including requirements and criteria concerning qualifications, competency, expertise, adequacy of resources, including equipment, financial and personnel, and satisfactory records regarding past project performance, safety, legal compliance and business integrity; and

WHEREAS, the County has a compelling interest in assuring that its Public Works Projects meet the highest standard of safety and quality; and

WHEREAS, due to the critical impact that skilled construction craft labor has on public works projects, and due to the limited availability of skilled construction craft labor and imminent craft labor skill shortages, it is necessary to require contractors and subcontractors to participate in established, formal apprenticeship training programs for the purpose of both promoting successful project delivery and ensuring future workforce development; and

WHEREAS, an apprenticeship program is a structured system of training designed to prepare individuals for occupations and life long careers in skilled trades and crafts by providing a wage-paying job that incorporates extensive workplace and classroom training under the supervision of experienced workers, in preparation for highly skilled occupations; and

WHEREAS, apprenticeship programs are a critical component in public safety, by ensuring that workers on public projects are properly trained, able, competent and capable craftsmen, and provide assurance of compliance with the County's bid specifications and achieve high quality standards; and

WHEREAS, for an apprenticeship program to be fully effective, the public and private sectors must recognize its value and commit to supporting its mission; and

WHEREAS, Union County has long recognized the value of apprenticeship programs through its support of the Union County Vocational-Technical Schools, which offer training programs to help ensure that Union County will continue to produce a skilled and educated work force in the trade specialties, and thus, strengthen Union County's economy by fostering the development of highly paid trade and craft careers; and

WHEREAS, the use of apprenticeship programs or apprenticeship trained employees on Union County Public Works Projects will serve the dual goal of providing the County with assurance that its public works projects are completed with a well-trained workforce, in a highly skilled and timely fashion, while creating opportunities for careers in the skilled trades and craft industry for County residents.

WHEREAS, the County of Union also recognizes that it is beneficial to their employees to utilize fair business, employment, and training practices that have a positive impact on local communities affected by such contracts.

NOW, THEREFORE, BE IT RESOLVED by the Board of Chosen Freeholders of the County of Union as follows:

1. The County of Union shall require compliance with the provisions of this Resolution by business entities seeking to provide services to the County of Union as specified herein. The requirements of this Resolution are intended to supplement, not replace, existing contractor qualifications and performance standards or criteria currently required by law, public policy or contracting documents, including but not limited to Union County's DPMC classification and Project Labor Agreement policies
2. All contractors and subcontractors that perform significant work on any public facility or public works project, including construction, alteration, renovation, repair, service, or maintenance work, shall meet the requirements of this Resolution. For purposes of this Resolution, the term "significant work" shall be defined as any work or activity covered under the New Jersey Prevailing Wage Act, N.J.S.A. 34:11-56.25 et seq.
3. All firms engaged in contracts covered by this Resolution shall be qualified responsible contractors or subcontractors that have sufficient capabilities in all respects to successfully perform contracts on which they are engaged, including the necessary experience, equipment, technical skills and qualifications and organizational, financial and personnel resources. Firms bidding on public contracts shall also be required to

have a satisfactory past performance record and a satisfactory record of legal compliance, integrity and business ethics. Compliance with these standards shall be established by compliance with the requirements set forth in paragraph 8 of this Resolution.

4. As a condition of performing work on public works contracts over the public works threshold, the general contractor shall provide certification that he and each subcontractor working on the project shall have at least one (1) employee who has successfully completed the OSHA 10-hour construction safety and health course. As a condition of performing work on public works contracts of \$500,000.00 or more total cost of project, the general contractor shall provide certification that each subcontractor working on the project shall have at least one (1) employee who has successfully completed the OSHA 30-hour construction safety and health course.

5. All contractors and subcontractors that perform significant work on any public facility or public works project shall be required to affirmatively provide evidence of and confirm compliance with proof of participation in an Apprenticeship Program currently registered and approved by the United States Department of Labor (“USDOL”), the New Jersey Department of Labor (“NJDOL”) or any state having equal to or higher requirements as either the USDOL or NJDOL apprenticeship programs. Additionally, Apprenticeship Programs shall meet the criteria set forth in Section 8(i) of this Resolution.

6. As a condition of performing work on public works contracts subject to this Resolution, a general contractor seeking award of a contract shall submit a Contractor Responsibility Certification at the time it submits its bid for contract.

7. The Contractor Responsibility Certification shall be completed on a form provided by the Union County Purchasing Department and shall reference the project for which a bid is being submitted by name and contract or project number.

8. In the Contractor Responsibility Certification, general contractors and subcontractors shall certify the following facts regarding their past performance and work history and its current qualifications and performance capabilities:

- a. The firm has all valid, effective licenses, registrations or certificates required by federal, state, county, or local law, including, but not limited to, licenses, registrations, certificates required to: (1) do business in the designated locale; and (2) perform the contract work it seeks to perform. These shall include, but not be limited to,

licenses, registrations or certificates for any type of trade work or specialty work, which the firm proposes to self-perform.

b. The firm meets the bonding requirements for the contract, as required by applicable law or contract specifications and any insurance requirements, as required by applicable law or contract specifications, including general liability insurance, workers compensation insurance and unemployment insurance requirements.

c. The firm has not been debarred by any federal, state or local government agency or authority in the past three (3) years.

d. The firm has not defaulted on any project in the past three (3) years.

e. The firm has not had any type of business, contracting or trade license, registration, or other certification suspended or revoked in the past three (3) years.

f. The firm has not been cited and found guilty for a willful violation of federal or state safety laws in the past three (3) years.

g. The firm and/or its owners have not been convicted of any crime relating to the contracting business by a final decision of a court or government agency in the past three (3) years.

h. The firm will pay all craft employees that it employs on the project the current wage rates and benefits as required under applicable Federal or State prevailing wage laws.

i. The firm participates in an Apprenticeship Program that is currently registered with the USDOL, the NJDOL or any state having equal to or higher requirements as either the USDOL or NJDOL apprenticeship programs, for each craft or trade in which it apprentices. The firm shall provide proof of meeting this qualification standard by submitting appropriate documentation as an attachment to this Certification. The firm shall continue to participate in applicable apprenticeship programs for the full duration of the contract work. The apprenticeship program in which the firm participates shall have graduated at least one (1) enrollee in each of the past three (3) years.

9. The County of Union may conduct any additional inquiries to verify that the prospective awardee and its subcontractors have the technical qualifications and performance capabilities necessary to successfully

perform the contract and that the firms have a sufficient record of legal compliance and business integrity to justify the award of a public contract. In conducting such inquiries, the County of Union may seek relevant information from the firm, its prior clients or customers, its subcontractors or any other relevant source.

10. If any provision of this Resolution shall be held to be invalid or unenforceable by a court of competent jurisdiction, any such holding shall not invalidate any other provisions of this Resolution and all remaining provisions shall remain in full force and effect.

NOW, THEREFORE, BE IT RESOLVED by the Board of Chosen Freeholders of the County of Union that it hereby establishes and adopts the Responsible Contractor Policy, and it hereby authorizes the County Manager to sign any and all documents necessary to make said Policy effective immediately.

**54. ORDINANCE NO. 557-2002 ADOPTED ON SEPTEMBER 5, 2002
BY THE BOARD OF CHOSEN FREEHOLDERS**

Ordinance No. 557-2002 adopted on September 5, 2002 by the Board of Chosen Freeholders on Preclassification of Bidders by the NJDPMC (**if applicable**) pursuant to Ordinance No. 557-2002, the County of Union requires all bidders on projects for the construction, reconstruction, demolition, alteration, repair or maintenance of public buildings to be preclassified by the State of New Jersey, Department of Treasury, Division of Property Management and Construction ("DPMC").

Bidders must provide proof of classification in the form of a Certificate/Notice of Classification from the DPMC showing a sufficient aggregate rating to cover their bid amount, which is active on the date of receipt of these bids. Further, Bidder must also provide proof of preclassification in the applicable/appropriate trade code necessary for Work on the Project.

AN ORDINANCE IN ACCORDANCE WITH N.J.S.A. 40A:11-25 ESTABLISHING REASONABLE REGULATIONS APPROPRIATE FOR CONTROLLING THE QUALIFICATIONS OF PROSPECTIVE BIDDERS UPON CONTRACTS TO BE AWARDED ON BEHALF OF THE CONTRACTING UNIT, BY THE CLASS OR CATEGORY OF GOODS AND SERVICES TO BE PROVIDED OR PERFORMED AND FIXING THE QUALIFICATIONS REQUIRED ACCORDING TO THE FINANCIAL ABILITY AND EXPERIENCE OF THE BIDDERS AND THE CAPITAL AND EQUIPMENT AVAILABLE TO THEM PERTINENT TO AND REASONABLY RELATED TO THE CLASS AND CATEGORY OF SERVICE TO BE PERFORMED IN THE PERFORMANCE OF ANY SUCH CONTRACT.

WHEREAS, N.J.S.A. 40A:11-25 provides that the governing body of any contracting unit may establish reasonable regulations appropriate for controlling the qualifications of prospective bidders upon contracts to be awarded on behalf of the contracting unit, by the class or category of goods and services to be provided or performed; and

WHEREAS, N.J.S.A. 40A:11-25 also states that the regulations established by the governing body may fix the qualifications required according to the financial ability and experience of the bidders and the capital and equipment available to them pertinent to and reasonably related to the class and category of service to be performed in the performance of any such contract; and

WHEREAS, N.J.S.A. 40A:11-25 also requires that prior to the adoption of any such regulations, a contracting unit shall submit them to a public hearing and notice and a general description of the subject matter shall be published in not less than two newspapers; and

WHEREAS, N.J.S.A. 52:35-1 et seq. and 18A:18A-27 et seq. establish qualifications for the experience and financial abilities of bidders and the capital and equipment available to them relative to the specific services to be performed; and

WHEREAS, currently state officials, under the Department of Treasury, Division of Property Management and Construction, classify all prospective bidders as to the character and amount of public works on which they shall be qualified to submit bids and bids shall be accepted only from persons qualified in accordance with such classifications; and

WHEREAS, application for classification is open to all Contractors, regardless of the size of the business; and

WHEREAS, classification is based on general standards equally applicable to all Contractors; and

WHEREAS, classification is expressed in terms of trade and an aggregate rating determined on the basis of experience, financial ability, equipment and capital; and

WHEREAS, generally aggregate ratings can range from 0 to \$200,000.00; and

WHEREAS, the County of Union will determine the aggregate rating it will require on contracts depending on the size and expense of the Project, but at no time shall the required aggregate rating exceed \$25,000,000.00 for any one project; and

WHEREAS, such provisions are of considerable benefit to the County and to bidders by insuring that such bidders have the requisite experience, expertise and resources necessary to effectively perform the terms and conditions of the contract:

BE IT ORDAINED by the Board of Chosen Freeholders of the County of Union that it formally adopts as **Policy** that all prospective bidders for building construction projects be classified in accordance with the Department of Treasury – Division of Property Management and Construction pursuant to N.J.S.A. 52:35-1 et seq. and N.J.S.A. 18A:18A-27 et seq.

BE IT FURTHER ORDAINED that the Board of Chosen Freeholders of the County of Union hereby adopts the classification of bidders by the New Jersey Department of Treasury, Division of Property Management and Construction as a reasonable regulation for controlling the qualifications of prospective bidders upon contracts to be awarded for construction on behalf of the County of Union.

BE IT FURTHER ORDAINED that the provisions of this ordinance are severable. To the extent any clause, phrase, sentence, paragraph or provision of this ordinance shall be declared invalid, illegal or unconstitutional, the remaining provisions shall continue to be in full force and effect.

BE IT FURTHER ORDAINED that a public hearing shall be held on this ordinance on September 5, 2002 at the meeting of the Board of Freeholders, County Administration Building, Elizabeth, New Jersey.

BE IT FURTHER ORDAINED that the Clerk of the Board of Freeholders of the County is hereby directed to publish and post notice of this ordinance as required by law.

BE IT FURTHER ORDAINED that within 10 days hereof the Clerk of the Board of Freeholders of the County shall forward certified copies of this ordinance to the County Manager, Director of Finance, County Counsel, and Division of Local Government Services.

This ordinance shall take effect twenty (20) days after final adoption and publication in accordance with applicable law.

55. 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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56. 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.

57. AMERICAN GOODS AND PRODUCTS WHERE POSSIBLE

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

58. NEW JERSEY PAY-TO-PLAY REQUIREMENTS

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

59. STATEMENT OF EQUIPMENT TO BE USED IN CONSTRUCTION

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

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

60. NEW JERSEY SALES AND USE TAX REQUIREMENTS,

Contractors are required to comply with the following:

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

contract with the contracting agency. This tax shall be remitted for the term of the Contract.

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

ALFRED J. FAELLA
COUNTY MANAGER

MICHAEL M. YUSKA, 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: _____

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

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

_____ Security in the form of:

_____ Bid bond in an amount equal to 10% of the total amount of this bid not to exceed \$20,000.00; or

_____ Certified check or cashier's check in the amount of 10% of this bid not to exceed \$20,000.00

_____ Consent of Surety form signed by a Surety Company if the total amount of your Bid is over \$36,000.00. If your bid is accepted, the Surety Company that provided the Consent shall be required to furnish a Performance, Labor and Materials Bond in the amount of 100% of the award of the contract.

The County of Union has provided its Consent of Surety form for your use. The use of this form by your Surety Company will expedite the bid review process and eliminate the possibility of having your bid rejected. If, however, you should need to use another form, please use language similar to that used on the Union County form and avoid making any additions or deletions to the Union County form language. In lieu of the Consent of Surety you may submit a Certified Check in the full amount of the bid.

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

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

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

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

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

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

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

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

I HAVE TAKEN THE FOLLOWING ACTIONS:

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

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

BIDDING DOCUMENTS

The Bidding Documents consist of the following items:

- **ADDENDA, if issued**
- **CLARIFICATIONS, if issued**
- **INSTRUCTION TO BIDDERS**
- **BID FORM**
- **OWNER-CONTRACTOR AGREEMENT (AIA 101) AND GENERAL CONDITIONS (AIA 201)**
- **SPECIFICATIONS: As outlined in the Table of Contents and included in the Project Manual.**
- **DRAWINGS: As per List of Drawings, indicated on the Project Title Sheet.**

Bidder's Name _____

BID FORM

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

**IMPROVEMENTS TO WATCHUNG STABLE EQUESTRIAN CENTER
BOROUGH OF MOUNTAINSIDE, COUNTY OF UNION, NEW JERSEY
BA #33-2015; Union County Engineering Project #2010-020**

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	DESCRIPTION	UNITS	CONTRACT QUANTITY	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	L.S.	1		
2	Construction Layout	L.S.	1		
3	Site Clearing, Demolition and Tree Removal	L.S.	1		
4	Soil Erosion Measures	L.S.	1		
5	Test Pits, 8' Deep Max (If & Where Directed)	Unit	20		
6	Site Grading	L.S.	1		
7	Stone Dust Ramps, Complete	S.Y.	25		
8	Stone Dust Access Driveway, Complete	S.Y.	1,750		
9	Hot Mix Asphalt Pathway	S.Y.	760		
10	Horse Ring Composite Infill Surface, Complete Cross Section	S.Y.	3,300		
11	Horse Ring All-Weather Surface, Complete Cross Section	S.Y.	1,700		
12	Horse Paddock Footing, Complete Cross Section	S.Y.	6,600		

13	3' High Post and Rail Fence	L.F.	190		
14	4' High Post and Rail Fence	L.F.	1,800		
15	4' High Post and Rail Fence, Riding Ring	L.F.	920		
16	5' High Post and Rail Fence	L.F.	7,200		
17	Indoor Riding Ring Kickboard	L.F.	530		
18	Single Leaf Swing Gate, 10' Wide	Unit	25		
19	Single Leaf Swing Gate, 16' Wide	Unit	2		
20	Field Inlet	Unit	5		
21	Storm Manhole	Unit	3		
22	Cleanout	Unit	4		
23	Core Drill Storm Connection	Unit	2		
24	4" Perforated HDPE Underdrain	L.F.	1,740		
25	8" Perforated HDPE Underdrain	L.F.	865		
26	7" EZ Flow Underdrain	L.F.	2,050		
27	8" HDPE Pipe	L.F.	30		
28	12" HDPE Pipe	L.F.	382		
29	12" HDPE Pipe (If & Where Directed)	L.F.	340		
30	Modular Block Retaining Wall	S.F.	1,725		
31	Dust Control System, Complete	L.S.	1		
32	Topsoil and Hydroseed	L.S.	1		
33	Final Cleanup/Site Restoration	L.S.	1		

34	Indoor Riding Ring Structure, Complete with Foundation, Structure, Doors, Lighting, Electric, Mechanical Ventilation	L.S.	1		
----	--	------	---	--	--

Written

Figures

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

ONE HUNDRED EIGHTY THOUSAND DOLLARS
Written

\$180,000.00
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.

ALTERNATE BID A

Alternate may be added to the Total Base Bid Amount. The bid will be awarded and / or Alternate will be selected as follows:

ITEM	DESCRIPTION	UNITS	CONTRACT QUANTITY	UNIT PRICE	AMOUNT
A1	Construction Layout	L.S.	1		
A2	Site Clearing, Demolition and Tree Removal	L.S.	1		
A3	Soil Erosion Measures	L.S.	1		
A4	Test Pits, 8' Deep Max (If & Where Directed)	Unit	2		
A5	Site Grading	L.S	1		
A6	Stone Dust Ramps, Complete	S.Y.	50		
A7	Horse Ring Composite Infill Surface, Complete Cross Section	S.Y.	1,500		
A8	4' High Post and Rail Fence, Riding Ring	L.F.	440		
A9	Single Leaf Swing Gate, 10' Wide	Unit	2		
A10	Field Inlet	Unit	3		
A11	Storm Manhole	Unit	1		
A12	Cleanout	Unit	2		
A13	Core Drill Storm Connection	Unit	1		
A14	7" EZ Flow Underdrain	L.F.	940		
A15	8" HDPE Pipe	L.F.	35		
A16	12" HDPE Pipe	L.F.	166		
A17	Dust Control System, Complete	L.S.	1		
A18	Topsoil and Hydroseed	L.S.	1		

A19	Final Cleanup/Site Restoration	L.S.	1		
-----	--------------------------------	------	---	--	--

Written _____

Figures _____

TOTAL BASE BID ITEMS PLUS BID CONTINGENCY AMOUNT PLUS ALTERNATE BID A ITEMS:

Written _____

Figures _____

Bidder's Name _____

CONSENT OF SURETY
TO ACCOMPANY PROPOSAL (BID)

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

NOTE:
Expiration date
Needed if Annual
Surety

NAME OF INSURANCE COMPANY
ADDRESS: _____

ORIGINAL SIGNATURE
ATTORNEY-IN-FACT FOR INSURANCE CO.

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

BIDDER SIGNATURE PAGE

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

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

NAME OF BIDDER

ADDRESS OF BIDDER

**ORIGINAL SIGNATURE
CORPORATE SECRETARY**

**PRINT NAME AND TITLE
CORPORATE SECRETARY**

TEL: _____
FAX: _____
E-Mail: _____

BY: _____
ORIGINAL SIGNATURE

Corporate Seal

PRINT OR TYPE NAME AND TITLE

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

Bidder's Name _____

BIDDER DISCLOSURE STATEMENT

N.J.S.A. 52:25-24.2 (P.L. 1977 c. 33)

Failure of the bidder/respondent to submit the required information is cause for automatic rejection.

CHECK ONE

I certify that the list below contains the names and home addresses of all stockholders holding 10% or more of the issued and outstanding stock of the undersigned.

OR

I certify that no one stockholder owns 10% or more of the issued and outstanding stock of the undersigned.

LEGAL NAME OF BIDDER: _____

Check the box that represents the type of business organization:

- | | | |
|---|--|--|
| <input type="checkbox"/> Partnership | <input type="checkbox"/> Corporation | <input type="checkbox"/> Sole Proprietorship |
| <input type="checkbox"/> Limited Partnership | <input type="checkbox"/> Limited Liability Company | <input type="checkbox"/> Limited Liability Partnership |
| <input type="checkbox"/> Subchapter S Corporation | | |

Complete if the bidder/respondent is one of the 3 types of corporations:

Date Incorporated: _____ **Where Incorporated:** _____

BUSINESS ADDRESS:

Street Address	City	State	Zip Code
-----------------------	-------------	--------------	-----------------

Telephone #	Fax #
--------------------	--------------

Pursuant to N.J.S.A. 52:25-24.2, also referred to as P.L. 1977, c. 33, no corporation or partnership shall be awarded any contract for the performance of any work or the furnishing of any materials or supplies, unless, prior to the receipt of the bid or accompanying the bid of said corporation or partnership, there is submitted a statement setting forth the names and addresses of all stockholders in the corporation or partnership who own ten (10) percent or more of its stock of any class, or of all individual partners in the partnership who own a ten (10) percent or greater interest therein. Further, the Attorney General has concluded that the provisions of N.J.S.A. 52:25-24.2, in referring to corporations and partnerships, are intended to apply to all forms of business entities, including, but not limited to, corporations, limited partnerships, limited liability companies, limited liability partnerships, Subchapter S corporations, partnerships and sole proprietorships.

Bidders are required to disclose whether they are a partnership, corporation, limited liability company or sole proprietorship. The Stockholder Disclosure Certification form shall be completed, signed and notarized. Failure of the bidder to submit the required information is cause for automatic rejection of the bid.

Bidder's Name _____

BIDDER DISCLOSURE STATEMENT – (Continued)

N.J.S.A. 52:25-24.2, also referred to as **P.L. 1977, Ch. 33**, requires all corporate, limited liability and partnership bidders for state, county, municipal or school district contracts to submit a list of names and addresses of all stockholders owning 10% or more of their stock or 10% or more of the stock of the corporate stockholders or in the case of partnership or limited liability company, the names and addresses of those partners or owners owning 10% or greater interest in the partnership or limited liability company. Furthermore, the Union County Board of Chosen Freeholders requires a statement from all Bidders, which must indicate all Principals of Bidders.

You must set forth the name, home address, title and percentage of ownership of every person who is an owner of the bidder. You must also set forth the business form of the bidder.

II. Principals:

	NAME	HOME ADDRESS	TITLE	% OF OWNERSHIP
1.				
2.				
3.				
4.				

If one or more of the owners of the Bidder is itself a corporation, limited liability company or partnership, then for that corporation, limited liability company or partnership owner you must set forth the name, home address, title and percentage of ownership of every person who is an owner of that corporation, limited liability company or partnership.

	NAME	HOME ADDRESS	TITLE	% OF OWNERSHIP
1.				
2.				
3.				
4.				

Bidder's Name _____

SUBCONTRACTOR IDENTIFICATION STATEMENT

LIST OF SUBCONTRACTORS

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

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

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

Company Name: _____

Address: _____

Telephone: _____ Subcontract Amount: \$ _____

Specific Scope of Work Subcontracted: _____

License No. _____

Company Name: _____

Address: _____

Telephone: _____ Subcontract Amount: \$ _____

Specific Scope of Work Subcontracted: _____

License No. _____

Company Name: _____

Address: _____

Telephone: _____ Subcontract Amount: \$ _____

Specific Scope of Work Subcontracted: _____

License No. _____

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

(Continued on following page)

Bidder's Name _____

SUBCONTRACTOR IDENTIFICATION CERTIFICATION

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

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

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

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

Witness

Date _____

NAME OF BIDDER

ADDRESS

By: _____
ORIGINAL SIGNATURE ONLY

PRINT NAME AND TITLE

Bidder's Name: _____

ACKNOWLEDGMENT OF ADDENDUM

COUNTY OF UNION

(Name of Construction /Public Works Project)

(Project or Bid Number)

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

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

ACKNOWLEDGMENT BY BIDDER:

NAME OF BIDDER: _____

ORIGINAL SIGNATURE: _____

PRINTED NAME AND TITLE: _____

DATE: _____

CONTRACTOR BUSINESS REGISTRATION CERTIFICATE

New Mandatory Requirement - Effective 1/18/2010

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

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

Proof of business registration shall be

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

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

Note: A NJ Certificate of Authority is not acceptable.

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

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

IN ADDITION:

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

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

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

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

Bidder's Name _____

BUSINESS REGISTRATION
Mandatory Requirement

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

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

Proof of business registration shall be:

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

STATE OF NEW JERSEY
BUSINESS REGISTRATION CERTIFICATE

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

For Office Use Only:
20041014112623533

TAXPAYER NAME: TAX REG TEST ACCOUNT
TAX REGISTRATION TEST ACCOUNT
TAXPAYER IDENTIFICATION: 010-007-382/000
ADDRESS: 847 ROEBLING AVE
TRENTON NJ 08611
EFFECTIVE DATE: 09/01/01
FORM BR000(01)

TRACE NAME: CLIENT REGISTRATION
SEQUENCE NUMBER: 0107510
ISSUANCE DATE: 07/14/04

John S. Tully
Accepted for
The Certificate is NOT assignable or transferable. It must be temporarily employed at above address.

ATTACH BRC HERE

Bidder's Name _____

AFFIRMATIVE ACTION REQUIREMENT

REQUIRED AFFIRMATIVE ACTION EVIDENCE

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

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

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

NAME OF BIDDER

ORIGINAL SIGNATURE

PRINT OR TYPE NAME AND TITLE

DATE THIS FORM IS COMPLETED

EXPERIENCE STATEMENT

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

Witness

Date

NAME OF BIDDER

ADDRESS

By: _____
ORIGINAL SIGNATURE ONLY

PRINT NAME AND TITLE

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

Bidder's Name _____

CERTIFICATE OF BIDDER SHOWING ABILITY TO PERFORM CONTRACT

STATE OF NEW JERSEY / _____)
Specify, if Other) SS:
COUNTY OF _____)

I, _____, of the (City, Town, Borough, etc.) of _____ 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 ("Contractor"), and that I executed said proposal with full authority to do so; and that said Contractor, pursuant to N.J.S.A. 40A:11-20, certifies that it owns, leases or controls all the necessary equipment required by the Plans, Specifications and Advertisements under this Bids are asked for.

If the Bidder is not the actual owner or lessee of any such equipment, then the Bidder shall attach to this Certificate information identifying the source from which the equipment will be obtained, and such information shall be accompanied by a certificate from the owner or person in control of the equipment definitively granting to the Bidder the control of the equipment required during such time as may be necessary for the completion of that portion of the contract.

(Also type or print name of affiant under signature)

By: _____

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 _____, 200 ____.

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. The Act provides that upon registration with the Department, a public works contractor/subcontractor will be issued a certificate by the Department indicating compliance with the Act's requirements. The registration fee has been set at \$300.00 per year. Upon the effective date of the Act, public bodies will be expected to request production of such a certificate from those bidding on or engaging in public works projects.

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

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

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

Bidder's Name _____

AMERICANS WITH DISABILITIES ACT
EQUAL OPPORTUNITY FOR INDIVIDUALS WITH DISABILITIES

The contractor and the County of Union (hereafter "Owner") do hereby agree that the provisions of Title II of the Americans With Disabilities Act of 1990 (the "Act") (42 U.S.C.S12.101 et seq.), which prohibits discrimination on the basis of disability by public entities in all services, programs and activities provided or made available by public entities, and the rules and regulations promulgated pursuant thereto, are made a part of this contract. In providing any aid, benefit, or service on behalf of the Owner pursuant to this contract, the contractor agrees that the performance shall be in strict compliance with the Act. In the event the contractor, its agents, servants, employees, or subcontractors violate or are alleged to have violated the Act during the performance of this contract, the contractor shall defend the Owner in any action or administrative proceeding commenced pursuant to this Act. The contractor shall indemnify, protect, and save harmless the Owner, its agents, servants, and employees from and against any and all suits, claims, losses, demands, or damages of whatever kind or nature arising out of or claimed to arise out of the alleged violation. The contractor shall, at its own expense, appear, defend, and pay any and all charges for legal services and any and all costs and other expenses arising from such action or administrative proceeding or incurred in connection therewith. In any and all complaints brought pursuant to the Owner's grievance procedure, the contractor agrees to abide by any decision of the Owner which is rendered pursuant to said grievance procedure. If any action or administrative proceeding results in an award of damages against the Owner, or if the Owner incurs any expense to cure a violation of the ADA which has been brought pursuant to its grievance procedure, the contractor shall satisfy and discharge the same at its own expense.

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

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

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

Name _____ (Please print or type)

Signature _____ Date _____

Bidder's Name _____

CONTRACTOR RESPONSIBILITY CERTIFICATION

STATE OF NEW JERSEY / _____)

Specify, if Other) SS:

COUNTY OF _____)

I, _____, of the (City, Town, Borough, etc.) of _____ 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 following Project ("Contractor"):

_____, and that I executed said proposal with full authority to do so;

With respect to past performance, work history, current qualifications and performance capabilities, I certify the following with respect to the Bidder/General Contractor and all of the subcontractors on this Project, I certify the following:

- a. The firms have all valid, effective licenses, registrations or certificates required by federal, state, county, or local law, including, but not limited to, licenses, registrations, certificates required to: (1) do business in the designated locale; and (2) perform the contract work it seeks to perform. These include, but are not limited to, licenses, registrations or certificates for any type of trade work or specialty work to be self-performed by Bidder and/or subcontractors.
- b. The firms meet the bonding requirements for the contract, as required by applicable law or the specifications and any insurance requirements, as required by applicable law or the specifications, including general liability insurance, workers compensation insurance and unemployment insurance requirements.
- c. The firms have not been debarred by any federal, state or local government agency or authority in the past three (3) years.
- d. The firms have not defaulted on any project in the past three (3) years.
- e. The firms have not had any type of business, contracting or trade license, registration, or other certification suspended or revoked in the past three (3) years.

f. The firms have not been cited and found guilty for a willful violation of federal or state safety laws in the past three (3) years.

g. The firms and/or its owners have not been convicted of any crime relating to the contracting business by a final decision of a court or government agency in the past three (3) years.

h. The firms will pay all craft employees that it employs on the project the current wage rates and benefits as required under applicable Federal or State prevailing wage laws.

i. The firms participates in an Apprenticeship Program that is currently registered with the USDOL, the NJDOL or any state having equal to or higher requirements as either the USDOL or NJDOL apprenticeship programs, for each craft or trade in which it apprentices. The apprenticeship program in which the firm participates shall have graduated at least one (1) enrollee in each of the past three (3) years.

***** Proof of meeting this qualification standard shall be attached to this form. Bidder shall provide proof of meeting this qualification for those subcontractors required to be identified either pursuant to law or the requirements of the specifications.**

The firms shall continue to participate in the applicable apprenticeship programs for the full duration of the contract work.

Name of Bidder/General 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 _____

AFFIDAVIT OF GENERAL CONTRACTOR & SUBCONTRACTOR

OSHA COMPLIANCE

STATE OF NEW JERSEY / _____)

Specify, if Other) SS:

COUNTY OF _____)

In accordance with Union County Resolution 2014-0408 I, _____, of the (City, Town, Borough, etc.) of _____ State of _____, of full age, being duly sworn according to law on my oath depose and say that:

- 1) I am _____ of the firm of _____, the Bidder and General Contractor making the Proposal for the above named Project.
- 2) I have executed the said Proposal with full authority to do so.
- 3) Said Bidder/General Contractor and each subcontractor working on the Project have at least one (1) employee who has successfully completed the OSHA 10-hour construction safety and health course.
- 4) If this Project is in excess of \$500,000.00, the Bidder/General Contractor and each subcontractor working on the Project has at least one (1) employee who has successfully completed the OSHA 30-hour construction safety and health course.

Name of Bidder/General Contractor

By: _____
(Signature of Authorized Representative)

(Continued on next page)

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 _____

STATEMENT OF BIDDER'S QUALIFICATIONS

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

1. _____
(Name of Bidder)

2. _____
(Permanent Main Office Address)

3. _____
(When Organized)

4. _____
(If a Corporation, where incorporated)

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

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

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

8. General character of work performed by you. _____

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

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

Bidder's Name _____

STATEMENT OF BIDDER'S QUALIFICATIONS - (continued)

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

12. List your major equipment available for this Contract.

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

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

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

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

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

Dated at _____ this _____ day of _____, 20__.

BIDDER (Signature)

BIDDER (Print Name)

Subscribed and sworn to before me
this _____ day of _____, 20__.

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

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

Bidder's Name _____

CONTRACTOR PERFORMANCE RECORD

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

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

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

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

Bidder's Name _____

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__.

Bidder's Name _____

**AFFIDAVIT REGARDING LIST OF DEBARRED,
SUSPENDED OR DISQUALIFIED BIDDERS**

STATE OF NEW JERSEY / _____)
Specify, if Other) SS:
COUNTY OF _____)

I, _____, of the (City, Town, Borough, etc.) of _____
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. I have executed the said Proposal with full
authority to do so. Said Bidder is not at the time of the making this bid included on the New Jersey State
Treasurer's or the Federal Government's List of Debarred, Suspended or Disqualified Bidders as a result
of action taken by any State or Federal Agency.

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.**

PRIOR NEGATIVE EXPERIENCE QUESTIONNAIRE

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

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

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

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

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

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

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

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

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

Bidder's Name _____

PRIOR NEGATIVE EXPERIENCE CERTIFICATION

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

Name of Contractor

By _____
(Signature of Authorized Representative)

Subscribed and sworn to before me
This _____ day of _____, 20__.

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

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

Bidder's Name _____

TO BE COMPLETED ONLY WHEN FINAL PAYMENT IS REQUESTED

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

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

CONTRACT:

PROJECT:

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

COUNTY OF UNION

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

CONTRACTOR: _____
ADDRESS: _____

BY: _____
ORIGINAL SIGNATURE ONLY

STATE OF NEW JERSEY
COUNTY OF _____

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

Subscribed and sworn before me
this ____ day of _____, 200 ____.

Notary Public: _____
My Commission Expires: _____

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

Bidder's Name _____

UNCOMPLETED CONTRACTS AFFIDAVIT
(To be submitted with DPMC Form 701)

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

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

TOTAL AMOUNT OF UNCOMPLETED CONTRACTS \$ _____

Sworn and Subscribed to Before me

This _____ day of _____ 20____

Notary Public

BIDDER:

(Signature)

(Print Name)

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

Bidder's Name _____

CERTIFICATE OF INSURANCE STATEMENT

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

BIDDER (Signature)

BIDDER (Print Name)

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

Bidder's Name _____

COLLECTION OF USE TAX ON SALES TO LOCAL GOVERNMENTS STATEMENT

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

BIDDER (Signature)

BIDDER (Print Name)

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

Bidder's Name _____

TIME OF COMPLETION

The undersigned proposed that if awarded the Contract, the scope of work will be started within ten (10) calendar days and will be substantially completed within **210 calendar days** from the date of the notice to proceed.

I, _____ of _____
NAME (Print or type) COMPANY

Agree to complete work in the time frame specified _____
SIGNATURE

SITE VISIT – GENERAL CONTRACTOR

I, _____ of _____
NAME (Print or type) COMPANY

Visited the site of the work on _____
SIGNATURE

**COUNTY OF UNION NEW JERSEY
Division of Purchasing**

DISCLOSURE OF INVESTMENT ACTIVITIES IN IRAN

Solicitation Number: _____ Bidder/Offeror: _____

Pursuant to Public law 2012, c. 25, any person or entity that submits a bid or proposal or otherwise proposes to enter into or renew a contract must complete the certification below to attest, under penalty of perjury, that the person or entity, or one of the person or entity's parents, subsidiaries, or affiliates, is not identified on a list created and maintained by the Department of the Treasury as a person or entity engaging in investment activities in Iran. If the Director finds a person or entity to be in violation of the principles which are the subject of the law, s/he shall take action as may be appropriate and provided by law, rule or contract, including but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the party in default and seeking debarment or suspension of the person or entity.

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

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

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

In the event that a person or entity is unable to make the above certification because it or one of its parents, subsidiaries, or affiliates has engaged in the above-referenced activities, a detailed, accurate and precise description of the activities must be provided in part 2 below to the Division of Purchase under penalty of perjury. Failure to provide such will result in the proposal being rendered as non-responsive and appropriate penalties, fines and/or sanctions will be assessed as provided by law.

PART 2: PLEASE PROVIDE FURTHER INFORMATION RELATED TO INVESTMENT ACTIVITIES IN IRAN. You must provide, accurate and precise description of the activities of the bidding person/entity, or one of its parents, subsidiaries or affiliates, engaging in the investment activities in Iran outlined above by completing the boxes below.

Name _____ Relationship to Bidder/Offeror _____

Description of Activities _____

Duration of Engagement _____ Anticipated Cessation Date _____

DISCLOSURE OF INVESTMENT ACTIVITIES IN IRAN – (Continued)

Bidder/Offeror
Contact Name _____ Contact Phone Number _____

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

Full Name (Print) _____ Signature _____

Title _____ Date _____

STANDARD SPECIFICATIONS

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

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

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

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

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

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

DRAFT AIA Document A101™ - 2007

Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum

AGREEMENT made as of the day of in the year
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

and the Contractor:
(Name, legal status, address and other information)

for the following Project:
(Name, location and detailed description)

The County Engineer or his designee:
(Name, legal status, address and other information)

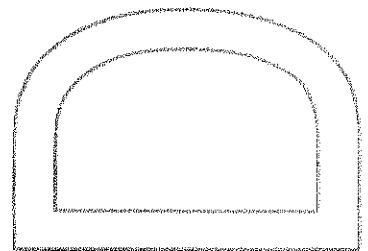
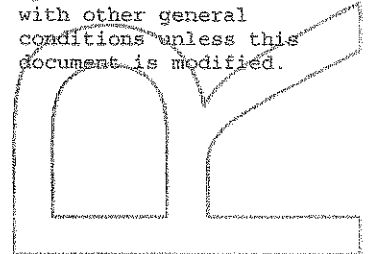
The Owner and Contractor agree as follows.



ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An Additions and Deletions Report that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

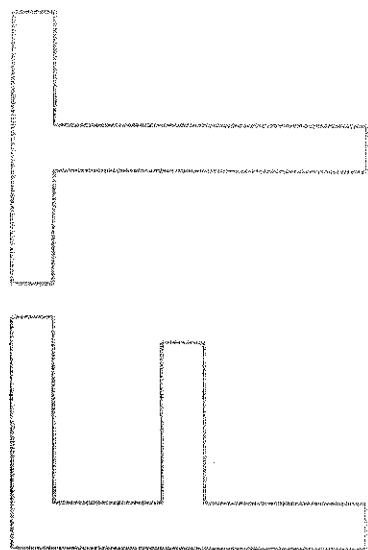
AIA Document A201™-2007, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.



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TABLE OF ARTICLES

- 1 THE CONTRACT DOCUMENTS
- 2 THE WORK OF THIS CONTRACT
- 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
- 4 CONTRACT SUM
- 5 PAYMENTS
- 6 DISPUTE RESOLUTION
- 7 TERMINATION OR SUSPENSION
- 8 MISCELLANEOUS PROVISIONS
- 9 ENUMERATION OF CONTRACT DOCUMENTS
- 10 INSURANCE AND BONDS



ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others. The Contractor will not be compensated for labor or materials outside the scope of work that is not properly authorized.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be the date of this Agreement unless a different date is stated below or provision is made for the date to be fixed in a Notice to proceed issued by the Owner, which is anticipated to be on or about

()

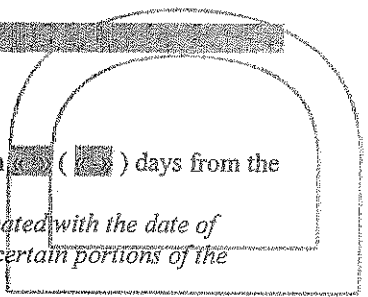
If, prior to the commencement of the Work, the Owner requires time to file mortgages and other security interests, the Owner's time requirement shall be as follows: Not applicable.

()

§ 3.2 The Contract Time shall be measured from the date of commencement.

§ 3.3 The Contractor shall achieve Substantial Completion of the entire Work not later than () days from the date of commencement, or as follows:

(Insert number of calendar days. Alternatively, a calendar date may be used when coordinated with the date of commencement. If appropriate, insert requirements for earlier Substantial Completion of certain portions of the Work.)



Portion of Work

Substantial Completion Date

Entire Work

TBD

, subject to adjustments of this Contract Time as provided in the Contract Documents.
(Insert provisions, if any, for liquidated damages relating to failure to achieve Substantial Completion on time or for bonus payments for early completion of the Work.)

« » Should the Contractor fail to complete fully, and in conformity with all provisions of the Contract within the Contract Time, the Contractor shall, and hereby agrees to pay the Owner One Thousand Dollars (\$1,000.00) per day for as liquidated damages, for each consecutive calendar day beyond the number of days allowed by the Contract, which sum is agreed upon as reasonable and proper measure of damages that the Owner will sustain per diem by failure of Contractor to complete Work within time as stipulated; it is being recognized by Owner and Contractor that the injury to Owner that could result from a failure of the Contractor to complete on schedule, is uncertain and cannot be computed exactly. In no way shall costs of Liquidated Damages to be construed as a penalty to the Contractor. (See Bid Documents)

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be « » (\$ « »), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 The Contract Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:
(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

§ 4.3 Unit prices, if any:
(Identify and state the unit price; state quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price Per Unit (\$0.00)
« »	« »	« »

§ 4.4 Allowances included in the Contract Sum, if any:
(Identify allowance and state exclusions, if any, from the allowance price.)

Item	Price
« »	« »

ARTICLE 5 PAYMENTS

§ 5.1 PROGRESS PAYMENTS

§ 5.1.1 Based upon Applications for Payment submitted to the County Engineer or his designee by the Contractor and Certificates for Payment issued by the County Engineer or his designee, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

§ 5.1.3 The Contractor shall submit a Preliminary Payment Request (Pencil Requisition) to the County Engineer or his designee on the twenty-fifth (25th) day of any given calendar month for Work performed during that month,

Upon receipt of the Pencil Requisition from the Contractor, the County Engineer or his designee shall review the Pencil Requisition and approve or disapprove of it in whole or in part as set forth hereafter. Within (4) calendar days of receipt of the Pencil Requisition from the Contractor, the County Engineer or his designee shall return the Pencil Requisition to the Contractor, with those charges that are approved or disapproved, if any, by the County Engineer or his designee, for the Contractor's incorporation into an Application for Payment. Within two (2) calendar days of return of the Pencil Requisition from the County Engineer or his designee, the Contractor shall submit a formal application for Payment to the County Engineer or his designee for review and approval by the County Engineer or his designee incorporating any revisions made by the County Engineer or his designee in the Pencil Requisition submission. Within five (5) calendar days of receipt of Contractor's Application for Payment, the County Engineer or his designee shall take any one of the following actions:

- 1) Certify the entire Application for Payment;
- 2) Certify partial payment and provide the Contractor with reasons for withholding the remaining portion of the payment; or
- 3) Withhold certification of the entire Application for Payment and provide the Contractor with reasons for withholding the entire payment,

Once the Application for Payment is certified either in whole or in part, the County Engineer or his designee shall transmit the Certified Payment Application within three (3) calendar days to the Owner for its review and payment. The Owner shall make payment to the Contractor for the Certified Payment Amount by no later than the time period set forth in the New Jersey Prompt Payment Act following receipt of the Certificate for Payment from the County Engineer or his designee. The Owner shall not be obligated to pay any Application for Payment until the Application for Payment is certified by the County Engineer or his designee. Approval of any Application for Payment may be withheld should the Contractor fail to submit Manning Reports in a timely manner.

Pursuant to N.J.S.A. 2A:30A-1 et seq. (the "Prompt Payment Act"), a public or governmental entity that requires the entity's governing body to vote on authorizations for each periodic payment, final payment, or retainage monies, such as the Owner, is excepted from the timing requirements of the Act. Accordingly, the Owner shall not approve the Contractor's Application for Payment until it is certified by the County Engineer or his designee in accordance herewith and shall not approve the Contractor's Certified Payment Application until the next scheduled public meeting of the Owner following the Owner's receipt of the Certified Payment Application from the County Engineer or his designee. The Owner shall not make payment to the Contractor for the Certified Payment Amount until the Owner's subsequent payment cycle following its approval of the Payment Application.

Pursuant to this same Act, if a payment due pursuant to the provisions herein is not made in a timely manner, the Owner shall be liable for the amount of money owed under the contract, plus interest at a rate equal to the prime rate plus one percent (1%), notwithstanding anything to the contrary in the Contract Documents. Interest on amounts due pursuant to the Act shall be paid to the prime contractor for the period beginning on the day after the required payment date and ending on the day on which the check for payment is received by the Contractor.

Pursuant to this same Act, disputes regarding whether a party has failed to make payments required by the Act may be submitted to a process of alternative dispute resolution, notwithstanding anything to the contrary in the contract documents, where the parties agree to same. Alternative dispute resolution permitted by the Act shall not apply to disputes concerning any other matters that may arise under or from this Contract. Any civil action brought to collect payments shall be conducted in Union County, State of New Jersey, and the prevailing party shall be awarded reasonable costs and attorneys' fees.

§5.1.4 The County Engineer or his designee may decide not to certify payment and may withhold a Certificate for Payment, in whole or in part, to the extent reasonably necessary to protect the Owner if, in the County Engineer or his designee's opinion, the representations as described in Section 5.1.5 below cannot be made to the Owner. If the County Engineer or his designee withholds a Certificate for Payment, the County Engineer or his designee will notify the Contractor and Owner as provided in Section 5.1.3 above. If the Contractor and County Engineer or his designee cannot agree on a revised amount, the County Engineer or his designee will issue a Certificate for Payment for the amount for which the County Engineer or his designee is able to make such representations to the Owner as set forth in Section 5.1.3 above. The County Engineer or his designee may also decide to withhold certifying

payment in whole or in part, or, because of subsequently discovered evidence or subsequent observations, to such extent as may be necessary in the County Engineer or his designee's opinion to protect the Owner from loss because of:

- .1 Defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims;
- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials, or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or another contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or Liquidated Damages for the anticipated delay;
- .7 failure to carry out the Work in accordance with the Contract Documents;
- .8 avoidable delay in the progress of the Work;
- .9 deliberate delay in the submission for approval of names of Subcontractors, materialmen, sources of supply, shop drawings, and samples;
- .10 failure to maintain the Project Site in a safe and satisfactory condition in accordance with good construction practices as determined by the County Engineer or his designee; or
- .11 failure to submit updates as required by the General Conditions.

When the foregoing reasons for withholding certification are resolved, certification will be made for amounts previously withheld in the manner set forth in Section 5.1.3 above.

§5.1.5 The issuance of a separate Certificate for Payment will constitute representations made separately by the County Engineer or his designee to the Owner, based on its individual observations at the site and the data comprising the Application for Payment submitted by the Contractor, that the Work has progressed to the point indicated and that, to the best of the County Engineer or his designee's knowledge, information and belief, quality of the Work is in accordance with the Contract Documents.

The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to minor deviations from the Contract Documents correctable prior to completion and to specific qualifications expressed by the County Engineer or his designee. The

issuance of a separate Certificate of Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a separate Certificate for Payment will not be a representation that the County Engineer or his designees has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed the Contractor's construction means, methods, techniques, sequences or procedures; (3) reviewed copies of requisitions received from Subcontractor's and materials suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§5.1.6 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form and supported by such data to substantiate its accuracy as the County Engineer or his designee may require. This schedule, unless objected to by the County Engineer or his designee, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§5.1.7 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.8 Subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

- .1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of percent (%). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute shall be included as provided in Section 7.3.9 of AIA Document A201™-2007, General Conditions of the Contract for Construction;
- .2 Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of percent (%);
- .3 Subtract the aggregate of previous payments made by the Owner; and
- .4 Subtract amounts, if any, for which the County Engineer or his designee has withheld or nullified a Certificate for Payment as provided in Section 9.5 of AIA Document A201-2007.

§5.1.9 The progress payment amount determined in accordance with Section 5.1.8 shall be further modified under the following circumstances:

- .1 Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to the full amount of the Contract Sum, less such amounts as the County Engineer or his designee shall determine for incomplete Work, retainage applicable to such work and unsettled claims; and
- .2 Add, if final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Section 9.10.3 of AIA Document A201-2007.

§5.1.10 Retainage shall be determined as follows: Pursuant to N.J.S.A. 40A:11-6.1, the Owner will withhold two percent (2%) of the amount due on each partial payment when the outstanding balance of the Contract exceeds One Hundred Thousand Dollars (\$100,000.00).

§5.1.11 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 FINAL PAYMENT

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Section 12.2.2 of AIA Document A201-2007, and to satisfy other requirements, if any, which extend beyond final payment; and
- .2 a final Certificate for Payment has been issued by the County Engineer or his designee.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the County Engineer or his designee's final Certificate for Payment, or as follows:

« »

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 INITIAL DECISION MAKER

The County Engineer or his designee will serve as Initial Decision Maker pursuant to Section 15.2 of AIA Document A201-2007, unless the parties appoint below another individual, not a party to this Agreement, to serve as Initial Decision Maker.

(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the County Engineer or his designee.)

« »
« »
« »
« »

§ 6.2 BINDING DISPUTE RESOLUTION

Except as provided in Section 5.1.3 of the Standard Form of Agreement between the Owner and Contractor, all claims, disputes or other matters in question between the parties to this Contract, arising out of or relating to the Project or to the Contract, or the alleged breach hereof, shall be subject one to mediation, and if not resolved, then same shall be decided in a Court of competent jurisdiction venued in Union County, New Jersey. No party may be compelled to submit any dispute concerning the Project to arbitration. In the event any claim arising from the Project is beyond the jurisdiction of the court, the Contract consents to joinder as a party to such action or alternative dispute proceeding.

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201-2007.

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201-2007.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201-2007 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 Payments due and unpaid under the Contract shall in no instance bear interest, except as required by law in accordance with Section 5.1.3 hereof.

§ 8.3 The Contractor shall ensure that the Project Site is maintained in a clean and safe condition at all times, based upon Owner's sole discretion. If the Contractor fails to keep the Project Site in a clean and safe condition, said failure shall result in the following:

- .1 all claims resulting from the Contractor's failure shall be the Contractor's responsibility;
- .2 said failure shall constitute an act of default and a substantial breach of the Contract giving the Owner remedies under the contract Documents; and
- .3 the Owner shall have the right to withhold any payments until the Contractor cures its failure.

Failure to do so shall authorize the Owner to withhold any Applications for payment until such time as the Contractor has rectified same. Further, if the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the cost thereof shall be charged to the Contractor.

§ 8.4 Indemnification – See Indemnification Requirements in Bid Documents.

§ 8.5 The within contract shall be governed by and interpreted pursuant to the law of the State of New Jersey.

§ 8.6 The Contractor shall comply with the anti-discrimination provisions of N.J.S.A. 10:2-1 et seq., the New Jersey Law Against Discrimination, N.J.S.A. 10:5-1 et seq., N.J.A.C. 17:27-1.1 et seq. and shall guarantee to afford equal opportunity in performance of the Work in accordance with an affirmative action program approved by the State Treasurer. (See Page G-21).

§ 8.7 The Contractor shall submit proof of Business Registration for itself and its subcontractors to the Owner and shall provide written notice to its subcontractors and suppliers of the responsibility to submit proof of business registration to the contractor. The requirement of proof of Business Registration extends down through all levels (tiers) of the Project.

The Contractor agrees to comply with the rules and regulations promulgated pursuant to the Contractor Use Tax Collection Legislation.

For the term of the contract, the Contractor, any subcontractor, and each of their affiliates [N.J.S.A. 52:32-44(g)93], shall collect and remit to the New Jersey Director of the Division of Taxation in the Department of Treasury, the use tax due pursuant to the "Sales and Use Tax Act," P.L. 1966, c. 30 (C.54:32B-1 et seq.) on all of their sales of tangible personal property delivered into the State of New Jersey, regardless of whether the tangible personal property is intended for a contract with a contracting agency. 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.

§8.8 This Standard Form of Agreement and the General Conditions set forth in the Bid Documents shall control in the case of conflict between these documents and the Project Specifications, the Project Manual, and any other exhibits incorporated by reference in this Contract.

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 The Contract Documents, except for Modifications issued after execution of this Agreement, are enumerated in the sections below, and incorporated herein as if set forth in their entirety.

§ 9.1.1 The Agreement is this executed AIA Document A101-2007, Standard Form of Agreement Between Owner and Contractor.

§ 9.1.2 The General Conditions are AIA Document A201-2007, General Conditions of the Contract for Construction.

§ 9.1.3 The Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

§ 9.1.4 The Specifications:

(Either list the Specifications here or refer to an exhibit attached to this Agreement.)

« See Specifications as referenced by Exhibit B.

Section	Title	Date	Pages

§ 9.1.5 The Drawings:

(Either list the Drawings here or refer to an exhibit attached to this Agreement.)

« See List of Drawings, annexed hereto as Exhibit C.

Number	Title	Date

§ 9.1.6 The Addenda, if any:

Number	Date	Pages

Portions of Addenda relating to bidding requirements are not part of the Contract Documents unless the bidding requirements are also enumerated in this Article 9.

§ 9.1.7 Additional documents, if any, forming part of the Contract Documents:

.1 AIA Document E201™-2007, Digital Data Protocol Exhibit, if completed by the parties, or the following:

■

.2 Other documents, if any, listed below:

■

ARTICLE 10 INSURANCE AND BONDS

The Contractor shall purchase and maintain insurance and provide bonds as set forth in Article 11 of AIA Document A201-2007.

(State bonding requirements, if any, and limits of liability for insurance required in Article 11 of AIA Document A201-2007.)

Type of insurance or bond

Limit of liability or bond amount (\$0.00)

This Agreement entered into as of the day and year first written above.

OWNER (Signature)

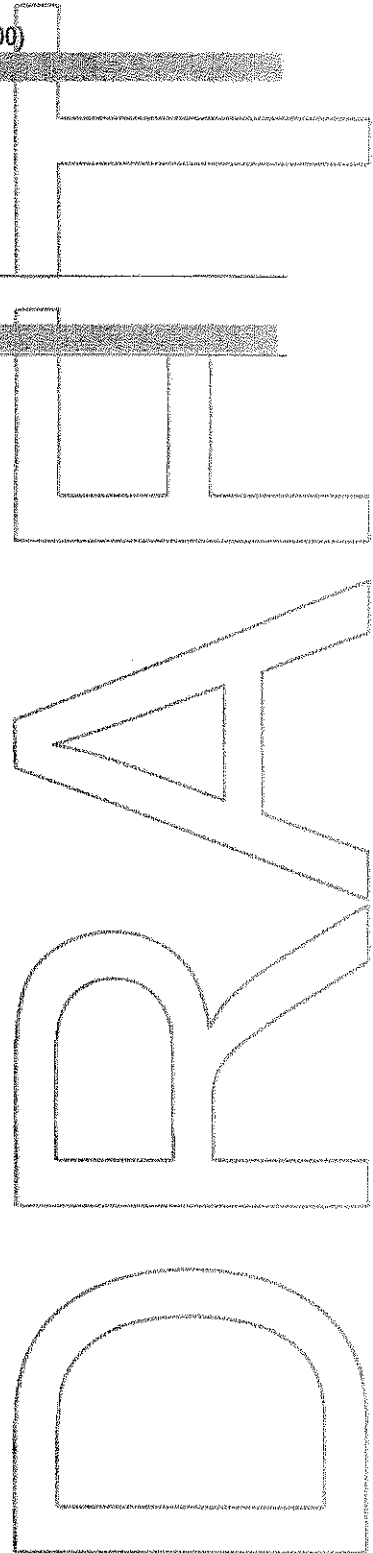
<><>

(Printed name and title)

CONTRACTOR (Signature)

<><>

(Printed name and title)



DRAFT AIA Document A201™ - 2007

General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

«County of Union»

« »

THE OWNER:

(Name, legal status and address)

« »

« »

THE ENGINEER, OR HIS DESIGNEE :

(Name, legal status and address)

« »

« »

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- 13 MISCELLANEOUS PROVISIONS
- 14 TERMINATION OR SUSPENSION OF THE CONTRACT
- 15 CLAIMS AND DISPUTES

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An Additions and Deletions Report that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

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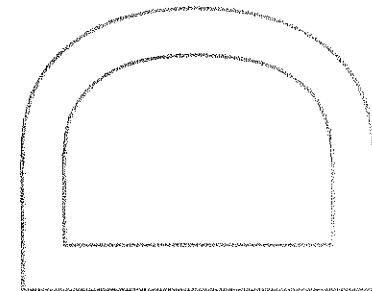
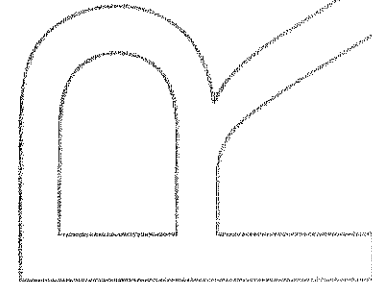
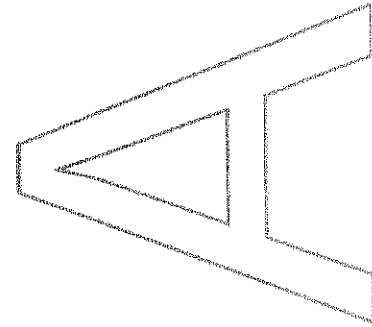
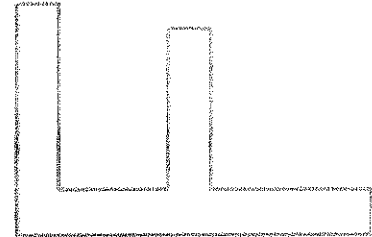
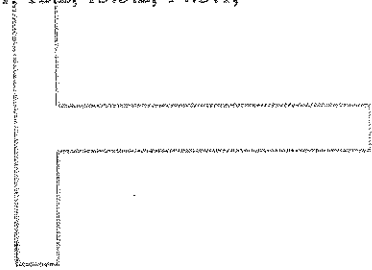
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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 BASIC DEFINITIONS

§ 1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect or Engineer. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding requirements.

§ 1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Engineer, or his designee or the Engineer, or his designee's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Engineer, or his designee or the Engineer, or his designee's consultants or (4) between any persons or entities other than the Owner and the Contractor. The Engineer, or his designee's shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Engineer, or his designee's duties.

§ 1.1.3 THE WORK

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

§ 1.1.5 THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

§ 1.1.6 THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 INSTRUMENTS OF SERVICE

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Engineer, or his designee and the Engineer, or his designee's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 INITIAL DECISION MAKER

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent

consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 CAPITALIZATION

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Engineer, or his designee s.

§ 1.4 INTERPRETATION

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

§ 1.5.1 The Engineer, or his designee and the Engineer, or his designee 's consultants shall be deemed the authors and Owners of their respective Instruments of Service, including the Drawings and Specifications. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Engineer, or his designee or Engineer, or his designee 's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Engineer, or his designee and the Engineer, or his designee 's consultants.

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER

§ 2.1 GENERAL

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided elsewhere in the Contract Documents, the Engineer, or his designee does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.2.1 The Contractor may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only in the event that: (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) a change in the Work materially changes the Contract Sum. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or the portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.2 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.2.3 If readily available, the Owner shall furnish surveys describing physical characteristics and legal limitations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work. The Contractor shall be responsible for requesting and obtaining a utility mark-out.

§ 2.2.4 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.2.5 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.3 OWNER'S RIGHT TO STOP THE WORK

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Article 12 or fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6. Owner shall in no way be responsible for any delays or claims arising from delays for enforcement of this Section.

§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a seven-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Engineer, or his designee's additional services made necessary by such default, neglect or failure. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

ARTICLE 3 CONTRACTOR

§ 3.1 GENERAL

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located and shall maintain as current any approvals or certifications that may be required to perform the Work. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Engineer, or his designee in the Engineer, or his designee's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Engineer, or his designee any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Engineer, or his designee may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a Contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Engineer, or his designee any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Engineer, or his designee may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Engineer, or his designee issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Engineer, or his designee for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Engineer, or his designee and shall not proceed with that portion of the Work without further written instructions from the Engineer, or his designee. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 LABOR AND MATERIALS

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work authorized by the Engineer, or his designee in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after

evaluation by the Engineer, or his designee and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 WARRANTY

The Contractor warrants to the Owner and Engineer, or his designee that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Engineer, or his designee, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. Such warranty shall continue for a period of one (1) year from the date of Substantial Completion of the Work. Under this warranty, the Contractor shall remedy at his expense any such failure for the Work to be conforming to the requirement of the Contract, or any other defect appearing in the Work. In addition, the Contractor shall remedy at his own expense, any damage to Owner's owned, controlled, real or personal property, when that damage is the result of the Contractor's failure to provide conforming Work as it relates to the Contract Documents or any other defect of equipment, material, workmanship or design. The Contractor shall also restore any Work damaged in fulfilling its obligations under the terms of this provision. The Contractor's warranty with respect to the Work repaired or replaced hereunder will run for a period of one (1) year from the date of repair or replacement.

§ 3.6 TAXES

The Contractor shall pay use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 PERMITS, FEES, NOTICES AND COMPLIANCE WITH LAWS

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 **Concealed or Unknown Conditions.** If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Engineer, or his designee before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Engineer, or his designee will promptly investigate such conditions and, if the Engineer, or his designee determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Engineer, or his designee determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Engineer, or his designee shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Engineer, or his designee's determination or recommendation, that party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Engineer, or his designee. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 ALLOWANCES

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 Allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 Whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2. The unused balance of any allowance shall be deducted from the Contract Sum upon completion and acceptance of the Work by Change Order.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 SUPERINTENDENT

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Engineer, or his designee the name and qualifications of a proposed superintendent. The Engineer, or his designee may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Engineer, or his designee has reasonable objection to the proposed superintendent or (2) that the Engineer, or his designee requires additional time to review. Failure of the Engineer, or his designee to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Engineer, or his designee has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Engineer, or his designee's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Engineer, or his designee's approval. The Engineer, or his designee's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Engineer, or his designee reasonable time to review submittals. If the Contractor fails to submit a submittal

schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Engineer, or his designee .

§3.10.4 Should the Contractor responsible for the scheduling requirements of Article 3 herein fail to comply with said scheduling requirements, said failure shall result in the following:

- 1 all claims resulting from the Contractor's failure to prepare or submit a schedule shall be the Contractor's responsibility;
- 2 shall constitute an act of default and a substantial breach of the Contract giving the Owner remedies under the Contract Documents; and
- 3 the Owner shall have the right to withhold any payments until the Contractor complies with the scheduling requirements of Article 3 herein.

§3.10.5 In the event of a Five Prime Contract, the General Contractor shall be responsible for the preparation and submittal of the schedule.

§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Engineer, or his designee and shall be delivered to the Engineer, or his designee for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Engineer, or his designee is subject to the limitations of Section 4.2.7. Informational submittals upon which the Engineer, or his designee is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Engineer, or his designee without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Engineer, or his designee Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Engineer, or his designee or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Engineer, or his designee that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Engineer, or his designee .

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Engineer or his designee 's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Engineer, or his designee in writing of such deviation at the time of submittal and (1) the Engineer, or his designee has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Engineer, or his designee 's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Engineer, or his designee on previous submittals. In the absence of such written notice, the Engineer, or his designee 's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of Engineer, or his designee ure or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Engineer, or his designee will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Engineer or his designee . The Owner and the Engineer, or his designee shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Engineer, or his designee have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Engineer, or his designee will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.13 USE OF SITE

§ 3.13.1 The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.13.2 The Contractor shall coordinate the Contractor's operations with, and secure the approval of, the Owner before using any portion of the Site.

§ 3.13.3 The Contractor shall store its apparatuses, materials, supplies, and equipment in such orderly fashion at the Site of the Work, if permitted, as will not unduly interfere with the progress of the Work or ongoing operations. The Contractor shall provide protective fencing around the designated storage areas.

§ 3.13.4 The Contractor shall see that stockpiles of materials and storage of equipment are kept to a minimum and neatly stored where directed by the Owner and the Engineer, or his designee .

§ 3.13.5 If the Work is to be executed in areas occupied by the Owner, the Contractor shall inform the Owner in advance of the areas scheduled to be worked on, so that the Owner's personnel may make proper preparations to protect equipment and records.

§3.13.6 The Contractor understands that some or all the Work of the Contract may be performed while the facilities are occupied by personnel, and accordingly shall make all reasonable and necessary provisions to ensure that the contract Work will be of minimal disruption to the environment.

§3.13.7 Materials and equipment that are to be used only directly in the Work, shall be brought to and stored on the Project site by the Contractor. After equipment is no longer required for the Work, it shall be promptly removed from the Project Site. Protection of construction materials and equipment stored at the Project Site from weather, theft, damage and all other adversity is solely the Contractor's responsibility. The Contractor shall bear the responsibility to replace all such materials that may be lost, damaged, or stolen at its expense, whether such materials or equipment have been entirely or partially paid for by the Owner.

§3.13.8 The Contractor and any entity for whom the Contractor is responsibility, shall not erect any sign on the Project Site without the prior written consent of the Owner, which may be withheld in the sole discretion of the Owner.

§3.13.9 Contractor shall ensure that the Work is performed at all times in a manner that affords reasonable access, both vehicular and pedestrian, to the Site of the Work and all adjacent areas. The Work shall be performed, to the fullest extent reasonably possible, in such a manner that public areas adjacent to the Site of the Work shall be free from all debris, building materials, and equipment likely to cause hazardous conditions.

§3.13.10 Without prior approval of the Owner, the Contractor shall not permit any workers to use any existing facilities at the Project Site, including, without limitation, the lavatories, toilets, entrances, and parking areas, other than those designated by the Owner. Without limitation of any other provision of the Contract Documents, the Contractor shall use its best efforts to comply with all rules and regulations promulgated by the Owner in connection with the use and occupancy of the Project Site and the Building, as amended from time to time. The Contractor shall immediately notify the Owner in writing, if during the performance of the Work, the Contractor finds compliance with any portion of such rules and regulations to be impracticable. This notification shall set forth the problems of such compliance and shall suggest alternatives through which the same results intended by such portions of the rules and regulations can be achieved. The Owner may, in the Owner's sole discretion, adopt such suggestions, develop new alternatives or require compliance with the existing requirements of the rules and regulations. The Contractor shall also comply with all insurance requirements and collective bargaining agreements applicable to use and occupancy of the Project Site and the Building.

§ 3.14 CUTTING AND PATCHING

§ 3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents. Any costs incurred by the Onwer for defective cutting or patching shall be borne by the Contractor responsible therefore.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate Contractor except with written consent of the Owner and of such separate Contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate Contractor the Contractor's consent to cutting or otherwise altering the Work.

§ 3.15 CLEANING UP

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor, or shall be entitled to reduce the Contract Amount in an amount equal to the Owner's cost to clean up.

§3.15.3 The Contractor shall, on a daily basis, clean debris resulting from its Work, and protect construction in progress and maintain adjoining materials in place during handling and installation, and provide protective covering where required to assure protection from damage or deterioration until Substantial Completion.

§3.15.4 The Contractor shall clean and provide maintenance on completed construction, after installation, as frequently as necessary through the remainder of the construction period.

§3.15.5 The Contractor shall supervise its construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. The term "clean" shall include the removal of debris from the work area to dumpsters furnished by the Prime General Work Contractor or the Contractor for Single Overall Contract Work, whichever contracting method shall apply.

§ 3.16 ACCESS TO WORK

The Contractor shall provide the Owner and Engineer, or his designee access to the Work in preparation and progress wherever located.

§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Engineer, or his designee harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Engineer, or his designee. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Engineer, or his designee.

§ 3.18 INDEMNIFICATION

§ 3.18.1 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 Owner's consultants, agents, representatives, and employees from and against any and all claims, damages, losses, costs, and expenses, including, but not limited to attorney's 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 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 Owner and the Owner'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 claims, damage, loss, cost, or expense is attributable to bodily injury, sickness, disease or death, or to injury to destruction of tangible property (other than work itself) caused or alleged to be caused by the negligent acts, negligent omissions, and/or fault of the Owner or the Owner'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."

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

ARTICLE 4 ENGINEER, OR HIS DESIGNEE OR ENGINEER

§ 4.1 GENERAL

§ 4.1.1 The Owner shall retain an Engineer, or his designee lawfully licensed to practice Engineer, or his designee in the jurisdiction where the Project is located. That person or entity is identified as the Engineer, or his designee in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 4.1.2 Duties, responsibilities and limitations of authority of the Engineer, or his designee as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Engineer, or his designee. Consent shall not be unreasonably withheld.

§ 4.2 ADMINISTRATION OF THE CONTRACT

§ 4.2.1 The Engineer, or his designee will provide administration of the Contract as set forth in its respective Agreements with the Owner and as described in the Contract Documents.

§ 4.2.2 The Engineer, or his designee will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents.

§ 4.2.3 On the basis of the site visits, the Engineer, or his designee will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work.

§ 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Engineer, or his designee about matters arising out of or relating to the Contract. Communications by and with the Engineer, or his designee's consultants shall be through the Engineer, or his designee. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

§ 4.2.5 Based on the Engineer, or his designee's evaluations of the Contractor's Applications for Payment, the Engineer, or his designee will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Engineer, or his designee has authority to reject Work that does not conform to the Contract Documents. Whenever the Engineer, or his designee considers it necessary or advisable, the Engineer, or his designee will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Engineer, or his designee nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Engineer, or his designee to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Engineer, or his designee will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Engineer, or his designee's action will be taken in accordance with the submittal schedule approved by the Engineer, or his designee or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Engineer, or his designee's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Engineer, or his designee's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Engineer, or his designee's review shall not constitute

approval of safety precautions or, unless otherwise specifically stated by the Engineer, or his designee, of any construction means, methods, techniques, sequences or procedures. The Engineer, or his designee's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Engineer, or his designee will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7. The Engineer, or his designee will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Engineer, or his designee will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Engineer, or his designee agree, the Engineer, or his designee will provide one or more project representatives to assist in carrying out the Engineer, or his designee's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in the Owner's Agreement with the Engineer, or his designee.

§ 4.2.11 The Engineer, or his designee will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Engineer, or his designee's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Engineer, or his designee will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Engineer, or his designee will endeavor to secure faithful performance by both Owner and Contractor and will not show partiality.

§ 4.2.13 The Engineer, or his designee will review and respond to requests for information about the Contract Documents. The Engineer, or his designee's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Engineer, or his designee will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 DEFINITIONS

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate Contractor or subcontractors of a separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

§ 5.2.1 Identification of Subcontractors required by N.J.S.A. 40A:11-16 shall be provided with the bid submission in accordance with the requirements of that statute. Names of persons or entities for any Subcontractor not covered by N.J.S.A. 18A-18 shall be furnished within thirty (30) thirty days of notification of Award of Contract. The Engineer, or his designee will notify the Contractor in writing if the Owner or Engineer, or his designee, after due investigation, has reasonable objection to any such proposed person or entity. The list of proposed Subcontractors shall include a description of the materials and equipment each proposes to furnish and install in the Work. The description shall be insufficient detail to allow the Engineer, or his designee to determine general conformance to Contract requirements. Approval of the submittals as required under this Article shall not relieve the Contractor from conformance to Contract requirements.

§5.2.2 Subcontractors shall comply with the statutory requirements of N.J.S.A. 34:11-56.25 and N.J.S.A. 34:11-56.48. Any subcontractors who fail to comply with those statutory provisions shall be rejected.

§5.2.3 Written confirmation of award of each major subcontract shall be submitted to the Owner by the Contractor, in form subject to his approval, within seven (7) days after receipt of Owner's approval of proposed Subcontractor list as provided under this Article. Every subcontract shall be in writing, shall be submitted to Owner for review and approval prior to execution, and shall specifically provide that the Owner is an intended third (3rd) party beneficiary of such subcontract.

§ 5.2.4 The Contractor shall not contract with a proposed person or entity to whom the Owner or Engineer, or his designee has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.5 If the Owner or Engineer, or his designee has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Engineer, or his designee has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.6 The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner or Engineer, or his designee makes reasonable objection to such substitution.

§ 5.3 SUBCONTRACTUAL RELATIONS

§5.3.1 By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Engineer, or his designee. Each subcontract agreement shall preserve and protect the rights of the Owner and Engineer, or his designee under the Contract Documents and at law. No Subcontract shall diminish in any way any rights or benefits conferred upon the Owner by these Contract Documents. The Contractor shall make all Contract Documents available to the Subcontractors.

§5.3.2 Where the Contractor sublets portions of the Work, the entire responsibility for the subdividing of Work rests with the Contractor. The Owner and the Engineer, or his designee are not responsible for the manner of the subdivision of the Work, nor will they enter into or settle disagreements or disputes between Contractor and Subcontractors. The Contractor is, and will be held, responsible for the proper execution of the Work of all Subcontractors.

§ 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- 1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing.

§ 5.4.2 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor Contractor or other entity.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site.

§ 6.1.2 The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

§ 6.2 MUTUAL RESPONSIBILITY

§ 6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Engineer, or his designee apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or separate contractors as provided in Section 10.2.5.

§ 6.2.4.1 Should the Contractor cause damage to the Work or property of any separate Contractor on the Project, the Contractor shall promptly settle with such other Contractor by agreement, or otherwise resolve the dispute. If such separate Contractor institutes any legal proceeding against the Owner on account of any damage alleged to have been so sustained, the Contractor shall, indemnify, defend, or bear the cost of defense as the Owner shall in its own discretion determine, and hold the Owner's harmless. Said Indemnification shall be governed by Section 13, Page G7 of the Instructions to Bidders.

§ 6.2.5 The Owner and each separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 OWNER'S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Engineer, or his designee will allocate the cost among those responsible, which amounts the Owner shall be entitled to reduce the Contract Amounts of the various contracts of those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 GENERAL

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents. Change Orders and Construction Change Directives shall be subject to and processed in accordance with N.J.A.C. 6A:23-7 and N.J.A.C. 6A:26-4.9, where applicable.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Engineer, or his designee; a Construction Change Directive requires a written agreement by the Owner and Engineer, or his designee and may or may not be agreed to by the Contractor; an order for a minor change in the Work which does not extend the Contract Time, increase the Contract Sum or change the Project Scope may be issued by the Engineer, or his designee alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

§ 7.1.4 In order to facilitate checking of quotations for extras or credits, all proposals shall be accompanied by a complete itemization of costs including labor, materials and subcontracts. Labor and materials shall be itemized in the manner prescribed above. Where major cost items are subcontracts, they shall be itemized also. In no case will a change be approved without such itemization.

§ 7.2 CHANGE ORDERS

§ 7.2.1 A Change Order is a written instrument prepared by the Engineer, or his designee and signed by the Owner, Contractor and Engineer, or his designee stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

A Change Order shall not require consent of the Owner if the Owner has provided an allowance for such a change.

§ 7.2.2 Methods used in determining adjustments to the Contract Sum shall be those listed in Section 7.3.3.

§ 7.2.3 Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the Work that is the subject of the Change Order, including, but not limited to, all direct and indirect costs associated with such change, and any and all adjustments to the Contract Sum and the construction schedule. In the event a Change Order increases the Contract Sum, Contractor shall include the Work covered by such Change Orders in Applications for Payment as if such Work were originally part of the Contract Documents.

§ 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Engineer, or his designee and signed by the Owner and Engineer, or his designee, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. A Construction Change Directive shall not require the Agreement of the Engineer, or his designee if the Owner specifically waives their consent in writing. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.6.

§ 7.3.4 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Engineer, or his designee of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time. The Contractor's failure to comply with a Construction Change Directive shall constitute an incident of default and cause for termination by the Owner.

§ 7.3.5 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.6 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Engineer, or his designee shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Engineer, or his designee may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.6 shall be limited to the following:

- .1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
- .2 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others; and
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work.

§ 7.3.7 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Engineer, or his designee. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.8 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Engineer, or his designee will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Engineer, or his designee determines, in the Engineer, or his designee's professional judgment, to be reasonably justified. The Engineer, or his designee's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.9 When the Owner and Contractor agree with a determination made by the Engineer, or his designee concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Engineer, or his designee will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.3.10 In subparagraphs 7.3.3 and 7.3.6, the allowance for overhead and profit combined shall be based upon the following schedule:

- .1 For the Contractor, for work performed by his own forces, 10% of cost.
- .2 For each Subcontractor, for the work performed by his own forces, 10% of cost.
- .3 For the Contractor, for work performed by a subcontractor, 5% of cost.

§ 7.3.11 Lump sum quotations for changes in the Work will not be accepted. Proposals shall be completely itemized and broken down. They shall be accompanied by such supporting data as the Engineer, or his designee may require, such as copies of subcontractor's or vendor's quotations, quantity take-off sheets, or other similar information.

§ 7.4 MINOR CHANGES IN THE WORK

The Engineer, or his designee has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Engineer, or his designee and shall be binding on the Owner and Contractor. The Contractor shall carry out such written orders promptly.

ARTICLE 8 TIME

§ 8.1 DEFINITIONS

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work and services as required by the Contract

Documents, Substantial Completion of the Work shall be accomplished within the period of consecutive calendar days (or by the date), as stated in the Agreement, plus any authorized extension(s) of time as approved by written agreement. Final Completion of the Work shall be no later than thirty (30) consecutive calendar days from the date of Substantial Completion of the Work, unless otherwise set forth in Article 3.2 of the Owner/Contractor Agreement.

§ 8.1.2 Intentionally omitted

§ 8.1.3 Intentionally omitted.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 PROGRESS AND COMPLETION

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work. There will be no bonus or incentives paid, should the Work, or any portion thereof, be completed in advance of the specified activity milestone dates.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 DELAYS AND EXTENSIONS OF TIME

§ 8.3.1 Intentionally omitted

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 Intentionally omitted

§ 8.3.4 No payment, compensation, or adjustment of any kind shall be made to the Contractor by the Owner for damages resulting from hindrances or delays caused by the delays of other contractors, or from foreseeable circumstances not attributable to the Owner's conduct. The Contractor agrees that it will make no claim against the Owner for payment, compensation, damages, mitigation of Liquidated Damages, or adjustment of any kind for such hindrances or delays, and will accept such extensions of time as may be granted by the Owner in the Owner's sole discretion in full satisfaction for any and all alleged claims against the Owner for any and all such hindrances or delays. For purposes of this Agreement, disputes arising between contractors before or during construction, adverse weather conditions, and delays on the part of local authorities issuing permits shall be considered foreseeable circumstances. Notwithstanding the foregoing, nothing herein shall limit the Contractor's remedies for Owner's negligence, bad faith, active interference, tortious conduct, or other reasons unanticipated by the parties that delay expenditures paid by the Owner to the Engineer, or his designee, other individual or entity, or to any inspector or inspectors necessarily employed by it on the Work, for any number of days in excess of the Contract Time, shall be deducted for the Contract Sum.

§ 8.3.5 The provisions of this Article shall not be so interpreted or construed as to preclude or prevent the Contractor from making and prosecuting any claim against any separate Contractor engaged or employed by the Owner for damages alleged to have been caused or occasioned by any such separate Contractor.

§ 8.3.6 To the extent permitted by law, the Owner may suspend the whole or any part of the Work, if it shall deem it for the best interest of the Owner to do so, without compensation to the Contractor for such suspension, other than extending the time for completion of the Work as much as it may have been delayed by such suspension. During such suspension, all materials delivered upon, but not placed in the Work shall be neatly piled by the Contractor so as not to obstruct public travel, or shall be removed from the line of Work at the direction of the Owner and, unless the

materials be moved by the Contractor upon such direction, the materials shall be removed by the Owner and expense thereof will be charged to the Contractor.

§8.4.1 Should the Contractor fail to complete fully, and in conformity with all provisions of the Contract within the Contract Time, the Contractor shall, and hereby agrees to, pay the Owner one thousand dollars (\$1,000.00) per day, for each consecutive calendar day beyond the number of days allowed by the Contract, which sum is agreed upon as reasonable and proper measure of damages that the Owner will sustain per diem by failure of Contractor to complete Work within time as stipulated; it being recognized by Owner and Contractor that the injury to Owner that could result from a failure of the Contractor to complete on schedule, is uncertain and cannot be computed exactly. In no way shall costs of Liquidated Damages be construed as a penalty to the Contractor.

§8.4.2 It is expressly understood and agreed by and between the Contractor and Owner that the Contract Time prescribed herein is a reasonable time for the completion of the Work.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 CONTRACT SUM

The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.2 SCHEDULE OF VALUES

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Engineer, or his designee, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Engineer, or his designee may require. This schedule, unless objected to by the Engineer, or his designee, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 9.3 APPLICATIONS FOR PAYMENT

§ 9.3.1 See Article 5 of Standard Form of Agreement between Owner/Contractor.

§ 9.3.1.1 Applications for Payment may include requests for payment on account of changes in the Work which have been properly authorized by Construction Change Directives but not yet included in Change Orders.

§ 9.3.1.2 Such applications may not include requests for payment of amounts the Contractor does not intend to pay to a Subcontractor or material supplier because of a dispute or other reason.

§ 9.3.1.3 All applications for payment shall be accompanied by the Application and Certificate of Payment, AIA Document G702, and the Continuation Sheet, AIA Document G703, fully completed as required or such other application for Payment as the Owner's representative shall use.

§9.3.1.4 In cases where the work is awarded on a Single Overall Contract basis, payments shall be made in accordance with applicable State of New Jersey statutes.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

§9.3.3.1 All municipal mechanic's liens filed by a lien claimant shall be governed by N.J.S.A. 2A:44-125 et seq. In the event a municipal mechanic's lien is filed, the Owner reserves the right to withhold the full amount of the lien. The Owner may release the funds to the party against whose account the lien is claimed, only after that party files with the Owner's financial officer, a bond in an amount double of all sums claimed ("Double Bond") under the lien, and such bond's form has been approved by the Owner's chief law officer and financial officer, per N.J.S.A. 2A:44-130 or if an acceptable release of liens is filed by the lien claimant.

§ 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 See Article 5 of Standard Form of Agreement between Owner and Contractor.

§ 9.4.2 See Article 5 of Standard Form of Agreement between Owner and Contractor

§9.4.3 See Article 5 of Standard Form of Agreement between Owner and Contractor.

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 See Article 5 of Standard Form of Agreement between Owner and Contractor

§ 9.5.2 See Article 5 if Standard Form of Agreement between Owner and Contractor.

§ 9.6 PROGRESS PAYMENTS

§ 9.6.1 After the Engineer, or his designee has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Engineer, or his designee .

§ 9.6.2 The Contractor shall promptly pay each Subcontractor, upon receipt of payment from the Owner, out of the amount paid to the Contractor on account of such Subcontractor's portion of the Work, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work and shall certify same to Owner. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Engineer, or his designee will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Owner and Engineer, or his designee on account of portions of the Work done by such Subcontractor.

§ 9.6.4 Neither the Owner nor Engineer, or his designee shall have an obligation to pay or to see to the payment of money to a Subcontractor except as may otherwise be required by law.

§ 9.6.5 Payment to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.7 FAILURE OF PAYMENT

If the Engineer, or his designee does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Engineer, or his designee or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' written notice to the Owner and Engineer, or his designee , stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

§9.7 REIMBURSEMENT TO OWNER

§9.7.1 If the Owner is entitled to any reimbursement or payment from the Contractor under, or pursuant to, the Contract Documents, such payment shall be made promptly upon demand by the Owner. Notwithstanding anything contained in the Contract Documents to the contrary, if the Contractor fails to promptly make any payment due the Owner, or the Owner incurs any costs and expenses to cure any default of the Contractor or to correct defective Work, the Owner shall have an absolute right to offset such amount against the Contract Sum and may, in the Owner's sole discretion, elect either to: (1) deduct an amount equal to that which the Owner is entitled from any

payment then, or thereafter, due the Contractor from the Owner; or (2) issue a written notice to the Contractor reducing the Contract Sum by an amount equal to that which the Owner is entitled.

§ 9.8 SUBSTANTIAL COMPLETION

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use; provided, however, that a condition precedent to Substantial Completion shall be the Owner's receipt of all certificates of occupancy (permanent or temporary) and any other permits, approvals, licenses, and other documents from any governmental authority having jurisdiction thereof necessary for the occupancy of the Project. The Owner may withhold a certification of Substantial Completion if temporary installations or temporary construction exists in areas requesting certification, or if certificates of occupancy are temporary or conditional.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Engineer, or his designee shall prepare a comprehensive list of items to be completed or corrected ("Punch List"). The Contractor shall proceed immediately and correct items on the list. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Upon receipt of the list, the Engineer, or his designee, will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Engineer, or his designee's inspection discloses any item, whether or not included on the list, which is not in accordance with the requirements of the Contract Documents, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Engineer, or his designee. The Contractor shall then submit a request for another inspection by the Engineer, or his designee to determine Substantial Completion. When the Work or designated portion thereof is substantially complete, the Engineer, or his designee will prepare a Certificate of Substantial Completion which shall establish the date of Substantial Completion, shall establish responsibilities of the Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the List accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion. The Certificate of Substantial Completion shall be submitted to the Contractor for its written acceptance and to the Owner for its approval and acceptance as required by Section 9.8.1. No Certificate of Substantial Completion shall be deemed effective unless executed by both Owner and Contractor.

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, who shall obtain all necessary modifications to its insurance coverage to permit such occupancy or use. In addition, Contractor shall obtain consent of those public authorities having jurisdiction over the Work. Such partial occupancy or use may commence whether or not the portion is substantially complete pursuant to the terms of that Agreement. When the Contractor considers a portion substantially complete, the Engineer, or his designee shall prepare a Punch List as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Engineer, or his designee shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.9.4 The occupancy of any portion of the Work shall not constitute acceptance of any Work, except as hereinafter stated, nor does it waive the Owner's right to Liquidated Damages. Final Acceptance of the Work shall be for the whole Work only and not part.

§ 9.9.5 Occupancy by the Owner shall not be deemed to constitute a waiver of existing claims on behalf of the Owner or Contractor against each other.

§ 9.10 FINAL COMPLETION AND FINAL PAYMENT

§ 9.10.1 Upon completion of the Work, the Contractor shall forward to the Engineer, or his designee a written notice that the Work is ready for final inspection and acceptance and shall also forward to the Engineer, or his designee a final Contractor's Application for Payment. The Engineer, or his designee will promptly make such inspection. When the Engineer, or his designee finds the Work acceptable under the Contract Documents and the Contract fully performed, the Engineer, or his designee will promptly issue a final Certificate for Payment stating that to the best of their knowledge, information and belief, and on the basis of their observations and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Engineer, or his designee's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor complies with all requirements set forth in Section 6 of the Standard Form of Agreement between Owner and Contractor and the Contractor submits to the Engineer, or his designee (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

§ 9.10.3 Intentionally omitted

§ 9.10.4 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall submit the Contractor's safety program to the Engineer, or his designee for review and coordination with the safety programs of other Contractors.

§ 10.2 SAFETY OF PERSONS AND PROPERTY

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.
- .4 Construction or operations by the Owner or other Contractors.

§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying Owners and users of adjacent sites and utilities.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2, 10.2.1.3 and 10.2.1.4 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2, 10.2.1.3 and 10.2.1.4, except damage or loss attributable to acts or omissions of the Owner or Engineer, or his designee or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Engineer, or his designee.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 HAZARDOUS MATERIALS

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Engineer, or his designee in writing.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Engineer, or his designee the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance.

§ 10.3.3 Intentionally omitted

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 Intentionally omitted

§ 10.4 EMERGENCIES

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 CONTRACTOR'S LIABILITY INSURANCE

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

1. Automobile Liability Insurance in any amount of not less than \$1,000,000.00 combined single limits for Bodily Injury and Property Damage Liability. A certificate of such current insurance will be provided to the County and will reflect the provision of at least thirty (30) days notice to the County before any major cancellation or major change may be made the policy.

2. Workers Compensation Insurance insuring the obligations of the Contractor and all Subcontractors under the New Jersey Workers Compensation and Occupational Disability Laws as respects to Work performed under the Contract. Insurance will be extended to include any obligations under the United States Longshoremen's and Harbor Workers Act or any maritime act, when applicable.

3. General Liability Insurance will be provided on a Comprehensive General Liability form with a combined single limit of \$3,000,000.00 per occurrence for Bodily Injury Liability and Property Damage Liability and will include the interest of the County with respect to Work emanating from the Contract with the County. The insurance will include the following:

- a) Personal Injury Liability
- b) Blanket Contractual Liability applies to assumption of liability under any written Contract
- c) Coverage for A, X, C, U exposures, relating to excavation, blasting underground damage
- d) Broad Form Property Damage Liability
- e) Products and/or Completed Operations Liability

A Certificate of Insurance will be filed with the County prior to commencement of any Work. This certificate will contain a provision that insurance afforded under the policies will not be canceled without at least (30) days prior written notice being given to the County.

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§ 11.1.2 The insurance required by Section 11.1.1 shall remain in effect for the duration of the project, i.e., from beginning of construction until final payment and closeout.

§ 11.1.3 All insurance required by Section 11.1.1 shall be issued by insurance companies authorized to do business in the State of New Jersey and rated as "A" or better as determined by A.M. Best Company.

§ 11.1.4 The Contractor waives all rights against the Owner for damages caused by fire or other perils to the extent covered by insurance provided under this Article. Any deductibles, co-insurance, or contribution to the loss will be borne solely by the Contractor.

§ 11.1.5 A certificate of insurance evidencing the coverages required by Section 11.1.1 shall be submitted to the Owner's attorney for approval and transmittal to the Owner and Engineer, or his designee prior to the commencement of the Work. The certificate must be submitted on the ACORD form Certificate of Insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least thirty (30) days written notice has been given to the Owner. If requested by the Owner, the Contractor shall provide complete copies of any policies of insurance required by this Contract to be obtained by the Contractor and Subcontractor(s). Information concerning any reduction of coverage shall be furnished by the Contractor with reasonable promptness in accordance with the Contractor's information and belief.

§ 11.2 PROPERTY INSURANCE

§ 11.2.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance in the amount of the initial Contract Sum as well as subsequent modifications thereto for the entire Work at the site on a replacement cost

basis without voluntary deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurance interest in the property required by this Section 11.2 to be covered, whichever is earlier. This insurance shall include the interest of the Owner, Contractor, Subcontractor(s), and Sub-Contractor(s) in the Work.

§ 11.2.1.1 Property insurance shall be on an "all-risk" policy form and shall be against the perils of fire and extended coverage and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, falsework, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Engineer, or his designee's services and expenses required as a result of such insured loss. Coverage for all other perils shall not be required unless otherwise provided in the Contract Documents.

§ 11.2.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance which will protect the interests of the Contractor, Subcontractor(s) and Sub-subcontractor(s) in the Work. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.2.1.3 If the property insurance requires minimum deductibles, and such deductibles are identified in the Contract Documents, the Contractor shall pay costs not covered because of such deductibles. If the Owner or insurer increases the required minimum deductibles over the amounts so identified or if the Owner elects to purchase this insurance with voluntary deductible amounts, the Owner shall be responsible for payment of the additional costs not covered because of such increased or voluntary deductibles.

§ 11.2.1.4 Unless otherwise provided in the Contract documents, this property insurance shall cover portions of the Work stored off the site after written approval of the Owner at the value established in the approval, and also portions of the Work in transit.

§ 11.2.1.5 A loss insured under Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgage clause and of Section 11.3.10. The Contractor shall pay Subcontractor(s) their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractor(s) to make payments to their Sub-Contractor(s) in a similar manner.

§ 11.2.2 BOILER AND MACHINERY INSURANCE

The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds. The Owner as fiduciary shall have the power to adjust and settle a loss with insurers.

§ 11.2.3 LOSS OF USE INSURANCE

The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused.

§ 11.2.4 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.3 PERFORMANCE BOND, PAYMENT BOND AND MAINTENANCE BOND

§ 11.3.1 Contractor, at its sole expense, shall furnish bonds covering faithful performance of the contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract, including material and labor..

§ 11.3.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be made

§ 11.3.3 The Contractor shall file with the Owner, as a condition of final acceptance, a statement from the Surety of its Performance Bond and Payment Bond, that the Surety is satisfied that all claims for labor and material supplied under its contract have been satisfactorily settled.

§ 11.3.4 As a condition of Substantial Completion of the Work, the Contractor shall provide an acceptable Maintenance Bond in accordance with section 16, page G-9 of the Instructions to Bidders.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 UNCOVERING OF WORK

§ 12.1.1 If a portion of the Work uncovered is contrary to the Engineer, or his designee's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Engineer, or his designee, be uncovered for the Engineer, or his designee's examination and be replaced at the Contractor's expense without change in the Contract Time or Contract Sum.

§ 12.1.2 If a portion of the Work has been covered that the Engineer, or his designee has not specifically requested to examine prior to its being covered, the Engineer, or his designee may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate Contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK

The Contractor shall promptly correct Work rejected by the Engineer, or his designee or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Engineer, or his designee's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. The Contractor shall give such notice promptly after discovery of the non-conforming work. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after the receipt of notice from the Owner or Engineer, or his designee, the Owner may correct it in accordance with Section 2.4. This obligation under Section 12.2.2 shall survive acceptance of the Work under the Contract and termination of the Contract.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 Intentionally omitted.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged work, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work, nor to any deficient Work discovered after the one-year period that could not have readily been discovered.

§ 12.3 ACCEPTANCE OF NONCONFORMING WORK

If the Owner prefers to accept Work, that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made. However, there shall be no implied or expressed acceptance of Work not in compliance with applicable law. The amount of said reduction will be within the exclusive determination of the Owner as its representative.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 GOVERNING LAW

§ 13.1.1 The Contract shall be governed by the laws of the State of New Jersey.

§ 13.1.2 Nothing in the Contract Documents shall be construed to permit deviation from the governing law.

§ 13.1.3 In accordance with N.J.S.A. 40A:11-18, American manufactured products or materials shall be used in the Work, wherever possible.

13.1.4 RATE OF WAGES

Where the Project is not subject to a Project Labor Agreement, wage notes shall be paid pursuant to the New Jersey Prevailing Wage Act, N.J.S.A. 34:11-56.25 et seq, the Contractor and Subcontractor are required to do the following:

§ 13.1.4.1 Pay to all workmen engaged in the performance of services, directly upon a public work, the prevailing rate of wages, which shall be those in effect for the Project site(s) on the Contract Date and such rates shall remain in effect for (2) years, unless superseded by a subsequent determination.

§ 13.1.4.2 Before final payment, furnish Owner with an affidavit stating that all workmen have been paid the prevailing rate of wages specified in the contract.

§ 13.1.4.3 Keep an accurate record showing the name, craft, or trade and actual hourly rate of wages paid to each workman employed by it in connection with any public work. Records shall be preserved for two (2) years from date of payment.

§ 13.1.4.4 Post the prevailing wage rated 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, and at such place or places as are used by them to pay workmen their wages.

§ 13.1.4.5 Submit the Owner, certified payroll records for each payroll period within ten (10) days of the payment of wages. A certified payroll record is defined as "a payroll record that is attested by the employer or the Owner of the company doing business as the employer, or a corporate officer of such company, or an authorized agent of the employer". A copy of the certified payroll form for submission of the payroll records may be obtained by contacting the Department of Labor, Division of Workplace Standards at 609.292.2259.

§ 13.1.4.6 In the event the Owner finds that any workers employed by the Contractor or Subcontractor, covered by the said contract, have been paid a rate of wages less than the prevailing wage required to be paid by such contract, the Owner may terminate the Contractor's or Subcontractor's right to proceed with the Work, or such part of the

Work as to where there has been a failure to pay required wages, and to prosecute the Work to completion or otherwise, the Contractor and its sureties shall be liable to the Owner for any excess costs occasioned thereby,

§ 13.1.4.7 a current wage rate determination is on file at the offices of the Owner for inspection and Contractor's use.

§ 13.1.5 SAFETY AND HEALTH REGULATIONS (OSHA)

§ 13.1.5.1 The Contractor shall comply with the laws, rules, regulations and codes dealing with occupational safety and health, including, but not limited to, the latest amendments of the following:

§ 13.1.5.2 Williams – Steiger Occupational Safety and Health Act of 1970, Public Law 91-595

§ 13.1.5.3 Part 1910 – Occupational Safety and Health Standards Chapter XVII of Title 29, Code of Federal Regulations.

§ 13.1.5.4 Part 126 – Safety and Health Regulations for Construction, Chapter XVII of Title 29, Code of Federal Regulations.

§ 13.1.5.3 N.J.A.C. 8:59-5.1-5.109 requirements properly label any substances stored in containers) of the Worker and Community Right to Know Act, P.L. 1983, c.315.

§ 13.1.6 ENVIRONMENTAL REGULATIONS

§ 13.1.6.1 The Contractor shall comply with laws, rules, regulations, and codes dealing with the prevention of environmental pollution and the preservation of public natural resources, including but not limited to, the latest amendments of the following:

§ 13.1.6.2 Chapter 251, public Law of 1975 of the State of New Jersey, "soil Erosion and Sediment Control Act."

§ 13.1.7 AFFIRMATION ACTION EMPLOYMENT LAW

Contractor agrees to comply with the terms of the Mandatory Equal Employment Opportunity Language, a copy of which is annexed to the Contract Documents as Exhibit F and incorporated as if set forth herein.

§ 13.1.7.1 Contractor shall submit a copy of the 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 Owner

§ 13.1.7.2 Contractor shall complete and submit to the Owner an Initial Project Workforce Report, New Jersey Department of Treasury Form AA 201, upon notification of award and no later than the execution of this Agreement. Failure to submit this completed form may result in this Agreement being terminated.

§ 13.2. SUCCESSORS AND ASSIGNS

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents, neither party to the Contract shall assign the Contract as a whole without written consent of the other, unless as may be provided for elsewhere in the Contract Documents. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

§ 13.4 RIGHTS AND REMEDIES

§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

§ 13.4.2 No action or failure to act by the Owner, Engineer, or his designee or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

§ 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Engineer, or his designee timely notice of when and where tests and inspections are to be made so that the Engineer, or his designee may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Engineer, or his designee, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Engineer, or his designee will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Engineer, or his designee of when and where tests and inspections are to be made so that the Engineer, or his designee may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Engineer, or his designee's services and expenses shall be at the Contractor's expense.

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Engineer, or his designee.

§ 13.5.5 If the Engineer, or his designee is to observe tests, inspections or approvals required by the Contract Documents, the Engineer, or his designee will do so promptly and, where practicable, at the normal place of testing.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.6 INTEREST

Except as required by Section 5.1.3 of the Owner Contractor Agreement and notwithstanding anything to the contrary contained in the Contract Documents and related documents, the Owner will pay no interest whatsoever for any payments due.

§ 13.7 TIME LIMITS ON CLAIMS

Intentionally deleted.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 TERMINATION BY THE CONTRACTOR

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;

§ 14.1.2 Intentionally deleted

§ 14.1.3 If one of the reasons described in Section 14.1.1 exists, the Contractor may, upon thirty (30) days' written notice to the Owner and Engineer, or his designee, terminate the Contract

§ 14.1.4 Intentionally deleted.

§ 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor after Notice and an opportunity to cure.

- .1 refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 disregards laws, ordinances, rules or regulations, or orders of a public authority having jurisdiction;
- .4 fails to furnish the Owner with assurances satisfactory to the Owner, evidencing the Contractor's ability to complete the Work in compliance with all requirements of the Contract Documents;
- .5 fails after commencement of the Work, to proceed continuously with the construction and completion of the Work, for more than three (3) days, except as permitted by the Contract Documents;
- .6 disregards orders of the Owner or Engineer, or his designee;
- .7 fails to maintain the Site in a clean, safe and orderly manner;
- .8 fails to comply with a Construction Change Directive; or
- .9 otherwise is guilty of any breach of a provision of the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. And charge the costs incurred against the Contractor's Contract balance

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished. The Engineer, or his designee's certification issued pursuant to Section 14.2.2 shall be given a presumption of correctness.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Engineer, or his designee's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Engineer, or his designee, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 Intentionally deleted.

§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;

- 2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- 3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 CLAIMS

§ 15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking adjustment or interpretation of Contract terms, payment of money, extension of time, or other relief with respect to the terms of the Contract. Any Contractor Claim seeking the payment of money shall not include consequential damages, which Contractor hereby waives, and shall be calculated in accordance with Section 7.3.6 and Section 7.3.10 hereof.

§ 15.1.2 DECISION OF ENGINEER, OR HIS DESIGNEE

Owner and Contractor agree that the Engineer, or his designee shall be the initial arbiter of all Claims, including those alleging error or omission by the Engineer, or his designee. All claims, shall be referred, initially to the Engineer, or his designee for action as provided in Article 4 and shall be required as a condition precedent to litigation of a Claim between the Contractor and Owner to all such matters arising prior to the date final payment is due, regardless of: (1) whether such matters relate to execution and progress of the Work; or (2) the extent to which the work has been completed. The decision by the Engineer, or his designee in response to a Claim shall not be a condition precedent to litigation in the event: (1) the position of the Engineer, or his designee is vacant; (2) the Engineer, or his designee has not received evidence or has failed to render a decision within agreed time limits; (3) the Engineer, or his designee has failed to take action required under Article 4 within thirty (30) days after the Claim is made; (4) forty-five (45) days have passed after the Claim has been referred to the Engineer, or his designee; or, (5) the claim relates to a mechanic's lien.

§ 15.1.3 TIME LIMITS ON CLAIMS

Claims must be within twenty one (21) calendar days after the occurrence of the event giving rise to the Claim or within twenty-one (21) calendar days after the claimant first becomes aware of the condition giving rise to the Claim, whichever is later. There shall be no time limitation upon any Claims made by the Owner. Claims must be made by written notice to the Engineer, or his designee. An additional Claim made after the initial Claim has been implemented by Change Order will not be considered unless submitted pursuant to the requirements of this Paragraph. Notice shall be deemed effective upon the Engineer, or his designee's receipt of the Notice.

§ 15.1.4 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, unless otherwise agreed in writing, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments to the extent required by the Contract Documents.

§ 15.1.5 CLAIMS FOR CONCEALED OR UNKNOWN CONDITIONS

If conditions are encountered at the Site which are: (1) subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Contract Documents; or (2) unknown physical conditions of an unusual nature, which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for the Contract Documents, the Owner and Contractor mutually agree to give written notice to each other; including the Engineer, or his designee and any affected Contractor or subcontractor, upon the observation of the condition within twenty-four (24) hours of first observation of the condition. The Engineer, or his designee will investigate such conditions within seventy-two (72) hours and will diligently process and render a recommendation within twenty-one (21) days unless otherwise agreed in writing. If the Engineer, or his designee determines that the condition at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified the Engineer, or his designee shall so notify the Owner and Contractor in writing, stating the reasons. Claims by either party in

opposition to such determination must be made within seven (7) days after the Engineer, or his designee has given notice of the decision.

§ 15.1.6 CLAIMS FOR ADDITIONAL COST

If the Contractor wishes to make a Claim for an increase in the Contract Sum written notice as provided herein shall be given before proceeding to execute the Work. All documentation in support of the Contractor's request shall, likewise be provided at the time said written request is made. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.3 or elsewhere in the Contract Documents.

§ 15.2 CLAIMS FOR ADDITIONAL TIME

§ 15.2.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work, , all documentation in support of the Contractor's request shall, likewise be provided at the time said written request is made. In the case of a continuing delay, only one Claim is necessary.

§ 15.2.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction. The term "abnormal" as used here shall be construed according to the following formula: average rainfall (or snow, low temperature, etc) for the past five (5) years for the month in question, plus ten percent (10%). Accordingly, weather is not deemed to be abnormal unless it is ten percent (10%) worse than the average for the month over the past five (5) years. Claims relating to weather must be submitted within seven (7) calendar days of the occurrence of any such delays.

§ 15.3 CLAIMS FOR INJURY OR DAMAGE TO PERSON OR PROPERTY. If either Party to the Contract suffers injury or damage to person or property because of an act or omission of the other party, of any of the other party's employees or agents, or of others for whose acts such party is legally liable, written notice of such injury or damage, whether or not insured, shall be given to the other party, including the Engineer, or his designee , within a reasonable time not exceeding twenty-one (21) days after first occurrence, unless another time period is required by law. The notice shall provide sufficient detail to enable the other party to investigate the matter. If a Claim for additional cost or time related to this Claim is to be asserted, it shall be filed as provided for in Article 15.

§ 15.3.2 The Owner is not required to institute a claim under this section in order to terminate this Agreement.

§ 15.4 RESOLUTION OF CLAIMS AND DISPUTES

The Engineer, or his designee will review Claims and take one or more of the following preliminary actions with ten (10) days of receipt of a Claim: (1) request additional supporting data from the claimant; (2) reject the Claim in who or in part, stating reasons for rejection ; (3) recommend approval of the Claim by other party; or (4) suggest a compromise.

§ 15.4.2 If a Claim has been resolved, the Engineer, or his designee will prepare or obtain appropriate documentation in consultation with Owner's counsel as circumstances dictate.

§ 15.4.3 If a Claim has not been resolved after consideration of the foregoing and of further evidence presented by the parties or requested by the Engineer, or his designee , the Engineer, or his designee will notify the parties in writing that the Engineer, or his designee 's decision will be made within seven (7) days, which decision shall be final. Upon expiration of such time period, the Engineer, or his designee will render to the parties the Engineer, or his designee 's written decision relative to the Claim, including any change in the Contract Sum or Contract Time or both.

§ 15.5. CLAIMS FORUM

Unless otherwise required by Section 5.1.3 of the Standard Form of Agreement between the Owner and Contractor, claims, disputes, or other matters in question between the parties to this Contract arising out of or relating to the Project or to this Contract, or the alleges breach thereof, shall be subject in the first instance to mediation and failing that, there in, a Court of competent jurisdiction venued in Union County, New Jersey. The Owner may not be compelled to submit any dispute concerning the Project to arbitration. By accepting award of the Contract and executing the Agreement, the Contractor consents to its joinder as a party in any litigation, mediation, arbitration or any other legal proceeding involving the Project and any references in the Contract documents.

§ 16.1 INTERPRETATIONS IN WRITING

§ 16.1.1 Neither the price bid for the work of any Contract, nor the Contract Sum, shall be based in any manner upon oral opinions, or real or alleged instructions of an oral nature, regardless if whether such opinions or instructions are expressed by the Owner, the Engineer, or his designee or its Consultants, the Contractor, or agents or representative of any of them and no such oral communication shall form the basis of a Claim.

§ 16.1.2 These provisions do not intend to deny, on an oral basis, normal discussion, recommendations, explanations, suggestions, approvals, rejections, and similar activity in pursuit of the work of the Project, such as at job conferences and otherwise at the Site. In such instances, the written minutes, correspondence, shop drawing records, written field orders, and other written data shall govern over personal claims regarding statements made contrary to the written data.

§ 17.1 JOB SITE MEETINGS

§ 17.1.1 Job site meetings, when called by the Engineer, or his designee, shall be held at a location and time convenient to the Owner's representatives, the Engineer, or his designee, and Contractor(s). Each Contractor shall attend such meeting, or be represented by a person in authority who is thoroughly familiar with the Project and who can speak and make decisions for the Contractor. In the instance of a Single Overall Contract, each of the major Subcontractors-Structural Steel, and ornamental iron work, plumbing, gas fitting and all kindered work and steam power plants, steam, and hot water heating and ventilating apparatus and Electrical-shall have a person in authority who is thoroughly familiar with the Project attend the meetings.

§ 18.1 MANDATORY LAW AGAINST DISCRIMINATION LANGUAGE
PROCUREMENT, PROFESSIONAL AND SERVICE CONTRACTS
(N.J.A.C. 13:6-1.3)

§ 18.1.1 The parties of this contract do hereby agree that the provision of N.J.S.A. 10:2-1 through N.J.S.A. 10:2-4 dealing with discrimination in employment on public contracts, and the rules and regulations promulgated pursuant thereto, are hereby made a part of this contract and are binding upon them.

§ 18.1.1 Pursuant to the provision of N.J.S.A. 10:2-1 through N.J.S.A. 10:2-4, during the performance of this contract, the Contractor agrees as follows:

§ 18.2.1.1 In the hiring of persons for the performance of work under this contract or any subcontract hereunder, or for the procurement, manufacture, assembling or furnishing of any such materials, equipment, supplies or services to be acquired under this contract, no Contractor, including without limitation, the Contractor, nor any person acting on behalf of such Contractor or subcontractor, shall by reason of race, creed, color national origin, ancestry, Marital status, gender identity or expression, affectional or sexual orientation, or sex, discriminate against any person who is qualified and available to perform the Work, to which the employment relates;

§ 18.2.1.2 No Contractor, including, without limitation, the Contractor, Subcontractor, nor any person acting on its behalf shall, in any manner, discriminate against or intimidate any employee engaged in the performance of work under this Contract or any subcontract hereunder, or engaged in the procurement, manufacture, assembling or furnishing of any such materials, equipment, supplies or services to be acquired under such Contract, on account of race, creed, color, national origin, ancestry, marital status, gender identity or expression, affectional or sexual orientation, or sex;

§ 18.2.1.3 There may be deducted from the amount payable to the Contractor by the Owner, under the Contract, a penalty of \$50.00 (fifty dollars) for each person for each calendar day during which such person is discriminated against or intimidated in violation of the provisions of the Contract; and

§ 18.2.1.4 This contract may be canceled or terminated by the Owner, and all the money due or to become due hereunder may be forfeited, for any violation of this section of the Contract occurring after notice to the Contractor from the contracting public agency or any prior violation of this section of the Contract.

§ 19.1 CONTRACTOR AND SUBCONTRACTOR COLLECTION OF USE TAX TO LOCAL GOVERNMENTS

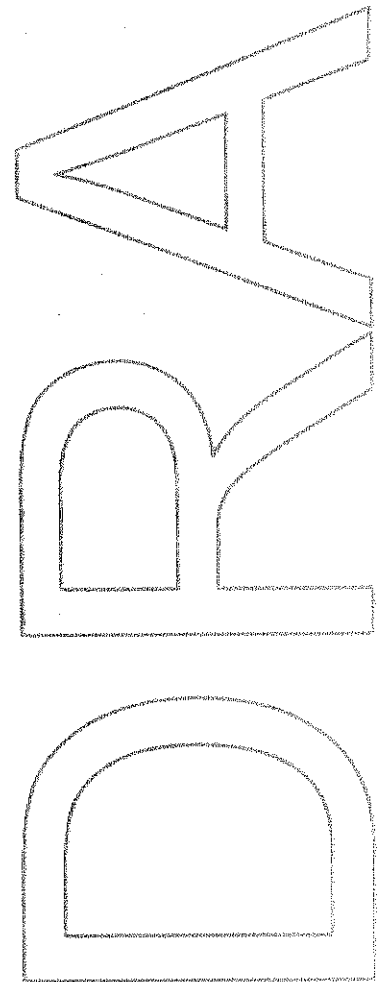
§ 19.1.1 The Contractor acknowledges and agrees that pursuant to P.L. 2004, c. 57, enacted by the State of New Jersey on June 29, 2004, contractors or contractors with subcontractors, or their affiliates, who enter into contracts

with New Jersey local government entities, including without limitation, boards of education, are, effective as of September 1, 2004, required to collect and remit to the New Jersey Director of Taxation in the Department of the Treasury the use tax pursuant to the "sales and Use Tax Act," P.L. 1966, c. 30 (C.54:32B-1 et. seq.) on all their sales of tangible personal property delivered into the State of New Jersey (hereinafter referred to as the "Contractor Use Tax Collection Legislation").

§ 19.2.1 The Contractor hereby covenants and agrees that the Contractor, any subcontractor and each of their affiliates, shall collect and remit to the New Jersey Director of the Division of Taxation in the Department of Treasury, the use tax due pursuant to the "Sales and Use Tax Act," P.L. 1966, c. 30 (C.54:32B-1 et. seq.) on all their sales of tangible personal property delivered into the State of New Jersey. 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.

§ 19.3.1 The parties intend that this Article 19 shall comply with the rules and regulations promulgated pursuant to the Contractor Use Tax Collection Legislation and shall be interpreted consistent therewith.

§ 19.4 Notwithstanding anything contained in the Agreement to the contrary, the Contractor hereby agrees to indemnify and hold the Owner harmless from and against any and all fines, taxes, penalties, interest, claims, losses. Costs, expenses, liabilities, or damages arising out of or in connection with the Contractor's failure to comply with the terms and condition of Sections 19.1 and 19.2 to the fullest extent permitted by law and public policy.





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

PREVAILING WAGE RATE DETERMINATION

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

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

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

Prevailing Wage Rate

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

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

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

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

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

Apprentice Rate Schedule

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

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

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

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

Comments/Notes

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

Public Works Contractor Registration

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

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

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

Snow Plowing

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

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

County - UNION

Craft: Air Conditioning & Refrigeration - Service and Repair

PREVAILING WAGE RATE

	03/19/15
Journeyman (Mechanic)	W36.18 B21.10 T57.28

Expiration Date: 02/29/2016

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

	01/09/15
Foreman	W45.00 B40.02 T85.02
General Foreman	W47.00 B41.00 T88.00
Journeyman	W41.00 B38.42 T79.42

Expiration Date: 12/31/2015

Craft: Boilermaker APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	65%	70%	75%	80%	85%	90%	95%			
1000 Hours										
Benefit =	32.33	33.20	34.08	34.94	35.82	36.69	37.55			

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

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

County - UNION

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.

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

	01/09/15
Foreman	W30.29 B16.17 T46.46
General Foreman	W30.79 B16.17 T46.96
Mechanic	W28.79 B16.17 T44.96

Expiration Date: 12/31/2015

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 \$20,000.00).

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

	05/01/15
Deputy Foreman	W41.25 B29.83 T71.08
Foreman	W44.25 B29.83 T74.08
Journeyman	W38.25 B29.83 T68.08

Expiration Date: 04/30/2016

Craft: Bricklayer, Stone Mason

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
6 Months	40%	50%	55%	60%	65%	70%	75%	80%		
Benefits	3.72	4.65	5.12	5.58	19.73	21.04	22.35	23.65		

Ratio of Apprentices to Journeymen - 1:5

Craft: Bricklayer, Stone Mason

COMMENTS/NOTES

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

SHIFT DIFFERENTIALS:

- When a 2 shift schedule (including a day shift) is established, the first, or day shift, shall be established on an 8 hour basis. The second shift shall be established on an 8 hour basis, and receive the regular rate plus 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%, inclusive of benefits, 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%, inclusive of benefits, and the third shift shall receive the regular rate plus 20%, inclusive of benefits.

OVERTIME:

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

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

County - UNION

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

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

County - UNION

Craft: Carpenter

PREVAILING WAGE RATE

	05/12/15	11/01/15
Foreman	W51.22 B28.68 T79.90	W0.00 B0.00 T80.42
Journeyman	W44.54 B24.94 T69.48	W0.00 B0.00 T70.73

Expiration Date: 04/30/2016

Craft: Carpenter

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	40%	45%	50%	55%	60%	65%	70%	75%	85%	95%
6 Months										
Benefit	56% of	Appren	tice	Wage	Rate		for all	intervals		

Ratio of Apprentices to Journeymen - 1:4

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

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

County - UNION

Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday.

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

County - UNION

Craft: Carpenter - Resilient Flooring

PREVAILING WAGE RATE

	05/12/15
Foreman	W51.22 B28.68 T79.90
Journeyman	W44.54 B24.94 T69.48

Expiration Date: 10/31/2015

Craft: Carpenter - Resilient Flooring

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
6 Months	40%	45%	50%	55%	60%	65%	70%	75%	85%	95%
Benefit	56%	of	Appren	tice	Wage	Rate		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

Expiration Date:

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

	05/01/15
Foreman	W49.57 B42.32 T91.89
Foreman (Concrete Form Work)	W49.57 B34.48 T84.05
Journeyman	W43.10 B42.32 T85.42
Journeyman (Concrete Form Work)	W43.10 B34.48 T77.58

Expiration Date: 11/01/2015

Craft: Dockbuilder APPRENTICE RATE SCHEDULE

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
Yearly	17.24	21.55	28.02	34.48						
Benefit	28.90	for all	intervals		Concrete	Form Work	Only Ben.	= 23.65	for all	intervals

Ratio of Apprentices to Journeymen - *

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

Craft: Dockbuilder COMMENTS/NOTES

CREOSOTE HANDLING:

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

HAZARDOUS WASTE WORK:

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

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

FOREMAN REQUIREMENTS:

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

OVERTIME:

Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the

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

County - UNION

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

	05/04/15	05/01/16	05/01/17
Foreman	W41.80 B22.60 T64.40	W43.05 B22.60 T65.65	W44.30 B22.60 T66.90
General Foreman	W43.70 B22.60 T66.30	W44.95 B22.60 T67.55	W46.20 B22.60 T68.80
Journeyman	W38.00 B22.60 T60.60	W39.25 B22.60 T61.85	W40.50 B22.60 T63.10

Expiration Date: 04/30/2018

Craft: Drywall Finisher

APPRENTICE RATE SCHEDULE

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

	06/02/15	05/30/16	05/29/17	05/28/18
Cable Splicer	W57.52 B32.88 T90.40	W58.71 B33.74 T92.45	W60.08 B34.53 T94.61	W61.52 B35.35 T96.87
Foreman	W58.56 B33.47 T92.03	W59.77 B34.34 T94.11	W61.17 B35.15 T96.32	W62.64 B35.98 T98.62
Journeyman	W52.29 B29.90 T82.19	W53.37 B30.67 T84.04	W54.62 B31.39 T86.01	W55.93 B32.13 T88.06

Expiration Date: 05/31/2019

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

	12/04/14
Master Technician/General Foreman	W49.84 B28.49 T78.33
Senior Technician/Lead Foreman (21-30 Workers on Job)	W45.62 B26.08 T71.70
Technician A/Foreman (11-20 Workers on Job)	W43.71 B24.99 T68.70
Technician B/Working Foreman (4-10 Workers on Job)	W41.79 B23.89 T65.68
Technician C/Journeyman (1-3 Workers on Job)	W38.34 B21.92 T60.26

Expiration Date: 11/01/2015

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

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
6 Months	19.20	20.48	22.62	25.18	28.16	30.72	33.71	36.70		
Benefits	7.96	8.49	9.38	10.44	11.68	12.74	13.98	15.22		

Ratio of Apprentices to Journeymen - 2:3

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

COMMENTS/NOTES

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

INTERVAL	PERIOD AND RATES									
6 Months	17.07	18.35	20.48	23.04	26.03	28.59	31.58	34.56		
Benefits	7.08	7.61	8.49	9.56	10.79	11.86	13.09	14.33		

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:

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

County - UNION

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

OVERTIME:

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

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

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

County - UNION

Craft: Electrician - Teledata (16 Instruments & More)

PREVAILING WAGE RATE

See "Electrician" Rates

Expiration Date:

Craft: Electrician - Teledata (16 Instruments & More)

COMMENTS/NOTES

See ELECTRICIAN Rates

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

County - UNION

Craft: Electrician- Outside Commercial

PREVAILING WAGE RATE

	06/02/14
Cable Splicer	W56.56 B31.92 T88.48
Certified Welder	W53.99 B30.46 T84.45
Equipment Operator	W51.42 B29.01 T80.43
Foreman (1-10 Journeyman workers on job)	W57.59 B32.49 T90.08
Foreman (11-20 Journeyman workers on job)	W59.13 B33.37 T92.50
General Foreman (21-30 Journeyman workers on job)	W60.67 B34.23 T94.90
General Foreman (31-60 Journeyman workers on job)	W65.82 B37.13 T102.95
Groundman	W30.85 B17.41 T48.26
Journeyman Lineman/Technician	W51.42 B29.01 T80.43
Sub-Foreman	W57.59 B32.49 T90.08

Expiration Date: 06/01/2015

Craft: Electrician- Outside Commercial

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	60%	65%	70%	75%	80%	85%	90%			
1000 Hours										
Benefits	55.95% of	Journey	man	wage	+	\$.01				

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

County - UNION

Craft: Electrician- Outside Commercial

COMMENTS/NOTES

APPRENTICE RATE SCHEDULE AS OF 6-2-14:

INTERVAL	PERIOD AND RATES							
1000 Hours	60%	65%	70%	75%	80%	85%	90%	
Benefits	56.41% of Journeyman wage + \$.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 4 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:

4-10 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 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 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

Expiration Date:

Craft: Electrician-Utility Work (North)

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
6 Months	60%	65%	70%	75%	80%	85%	90%			
Benefits	62.5% of	Appren	tice	Wage	Rate	for all	intervals			

Craft: Electrician-Utility Work (North)

COMMENTS/NOTES

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

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

County - UNION

Craft: Electrician-Utility Work (South)

PREVAILING WAGE RATE

Rates are located in the "Statewide" rate package

Expiration Date:

Craft: Electrician-Utility Work (South)

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
6 Months	26.27	28.46	30.65	32.84	35.03	37.22	39.41			
Benefits	21.83	23.08	24.32	25.57	26.81	28.06	29.32			

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 Modernization & Service

PREVAILING WAGE RATE

	03/27/15	03/17/16	03/17/17	03/17/18
Journeyman	W46.92	W47.91	W49.14	W50.49
	B36.46	B38.17	B39.91	B41.66
	T83.38	T86.08	T89.05	T92.15

Expiration Date: 03/16/2019

Craft: Elevator Modernization & Service

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	Yearly	26.62	25.81	30.50	35.19					
Benefits	30.16	30.47	31.80	33.13						

Ratio of Apprentices to Journeymen - 1:1

Craft: Elevator Modernization & Service

COMMENTS/NOTES

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

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

- Overtime:

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

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

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

- Overtime:

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

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

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

County - UNION

Craft: Glazier PREVAILING WAGE RATE

	06/11/15	05/01/16
Foreman	W46.50 B22.65 T69.15	W0.00 B0.00 T70.65
General Foreman	W48.50 B22.89 T71.39	W0.00 B0.00 T72.89
Journeyman	W42.50 B22.17 T64.67	W0.00 B0.00 T66.17

Expiration Date: 04/30/2017

Craft: Glazier APPRENTICE RATE SCHEDULE

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

Ratio of Apprentices to Journeymen - 1:4

Craft: Glazier COMMENTS/NOTES

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

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

Hazard/Height Pay: +\$1.00 per hour

FOREMAN REQUIREMENTS:

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

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

SHIFT DIFFERENTIALS:

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

OVERTIME:

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

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

County - UNION

rate.

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

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

County - UNION

Craft: Heat & Frost Insulator

PREVAILING WAGE RATE

	09/19/14
Foreman	W51.52 B28.42 T79.94
General Foreman	W54.07 B29.53 T83.60
Journeyman	W50.24 B27.86 T78.10

Expiration Date: 09/18/2015

Craft: Heat & Frost Insulator

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
Yearly	23.27	27.59	33.35	39.16						
Benefits	16.96	20.03	21.99	23.76						

Ratio of Apprentices to Journeymen - 1:3

Craft: Heat & Frost Insulator

COMMENTS/NOTES

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

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

SHIFT DIFFERENTIAL:

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

OVERTIME:

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

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

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

County - UNION

Craft: Heat & Frost Insulator - Asbestos Worker

PREVAILING WAGE RATE

	09/19/14
Asbestos Worker/Firestop	W25.68 B9.25 T34.93
Foreman	W51.52 B28.42 T79.94

Expiration Date: 09/18/2015

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

	07/09/15
* Rod /Fence Foreman	W41.24 B42.27 T83.51
* Rod/Fence Journeyman	W38.24 B42.27 T80.51
Structural Foreman	W44.29 B42.77 T87.06
Structural Journeyman	W41.29 B42.77 T84.06

Expiration Date: 06/30/2016

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

* EXPIRATION DATE FOR ROD/FENCE FOREMAN AND ROD/FENCE JOURNEYMAN IS 12-31-15.

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 5 consecutive days, the rate shall be paid at the regular rate and benefit rate , with no wage premium included. When an irregular shift is established for less than 5 days, the rate shall be paid at the regular rate plus 15%.

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

County - UNION

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 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

	12/17/14
Foreman	W38.00 B16.20 T54.20
Journeyman (Handler)	W36.00 B16.20 T52.20

Expiration Date: 07/31/2015

Craft: Laborer - Asbestos & Hazardous Waste Removal

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
Yearly	27.96	28.66	29.72	31.84						
Benefits	16.15	for	all	intervals						

Ratio of Apprentices to Journeymen - *

* Ratio of apprentices to journeymen shall not be more than one apprentice for the first journeyman and no more than (1) apprentice for each additional three (3) journeymen.

Craft: Laborer - Asbestos & Hazardous Waste Removal

COMMENTS/NOTES

NOTE: These rates apply to work in connection with Asbestos, Radiation, Hazardous Waste, Lead, Chemical, Biological, Mold Remediation and Abatement.

The regular workday shall be 8 hours between 6:00 AM and 6:00 PM.

OVERTIME:

- Hours in excess of 8 per day, Monday through Saturday, and all hours on Sunday and holidays shall be paid at time and one-half the regular rate.
- When the owner (Public Body) mandates that work is to be performed on Sunday, those hours may be worked at straight time, up to 8 hours per day, up to 40 hours per week.
- Benefits on ALL overtime hours shall be paid at straight time.

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

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

County - UNION

Craft: Laborer - Building

PREVAILING WAGE RATE

	05/04/15
Class A Journeyman	W30.65 B25.22 T55.87
Class B Journeyman	W30.15 B25.22 T55.37
Class C Journeyman	W25.63 B25.22 T50.85
Foreman	W34.48 B25.22 T59.70
General Foreman	W38.31 B25.22 T63.53

Expiration Date: 04/30/2016

Craft: Laborer - Building

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	60%	70%	80%	90%						
6 Months										
Benefit	21.97	21.97	21.97	21.97						

Ratio of Apprentices to Journeymen - *

* Ratio of apprentices to journeymen shall not be more than one apprentice for the first journeyman and no more than (1) apprentice for each additional three (3) journeymen.

Craft: Laborer - Building

COMMENTS/NOTES

CLASS A: Specialist laborer including mason tender or concrete pour crew; scaffold builder (scaffolds up to 14 feet in height); operator of forklifts, Bobcats (or equivalent machinery), jack hammers, tampers, motorized tampers and compactors, vibrators, street cleaning machines, hydro demolition equipment, riding motor buggies, conveyors, burners; and nozzlemen on gunite work.

CLASS B: Basic laborer - includes all laborer work not listed in Class A or Class C.

CLASS C: Janitorial-type light clean-up work associated with the TURNOVER of a project, or part of a project, to the owner. All other clean-up work is Class B.

The regular workday shall be 8 hours between 6:00 AM and 6:00 PM.

SHIFT DIFFERENTIALS:

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

- When a 2-shift schedule is worked, including a day shift, both shifts shall be established on the basis of 8 hours pay for 8 hours worked. The second shift shall receive the regular rate plus an additional 10%.

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

County - UNION

- 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, 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: Laborer - Heavy & General

PREVAILING WAGE RATE

Rates are located in the
"Statewide" rate package

Expiration Date:

Craft: Laborer - Heavy & General

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
1000 Hours	60%	70%	80%	90%						
Benefit	18.03	for	all	intervals						

Ratio of Apprentices to Journeymen - *

* No more than 1 apprentice for the first journeyman and no more than 1 apprentice for each additional 3 journeymen.

Craft: Laborer - Heavy & General

COMMENTS/NOTES

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

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

County - UNION

Craft: Millwright

PREVAILING WAGE RATE

	05/01/15
Foreman	W51.72 B29.52 T81.24
Journeyman	W44.97 B25.74 T70.71

Expiration Date: 10/31/2015

Craft: Millwright

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	40%	45%	50%	55%	60%	65%	70%	75%	85%	95%
6 Months										
Benefits	56% of	Appren	tice	Wage	Rate	for all	intervals	+.55		

Ratio of Apprentices to Journeymen - 1:4

Craft: Millwright

COMMENTS/NOTES

FOREMAN REQUIREMENTS:

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

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

SHIFT DIFFERENTIALS:

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

OVERTIME:

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

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election

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

County - UNION

Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday.

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

County - UNION

Craft: Operating Engineer

PREVAILING WAGE RATE

Rates are located in the
"Statewide" rate package

Expiration Date:

Craft: Operating Engineer

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
Yearly	60%	70%	80%	90%						

Ratio of Apprentices to Journeymen - *

* 1 apprentice for each piece of heavy equipment. At least 10 pieces of heavy equipment or a minimum of 5 Operating Engineers must be on site.

Craft: Operating Engineer

COMMENTS/NOTES

Operating Engineer rates are located in the "Statewide" rate package.

**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

Expiration Date:

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

	05/22/15	05/01/16	05/01/17
Foreman	W56.38 B25.67 T82.05	W58.63 B25.67 T84.30	W61.13 B25.67 T86.80
General Foreman	W58.38 B25.67 T84.05	W60.63 B25.67 T86.30	W63.13 B25.67 T88.80
Journeyman	W51.38 B25.67 T77.05	W53.63 B25.67 T79.30	W56.13 B25.67 T81.80

Expiration Date: 01/31/2019

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

	07/09/15
Foreman (Charge Person)	W34.80 B15.28 T50.08
Helper (1st Year)	W27.33 B14.97 T42.30
Helper (2nd Year)	W28.38 B15.05 T43.43
Helper (3rd Year)	W30.53 B15.11 T45.64
Journeyman	W34.30 B15.28 T49.58

Expiration Date: 11/30/2015

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

	06/30/15	05/01/16	05/01/17
Foreman	W41.54 B22.35 T63.89	W42.91 B22.35 T65.26	W44.39 B22.35 T66.74
General Foreman	W45.31 B22.81 T68.12	W46.81 B22.81 T69.62	W48.43 B22.81 T71.24
Journeyman	W37.76 B21.90 T59.66	W39.01 B21.90 T60.91	W40.36 B21.90 T62.26

Expiration Date: 04/30/2018

Craft: Painter - New Construction

APPRENTICE RATE SCHEDULE

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

Ratio of Apprentices to Journeymen - 1:4

Craft: Painter - New Construction

COMMENTS/NOTES

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

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

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

FOREMEN REQUIREMENTS:

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

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

SHIFT DIFFERENTIALS:

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

OVERTIME:

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

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

County - UNION

rate.

- Saturday or Sunday may be used to make up a day lost to inclement weather, at straight time.
- Four 10-hour days may be worked, at straight time, Monday through Friday.

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

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

County - UNION

Craft: Painter- Containment

PREVAILING WAGE RATE

	05/22/15	05/01/16	05/01/17
Journeyman	W32.93 B22.92 T55.85	W35.18 B22.92 T58.10	W37.68 B22.92 T60.60

Expiration Date: 01/31/2019

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..

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

	05/22/15	05/01/16	05/01/17
Foreman	W46.17 B22.92 T69.09	W48.42 B22.92 T71.34	W50.92 B22.92 T73.84
General Foreman	W48.17 B22.92 T71.09	W50.42 B22.92 T73.34	W52.92 B22.92 T75.84
Journeyman	W41.17 B22.92 T64.09	W43.42 B22.92 T66.34	W45.92 B22.92 T68.84

Expiration Date: 01/31/2019

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

	05/22/15	05/01/16	05/01/17
Foreman	W45.12 B23.26 T68.38	W47.37 B23.26 T70.63	W49.87 B23.26 T73.13
General Foreman	W47.12 B23.26 T70.38	W49.37 B23.26 T72.63	W51.87 B23.26 T75.13
Journeyman	W40.12 B23.26 T63.38	W42.37 B23.26 T65.63	W44.87 B23.26 T68.13

Expiration Date: 01/31/2019

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

	06/30/15	05/01/16	05/01/17
Foreman	W42.51 B21.44 T63.95	W43.83 B21.44 T65.27	W45.32 B21.44 T66.76
Journeyman	W38.65 B22.01 T60.66	W39.85 B22.01 T61.86	W41.20 B22.01 T63.21

Expiration Date: 04/30/2018

Craft: Paperhanger - New Construction

APPRENTICE RATE SCHEDULE

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

Ratio of Apprentices to Journeymen - 1:4

Craft: 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

	06/30/15	05/01/16	05/01/17
Foreman	W32.21 B18.53 T50.74	W33.58 B18.53 T52.11	W35.06 B18.53 T53.59
Journeyman	W29.28 B18.53 T47.81	W30.53 B18.53 T49.06	W31.88 B18.53 T50.41

Expiration Date: 04/30/2018

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

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

Expiration Date:

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

	05/01/15
Foreman	W54.39 B31.94 T86.33
General Foreman	W57.91 B31.94 T89.85
Journeyman	W50.36 B31.94 T82.30

Expiration Date: 04/30/2016

Craft: Plumber APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
Yearly	30%	45%	55%	65%	75%					
Benefits	12.24	18.04	19.65	21.28	22.89					

Ratio of Apprentices to Journeymen - *

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

Craft: Plumber COMMENTS/NOTES

FOREMAN REQUIREMENTS:

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

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

SHIFT DIFFERENTIALS:

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

OVERTIME:

- All hours in excess of 8 per day, or before 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 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

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

County - UNION

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

	06/02/15
Foreman	W36.27 B24.04 T60.31
Journeyman	W35.27 B24.04 T59.31

Expiration Date: 05/31/2016

Craft: Roofer APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	40%	50%	60%	70%	80%	90%				
6 Months										
Benefits	1.85	1.85	21.25	21.25	21.25	21.25				

Ratio of Apprentices to Journeymen - *

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

Craft: Roofer COMMENTS/NOTES

Pitch: +.50 per hour

Mop Man: +.30 per hour

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

OVERTIME:

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

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

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

County - UNION

Craft: Sheet Metal Sign Installation

PREVAILING WAGE RATE

	04/07/15
Foreman	W32.89 B28.07 T60.96
Journeyman	W31.64 B28.07 T59.71

Expiration Date: 09/30/2015

Craft: Sheet Metal Sign Installation

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%
1000 hours										
Benefits	10.34	11.53	12.73	13.92	15.51	16.73	17.97	19.20	20.44	21.66

Ratio of Apprentices to Journeymen - 1:3

Craft: Sheet Metal Sign Installation

COMMENTS/NOTES

FOREMAN REQUIREMENT:

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

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

OVERTIME:

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

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

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

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

County - UNION

Craft: Sheet Metal Worker

PREVAILING WAGE RATE

	06/09/14
Foreman	W47.13 B35.84 T82.97
General Foreman	W48.13 B35.84 T83.97
Journeyman	W44.63 B35.84 T80.47

Expiration Date: 05/31/2015

Craft: Sheet Metal Worker

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
Yearly	35%	45%	55%	65%	of	Journey	man	Wage	Rate	
Benefit	35%	45%	55%	65%	of	Journey	man	Benefit	Rate	

Ratio of Apprentices to Journeymen - 1:4

Craft: Sheet Metal Worker

COMMENTS/NOTES

FOREMAN REQUIREMENTS:

- When there are 2 or more Sheet Metal Workers on a project, 1 must be designated a Foreman.
- When there are 17 or more Sheet Metal Workers on a project, 1 must be designated a General Foreman.
- When there is only 1 Sheet Metal Worker (1 Journeyman) on a project, he/she shall receive \$1.00 more than the regular Journeyman's rate.

The regular workday is 8 hours between 7:00 AM and 4:30 PM.

SHIFT DIFFERENTIAL:

- 2nd Shift (3:30 PM - 12:00 AM) : +17% of regular hourly rate
- Shift work must run for a minimum of 5 consecutive workdays.

OVERTIME:

- Hours in excess of 8 per day, or before or after the regular workday, that are not shift work, and the first 10 hours on Saturdays shall be paid at time and one-half of the regular rate, inclusive of benefits. Hours in excess of 10 per day on Saturday, and all hours on Sundays and holidays shall be at double the regular rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday through Friday, at straight time, with hours in excess of 10 per day, and hours in excess of 40 per week paid at the overtime rates listed above.

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

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

County - UNION

Craft: Sprinkler Fitter

PREVAILING WAGE RATE

	07/01/15
Foreman	W62.13 B24.52 T86.65
General Foreman	W65.10 B24.52 T89.62
Journeyman	W58.13 B24.52 T82.65

Expiration Date: 12/31/2015

Craft: Sprinkler Fitter

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
1000 Hours	9.50	11.25	29.07	31.97	34.88	37.78	40.69	43.60	46.50	49.41
Benefits	10.12	10.12	20.27	20.27	20.27	20.27	Intervals	7 to 10	Jourymn	Ben.

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES REGISTERED AS OF 7-1-13:

INTERVAL	PERIOD AND RATES									
1000 hours	14.53	17.44	23.25	26.16	31.97	34.88	40.69	43.60	49.41	52.32
Benefits	10.12	10.12	20.27	20.27	20.27	20.27	Intervals	7 to 10	receive	Journeyman Ben.

Craft: Sprinkler Fitter

COMMENTS/NOTES

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

FOREMAN REQUIREMENTS:

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

SHIFT DIFFERENTIALS:

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

OVERTIME:

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

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

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

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

County - UNION

Craft: Tile Setter - Marble

PREVAILING WAGE RATE

	07/01/15	01/01/16	07/01/16	01/01/17	07/01/17	01/01/18
Tile Setter	W56.53	W56.89	W57.32	W57.74	W58.18	W58.53
	B31.32	B32.21	B33.23	B34.26	B35.27	B36.37
	T87.85	T89.10	T90.55	T92.00	T93.45	T94.90

Expiration Date: 06/30/2018

Craft: Tile Setter - Marble

APPRENTICE RATE SCHEDULE

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

Ratio of Apprentices to Journeymen - 1:4

Craft: Tile Setter - Marble

COMMENTS/NOTES

OVERTIME:

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

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

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

County - UNION

Craft: Tile Setter - Mosaic & Terrazzo

PREVAILING WAGE RATE

	07/01/15	01/01/16	07/01/16	01/01/17
Grinder or Assistant	W0.00	W0.00	W0.00	W0.00
	B0.00	B0.00	B0.00	B0.00
	T81.55	T82.70	T83.85	T85.00
Mechanic	W0.00	W0.00	W0.00	W0.00
	B0.00	B0.00	B0.00	B0.00
	T83.17	T84.32	T85.47	T86.62

Expiration Date: 06/30/2017

Craft: Tile Setter - Mosaic & Terrazzo

APPRENTICE RATE SCHEDULE

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

Ratio of Apprentices to Journeymen - 1:5

Craft: Tile Setter - Mosaic & Terrazzo

COMMENTS/NOTES

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

OVERTIME:

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

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

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

County - UNION

Craft: Truck Driver

PREVAILING WAGE RATE

	05/01/15	11/01/15
Bucket, Utility, Pick-up, Fuel Delivery trucks	W0.00 B0.00 T67.57	W0.00 B0.00 T68.07
Dump truck, Asphalt Distributor, Tack Spreader	W0.00 B0.00 T67.57	W0.00 B0.00 T68.07
Euclid-type vehicles (large, off-road equipment)	W0.00 B0.00 T67.72	W0.00 B0.00 T68.22
Helper on Asphalt Distributor truck	W0.00 B0.00 T67.57	W0.00 B0.00 T68.07
Slurry Seal, Seeding/Fertilizing/ Mulching truck	W0.00 B0.00 T67.57	W0.00 B0.00 T68.07
Straight 3-axle truck	W0.00 B0.00 T67.62	W0.00 B0.00 T68.12
Tractor Trailer (all types)	W0.00 B0.00 T67.72	W0.00 B0.00 T68.22
Vacuum or Vac-All truck (entire unit)	W0.00 B0.00 T67.57	W0.00 B0.00 T68.07
Winch Trailer	W0.00 B0.00 T67.82	W0.00 B0.00 T68.32

Expiration Date: 04/30/2016

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

Expiration Date: 05/30/2016

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 Sundays shall be paid at two and one-half times the hourly rate. All hours on 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

Expiration Date:

Craft: Welder COMMENTS/NOTES

Welders rate is the same as the craft to which the welding is incidental .

STATEWIDE RATES

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

OPERATING ENGINEERS Rates Expiration Date : 06/30/2015

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

On all machines, including pile drivers with booms of 100 feet and over (including jib) the Operating Engineer shall receive the regular hourly rate plus: \$1.00 per hour on rigs with 100 foot Boom (including jib) up to 139 feet, and \$2.00 per hour on rigs with 140 foot Boom (including jib) and over. On all hoists where "Cat Head" or "Sheave Point" is 100 feet or more above ground level, the same differential pay shall apply as applicable to booms 100 feet and over.

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

SHIFT DIFFERENTIALS:

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

OVERTIME:

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

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

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.

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

OPERATING ENGINEERS Rates Expiration Date : 06/30/2015

Effective Date:

01/28/2015

Rate	Fringe	Total	Total	Total
44.48	29.48	73.96	0.00	0.00

A-Frame

Backhoe (combination)

Boom Attachment on loaders (Except pipehook)

Boring & Drilling Machine

Brush Chopper, Brush Shredder, Tree Shredder

Bulldozer, finish grade

Cableway

Carryall

Concrete Pump

Concrete Pumping System (Pumpcrete & similar types)

Conveyor, 125 feet or longer

Drill Doctor (Duties include dust collector and maintenance)

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

Grader, finish

Groove Cutting Machine (ride-on type)

Heater Planer

Hoist (all types including steam, gas, diesel, electric, air hydraulic, single and double drum, concrete, brick shaft caisson, snorkle roof, and other similar types, Except Chicago-boom type)

Hydraulic Crane (10 tons & under)

Hydro-Axe

Hydro-Blaster

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

Log Skidder

TERRITORY
ENTIRE STATE

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

OPERATING ENGINEERS Rates Expiration Date : 06/30/2015

Effective Date:

01/28/2015

Rate	Fringe	Total	Total	Total
44.48	29.48	73.96	0.00	0.00

Pan

Paver, concrete

Plate & Frame Filter Press

Pumpcrete (unit type)

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

Scraper

Side Boom

Straddle Carrier (Ross and similar types)

Vacuum Truck

Whiphammer

Winch Truck (hoisting)

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

OPERATING ENGINEERS Rates Expiration Date : 06/30/2015

Effective Date:

01/28/2015

Rate	Fringe	Total	Total	Total
42.57	29.48	72.05	0.00	0.00

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

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

OPERATING ENGINEERS Rates Expiration Date : 06/30/2015

Effective Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	42.57	29.48	72.05	0.00	0.00
Conveyors - under 125 feet					
Crane Signalman					
Crushing Machine					
Directional Boring Machine					
Ditching Machine - Small (Ditchwitch, Vermeer or similar types)					
Dope Pot - Mechanical (with or without pump)					
Dumpster					
Elevator					
Fireman					
Fork Lift (Economobile, Lull & similar types)					
Front End Loader (1 cu. yd. and over but less than 2 cu. yds.)					
Generator (2 or 3 battery)					
Giraffe Grinder					
Grader & Motor Patrols					
Grout Pump					
Gunnite Machine (Excluding nozzle)					
Hammer - Vibratory (in conjunction with generator)					
Heavy Equipment Robotics - Operator/Technician					
Hoist (roof, tigger, aerial platform hoist, house car)					
Hopper					
Hopper Doors (power operated)					
Ladder (motorized)					
Laddervator					

TERRITORY
ENTIRE STATE

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

OPERATING ENGINEERS Rates Expiration Date : 06/30/2015

Effective Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	42.57	29.48	72.05	0.00	0.00
Locomotive (Dinky-type)					
Maintenance Utility Man					
Master Environmental Maintenance Technician					
Mechanic					
Mixer (Except paving mixers)					
Pavement Breaker - maintenance of compressor or hydraulic unit					
Pavement Breaker (truck-mounted or small self-propelled ride-on type)					
Pipe Bending Machine (power)					
Pitch Pump					
Plaster Pump (regardless of size)					
Post Hole Digger (post pounder, auger)					
Roller (black top)					
Scale (power)					
Seamen Pulverizing Mixer					
Shoulder Widener					
Silo					
Skimmer Machine (boom type)					
Steel Cutting Machine (service & maintenance)					
Tamrock Drill					
Tractor					
Transfer Machines					
Tug Captains					
Tug Master (Power Boats)					

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

OPERATING ENGINEERS **Rates Expiration Date : 06/30/2015**

Effective Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	42.57	29.48	72.05	0.00	0.00
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 Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	39.23	29.48	68.71	0.00	0.00
Assistant Engineer/Oiler					
Driller's Helper					
Field Engineer - Transit man or Instrument man					
Maintenance Apprentice (Deckhand)					
Maintenance Apprentice (Oiler)					
Mechanic's Helper					
Off Road Back Dump					

Effective Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	36.65	29.48	66.13	0.00	0.00
Field Engineer - Rodman or Chainman					

Effective Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	46.81	29.48	76.29	0.00	0.00
Lead Engineer, Foreman Engineer, Safety Engineer (minimum)					

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

OPERATING ENGINEERS Rates Expiration Date : 06/30/2015

Effective Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	46.07	29.48	75.55	0.00	0.00
Autograde Pavement Profiler - Recycle Type (CMI & similar types)					
Autograde Pavement Profiler (CMI & similar types)					
Autograde Placer/Trimmer/Spreader Combination (CMI & similar types)					
Autograde Slipform Paver (CMI & similar types)					
Backhoe (Excavator)					
Central Power Plant					
Concrete Paving Machine					
Draglines					
Drill, Bauer, AMI and similar types					
Drillmaster, Quarrymaster					
Drillmaster/Quarrymaster (down-the-hole drill), rotary drill, self-propelled hydraulic drill, self-powered drill					
Elevator Grader					
Field Engineer-Chief of Party					
Front End Loader (5 cu. yards or larger)					
Gradall					
Grader, Rago					
Helicopter Communications Engineer					
Helicopter Co-Pilot					
Juntann Pile Driver					
Locomotive (large)					
Mucking Machine					
Pavement & Concrete Breaker (Superhammer & Hoe Ram)					

TERRITORY
ENTIRE STATE

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

OPERATING ENGINEERS Rates Expiration Date : 06/30/2015

Effective Date:

01/28/2015

Rate	Fringe	Total	Total	Total
46.07	29.48	75.55	0.00	0.00

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

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

OPERATING ENGINEERS Rates Expiration Date : 06/30/2015

Effective Date:

01/28/2015

Rate	Fringe	Total	Total	Total
40.94	29.48	70.42	0.00	0.00

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

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

OPERATING ENGINEERS **Rates Expiration Date : 06/30/2015**

Effective Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	40.94	29.48	70.42	0.00	0.00
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 Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	47.89	29.48	77.37	0.00	0.00
Helicopter Pilot/Engineer					

Effective Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	49.57	29.48	79.05	0.00	0.00
Cranes, Derricks, Pile Driver (all types), over 100 tons and TOWER CRANE with boom (including jib and/or leads) 140 ft. and over					

Effective Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	48.57	29.48	78.05	0.00	0.00
Cranes, Derricks, Pile Driver (all types), over 100 tons and TOWER CRANE with boom (including jib and/or leads) from 100 ft. to 139 ft.					

Effective Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	48.07	29.48	77.55	0.00	0.00
Cranes, Derricks, Pile Driver (all types) , under 100 tons with a boom (including jib and/or leads) 140 ft. and over					

TERRITORY
ENTIRE STATE

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

OPERATING ENGINEERS **Rates Expiration Date : 06/30/2015**

Effective Date:

01/28/2015

Rate	Fringe	Total	Total	Total
47.57	29.48	77.05	0.00	0.00

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

Effective Date:

01/28/2015

Rate	Fringe	Total	Total	Total
47.07	29.48	76.55	0.00	0.00

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

TERRITORY
ENTIRE STATE

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

STRUCTURAL STEEL ERECTION **Rates Expiration Date : 06/30/2015**

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

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

SHIFT DIFFERENTIALS:

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

OVERTIME:

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

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

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 Date:

01/28/2015

Rate	Fringe	Total	Total	Total
49.70	29.48	79.18	0.00	0.00

Helicopter Pilot or Engineer

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

STRUCTURAL STEEL ERECTION **Rates Expiration Date : 06/30/2015**

Effective Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	45.64	29.48	75.12	0.00	0.00
A-Frame					
Cherry Picker -10 tons or less (Over 10 tons use crane rate)					
Hoist (all types Except Chicago-boom)					
Jack (screw, air hydraulic, power-operated unit or console type, Except hand jack or pile load test type)					
Side Boom					
Straddle Carrier					

Effective Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	42.98	29.48	72.46	0.00	0.00
Aerial Platform Used On Hoists					
Apprentice Engineer/Oiler with Compressor or Welding Machine					
Captain (Power Boats)					
Compressor (2 or 3 in battery)					
Conveyor or Tugger Hoist					
Elevator or House Car					
Fireman					
Forklift					
Generator (2 or 3)					
Maintenance Utility Man					
Tug Master (Power Boats)					
Welding Machines, Gas or Electric Converters on any type-2 or 3 in battery including diesels					

TERRITORY
ENTIRE STATE

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

STRUCTURAL STEEL ERECTION **Rates Expiration Date : 06/30/2015**

Effective Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	41.45	29.48	70.93	0.00	0.00
Compressor (Single)					
Generators					
Welding Machines, Gas, Diesel, Or Electric Converters of any type-single					
Welding System, Multiple (Rectifier Transformer Type)					

Effective Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	39.69	29.48	69.17	0.00	0.00
Assistant Engineer/Oiler					
Drillers Helper					
Field Engineer - Transit/Instrument Man					
Maintenance Apprentice (Deckhand)					
Maintenance Apprentice (Oiler)					

Effective Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	47.26	29.48	76.74	0.00	0.00
Lead Engineer, Foreman Engineer, Safety Engineer (Minimum)					

Effective Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	36.65	29.48	66.13	0.00	0.00
Field Engineer - Rodman or Chainman					

Effective Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	46.40	29.48	75.88	0.00	0.00
Field Engineer-Chief of Party					

TERRITORY
ENTIRE STATE

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

STRUCTURAL STEEL ERECTION **Rates Expiration Date : 06/30/2015**

Effective Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	51.59	29.48	81.07	0.00	0.00

Cranes (all cranes, land or floating with booms, including jib, 140 ft. and over, above ground). Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, 140 ft. and over, above ground), and Pile Drivers (all types) over 100 tons and Tower Cranes.

Effective Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	49.93	29.48	79.41	0.00	0.00

Cranes (all cranes, land or floating with booms including jib, less than 140 ft. above ground), Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, less than 140 ft. above ground), Pile Drivers (all types), over 100 tons and Tower Crane.

Effective Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	50.09	29.48	79.57	0.00	0.00

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 Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	48.43	29.48	77.91	0.00	0.00

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.

Effective Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	50.09	29.48	79.57	0.00	0.00

Helicopter Communications Engineer

Helicopter Co-Pilot

**TERRITORY
ENTIRE STATE**

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

TEST BORING PRELIMINARY TO CONSTRUCTION-SOUTH/WEST Rates Expiration Date : 06/30/2015

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Hunterdon, Mercer, Monmouth, Ocean, Salem, Sussex, Warren

On all machines, including pile drivers with booms of 100 feet and over (including jib) the Operating Engineer shall receive the regular hourly rate plus: \$1.00 per hour on rigs with 100 foot Boom (including jib) up to 139 feet, and \$2.00 per hour on rigs with 140 foot Boom (including jib) and over. On all hoists where "Cat Head" or "Sheave Point" is 100 feet or more above ground level, the same differential pay shall apply as applicable to booms 100 feet and over.

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

SHIFT DIFFERENTIALS:

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

OVERTIME:

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

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

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 Date:

01/28/2015

Rate	Fringe	Total	Total	Total
46.07	29.48	75.55	0.00	0.00

Driller

TERRITORY
ENTIRE STATE

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

TEST BORING PRELIMINARY TO CONSTRUCTION-SOUTH/WEST Rates Expiration Date : 06/30/2015

Effective Date:

01/28/2015

Rate	Fringe	Total	Total	Total
39.23	29.48	68.71	0.00	0.00

Driller's Helper

TERRITORY
ENTIRE STATE

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

FREE AIR TUNNEL JOBS **Rates Expiration Date : 02/28/2016**

{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 Date:	06/05/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	38.50	26.28	64.78	65.53	0.00

Walking Boss & Superintendent

Effective Date:	06/05/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	38.20	26.28	64.48	65.23	0.00

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

Effective Date:	06/05/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	37.70	26.28	63.98	64.73	0.00

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

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

FREE AIR TUNNEL JOBS **Rates Expiration Date : 02/28/2016**

Effective Date:	06/05/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	40.20	26.28	66.48	67.23	0.00

Blaster

Effective Date:	06/05/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	37.15	26.28	63.43	64.18	0.00

Top Labor Foreman

Effective Date:	06/05/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	36.80	26.28	63.08	63.83	0.00

Skilled Men (including Caulker, Powder Carrier, all other skilled men)

Skilled Men (including Miner, Drill Runner, Iron Man, Conveyor Man, Manitenance Man, Safety Miner, Rigger, Block Layer, Cement Finisher, Tod Man)

Effective Date:	06/05/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	36.65	26.28	62.93	63.68	0.00

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)

Effective Date:	06/05/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	36.15	26.28	62.43	63.18	0.00

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

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

DRILL FOR GROUND WATER SUPPLY **Rates Expiration Date : 06/30/2015**

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 Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	44.82	29.48	74.30	0.00	0.00
Driller					

Effective Date:	01/28/2015				
	Rate	Fringe	Total	Total	Total
	37.98	29.48	67.46	0.00	0.00
Driller's Helper					

TERRITORY
ENTIRE STATE

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

OPERATING ENGINEERS MARINE-DREDGING **Rates Expiration Date : 09/30/2015**

NOTE: Boat crews carrying explosive material (dynamite, pourfex, and other similar materials) shall be paid at 120% of the hourly wage rate for hours engaged in handling of said materials. Employees required to possess a Hazardous Material Certification as a condition of employment shall be compensated at 120% of the hourly wage rate.

OVERTIME:

Hours in excess of 40 per week, and all hours on Saturdays and Sundays, shall be paid at time and one-half the hourly rate. All hours on holidays shall be paid at double the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Martin Luther King Day, Good Friday, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday.

Effective Date:

10/01/2014

Rate	Fringe	Total	Total	Total
35.63	12.89	48.52	0.00	0.00

Lead Dredgerman, Operator, Leverman

Licensed Tug Operator (over 1000 HP)

Effective Date:

10/01/2014

Rate	Fringe	Total	Total	Total
30.81	12.50	43.31	0.00	0.00

Derrick Operator, Spider/Spill Barge Operator

Engineer, Electrician, Chief Welder, Chief Mate

Fill Placer, Operator II

Licensed Boat Operator

Maintenance Engineer

Effective Date:

10/01/2014

Rate	Fringe	Total	Total	Total
29.01	12.36	41.37	0.00	0.00

Certified Welder

Effective Date:

10/01/2014

Rate	Fringe	Total	Total	Total
28.22	12.00	40.22	0.00	0.00

Mate, Drag Barge Operator, Steward, Assistant Fill Placer

Welder

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

OPERATING ENGINEERS MARINE-DREDGING Rates Expiration Date : 09/30/2015

Effective Date:	10/01/2014				
	Rate	Fringe	Total	Total	Total
	27.30	11.92	39.22	0.00	0.00
Boat Operator					

Effective Date:	10/01/2014				
	Rate	Fringe	Total	Total	Total
	22.68	11.25	33.93	0.00	0.00
Shoreman, Deckhand, Rodman, Scowman					

TERRITORY
ENTIRE STATE

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

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 Date:	03/01/2015			03/01/2016	03/01/2017
	Rate	Fringe	Total	Total	Total
	35.00	19.69	54.69	56.10	57.77

Foreman

Effective Date:	03/01/2015			03/01/2016	03/01/2017
	Rate	Fringe	Total	Total	Total
	32.40	19.69	52.09	53.45	55.07

Box man

Effective Date:	03/01/2015			03/01/2016	03/01/2017
	Rate	Fringe	Total	Total	Total
	30.40	19.69	50.09	51.45	53.02

Microsurface/Slurry Preparation

Effective Date:	03/01/2015			03/01/2016	03/01/2017
	Rate	Fringe	Total	Total	Total
	30.40	19.69	50.09	51.45	53.02

Squeegee man

Effective Date:	03/01/2015			03/01/2016	03/01/2017
	Rate	Fringe	Total	Total	Total
	28.90	19.69	48.59	49.95	51.57

Cleaner, Taper

TERRITORY
ENTIRE STATE

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

ASPHALT LABORERS - SOUTH **Rates Expiration Date : 02/28/2016**

"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 Date:	06/11/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	38.00	26.28	64.28	65.03	0.00

Paving Foreman

Effective Date:	06/11/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	36.55	26.28	62.83	63.58	0.00

Head Raker

Effective Date:	06/11/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	36.40	26.28	62.68	63.43	0.00

Raker, Screedman, Luteman

Effective Date:	06/11/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	36.15	26.28	62.43	63.18	0.00

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

TERRITORY
ENTIRE STATE

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

ASPHALT LABORERS - SOUTH Rates Expiration Date : 02/28/2016

Effective Date:	06/11/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	36.25	26.28	62.53	63.28	0.00
Milling Controller					

Effective Date:	06/11/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	36.45	26.28	62.73	63.48	0.00
Traffic Control Coordinator					

TERRITORY
ENTIRE STATE

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

TEST BORING PRELIMINARY TO CONSTRUCTION-NORTH **Rates Expiration Date : 10/16/2015**

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 Date:	11/13/2014				
	Rate	Fringe	Total	Total	Total
	29.44	22.89	52.33	0.00	0.00
Helper (4th year helper)					

Effective Date:	11/13/2014				
	Rate	Fringe	Total	Total	Total
	36.82	22.89	59.71	0.00	0.00
Driller					

Effective Date:	11/13/2014				
	Rate	Fringe	Total	Total	Total
	42.22	22.89	65.11	0.00	0.00
Foreman					

**TERRITORY
ENTIRE STATE**

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

HEAVY & GENERAL LABORERS - NORTH Rates Expiration Date : 02/28/2018

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 Date:	06/05/2015			09/01/2015	03/01/2016
	Rate	Fringe	Total	Total	Total
	35.75	26.28	62.03	62.78	64.28

"D" Rate:

basic, landscape, asphalt, slurry seal, or railroad track laborer; utility meter installer; traffic director/flagman; salamander tender; pitman; dumpman; rakers or tampers on cold patch work; wrappers or coatlers 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 Date:	06/05/2015			09/01/2015	03/01/2016
	Rate	Fringe	Total	Total	Total
	36.45	26.28	62.73	63.48	64.98

"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

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

HEAVY & GENERAL LABORERS - NORTH **Rates Expiration Date : 02/28/2018**

Effective Date:	06/05/2015			09/01/2015	03/01/2016
	Rate	Fringe	Total	Total	Total
	36.70	26.28	62.98	63.73	65.23

"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 Date:	06/05/2015			09/01/2015	03/01/2016
	Rate	Fringe	Total	Total	Total
	40.25	26.28	66.53	67.28	68.78

"A" Rate:
blaster

Effective Date:	06/05/2015			09/01/2015	03/01/2016
	Rate	Fringe	Total	Total	Total
	38.00	26.28	64.28	65.03	66.53

"FOREMAN" Rate:
labor foreman, asphalt foreman, drill foreman, pipe foreman, grade foreman, finisher foreman, concrete foreman

Effective Date:	06/05/2015			09/01/2015	03/01/2016
	Rate	Fringe	Total	Total	Total
	39.00	26.28	65.28	66.03	67.53

"GENERAL FOREMAN" Rate

**TERRITORY
ENTIRE STATE**

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

HEAVY & GENERAL LABORERS - SOUTH Rates Expiration Date : 02/28/2016

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 Date:	06/11/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	35.75	26.28	62.03	62.78	0.00

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

Effective Date:	06/11/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	35.75	26.28	62.03	62.78	0.00

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

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

HEAVY & GENERAL LABORERS - SOUTH **Rates Expiration Date : 02/28/2016**

Effective Date:	06/11/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	36.45	26.28	62.73	63.48	0.00

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 Date:	06/11/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	36.45	26.28	62.73	63.48	0.00

wagon or directional drill operator; drill master

Effective Date:	06/11/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	40.25	26.28	66.53	67.28	0.00

blaster

Effective Date:	06/11/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	38.00	26.28	64.28	65.03	0.00

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

Effective Date:	06/11/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	39.00	26.28	65.28	66.03	0.00

general foreman

Effective Date:	06/11/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	36.70	26.28	62.98	63.73	0.00

concrete finisher; setter of brick or stone pavers; stone cutter; form setter; manhole, catch basin, or inlet builder; rammer; gunite nozzle man

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

PIPELINE - MAINLINE TRANSMISSION Rates Expiration Date : 05/31/2016

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 Date:

06/02/2015

Rate	Fringe	Total	Total	Total
52.53	26.14	78.67	0.00	0.00

Pipeline Journeyman Welder

TERRITORY
ENTIRE STATE

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

PIPELINE - MAINLINE TRANSMISSION Rates Expiration Date : 05/31/2016

Effective Date:	06/02/2015				
	Rate	Fringe	Total	Total	Total
	52.53	26.14	78.67	0.00	0.00
Pipeline Journeyman					

Effective Date:	06/02/2015				
	Rate	Fringe	Total	Total	Total
	31.82	18.28	50.10	0.00	0.00
Pipeline Helper					

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

PIPELINE - GAS DISTRIBUTION **Rates Expiration Date : 10/31/2015**

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 Date:	10/30/2014				
	Rate	Fringe	Total	Total	Total
	54.13	20.90	75.03	0.00	0.00

Pipeline Journeyman Welder

Effective Date:	10/30/2014				
	Rate	Fringe	Total	Total	Total
	54.13	20.90	75.03	0.00	0.00

Pipeline Journeyman

Effective Date:	10/30/2014				
	Rate	Fringe	Total	Total	Total
	35.07	15.09	50.16	0.00	0.00

Pipeline Helper

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

ASPHALT LABORERS- NORTH Rates Expiration Date : 02/28/2016

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 Date:	06/05/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	38.00	26.28	64.28	65.03	0.00

Asphalt Foreman

Effective Date:	06/05/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	36.70	26.28	62.98	63.73	0.00

Asphalt Screedman

Effective Date:	06/05/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	36.45	26.28	62.73	63.48	0.00

Asphalt Raker or Lute Man

Effective Date:	06/05/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	35.75	26.28	62.03	62.78	0.00

Asphalt Laborer

TERRITORY
ENTIRE STATE

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

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

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 Date:	12/01/2014			11/29/2015	12/04/2016
	Rate	Fringe	Total	Total	Total
Chief Lineman	48.93	32.78	81.71	84.36	87.27

Effective Date:	12/01/2014			11/29/2015	12/04/2016
	Rate	Fringe	Total	Total	Total
Journeyman Lineman	46.16	30.92	77.08	79.59	82.34

Effective Date:	12/01/2014			11/29/2015	12/04/2016
	Rate	Fringe	Total	Total	Total
Special License Operator	46.16	30.92	77.08	79.59	82.34

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

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

Effective Date:	12/01/2014			11/29/2015	12/04/2016
	Rate	Fringe	Total	Total	Total
	45.70	30.61	76.31	78.79	81.51

Transit Man

Effective Date:	12/01/2014			11/29/2015	12/04/2016
	Rate	Fringe	Total	Total	Total
	44.32	29.69	74.01	76.40	79.04

Line Equipment Operator

Effective Date:	12/01/2014			11/29/2015	12/04/2016
	Rate	Fringe	Total	Total	Total
	38.78	25.98	64.76	66.85	69.17

Dynamite Man

Effective Date:	12/01/2014			11/29/2015	12/04/2016
	Rate	Fringe	Total	Total	Total
	54.47	36.49	90.96	93.92	97.16

General Foreman

Effective Date:	12/01/2014			11/29/2015	12/04/2016
	Rate	Fringe	Total	Total	Total
	53.09	35.57	88.66	91.53	94.68

Assistant General Foreman

Effective Date:	12/01/2014			11/29/2015	12/04/2016
	Rate	Fringe	Total	Total	Total
	51.70	34.63	86.33	89.14	92.21

Line Foreman

Effective Date:	12/01/2014			11/29/2015	12/04/2016
	Rate	Fringe	Total	Total	Total
	37.39	25.05	62.44	64.46	66.69

Straight Light Mechanical Leader

Effective Date:	12/01/2014			11/29/2015	12/04/2016
	Rate	Fringe	Total	Total	Total
	35.54	23.81	59.35	61.28	63.40

Groundman Winch Operator

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

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

Effective Date:	12/01/2014			11/29/2015	12/04/2016
	Rate	Fringe	Total	Total	Total
	35.54	23.81	59.35	61.28	63.40

Groundman Truck Operator

Effective Date:	12/01/2014			11/29/2015	12/04/2016
	Rate	Fringe	Total	Total	Total
	35.08	23.50	58.58	60.48	62.57

Straight Light Mechanic

Effective Date:	12/01/2014			11/29/2015	12/04/2016
	Rate	Fringe	Total	Total	Total
	35.08	23.50	58.58	60.48	62.57

Line Equipment Mechanic

Effective Date:	12/01/2014			11/29/2015	12/04/2016
	Rate	Fringe	Total	Total	Total
	30.01	20.10	50.11	51.73	53.52

Groundman 2nd Year

Effective Date:	12/01/2014			11/29/2015	12/04/2016
	Rate	Fringe	Total	Total	Total
	27.70	18.55	46.25	47.76	49.39

Groundman 1st Year

Effective Date:	12/01/2014			11/29/2015	12/04/2016
	Rate	Fringe	Total	Total	Total
	45.70	30.61	76.31	78.79	81.51

Line Equipment Foreman

TERRITORY
ENTIRE STATE

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

ELECTRICIAN- UTILITY WORK (SOUTH) **Rates Expiration Date : 11/30/2015**

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.

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 : 02/28/2016

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 Date:	06/11/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	57.75	26.28	84.03	85.03	0.00

Walking Boss & Superintendent

Effective Date:	06/11/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	57.30	26.28	83.58	84.58	0.00

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

Effective Date:	06/11/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	56.55	26.28	82.83	83.83	0.00

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

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 : 02/28/2016**

Effective Date:	06/11/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	60.30	26.28	86.58	87.58	0.00

Blaster

Effective Date:	06/11/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	55.73	26.28	82.01	83.01	0.00

Top Labor Foreman

Effective Date:	06/11/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	55.20	26.28	81.48	82.48	0.00

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 Date:	06/11/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	54.98	26.28	81.26	82.26	0.00

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)

Effective Date:	06/11/2015			09/01/2015	
	Rate	Fringe	Total	Total	Total
	54.23	26.28	80.51	81.51	0.00

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

Technical Specifications

MOBILIZATION AND DEMOBILIZATION

DESCRIPTION

Mobilization and 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. In any case of inconsistencies with the N.J.A.C. 7:14-2.9, the NJ Administrative Code shall govern.

QUANTITY AND PAYMENT

Payment for the Mobilization and Demobilization Bid Item 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 2007 NJDOT Standard Specifications Section 154.

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 and Demobilization is limited to the following maximum amounts:

**Original Contract Amount
(Including Mobilization)**

For More Than	To and Including	Max. Amount for Item of Mobilization
\$ 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

QUANTITY AND PAYMENT

Payment for Mobilization and Demobilization will be made on a scheduled payment breakdown of the lump sum item **MOBILIZATION AND DEMOBILIZATION** 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 --

SITE CLEARING AND DEMOLITION

DESCRIPTION

Under this item the Contractor shall remove and dispose of all fences, concrete pads, concrete foundations, clay, stone paths, storm under-drains, under-drainage structures, gates, building doors, asphalt, signs, sprinkler systems, benches, drainage structures, flagpoles, boulders, drainage pipes, curb, walls, grass, trees, tree roots/stumps, shrubs, hedges, brush, stumps, roots, topsoil, dirt, stones, riding ring material, and all debris; the removal of which is required for carrying out the work of this project, shall be removed. The Contractor shall perform test pits to locate any uncertainties in Existing Subsurface Structures to determine if these structures interfere or affect the proposed construction.

The Contractor shall remove and dispose of pipes, inlets, manholes, reinforced concrete pavement, bituminous pavement, concrete and bituminous sidewalk, and old curb, as necessary for new construction. The Contractor shall remove and reset all signs, not otherwise paid for; remove and reset any monuments, shrubs and fences; remove and reset to grade manhole and catch basin frames, fire hydrants, guide rail, gas and water valves; and complete all other removals and relocations required for the work and not specifically covered elsewhere for payment.

METHODS OF CONSTRUCTION

The lights, signs, inlets, sidewalk, pavement, bollards, curb and excavation unclassified shall be disposed of outside of the limits of the contract at no extra cost to the Owner.

Trees and shrubs removed by the Contractor shall be cut and the roots and stumps removed by grubbing shall be refilled with suitable material which shall be solidly compacted so as to make the surface at these points conform with the adjoining grade. No trees shall be cut outside the specified limits without permission of the Engineer.

Any and all clean soil that is excavated during site clearing and demolition shall be backfilled and compacted.

Manhole frames, catch basin frames, fire hydrants, guide rail, gas valves, water valves, and other structures shall be removed and carefully reset to match proposed grades.

QUANTITY AND PAYMENT

The quantity of Site Clearing and Demolition for which payment will be made, will be a lump sum covering all work of **SITE CLEARING, DEMOLITION AND TREE REMOVAL** specified above. Such price shall include removal of debris, disposal of materials, and all else necessary therefore and incidental thereto.

The Contractor shall abide by all of the rules and regulations as set forth in Section 201 – Clearing Site of the NJDOT State Standard Specifications and the respective amendments.

-- END OF SECTION --

CONSTRUCTION LAYOUT

DESCRIPTION

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 Engineer.

METHOD OF STAKEOUT

The Contractor shall submit all necessary computations to establish the exact position of all the work from the control points furnished by the Engineer, along with construction grade sheets, prepared by a licensed land surveyor, to the Engineer for approval prior to the start of construction.

The Contractor shall maintain the line and grade stakes furnished by the engineer 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.

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 Engineers attention in writing for interpretation prior to proceeding with the work.

MEASUREMENT AND PAYMENT

Construction Layout will not be measured. Payment for this item will be made on a lump sum basis for the item **CONSTRUCTION LAYOUT** as specified in the proposal.

-- END OF SECTION --

PRE-CONSTRUCTION PHOTOGRAPHS

DESCRIPTION

The Contractor shall furnish good-quality photographs, to show the condition of the entire site prior to construction, as well as to show the progress of the work.

MATERIALS

Photographs shall be digital and show good-quality with respect to composition and resolution. The format for digital photographs shall be at least 1.5 megabytes in capture size. Photographs shall be submitted in (.jpg) format with documentation indicating sequential file name of digital picture and date the picture was taken.

Digital photographs can be submitted by email to the Engineer or mailed on compact disc (CD) with documentation as noted above.

MEHODS OF PHOTOGRAPHS

Pre-construction photographs shall be taken where directed by the Engineer to especially note the character of all existing site conditions within the project limits including easements and the condition of any structures, lawns, trees, streets, sidewalks, etc., which might be damaged, and shall average at least one photograph for each 50 feet of areas of construction the contract. The Engineer shall be provided a digital set of these photographs by means stated earlier. Construction progress photographs shall be taken by the contractor at regular intervals to document sizable construction achievements and milestones. Photographs shall be taken at such times and at such locations as may be determined by the Engineer. Photographs taken during the month shall be submitted to the Engineer at the time of submitting the periodic estimate for progress payment.

QUANTITY AND PAYMENT

No specific payment shall be made for the above item. The cost of the above described work shall be included in the overall price bid on the project.

Contractors are advised that damage claims by property owners, which cannot be disputed by pre-construction photographs, will be required to restore the claimed damage. Therefore, pre-construction photos will be required, and furnished to the Engineer. Separate payment will not be made for pre-construction photos and shall be included in the various bid items.

Should the Contractor fail to take pre-construction photos, any property damage complaints received will be repaired by the Contractor at no cost to the Owner.

-- END OF SECTION --

MAINTENANCE AND PROTECTION OF TRAFFIC

DESCRIPTION

Under this Contract this item shall mean that the Contractor shall provide for the safe passage of vehicles, equine and pedestrians for safe ingress and egress within the limits of the project, including but not limited to the use of flagmen, cones, barrels, etc. in any and all areas where contractor deems it necessary. 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, and that the Contractor shall abide to all of the rules and regulations as set forth in Section 159 - Traffic Control of the applicable 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 NJDOT Standard Specifications.

The contractor may utilize outside agencies to maintain traffic.

Because of the location of contract work, safety of people and horses is paramount. The Contractor shall contact supervisory personnel at the Stable for direction and use of protection devices before setting them or taking action.

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 its representatives, project construction managers and Neglia Engineering Associates for any safety incidents during the project construction period.

QUANTITY AND PAYMENT

It is the contractor's responsibility to maintain a safe working environment as well as protect pedestrian traffic as well as equine from the construction site. Thus there is no specific pay item for the Maintenance and Protection of Traffic. The contractor shall include these costs within the bid item **MOBILIZATION AND DEMOBILIZATION** 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 --

PROJECT PHASING

DESCRIPTION

Under this Contract this item shall mean that the Contractor shall provide Project Phasing of the construction activities to minimize the impact to the day to day operations of the stables. The Watchung Stables will remain open during the duration of the construction operations; however the area that is under construction will be closed. The Contractor will be responsible to provide the appropriate measures to provide a safe environment for the Staff and Equine throughout the duration of the project. A conceptual phasing plan has been provided within the construction plans and is subject to final approval at the time of construction. The Contractor is responsible to submit a phasing plan two weeks prior to start of construction for review and approval by the owner and/or engineer. Construction activities cannot begin until a phasing plan has been approved.

The contractor is responsible for all coordination with the Owner, Staff and Engineer regarding the phasing and shall provide a minimum of 72 hours' notice with respect to change in work zones.

QUANTITY AND PAYMENT

It is the contractor's responsibility to provide the appropriate phasing of the project to maintain a safe working environment as well as to provide adequate space as approved by the owner and/or engineer for the Watchung Stables to remain in operation. There is no specific pay item for PROJECT PHASING. The contractor shall include these costs within the various bid items within 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 --

SOIL EROSION AND SEDIMENT CONTROL DEVICES

DESCRIPTION

The work performed under this item shall include construction of all soil erosion structures, temporary seeding or mulching and general soil stabilization.

The contractor shall construct additional stone tracking pads not specifically shown on the plans as necessary to facilitate the mobilization of construction equipment on site.

Furthermore, the contractor shall notify the Somerset-Union County Soil Conservation District prior to the start of construction as specified in the Site Plans. Failure to notify the Soil Conservation District may result in fines to be paid by the Contractor. Contact the Soils Conservation District for proper notification requirements before construction begins.

MATERIALS

Materials shall be in conformance with the Plan and Details, and shall include silt fences, gravel inlet filters, fertilizer and soil stabilization. All materials shall be approved by the Engineer. Permanent seeding shall not be paid for under this area.

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 facilities 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, 1987.
- 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.

QUANTITY AND PAYMENT

The quantity of Soil Erosion and Sediment Control Devices, for which payment will be made, will be on a lump sum basis for the item **SOIL EROSION MEASURES** in the Proposal, which price shall include the cost of all soil erosion structures, construction entrances, and general soil stabilization techniques.

Payment for this item shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

-- END OF SECTION --

TEST PITS

DESCRIPTION

Test Pits shall include the excavation for the location of subsurface utilities and backfill of all earth, rock, boulders, brick and removal of any other materials encountered of whatsoever nature, and all incidental work to the satisfaction of the engineer, and shall also include the restoration of the pavement section (if required) that is disturbed, which shall include 2" of Bituminous Concrete Surface Course, 4" of a Stabilized Base Course and 6" of a Dense Graded Aggregate Base Course.

METHODS OF CONSTRUCTION

Before excavating for the Test Pits, existing subsurface structures shall be located which may be affected by or interfere with the proposed construction. Test Pits shall be backfilled in accordance with Section 202 "Excavation" in the 2007 New Jersey Department of Transportation Standard Specifications.

QUANTITY AND PAYMENT

Payment will be made for each Test Pit constructed in accordance with the Plans, or as directed by the Engineer at the unit price bid for the item **TEST PITS, 8' DEEP MAX (IF AND WHERE DIRECTED)** in the Proposal, which shall cover the cost of excavation, backfill, and pavement restoration, whether temporary or permanent in nature furnishing all materials, labor and equipment necessary to construct the Test Pits, as shown on the Plans or as directed by the Engineer.

-- END OF SECTION --

DEWATERING

DESCRIPTION

The Contractor shall at all times provide ample means and equipment with which to promptly remove and dispose of all water and drainage entering the excavations or other parts of the work, and to keep such excavations dry until the structures to be built therein are completed. In no case will the laying of pipe or placing of masonry be permitted with water in the excavation.

Dewatering methods and equipment shall be subject to the approval of the Engineer, and all water removed from the work shall be disposed of in a manner without damage to adjacent property to other work. No specific payment will be made for dewatering and the cost thereof shall be included in the prices bid for the installation of various sizes of the proposed pipe and other structures.

-- END OF SECTION --

SITE GRADING

DESCRIPTION

Site Grading shall include grading, excavation, preparing and compacting all material required for construction of the sub-grade of the entire disturbed area and all incidental work necessary to the satisfaction of the Engineer. **The Contractor shall note that the plans require the removal of the top twenty-four (24) inches of horse ring infill. This infill cannot be re-used and must be hauled and disposed off-site per local, State and federal standards. Contractor is responsible for cost of all required testing.**

Site Grading shall also include the importing of Borrow material (Controlled Fill) for use within the area of the proposed structure bringing the grade to the sub-grade elevation.

MATERIALS

Borrow material required for site grading shall conform to 2007 NJDOT Standard Specifications. The Contractor shall provide the Engineer with certification attesting 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.

METHODS OF CONSTRUCTION

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 2007 NJDOT Standard Specifications.

The contractor shall make provisions to implement approved dust control measures while performing this work as not to impact surrounding areas and locations where horses are present. Should the contractor fail to implement these measures, he will be responsible to power-wash all structures at no additional cost to the owner.

QUANTITY AND PAYMENT

The quantity of Site Grading for which payment will be made on a lump sum basis in accordance with the Plans and Specifications or as directed by the Engineer.

Payment for Site Grading will be on a lump sum basis at the price bid for the item **SITE GRADING** in the Proposal, which price shall include the cost of furnishing the equipment for excavation, placing backfill, furnishing borrow material as needed, furnishing controlled fill as needed, compaction of soil, removal, disposal and testing of soil and all else necessary therefore and incidental thereto.

Any material excavated from the site which is not suitable for backfill as determined by the Engineer or is an excess of needed material shall be hauled off the site and disposed of in a suitable and timely manner and the cost thereof shall be included in the price bid for the item **SITE GRADING** in the Proposal.

-- END OF SECTION --

EXCAVATION, UNCLASSIFIED

DESCRIPTION

Excavation Unclassified shall consist of the excavation, removal, and disposal of all materials of whatever nature, waste, rock, boulders, brick, stone, soil, and concrete masonry, small structures, removal of pipe where directed, removal of any other materials encountered of whatsoever nature, required for construction of the project, disposal of all excavated materials, the transportation of the excavated material, the construction of embankments with the material excavated when so required, the disposal of unsuitable and surplus materials, and all other work as herein described or as directed by the Engineer.

MATERIALS

NOT USED

METHODS OF CONSTRUCTION

2007 New Jersey Department of Transportation Standard Specifications, Division 200 – Earthwork, latest revised.

QUANTITY AND PAYMENT

No separate payment will be made for excavation unclassified. Any cost for excavation unclassified shall be distributed among the various items bid in the proposal for the installation of various sizes of the proposed pipe, walkways, pavement, turf field, curbing, driveways and other structures and shall include the cost of, any and all materials, all labor and equipment and all else necessary therefore and incidental thereto and in accordance with the Plans and Specifications or as directed by the Engineer.

-- END OF SECTION --

HOT MIX ASPHALT SURFACE COURSE, MIX 9.5M64

DESCRIPTION

This work shall consist of the furnishing and placing of hot mix asphalt surface course on the prescribed surfaces, locations, in the specified thicknesses necessary for the construction of the proposed pedestrian pathways in accordance with the Plans and Specifications within the project limits.

MATERIALS

The composition of the Hot Mix Asphalt Mix 9.5M64 Course shall be coarse aggregate, fine aggregate, mineral filler and asphalt cement. These shall be as shown in the Standard Specifications, except that the materials shall conform to the requirements as shown for "Stone Mix". All reference to gravel mix is deleted.

CONSTRUCTION

After spreading and strike off, and while hot, each course shall be compacted thoroughly and uniformly by rolling. The rolling shall be done with a three-wheel ten (10) ton roller until the mixture is thoroughly compacted to the satisfaction of the Engineer.

A tack coat shall be applied to any one or more layers of the Hot Mix Asphalt, if in the opinion of the Engineer such layer or layers become coated with dust, dirt, or other foreign material sufficiently to prevent a good bond between the layers of Base Course or between the completed Base Course and Surface Course.

QUANTITY AND PAYMENT

Quantity and Payment for Hot Mix Asphalt Surface Course, Mix 9.5M64 will be made in accordance with the Contract Documents at the square yard price bid for the item **HOT MIX ASPHALT PATHWAY** in the Proposal, which shall cover the cost of asphalt, tack coat, testing, compaction, repair, replacement, excavation, backfill, resetting of castings and valve boxes, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

Quantity and Payment for DGA shall be included in the square yard price bid for the item **HOT MIX ASPHALT PATHWAY** in the Proposal and will not be paid as a separate item.

-- END OF SECTION --

DENSE GRADED AGGREGATE

DESCRIPTION

This item shall include the placement of 3/4" Dense Graded Aggregate, including all necessary excavation and removal of all earth, rock, boulders, brick, stone and concrete masonry, including small structures and other materials encountered. It shall also include all necessary transportation, grading, placement and disposal of material.

MATERIALS

The stone shall be free from pieces coated with clay, caked stone dust and other objectionable materials. It shall not contain more than 5% of weathered and decomposed rock, not more than 5% of stone of types other than the type being used, in accordance with the Specifications, and not more than 7% by weight of flat or elongated pieces. A flat piece shall be one in which the ratio of the width to thickness of its circumscribing rectangular prism is greater than 5:1, and an elongated piece shall be one in which the ratio of the length to width of its circumscribing rectangular prism is greater than 5:1. The percentage of wear shall be determined in accordance with A.A.S.H.T.O. Designation T3.

METHODS OF CONSTRUCTION

Excavation and backfill of the Dense Graded Aggregate shall be in accordance with Section 202, Roadway Excavation of the Standard Specifications.

QUANTITY AND PAYMENT

No specific payment will be made for dense graded aggregate and the cost thereof shall be included in the prices bid for the installation of various bid items which should include but not limited to various sizes of **HDPE PIPE, CLEANOUTS, HOT MIX ASPHALT PATHWAY, ETC.** which shall include the cost of dense graded aggregate, all materials, labor, equipment, testing of materials and all else necessary to complete the dense graded aggregate course as shown on the plans or as directed by the Engineer.

-- END OF SECTION --

COURSE AGGREGATE

DESCRIPTION

This work shall consist of furnishing and installing No. 8 NJDOT Aggregate Base Course as shown on plan, details and specified and as directed by the Engineer.

This item shall also include the six (6) inch layer of No. 8 NJDOT Aggregate Base Course to be installed under the surface layer for the Horse Paddock Footing as shown on the construction details.

This item shall also include the six (6) inch layer of No. 8 NJDOT Aggregate Base Course to be installed under the surface layer for the Aggregate Walkway as shown on the construction details.

This item shall also include the one and a half (1.5) to two (2) inch layer of No. 8 NJDOT Aggregate Base Course to be installed above the EZ Flow 701F Mesh Pipe as part of the outdoor horse riding ring cross-section as shown on the construction details.

MATERIALS

Aggregate Base Course material shall consist of sound, durable, particle, free from clay, silt or organic materials. Materials shall be 100% crushed with fines graded to meet 2007 NJDOT Standard Specifications Section 901.

No. 8 NJDOT Course Aggregate shall conform to the following gradation:

<u>Sieve Size</u>	<u>Percent Passing</u>
1/2"	100
3/8"	85-100
No. 4	10-30
No. 8	0-10
No. 16	0-5

QUANTITY AND PAYMENT

No specific payment will be made for the above item. The cost for all the work specified above shall be included in the prices bid for the various bid items.

-- END OF SECTION --

CLEAN CRUSHED STONE

DESCRIPTION

The Clean Crushed Stone shall be furnished and placed under, around, and on top of the pipe and appurtenances, as shown on the plans or as directed by the Engineer. ¾" clean crushed stone is recommended for pipe work. Other sizes may be used for structures and roadwork as approved by the engineer.

MATERIALS

Clean Stone shall be uniform in texture and quality and shall conform to the 2007 NJDOT Standard Specifications – Section 90, Aggregate and Sections 601 – Pipe and Section 602 – Drainage Structures.

QUANTITY AND PAYMENT

No specific payment will be made for the above item. The cost for all the work specified above shall be included in the prices bid for the various bid items.

-- END OF SECTION --

STONE DUST

DESCRIPTION

This work shall consist of furnishing and installing stone dust ramps and drives as shown on plan, details and specified and as directed by the Engineer.

This item shall also include four (4) by four (4) equestrian safe pressure treated lumber installed with a #7 rebar, thirty-six (36) inch long centered at forty-eight (48) inches where the stone dust ramp meets the ring footing as shown on the construction details to maintain a separation between the two media.

This item shall also include the eight (8) inch layer of stone dust to be installed between the sand/felt arena footing and subgrade within the horse riding ring cross-section as shown on the construction details.

This item shall also include the four (4) inch layer of stone dust to be installed between the polymer footing and subgrade within the indoor horse riding ring cross-section as shown on the construction details.

This item shall also include the two (2) inch layer of stone dust/sand mix to be installed as the top layer of the horse paddock footing cross-section as shown on the construction details.

MATERIALS

Base material shall consist of sound, durable, particle, free from clay, silt or organic materials. Materials shall be 100% crushed with fines graded to meet 2007 NJDOT Standard Specifications Section 901.

Stone Dust shall conform to the following gradation:

<u>Sieve Size</u>	<u>Percent Passing</u>
3/8"	100
No. 4	90-96
No. 100	15-30
No. 200	10-15

CONSTRUCTION

Compact subgrade to 95% density with particular attention being paid to trenches and filled foundation areas.

The base material shall be from 4" to 12" thick as indicated on the plans and details, compacted to 95% density.

The surface material shall be 2" thick as indicated on the plans and details.

Stone Dust shall be screened to a thickness on the plans and details. After stone dust is screened, it will be compacted in place.

QUANTITY AND PAYMENT

The quantity of Stone Dust for which payment will be made will be the area actually installed in accordance with the Plans and Specifications or as directed by the Engineer.

Payment for the Stone Dust will be made at the square yard price bid for the item **STONE DUST RAMPS, COMPLETE** and **STONE DUST ACCESS DRIVEWAY, COMPLETE** in the Proposal, which price shall include all costs of the base, subgrade, backfill, joints, lumber restrain w/ rebar, all materials, labor, tools and equipment necessary to construct the item as shown and specified on the Plans and Specifications or as directed by the Engineer.

Excavation and backfill will not be measured as a separate item and must be included in the unit price for this item.

No specific payment will be made for the above item for installation within the ring cross-section at a thickness of eight (8) inches and four (4) inches. The cost for all the work specified above shall be included in the prices bid respectively for **HORSE RING COMPOSITE INFILL SURFACE, COMPLETE CROSS-SECTION** and **HORSE RING ALL-WEATHER SURFACE, COMPLETE CROSS-SECTION** in the Proposal, which shall cover the cost of furnishing all materials, labor and equipment necessary to place the broken stone as shown on the plans or as directed by the Engineer.

No specific payment will be made for the above item for installation within horse paddocks at a thickness of two (2) inches. The cost for all the work specified above shall be included in the prices bid respectively for **HORSE PADDOCK FOOTING, COMPLETE CROSS-SECTION** in the Proposal, which shall cover the cost of furnishing all materials, labor and equipment necessary to place the broken stone as shown on the plans or as directed by the Engineer.

HORSE RING COMPOSITE INFILL SURFACE

DESCRIPTION

The work under this item shall include providing and installing a Sand-Blend footing for the surface course of the horse riding ring as shown on the plans, construction details and per manufacturer requirements.

Approved Manufacturer and Installer
Attwood Equestrian Surfaces
7 West Washington Street, Suite I and J
P.O. Box 1612
Middleburg, Virginia 20118
Telephones: 888-461-7788 and 540-364-5647
OR APPROVED EQUAL

This item shall also include an eight (8) inch thick sub-base of stone dust per individual specifications provide in this document.

MATERIALS

The Sand-blend shall be comprised of Attwood Equestrian Surfaces select sand and GGT™ Premium White Geo felt(s) and microfiber blend or approved equal.

When the GGT is blended together with 5% moisture, the fibers shall knit the sand together increasing the sheer strength of the sand and the felt shall retain moisture and release it upon compression under the horse weight and keep the sand from packing.

This is not a dust-free footing system and is water dependent.

CONSTRUCTION

Prior to the delivery of the footing:

The contractor or Attwood Equestrian Surfaces shall do a 40-point laser pole survey to establish the grade of the arena base and confirm that it is per the specified tolerance and grade. The survey shall be to the satisfactory of the County, Engineer and Attwood Equestrian Surface (or approved manufacturer).

Once the arena base is established, the contractor, Attwood Equestrian Surface or approved equal shall delivery and install the footing.

Once the sand is installed it shall then be laser-leveled to a uniform depth of 3–1/2” inches (fluffed), including in such quantity an adequate amount to provide for normal spillage, waste and other amounts which would normally be consumed in the process of transporting, handling applying and maintaining the footing in a riding arena.

The final leveling process will be completed with contractor's, Attwood Equestrian Surface's or approved equal's laser leveling (hydraulic assist) equipment to a tolerance of $\pm 1/4$ " inch. The final uniform depth of the footing will be 3 inches compacted.

WARRANTY

The installed Sand-blend comprised of Attwood Equestrian Surfaces select sand and GGT™ Premium White Geo felt(s) and microfiber blend or approved equal shall be warranted for a minimum of five (5) years as defined by Attwood Equestrian Surfaces.

QUANTITY AND PAYMENT

Payment for the Horse Ring Composite Infill Surface will be made for the actual area installed on a square yard basis for the complete cross-section shown in the construction details.

Payment for the Horse Ring Composite Infill Surface will be made at the square yard price bid for the item **HORSE RING COMPOSITE INFILL SURFACE, COMPLETE CROSS-SECTION** in the Proposal, which price shall include all costs of the surface course, base, subgrade, backfill, 8" thick stone dust, all materials, labor, tools and equipment necessary to construct the infill cross-section as shown and specified on the Plans and Specifications or as directed by the Engineer.

-- END OF SECTION --

HORSE RING ALL-WEATHER SURFACE

DESCRIPTION

The work under this item shall include providing and installing the all-weather Pinnacle footing as manufactured by Attwood Equestrian Surfaces or approved equal for the surface course of the horse riding ring as shown on the plans, construction details and per manufacturer requirements.

Approved Manufacturer and Installer
Attwood Equestrian Surfaces
7 West Washington Street, Suite I and J
P.O. Box 1612
Middleburg, Virginia 20118
Telephones: 888-461-7788 and 540-364-5647
OR APPROVED EQUAL

This item shall, also include a four (4) inch thick sub-base of stone dust per individual specifications provide in this document.

MATERIALS

The Pinnacle footing (patent pending) shall be comprised of a select sand and Attwood Equestrian Surface microfiber (or approved equal) blended together in a heat process and coated with a viscoelastic polymer.

When the select sand is blended together with the microfiber, the microfibers shall knit the sand together increasing the sheer strength of the sand, shall create loft, and shall reduce concussion.

When the select sand and felt are well blended the viscoelastic polymer coating shall be introduced and seal the pores on the granule. This shall stop the sand granule from absorbing moisture and the natural tackiness of the viscoelastic polymer shall keep the fibers incorporated in the footing.

The viscoelastic coating on the sand granule shall stop the natural grinding process (friction) thus eliminating the creation of dust upon normal wear. **This is a dust-free footing system and is not water dependent.**

CONSTRUCTION

Prior to the delivery of the footing:

The contractor or Attwood Equestrian Surfaces shall do a 40 point laser pole survey to establish the grade of the arena base and confirm that it is per the specified tolerance and grade. The survey shall be to the satisfactory of the County, Engineer and Attwood Equestrian Surface (or approved manufacturer).

Once the arena base is established, the contractor, Attwood Equestrian Surface or approved equal shall delivery and install the footing.

Once the sand is installed it shall then be laser leveled to a uniform depth of 3-1/2" inches (fluffed), including in such quantity an adequate amount to provide for normal spillage, waste and other amounts which would normally be consumed in the process of transporting, handling applying and maintaining the footing in a riding arena.

The final leveling process will be completed with contractor's, Attwood Equestrian Surface's or approved equal's laser-leveling (hydraulic assist) equipment to a tolerance of $\pm 1/4$ " inch. The final uniform depth of the footing will be 3-1/2" inches fluffed.

WARRANTY

The installed Pinnacle Footing or approved equal shall be warrantied for a minimum of five (5) years as defined by Attwood Equestrian Surfaces.

QUANTITY AND PAYMENT

Payment for the Horse Ring All-Weather Surface will be made for the actual area installed on a square yard basis for the complete cross-section shown in the construction details.

Payment for the Horse Ring All-Weather Surface will be made at the square yard price bid for the item **HORSE RING ALL-WEATHER SURFACE, COMPLETE CROSS-SECTION** in the Proposal, which price shall include all costs of the surface course, base, subgrade, backfill, 4" thick stone dust, all materials, labor, tools and equipment necessary to construct the infill cross-section as shown and specified on the Plans and Specifications or as directed by the Engineer.

-- END OF SECTION --

MANHOLES, INLETS, CATCH BASINS AND RESET CASTINGS

DESCRIPTION

Storm Manholes, Field Inlets, Catch Basins and Reset Castings shall consist of the construction of these structures, stone bedding, backfilling and backfill material, and the furnishing and placing of new heads, grates, and covers. All inlets shall be A.D.A. compliant with bicycle safe grates.

This work shall also consist of core drilling into existing drainage structures to provide a discharge location for the proposed drainage system.

MATERIALS

Pre-cast Concrete Manholes and Inlets may be used as approved by the Engineer.

All materials used in the construction of Manholes, Inlets, and Catch Basins, shall conform to Section 602 – Drainage Structures of the 2007 NJDOT Standard Specifications.

All Type 'B' Inlets shall be Campbell Foundry Pattern No. 2618 with Type-N curb piece, or approved equal.

All Field Inlets shall be Campbell Foundry Pattern No. 2815 or approved equal.

All castings shall have the name of the Municipality, the date, and the words “Sanitary” or “Storm” stamped or cast clearly and legibly thereon. Units not so furnished will not be accepted for use on Municipal projects. Concrete blocks shall conform to the compressive strength and absorption requirements of A.S.T.M. C -139.

Recycled Concrete aggregate shall conform to the requirements of Section 901; Course aggregate shall be broken stone or washed gravel conforming to the requirements of Section 901.03 of the 2007 NJDOT Standard Specifications.

METHODS OF CONSTRUCTION

Construction for Manholes, Inlets, and Catch Basins shall be in accordance with Section 602 – Drainage Structures. Particular attention should be brought to Section 602.03.02 – Pre-cast Concrete Inlets and Manholes, and Section 602.03.03 - Reconstruction and Conversion of Existing Structures, of the NJDOT Standard Specifications.

Excavation shall be in accordance with Section 202. Backfilling shall be in accordance with Section 202 of the 2007 NJDOT Standard Specifications.

QUANTITY AND PAYMENT

The quantity of Manholes and Inlets to be constructed, reconstructed, or rehabilitated for which payment shall be made, will be the number of each type thereof constructed, which prices shall include the cost of backfilling, backfill material, sheathing, subbase, sub-grade, shoring, bracing, pumping, construction or reconstruction complete, as specified, all materials including new head castings and ladder rungs or those claimed for the Project as prescribed, labor, equipment, and all else necessary and incidental thereto. The following bid items shall be used for the above work:

FIELD INLETS	Unit
STORM MANHOLES	Unit
CORE DRILL STORM CONNECTION	Unit

-- END OF SECTION --

DRAINAGE PIPE

DESCRIPTION

This work shall consist of furnishing and installing underground drainage composed of lengths of high-density polyethylene (HDPE) pipe perforated and non-perforated along with cleanout locations shown on plan and required geotextile filter fabric. It shall include the required excavation (including and rock excavation), clean stone, cleanouts (with ductile iron or HDEP grate), concrete collar, riser, elbows, wye connections, tee connections, fabric and any other material, tools, equipment necessary to construct the collection and conveyance systems as directed by the Engineer.

SUBMITTALS

Submit samples and catalogue cuts of the proposed HDPE pipe, geogrid and geotextile fabric.

MATERIALS

High-density polyethylene pipe shall be Type N-12 as manufactured by Advanced Drainage Systems, Inc., Tel. 800-821-6710, or approved equal.

EZ-Flow Underdrain to be 7" EZ-FLOW 701F-Mesh pipe as manufactured by Infiltrator or approved equal.

Geotextile fabric shall Type 140N as manufactured by Mirafi, Tel. 706-693-2226, or approved equal.

Geogrid to be Mirafi Miragrid or approved equal.

CONSTRUCTION

Excavation, bedding, and backfilling shall conform to the 2007 NJDOT Standard Specifications.

The underground drainage basins shall be installed in accordance with ASTM D2321 – Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications.

QUANTITIES AND PAYMENT

The quantities of drainage, for which payment will be made, will be the actual lengths constructed in accordance with the Contract Plans, or as directed by the Engineer.

Payment for Drainage Pipe of the types and sizes specified will be made for the lengths actually constructed, measured in linear feet, at the prices bid various size **4" PERFORATED**

HDPE UNDERDRAIN, 8" PERFORATED HDPE UNDERDRAIN, 7" EZ-FLOW UNDERDRAIN, 8" HDPE PIPE and 12" HDPE PIPE in the Proposal, which prices shall include, but is not limited to the cost of the required excavation (including rock excavation), furnishing, laying, sawcutting, assembling, backfilling, dewatering pumping clean stone, concrete collar, riser, elbows, wye connections, tee connections, fabric and any other material, tools, equipment necessary to complete the installation and testing of the HDPE Storm System, as shown as directed the Engineer. All fittings, grates and all connections shall be included in the unit price bid for the above item in the Proposal.

The quantity of Cleanouts to be constructed for which payment shall be made, will be the number of each type thereof constructed, which prices shall include the cost of backfilling, backfill material, sheathing, subbase, sub-grade, shoring, bracing, pumping, construction, as specified, all materials including concrete rings, brass caps, access frame/cover, wye, elbow, etc. or those claimed for the Project as prescribed, labor, equipment, and all else necessary and incidental thereto. Payment for Cleanouts 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 **CLEANOUTS** in the Proposal.

-- END OF SECTION --

SWING GATE

DESCRIPTION

This work shall consist of providing a ten (10) foot wide steel gate with a height of four (4) feet two-and-a-half (2 ½) inches or a sixteen (16) foot wide steel gate with a height of four (4) feet two-and-a-half (2 ½) inches . It shall include complete installation as per manufacturer recommendations with the necessary lag bolts, hinges, chain locks, posts and foundations. All gates installed shall be safe for equestrian uses.

MANUFACTURER

Approved Manufacturer:
Priefert Ranch Equipment
P.O. Box 1540
2630 South Jefferson Avenue
Mount Pleasant, Texas 75456-1540
Telephone: 903-572-1741

Model #RGG10 or #RG10 or Model #RGG16 or #RG16

Color to be Selected by Owner

Or Approved Equal

Owner shall have option of Galvanized Gate

MATERIALS

The gate shall consist of six (6) rails and one (1) stay, a total overall length of 115 or 187 inches, 1.63 inches in width and 50.50 inches in height.

The finish shall be architectural grade powdercoat finish.

The gate shall contain a single piece stay through drilled rails.

Provide lag bolts and hinges to be installed per manufacturer specifications and provided by the contract.

Chain lock to be obtained from manufacturer and installed.

CONSTRUCTION

The Gates shall be installed in accordance with the details and to the lines and grade as on the Contract Plans, or as directed by the Engineer, and shall also comply with current practice for Gate construction, as recommended by the manufacturer and subject to the approval of the Engineer.

The Contractor shall clear the line of fence of all obstruction and dispose of such materials, all as directed by the engineer.

Terminal posts shall be located at the beginning and end of each continuous length of fence construction and at abrupt changes on vertical and horizontal alignment, as shown on the Contract Plans, or as directed by the Engineer.

All posts shall be set in concrete as shown on the Contract Plans and shall be plumb with tops properly aligned.

Concrete footings shall be constructed in accordance with the detail plans and requirements of Section 504 – Structural Concrete Structures, except as follows:

Forms will not be required and the entire excavation shall be filled with concrete.

Where ledge rock is encountered, the depth of concrete footings for posts may be reduced one-half of that portion of the fence post set below the top of rock, and the diameter of the hole in rock may be reduced to a minimum of four (4") inches and filled with mortar.

Aluminum surfaces to be placed in contact with concrete shall be given a coat of zinc chromate primer.

Gates shall be single gates the width as shown on the Contract Plans, and shall be installed to open through a minimum arc of 180 Degs.

QUANTITY AND PAYMENT

Payment for Swing Gates of the types and sizes specified will be made for the units actually constructed, measured at the unit prices bid for the items **SINGLE LEAF SWING GATE, 10' WIDE** and **SINGLE LEAF SWING GATE, 16' WIDE** in the Proposal, which shall include the furnishing of all materials, labor, lag bolts, hinges, chain locks, posts, fasteners, foundations and equipment and all else necessary therefore and incidental thereto.

-- END OF SECTION --

POST AND RAIL FENCE

DESCRIPTION

The contractor shall furnish and install a Post and Rail Style Fence, of the various height, complete with kickboards (riding ring only), foundations, end post caps (PVC) and constructed of pressure treated lumber safe for equestrian use. Rails to be constructed of high tensile polymer.

The contractor shall submit for approval, a complete set of general specification drawings for all fence members and attachments, their connections, foundations, including profiles, sizes, location as provided by the manufacturer.

The Owner shall have the option of pressure treated lumber, oak, white cedar or locust. Cut sheets shall be provided of each to the owner along with photographs.

MATERIALS

Fence posts to be constructed of four (4) inch by four (4) inch and six (6) inch by six (6) inch pressure treated lumber or wood as identified above, installed to a height of three (3) feet, four (4) feet or five (5) feet embedded in 4,000 psi concrete installed per manufacture's recommendations and specifications. Fence posts to be spaced eight (8) feet apart as per the construction details with post sizes per manufacturer requirements. Fence posts to be painted or stained with a product suitable for outdoor use. Color samples to be submitted to the Owner/Engineer for selection.

Post caps shall be either four (4) inch by four (4) inch of six (6) inch by six (6) inch white PVC end posts filled with concrete and safe for equestrian use. All posts shall be capped.

Fence sections, posts, caps and gates to be completely precut and factory pre-assembled.

Rails to be made of high tensile polymer (Centaur HTP Fencing – 5” Rail as manufactured by Centaur or approved equal), installed in accordance with manufacturer requirements to the wood posts. Rails to be five (5) inch rails per manufacturer specifications and color to be as selected by owner and/or engineer. Color for wood posts to match the rails.

Kickboard joints to be lapped/alternated installed. Kickboards shall be pressure treated lumber two (2) inch by twelve (12) inch boards spaced and overlapped as shown on construction details and per manufacturer specifications.

Kickboards shall be braced with one (1) foot long, four (4) inch by four (4) inch wood submerged and restrained with #7 rebars twenty-four (24) inches long centered as shown on the construction details.

Optional factory pre-staining to be performed using a two-stage immersion coating process consisting of primer followed by acrylic latex exterior stain.

All assembly hardware shall be provided. All fastening hardware shall be galvanized, stainless steel, or aluminum.

METHODS OF CONSTRUCTION

All component parts to be preassembled to the fullest extent possible, to preclude any on site drilling, cutting, plugging or sanding.

Fence materials and parts to be supplied with all necessary hardware and complete instructions to provide for efficient on-site assembly.

Rail Setting Method: Rails to be set to the posts in accordance with manufacturer's instructions utilizing the appropriate hardware. The rails around the paddocks and rings should be continuous and the use of splicing of the rail should be minimized.

Post Setting Method: Fence posts to be set according to manufacturer's instructions:

Check each post for vertical and top alignment and maintain in position during setting.

Install gates plumb, level and secure for full opening without interference according to manufacturer's instructions.

Install any section caps, post caps, fascia and kickboards after sections are secured.

Touch up the finish using stain provided by the manufacturer.

Kickboards are to be installed within the riding rings only and shall be installed in accordance with the construction details.

QUANTITY AND PAYMENT

The quantity of Post and Rail Fence of the various height and style, for which payment will be made, will be the actual lengths constructed, measured in linear feet, in accordance with the Contract Plans, or as directed by the Engineer.

Payment for Post and Rail Fence of the various heights will be made for the length actually constructed, measured in linear feet, at the prices per linear foot bid for the item **POST AND RAIL FENCE, 3' HIGH, POST AND RAIL FENCE, 4' HIGH, POST AND RAIL FENCE, 4' HIGH (RIDING RING) AND POST AND RAIL FENCE, 5' HIGH**, in the Proposal, which shall include kickboards, high tensile polymer rails, posts, post caps, foundations, all stains/paint, all hardware, rebar (kickboard restraints) the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

-- END OF SECTION --

INDOOR RIDING RING KICKBOARD

DESCRIPTION

The contractor shall furnish and install an Indoor Riding Ring Kickboard system inclusive of all lumber, fasteners, hardware, foundations, etc. as per the Construction Drawings.

The contractor shall submit for approval, a drawing depicting the construction of the system.

MATERIALS

Vertical posts to be constructed of four (4) inch by four (4) inch pressure treated lumber to a height as required to construct the system embedded in 3,000 psi concrete installed per manufacture's recommendations and specifications. Vertical posts to be spaced four (4) feet apart as per the construction details. 2"x12" kickboard to be pressure treated lumber. All other lumber to be dimensional lumber.

METHODS OF CONSTRUCTION

Post Setting Method: Check each vertical post for vertical and top alignment and maintain in position during setting.



Sample Construction Photo 1



Sample Construction Photo 2



Sample Construction Photo 3



Sample Construction Photo 4

Install gates plumb, level and secure for full opening without interference according to manufacturer's instructions.

Install any section caps, post caps, fascia and kickboards after sections are secured.

QUANTITY AND PAYMENT

The quantity of Indoor Riding Ring Kickboard, for which payment will be made, will be the actual lengths constructed, measured in linear feet, in accordance with the Contract Plans, or as directed by the Engineer.

Payment for Indoor Riding Ring Kickboard will be made for the length actually constructed, measured in linear feet, at the prices per linear foot bid for the item **INDOOR RIDING RING KICKBOARD**, in the Proposal, which shall include all lumber, all hardware, foundations, all fasteners, all drawings and the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

-- END OF SECTION --

MODULAR BLOCK RETAINING WALL

DESCRIPTION

Work includes furnishing and installing segmental retaining wall (SRW) units to the lines and grades designated on the project's final construction drawings or as directed by the Architect/Engineer. Stepping of the wall shall be done in 6" increments following the proposed grades. Also included is furnishing and installing appurtenant materials required for construction of the retaining wall as shown on the construction drawings.

Submittals

- A. Material Submittals: The Contractor shall submit sample block for choice of style and color for the SRW for review and approval by the owner. The Contractor shall submit manufacturers' certifications two weeks prior to start of work stating that the SRW units and geosynthetic reinforcement meet the requirements of Section 2 of this specification.

Note: product submittal for modular concrete unit to be provided to Engineering and Union County prior to construction or ordering the proposed units.

Delivery, Storage and Handling

- A. Contractor shall check materials upon delivery to assure that specified type and grade of materials have been received and proper color and texture of SRW units have been received.
- B. Contractor shall prevent excessive mud, wet concrete, epoxies, and like materials that may affix themselves, from coming in contact with materials.
- C. Contractor shall store and handle materials in accordance with manufacturer's recommendations.
- D. Contractor shall protect materials from damage. Damaged materials shall not be incorporated into the retaining wall.

MATERIALS

Segmental Retaining Wall Units

- A. SRW units shall be machine formed, Portland Cement concrete blocks specifically designed for retaining wall applications. SRW units currently approved for this project are:

VERSA-LOK "**STANDARD**" Retaining Wall Units and as manufactured by:
Concrete Stone & Tile Corporation,
23 Ridge Road,
P.O. Box 2191,
Branchville, NJ 07826.
(973) 948-7193
(OR EQUAL)

- B. Color of SRW units to be determined at time of construction.
- C. Finish of SRW units shall be WEATHERED.
- D. SRW unit faces shall be of straight geometry.
- E. SRW units (not including aggregate fill in unit voids) shall provide a minimum weight of 105 psf wall face area.
- F. SRW units shall be solid through the full depth of the unit.
- H. SRW units shall have a depth (front face to rear) to height ratio of 2:1, minimum.
- H. SRW units shall be interlocked with connection pins, designed with proper setback to provide 8:1 vertical to horizontal batter (a 7 degree cant from vertical).
- I. SRW units shall be capable of being erected with the horizontal gap between adjacent units not exceeding 1/8 inches.
- J. SRW units shall be capable of providing overlap of units on each successive course so that walls meeting at corner are interlocked and continuous. SRW units that require corners to be mitered shall not be allowed.
- K. SRW units shall be capable of providing a split face, textured surface for all vertical surfaces that will be exposed after completion of wall, including any exposed sides and backs of units.
- L. SRW units shall be sound and free of cracks or other defects that would interfere with the proper placing of the unit or significantly impair the strength or permanence of the structure. Cracking or excessive chipping may be grounds for rejection. Units showing cracks longer than 1/2" shall not be used within the wall. Units showing chips visible at a distance of 30 feet from the wall shall not be used within the wall.
- M. Concrete used to manufacture SRW units shall have a minimum 28 days compressive strength of 3,000 psi and a maximum moisture absorption rate, by weight, of 8% as determined in accordance with ASTM C1372. Compressive strength test specimens shall conform to the saw-cut coupon provisions of ASTM C140.
- N. SRW units' molded dimensions shall not differ more than $\pm 1/8$ inch from that specified, in accordance with ASTM C1372.

Segmental Retaining Wall Unit Connection Pins

- A. SRW units shall be interlocked with VERSA-Tuff connection pins. The pins shall consist of glass-reinforced nylon made for the expressed use with the SRW units supplied.

Leveling Pad

- A. Material for leveling pad shall consist of compacted sand, gravel, or combination thereof (USCS soil types GP, GW, SP, & SW) and shall be a minimum of 6 inches in depth. Lean concrete with a strength of 200-300 psi and three inches thick maximum may also be used as a leveling pad material. The leveling pad should extend laterally at least a distance of 6 inches from the toe and heel of the lowermost SRW unit.

Drainage Aggregate

- A. Drainage aggregate shall be angular, clean stone or granular fill meeting the following gradation as determined in accordance with ASTM D422

<u>Sieve Size</u>	<u>Percent Passing</u>
1 inch	100
3/4 inch	75-100
No. 4	0-60
No. 40	0-50
No. 200	0-5

Drainage Pipe

- A. The drainage collection pipe shall be a perforated or slotted PVC, or corrugated HDPE pipe. The drainage pipe may be wrapped with a geotextile to function as a filter.
- B. Drainage pipe shall be manufactured in accordance with ASTM D 3034 and/or ASTM D 1248

Reinforced (Infill) Soil

- A. The reinforced soil material shall be free of debris. Unless otherwise noted on the final, P.E. sealed, retaining wall plans prepared by the Wall Design Engineer, the reinforced material shall consist of the inorganic USCS soil types GP, GW, SW, SP, SM, meeting the following gradation, as determined in accordance with ASTM D422:

<u>Sieve Size</u>	<u>Percent Passing</u>
4 inch	100
No. 4	20-100
No. 40	0-60
No. 200	0-35

- B. The maximum particle size of poorly-graded gravels (GP) (no fines) should not exceed 3/4 inch unless expressly approved by the Wall Design Engineer and the long-term design strength (LTDS) of the geosynthetic is reduced to account for additional installation damage from particles larger than this maximum.
- C. The plasticity of the fine fraction shall be less than 20.

METHODS OF CONSTRUCTION

Inspection

- A. The Owner or Owner's Representative is responsible for verifying that the Contractor meets all the requirements of the specification. This includes all submittals for materials and design, qualifications, and proper installation of wall system.
- B. Contractor's field construction supervisor shall have demonstrated experience and be qualified to direct all work at the site.

Excavation

- A. Contractor shall excavate to the lines and grades shown on the project grading plans. Contractor shall take precautions to minimize over-excavation. Over-excavation shall be filled with compacted infill material, or as directed by the Engineer/Architect, at the Contractor's expense.
- B. Contractor shall verify location of existing structures and utilities prior to excavation. Contractor shall ensure all surrounding structures are protected from the effects of wall excavation. Excavation support, if required, is the responsibility of the Contractor
- C. Excavation for the wall shall include all costs for Rock Excavation. Separate payment will not be made for Rock Excavation.

Foundation Preparation

- A. Following the excavation, the foundation soil shall be examined by the Owner's Engineer to assure actual foundation soil strength meets or exceeds the assumed design bearing strength. Soils not meeting the required strength shall be removed and replaced with infill soils, as directed by the Owner's Engineer.
- B. Foundation soil shall be proof rolled and compacted to 95% standard Proctor density and inspected by the Owner's Engineer prior to placement of leveling pad materials.
- C. The Foundation for the column shall be concrete base with rebar. Contractor shall provide signed and sealed foundation details by a NJ Licensed P.E.

Leveling Pad Construction

- A. Leveling pad shall be placed as shown on the final, P.E. sealed retaining wall plans with a minimum thickness of 6 inches. The leveling pad should extend laterally at least a distance of 6 inches from the toe and heel of the lower most SRW unit.
- B. Granular leveling pad material shall be compacted to provide a firm, level bearing surface on which to place the first course of units. Well-graded sand can be used to smooth the top 1/4 to 1/2 inch of the leveling pad. Compaction will be with mechanical plate compactors to achieve 95% of maximum standard Proctor density (ASTM D 698).

SRW Unit Installation

- A. All SRW units shall be installed at the proper elevation and orientation as shown on the final, P.E. sealed wall plans and details or as directed by the Wall Design Engineer. The SRW units shall be installed in general accordance with the manufacturer's recommendations. The specifications and drawings shall govern in any conflict between the two requirements. The Contractor shall plan to bury a minimum of two courses of the wall or as directed by the Engineer.
- B. First course of SRW units shall be placed on the leveling pad. The units shall be leveled side-to-side, front-to-rear and with adjacent units, and aligned to ensure intimate contact with the leveling pad. The first course is the most important to ensure accurate and acceptable results. No gaps shall be left between the front of adjacent units. Alignment may be done by means of a string line or offset from base line to the back of the units.
- C. All excess debris shall be cleaned from top of units and the next course of units installed on top of the units below.
- D. Two VERSA-Tuff connection pins shall be inserted through the pin holes of each upper course unit into receiving slots in lower course units. Pins shall be fully seated in the pin slot below. Units shall be pushed forward to remove any looseness in the unit-to-unit connection.
- E. Prior to placement of next course, the level and alignment of the units shall be checked and corrected, where needed.
- F. Layout of curves and corners shall be installed in accordance with the wall plan details or in general accordance with SRW manufacturer's installation guidelines. Walls meeting at corners shall be interlocked by overlapping successive courses. Stepping of the wall base shall be done in accordance with Manufacturer guidelines. Stepping of the wall at the bottom and top shall be done in 6" increments in accordance with the proposed grades.

- G. Procedures C. through F. shall be repeated until reaching top of wall units, just below the height of the cap units. Geosynthetic reinforcement, drainage materials, and reinforced backfill shall be placed in sequence with unit installation.

Drainage Materials

- A. Drainage aggregate shall be installed to the line, grades, and sections shown on the final P.E. sealed retaining wall plans. Drainage aggregate shall be placed to the minimum thickness shown on the construction plans between and behind units (a minimum of one cubic foot for each exposed square foot of wall face unless otherwise noted on the final wall plans).
- B. Drainage collection pipes shall be installed to maintain gravity flow of water outside the reinforced soil zone. The drainage collection pipe shall daylight into a storm sewer or along a slope, at an elevation lower than the lowest point of the pipe within the aggregate drain.

Backfill Placement

- A. The reinforced backfill shall be placed as shown in the final wall plans in the maximum compacted lift thickness of 10 inches and shall be compacted to a minimum of 95% of standard Proctor density (ASTM D 698) at a moisture content within 2% of optimum. The backfill shall be placed and spread in such a manner as to eliminate wrinkles or movement of the geosynthetic reinforcement and the SRW units.
- B. Only hand-operated compaction equipment shall be allowed within 3 feet of the back of the wall units. Compaction within the 3 feet behind the wall units shall be achieved by at least three (3) passes of a lightweight mechanical tamper, plate, or roller.
- C. At the end of each day's operation, the Contractor shall slope the last level of backfill away from the wall facing and reinforced backfill to direct water runoff away from the wall face.
- D. At completion of wall construction, backfill shall be placed level with final top of wall elevation. If final grading, paving, landscaping, and/or storm drainage installation adjacent to the wall is not placed immediately after wall completion, temporary grading and drainage shall be provided to ensure water runoff is not directed at the wall nor allowed to collect or pond behind the wall until final construction adjacent to the wall is completed.

SRW Caps

- A. SRW caps shall be properly aligned and glued to underlying units with VERSA-LOK adhesive, a flexible, high-strength concrete adhesive. Rigid adhesive or mortar are not acceptable.
- B. Caps shall overhang the top course of units by 3/4 to 1 inch. Slight variation in overhang is allowed to correct alignment at the top of the wall.

Construction Adjacent to Completed Wall

- A. The Owner or Owner's Representative is responsible for ensuring that construction by others adjacent to the wall does not disturb the wall or place temporary construction loads on the wall that exceed design loads, including loads such as water pressure, temporary grades, or equipment loading. Heavy paving or grading equipment shall be kept a minimum of three feet behind the back of the wall face. Equipment with wheel loads in excess of 150 psf live load shall not be operated within 10 feet of the face of the retaining wall during construction adjacent to the wall. Care should be taken by the General Contractor to ensure water runoff is directed away from the wall structure until final grading and surface drainage collection systems are completed.

QUANTITY AND PAYMENT

The quantity of MODULAR BLOCK WALL, for which payment will be made, will be the area of **EXPOSED** wall face actually constructed in accordance with the Plans, or as directed by the Engineer.

Payment for MODULAR BLOCK WALL will be made for the quantity as above determined, measured in square feet, at the price per square foot bid for the item **MODULAR BLOCK WALL** in the Proposal, which price shall include the cost of removing existing sidewalk and/or curb, excavation and disposal of excess materials, subgrade material, constructing, finishing, reinforcement, all materials, labor, equipment, and all else necessary therefore and incidental thereto.

END OF SECTION

IRRIGATION SYSTEM

1.0 EXTENT

The project includes furnishing all labor, materials and equipment for the proper installation of the irrigation systems. The work includes, but is not necessarily limited to, the following:

1. Trenching and backfill.
2. Fully operational automatically controlled irrigation system.
3. Test all systems and make operative to manufacturer’s specifications and irrigation standards.
4. "Drawing of Record" A-Cad format 2004 or higher.

2.0 GENERAL

A. Installer’s Qualifications: Companies who have successfully completed a minimum of five (5) contracts over a three (3) year period involving installation of irrigation and piping projects similar in size and scope to that required for this project. Such experiences and references shall be attached to the bid sheet for this project.

Sign statement below:

I am a bona fide irrigation Contractor with _____ years of installation experience and possess the equipment to complete this project within 30 days from starting the project. I am also a Licensed Irrigation Contractor with the State of New Jersey.

Signature

Company Name

License Number

2.1 PERMITS AND FEES

- A. Obtain all permits and pay required fees to any governmental agency having jurisdiction over the work. Inspections required by local ordinances during the course of construction shall be arranged as required. On completion of the work, satisfactory evidence shall be furnished by the Irrigation Specialist to show that all work has been installed in accordance with the ordinances and code requirements.

2.2 APPROVAL

- A. Wherever the terms "approve," "approval" or "approved" are used in the specifications, they shall mean the approval of the Owner or Consultant in writing.

2.3 CONFERENCE

- A. Before any work is started, a conference shall be held between the Contractor and the Owner concerning the work under this Contract.

2.4 COORDINATION

- A. Coordinate and cooperate with other contractors to enable the work to proceed as rapidly and efficiently as possible. The Contractor shall call for mark out from New Jersey One Call Center 1-800-272-1000 and notify the Owner or Owner's Agent four (4) days prior to his commencement of installation of the irrigation system. The Contractor shall verify all site features and utilities to include but not limited to the items below.

2.5 INSPECTION OF SITE

- A. Contractor shall acquaint himself with all site conditions. Should utilities not shown on the plans be found during excavations, Contractor shall promptly notify the Owner for instructions as to further action. Failure to do so will make Contractor liable for any and all damage thereto arising from his operations subsequent to discovery of such utilities not shown in plans.
- B. Contractor shall make necessary adjustments in the layout as may be required to connect to stub out from well. Should such stubs not be located exactly as shown, Contractor may be required to work around existing work at no increase in cost to the Owner.

2.6 EXISTING PLANTS AND SITE CONDITIONS

- A. The Contractor shall take necessary precautions to protect existing site conditions. Should damage be incurred, the Contractor shall repair the damage to its original condition at his own expense.

2.7 SUBSTITUTION

- A. The Owner reserves the right to substitute, add or delete any material or work as the work progresses. Adjustment to the contract price shall be negotiated if deemed necessary by the Owner. Contractor shall submit all alternate material cut sheets for consideration with bids. Contractor shall be responsible for installing the irrigation as specified if submittals are rejected by Owners agent. If the contractor does not submit alternate cut sheets with his/her bid, the contractor shall install irrigation system as specified.

2.8 REJECTION

- A. The Owner reserves the right to reject material or work which does not conform to the Contract Documents. Rejected work shall be removed or corrected at the earliest possible time.

2.9 WORK SCHEDULE

- A. **Within ten (10) days after award of the Contract and before work begins, the Contractor shall submit to the Owner an updated work schedule.**

2.10 “RECORD” DRAWINGS

- A. Prepare a "Record Drawing" in *AutoCAD* format which shall show deviations from the bid documents made during construction affecting the main line pipe, controller locations, remote control valves, quick-coupling valves and all sprinkler heads. The drawing shall also indicate and show approved substitutions of size, material and manufacturer's name and catalog name and catalog number. The *AutoCAD* file shall be delivered to the Owner before final acceptance of work. All measurements shall be triangulated by means of tape measurements, no wheel measurements will be allowed. Contractor may use GPS equipment for locations. During the installation process the contractor shall keep a current field copy of changes on site. GPS shall be preformed with Trimble DGPS Pro XRS unit or equal. Measurements shall be from fixed points for all zone valves, isolation valves, splice boxes, quick couplers, and all tees, 90° bends, and other main line fittings. Two (2) tape measurements from fixed points will be required. Contractor may use GPS to 1'-0" accuracy.
- B. The “Record Drawing” will be in *AutoCAD* 2010 format and shall be stamped by both Certified Irrigation Designer – Commercial (CID) and Certified Irrigation Contractor (CIC) through the Irrigation Association.

2.12 FINAL ACCEPTANCE

- A. Final acceptance of the work may be obtained from the Owner upon the satisfactory completion of all the work.

2.13 GUARANTEE

- A. All work shall be guaranteed for one year from date of acceptance against all defects in material, equipment and workmanship. Guarantee shall also cover repair of damage to any part of the premises resulting from leaks or other defects in material, equipment and workmanship to the satisfaction of the Owner. Repairs, if required, shall be done promptly at no cost to the Owner.
- B. The Rain Bird 8005SS Series Rotors, Irritrol IBOC Plus Series Controller (or approved equal), and Irritrol 216B Series Electric Valve (or approved equal) shall be warranted for five years from the date of installation.

3.0 MATERIALS

UNIT PRICES

- A. Provide Unit Prices with your bid for installation of irrigation system for all irrigation components but not limited to the following items.

2" PVC pipe per lineal foot (SDR-21-200) SWBE

1-1/2" PVC pipe per lineal foot (SDR-21-200) SWBE

1" PVC pipe per lineal foot (SDR-21-200) SWBE

1.5" Irritrol 216B Series Electric Valve (216B) with Pressure Regulator Dial, (OMR-100) and DC Latching Solenoid (DCLS) (OR APPROVED EQUAL)

Rain Bird 8005 Series Stainless Steel Rotor (8005SS) with 1" Swing Joint (OR APPROVED EQUAL)

Irritrol IBOC Plus Series 4-Station Controller (IBOC-4PLUS) with Pedestal (P-2B) and Solar Power Converter (SPC-2) (OR APPROVED EQUAL)

10" Circular Valve Box and Lid

Standard Valve Box with Lid and 6" Extension

14-1 UF Wire per lineal foot

12-1 UF Wire per lineal foot

1.5" Gate Valve

Cubic Yard of Deleterious Material Removal

Cubic Yard of Fill Material Provided

Electrical Appurtenances

Backflow Preventer

SUBMITTALS

- A. The Contractor shall be responsible to submit three (3) copies/sets contained in binders of manufacturers' data for materials to be used including:
 - 1. Sprinkler Heads
 - 2. Controller
 - 3. Electric Zone Valves

4. Isolation Valves
5. PVC Piping and SCH 40 Fittings
6. Valve Boxes
7. Control Wire
8. Swing Joints
9. DBR and DBY Wire splices

B. Contractor shall submit cut sheets with his bid for any materials he/she is requesting approval for substitution of specified materials. If Owner rejects substituted materials, the Contractor must install irrigation system as specified. If Contractor does not submit cut sheets for alternate materials at time of bid, then he/she will be required to install system as specified and as indicated on the drawing.

3.1 GENERAL

A. All materials throughout the system shall be new and in perfect condition. After award of the Contract, and prior to beginning the work, the Contractor shall submit for approval two copies of the complete list of materials which he proposes to install. Quantities of materials and equipment need not be included. No deviations from the specifications shall be allowed.

3.2 PLASTIC PIPING AND FITTINGS

A. All piping 2" and smaller shall be solvent weld SDR 21 class 200 PVC pipe, extruded from 100 percent virgin polyvinyl chloride conforming to ASTM D 2241 and shall be continuously and permanently marked with the manufacturers name, material, size and schedule or type. Pipe shall conform to all specifications form ASTM, Department of Commerce, NSFTL (NSF) or the latest revisions. Pipe shall be Crestline or IPEX only or approved equal.

1. All fittings on 2" and smaller shall be SCH 40 PVC conforming to ASTM D-2466. No saddle or clamp type fittings shall be used

3.3 SOLVENT CEMENT

A. Solvent cement shall be compatible with PVC pipe and of proper consistency.

3.4 ISOLATION VALVES

A. Two inch (2") and smaller isolation and drain valves shall be screwed bonnet, bronze body, solid-wedge type gate valves with threaded ends, non-rising stems, and shall be rated for a normal operating pressure (cold water) of at least 200 psi. They shall be Nibco T-113 Series Isolation Valve (OR APPROVED EQUAL).

3.5 VALVE BOXES

- A. Access to all Quick coupler valves and electric valves shall be provided by Ametek standard rectangular boxes. The valve boxes and extensions shall be 12” standard rectangular (#170101) with green cover (#173134), as manufactured by Ametek, Plymouth Products Division, Sheboygan, Wisconsin (OR APPROVED EQUAL).
- B. Access to all gate valves and isolation valves shall be provided by Ametek 10” round valve boxes with 8” PVC SDR-21 sleeves to access nut. The valve boxes shall be 10” round (#181014) with green “Control Valve” cover (#181015), as manufactured by Ametek, Plymouth Products Division, Sheboygan, Wisconsin (OR APPROVED EQUAL).
- C. All valves shall be centered and plumb in all valve boxes.

3.6 SWING JOINTS

- A. Swing joints for Rain Bird 8005SS Series Rotors (OR APPROVED EQUAL) shall be 1" triple swing joint manufactured by Dura model PVC1A13112 (OR APPROVED EQUAL). The lay on all the swing joints shall not be less than 35 degrees nor greater than 55 degrees from the horizontal lateral PVC zone pipe

3.7 REMOTE CONTROL VALVES

3.7a 1.5” IRRITROL 216B SERIES ELECTRIC VALVE WITH OMNI-REG PRESSURE REGULATOR AND DC LATCHING SOLENOID (OR APPROVED EQUAL).

- A. The electric valve body shall be constructed of corrosion and UV-resistant PVC material with all stainless steel hardware and spring. Valve shall have internal and external bleed for manual operation and flushing. Valve shall have a high-strength, ribbed bonnet and bottom inlet. Valve shall have a heavy-duty double-beaded diaphragm. Valve shall have a Buna-N valve seat seal. Valve shall be easily serviced without needing to be removed from the system. Valve shall be powered by a 24 VAC solenoid with a captive plunger, 0.4 amp inrush, and 0.2 amp holding.
- B. Valve shall have a working pressure range from 20 psi minimum to 150 psi maximum. Valve shall have a recommended flow range from 5 to 120 GPM depending on valve size.
- C. Pressure Regulation: (OmniReg™ Modular (OR APPROVED EQUAL)). Outlet pressure regulating range shall be from 5 to 100 psi. Valve shall have self-modulating type pressure regulator that maintains constant downstream pressure and be accurate to within ± 3 psi of pressure setting. Inlet pressure shall be 10 psi greater than desired outlet pressure. Valve shall have an internal bleed for manual operation in pressure regulation mode. Valve shall be able to be installed in any

position. The pressure regulator shall be model OMR-100 as manufactured by Irritrol, Riverside, California, USA . (OR APPROVED EQUAL)

- D. The electric valve shall operate using a DC Latching solenoid (DCL).
- E. The valve model number shall be 216B as manufactured by Irritrol, Riverside, California, USA (OR APPROVED EQUAL).

3.8 SPRINKLER HEADS

3.8a RAIN BIRD 8005 SERIES STAINLESS STEEL ROTORS (OR APPROVED EQUAL)

- A. The full- or part-circle sprinkler shall be a single stream, water lubricated, gear drive type capable of covering a 50 foot radius at a base pressure of 50 psi with a discharge rate of 10 - 15 GPM.
- B. The sprinkler shall be capable of both full circle and part circle operation in the same unit. The mode of operation shall be selected by inserting a flat blade screwdriver in the top of the rubber cap and turning a selector approximately 45 degrees. The sprinkler shall not reverse direction during continuous operation in the full circle mode. The part-circle sprinkler shall have adjustable arc coverage of 50 to 330 degrees. Arc adjustment can be performed with or without the rotor in operation and shall require only a flat blade screwdriver. The arc adjustment can be performed on both the right and left trip of the sprinkler.
- C. The sprinkler shall have a rotating nozzle turret independent of the riser stem. The portion of the riser stem that is in contact with the wiper seal shall be non-rotating. The sprinkler shall have a non-strippable drive mechanism and permit manual rotation of the pop-up stem in any direction. This shall have no effect on either the drive or the set arc. Once the manual rotation is terminated, the sprinkler shall automatically return the water stream to its preset arc. The sprinkler shall have a pressure activated, multi-function, soft elastomeric wiper seal. This wiper seal shall prevent the sprinkler from sticking in the up position, and be capable of sealing the sprinkler riser stem to the sprinkler cap under normal operating pressures. The sprinkler shall have a screen attached to the drive housing to filter inlet water, protect the drive from clogging and simplify its removal for cleaning and flushing of the system. The sprinkler body shall have a 1" female NPT bottom inlet. The sprinkler shall have a standard rubber cover which designates each adjustment opening from the top.
- D. The sprinkler shall have a two piece, front-load nozzle assembly which will allow the nozzle to be installed without a stator bushing change. The primary and secondary nozzle ports shall be contained in one of the parts and shall be unique to each nozzle size. The tertiary nozzle port shall be common to all of the other primary/secondary nozzle assemblies. The sprinkler shall have a selection of eight color-coded nozzles. All nozzles shall have three ports for optimal close-in, mid-range and long-range water distribution. The sprinkler shall have a stainless

steel nozzle retention screw. The angle of trajectory shall be 25 degrees from horizontal.

- E. The sprinkler shall have a strong stainless steel retract spring for positive pop-down. The sprinkler shall have a standard Seal-A-Matic™ (SAM) (OR APPROVED EQUAL) device capable of holding up to 10 feet of head. Pop-up height as measured from the top of the cover to the centerline of the nozzle orifice shall be at least 5 inches. The sprinkler's overall height shall be 10-1/8 inches and the exposed diameter shall be 1-7/8 inches. When so indicated on the design, the rotor shall have a stainless steel covered nozzle turret and riser stem. The riser stem shall be tapered and conform to the standard plastic riser in all other ways.
- F. The sprinkler shall be a model number _8005SS_ and shall be manufactured by Rain Bird Corporation, Commercial Division, Tucson, Arizona, USA (OR APPROVED EQUAL).

3.9 CONTROLLER

- A. IRRITROL IBOC PLUS SERIES CONTROLLER WITH PEDESTAL AND SOLAR POWER CONVERTER (OR APPROVED EQUAL).
 - 1. Automatic Controllers shall be IBOC Plus Series (OR APPROVED EQUAL) with 4-stations as manufactured under the brand name of Irritrol Systems (OR APPROVED EQUAL) to be installed or wired in accordance with manufacturer's published instructions. Valves installed must be converted from standard AC solenoid to 24-volt DC latching solenoid (DCL) for Irritrol Systems valves (OR APPROVED EQUAL).
 - 2. Operation: Controller shall be powered by one 6-volt lantern battery or solar powered with optional SPC-2. Battery life shall be a minimum of one (1) year. Battery life shall be displayed as a percentage of total life. Controller shall have three (3) independent programs with eight (8) start times per program. Controller shall be able to operate up to twelve (12) standard latching solenoid valves (1 solenoid per station) and one (1) master valve/pump start latching relay. Station times shall be 1 minute to 23 hours 59 minutes, in 1-minute increments, displayed as hours and minutes. Controller shall have a 365-day calendar with weekday, interval (1-62), and odd/even scheduling with automatic leap-year adjustment. Controller shall have the capability to exclude specific days from the watering schedule when using odd/even day option. Controller shall have water budgeting (10-200%), start-time stacking within program, program looping and station stacking. Controller shall have programmable (1-10 minutes) test cycle. Operation will be automatic, semiautomatic, and manual operation modes. Manual cycle shall be programmable from 1 to 99 minutes. Controller shall have non-volatile memory to retain program data and programmable rain off (1-30 days). Controller shall have programmable rain sensor hook up and programmable master valve hook up. Electronic circuit breaker shall automatically detect

short- and open-circuit conditions on station output. Controller shall have user selectable instruction displayed in either English or Spanish. Maximum operating pressure shall be 120 psi.

3. Construction: Controller shall be enclosed in rust-resistant, locking steel cabinet with sufficient space for standard 6-volt lantern battery and quick wire disconnect terminal board.

Electric: Input shall be 6/24 VDC. Output and master valve circuit shall be a bidirectional pulse to drive a 24-volt latching solenoid. Maximum of one 24 VDC latching solenoid per station.

4. The controller shall be Irritrol IBOC-Plus Series Controller model IBOC-4PLUS with standard pedestal model P-2B and solar power converter model SPC-2 as manufactured by Irritrol, Riverside, California, USA (OR APPROVED EQUAL).

3.10 LOW VOLT ELECTRICAL WIRE

- A. All 24-volt control wires from controller to the electric valves shall be #14/1 red wire for direct burial. All 24-volt common wire from the controller to the electric valves shall be #12/1 white wire for direct burial. Splices and connections to the electric valves shall be with 3M DBY and DBR connectors. There will be no tee splices allowed. The common wire will be one continuous run, more than one common run may be used and connected at the controller. Spare wires shall be run from the controller as shown on plan with two (2) wires left at each location. Spare wire shall be #14/1 yellow wire for direct burial. No wire splices will be allowed in wire runs of less than 1200'.
- B. When control wires must go into the building the proper splice boxes must be used and the same size corresponding wire size shall be used at the splice box location. All wire shall be Paige electric and shall conform to ASTM B3 or B-8 for soft drawn bare copper wire with polyethylene insulation.

4.0 WORKMANSHIP

4.1 ACCURACY

Lay out work as accurately as possible to the drawings. The drawings, though carefully drawn, are generally diagrammatic to the extent that swing joints, offsets and all fittings are not shown.

4.2 COVERAGE

The Contractor shall be responsible for full and complete coverage of all irrigated areas and shall make any necessary minor adjustments at no additional cost to the Owner.

If not specified on the plans, the Contractor shall be responsible for proper sprinkler head placement and adjustment.

4.3 REVISIONS

Any major revisions to the irrigation system must be submitted and answered in written form, along with any negotiated change in contract price.

5.0 INSTALLATION

5.1 EXCAVATING AND TRENCHING

5.1a Restore all surfaces, existing underground installations, etc., damaged or cut as a result of the excavations to their original condition and in a manner approved by the Owner.

5.1b Trenches shall be made wide enough to allow a minimum of 2 inches between parallel pipe lines. Trenches for pipe lines shall be made of sufficient depths to provide minimum cover from finish grade as follows:

1. 18" minimum cover over main lines;
2. 12" minimum cover over control wires from controller to valves;
3. 12" minimum cover over lateral lines to sprinkler heads.

5.1c Maintain all warning signs, shoring, barricades, flares and red lanterns as required by the Safety Orders of the Division of Industrial Safety and any local ordinances.

5.2 PIPE LINE ASSEMBLY

5.2a Install remote control valves where shown and group together where practical. Place no closer than six (6) inches to walk edges, buildings, and walls.

5.2b Plastic pipe and fittings shall be solvent welded using solvents and methods as recommended by manufacturer of the pipe, except where screwed connections are required. Pipe and fittings shall be thoroughly cleaned of dirt, dust and moisture before applying solvent with a non-synthetic bristle brush.

5.2c Pipe may be assembled and welded on the surface. Snake pipe from side to side of trench bottom to allow for expansion and contraction.

5.2d Make all connections between plastic pipe and metal valves or steel pipe with threaded fittings using plastic male adapters.

5.3 CLOSING PIPE AND FLUSHING LINES

- 5.3a Cap or plug all openings as lines have been installed to prevent the entrance of materials that would obstruct the pipe. Leave in place until removal is necessary for completion of installation.
- 5.3b Thoroughly flush out all water lines before installing heads, valves and other hydrants.
- 5.3c Test in accordance with paragraph on Hydrostatic Tests.
- 5.3d Upon completion of the testing, the Contractor shall complete drip assembly and adjust for proper distribution.

5.4 HYDROSTATIC TESTS

- 5.4a Request the presence of the Owner or Consultant in writing at least 48 hours in advance of testing.
- 5.4b Testing is to be accomplished at the expense of the Contractor and in the presence of the Owner.
- 5.4c Center load piping with small amount of backfill to prevent arching or slipping under pressure.
- 5.4d Apply a continuous and static water pressure of 60 psi when welded plastic joints have cured at least 24 hours and with the risers capped as follows:
 - 1. Main lines and sub mains to be tested for one hour.
 - 2. Lateral lines to be tested for one hour. (If laterals and individual sub-mains downstream of control valves have less than 90 psi working pressure or less than 10 GPM flow, hydrostatic tests are waived for these laterals).
- 5.4e Repair leaks found as a result of tests.

5.5 AUTOMATIC CONTROLLER

Connect proposed remote control valves to proposed controller in a logical sequence to correspond with specification of the Owner or the Irrigation Consultant.

5.6 AUTOMATIC CONTROL WIRING

- 5.6a Install “common” (12/1 Direct Burial) wire and “field” (14/1 Direct Burial) wire in common mainline trenches wherever possible.
- 5.6b Install control wires at least 16 to 18 inches below finish grade and lay to the side and below main line. Provide looped slack at valves and snake wires in trench to allow for contraction of wires. Tie wires in bundles at ten foot intervals.

- 5.6c Control wire splices will be allowed only in runs more than 1,000 feet. Any splices must be installed in an existing valve box or separate valve box installed flush with finished grade.
- 5.6d All wire passing under existing or future paving, construction, etc., shall be encased in plastic or galvanized steel conduit extending at least 12 inches beyond edges of paving or construction.

5.7 BACKFILL AND COMPACTING

- 5.7a After system is operating and required tests and inspections have been made, backfill excavations and trenches with clean soil, free of rubbish.
- 5.7b Backfill for all trenches, regardless of the type of pipe covered shall be compacted to minimum 90% density.
- 5.7c Compact trenches in areas to be planted by thoroughly flooding the backfilled trenches.
- 5.7d Dress off all areas to finish grades.

6.0 CLEAN-UP

Remove from the site all debris resulting from work of this section. Job site must be left clean and repaired as per Contract and Owner's approval.

7.0 QUANTITY and PAYMENT

Payment shall be made for the work required to construct a fully functioning irrigation system at the lump sum bid price for **Dust Control System** in the bid proposal of Base Bid Beginner Ring and 2nd Ring. The price bid for this work shall include all work to supply and install all Piping, Sprinklers Heads, Valves, Wire, two separate Controllers for each ring (Controller for Ring 2 shall allow equipment and program sufficient to control the 2nd, 3rd and 4th Ring for future expansion), connections to existing mains, Labor, and all necessary appurtenances for a complete and functional irrigation system.

Payment shall be made for the work required to construct a fully functioning irrigation system at the lump sum bid price for **Dust Control System** in the bid proposal of Alternate Bid 'A' 3rd Ring. The price bid for this work shall include all work to supply and install all Piping, Sprinklers Heads, Valves, Wire, Controller (modifications to controller installed under Base Bid), connections to existing mains, Labor, and all necessary appurtenances for a complete and functional irrigation system.

-- END OF SECTION --

TOPSOILING AND HYDROSEEDING

DESCRIPTION

Provide topsoil and hydroseed as shown or as directed by the Engineer. Provide borrow topsoil as required to completely cover proposed lawn areas and as directed by the Engineer.

MATERIALS

Topsoil shall be obtained from outside the project limits and 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.

Material stripped from the following sources shall not be considered suitable for use as topsoil.

- Sources within the project limits.
- 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.

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.

The organic content of all topsoil shall conform to the requirements specified above.

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%

A percolation rate of 1 inch/Hour to 2 inch/Hour is required after root growth by the sod after establishment.

The materials to be used for topsoiling 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
Grain Seed.....	Sec. 909.06
Topsoil	Sec. 909.10
Grass Seed Mixture.....	Hydroseed Lesco 3 Rye (OR EQUAL)

The hydroseed shall be furnished and delivered premixed. A manufacturer’s certificate of compliance to the specified mixes shall be submitted by the manufacturer.

METHODS OF CONSTRUCTION

The topsoil shall be spread over the surface in a uniform layer that will produce the prescribed compacted thickness of at least six (6”) inches. 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. The soil shall be in a pliable condition at the time of seeding.

The Contractor shall furnish the required topsoil from approved sources outside the project limits.

The contractor shall hydroseed only on a calm day. No seeding shall be performed on frozen ground or when the temperature is 32 degrees Fahrenheit or lower. Schedules for fertilizing and seeding must be submitted to the Engineer for approval prior to the work. Hydroseeding shall be done within ten (10) days following soil preparation.

Fertilizer shall be 5-10-5 and shall be applied at a rate of 325 lbs. per acre.

Virgin wood fiber mulch shall be applied at a rate of 1,500 lbs. per acre.

ECT tackifier shall be applied at a rate of 5 lbs. per acre.

Hydroseed mix shall be Lesco 3 Rye (or approved equal)

The contractor shall be responsible for providing watering (irrigation) for all areas to receive topsoil and hydroseed. Watering operations shall be performed as needed until vegetation has established.

QUANTITY AND PAYMENT

The quantity of TOPSOILING AND HYDROSEEDING for which payment will be made on a lump sum basis in accordance with the Plans and Specifications or as directed by the Engineer.

Payment for TOPSOILING AND HYDROSEEDING will be on a lump sum basis at the price bid for the item **TOPSOILING AND HYDROSEEDING** in the Proposal, which price shall include the cost of 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 installing hydroseeding; furnishing and placing ground limestone, fertilizer, mulch and other materials; raking, rolling, re-fertilizing and reseeded where required; watering to establish and maintain vegetation, the repair of previously topsoiled/hydroseeded areas damaged by the Contractor's work; furnishing all labor and equipment; and all else necessary for the topsoil shown on the Plans or as directed by the Engineer.

-- END OF SECTION --

FINAL CLEANUP/SITE RESTORATION

DESCRIPTION

Under this item the Contractor shall restore the work site and access area to its original condition including, but not limited to installation of both temporary and permanent striping, remove and reset street and road signs, relocate existing monuments and setting them on 6" thick concrete pads, remove and dispose of all lights, signs, parking meters, bollards, topsoil, seeding, fences, hedges, re-grading, repair of driveways, (both bituminous and concrete) sidewalks, roadways, curbs, cleaning and removal of stockpiles and equipment, any underground electrical conduit servicing traffic signals and all else not specifically covered elsewhere in these specifications. All concrete aprons shall be restored.

MATERIALS

2007 NJDOT Standard Specifications.

METHODS OF CONSTRUCTION

The site shall be returned to its original condition. Fences shall be reinstalled with posts in concrete footings in accordance with specifications herein. Hedges shall be reinstalled where possible or replaced in kind and in the same locations as existing. Lawn areas disturbed by Contractor's activities shall be re-graded, hydroseeded and mulched as specified by the Engineer. Temporary safety fence shall be removed and returned to the Department of Public Works, and the holes repaired. Cleaning shall include hand brooming of sidewalk and pavement areas. Adjacent structures shall be cleaned, as necessary, by a method approved by the Engineer. Sidewalks shall be replaced with 4-inch thick concrete walk in evenly sized slabs, sawcut where necessary, only to the extent damaged by the construction. Both concrete and bituminous concrete shall be repaired as specified by the Engineer 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.

QUANTITY AND PAYMENT

The quantity of Site Restoration for which payment will be made will be on a lump sum basis for the item **FINAL CLEANUP/SITE RESTORATION** 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 --

ELECTRIC SUPPLY, PANEL, METER, AND LIGHTING

DESCRIPTION

This item shall consist of the installation of all light fixtures (complete with lamp, cover, etc.), panels, conduits, fittings, wiring, pull-boxes, and hangers for the lighting. It shall also include all permit fees and the eventual energizing of the system.

MATERIALS

All wiring inclusive of from the transformer to the service shall be provided by Contractor. The Contractor shall coordinate all sizing and requirements with PSE&G for the main feed. The Contractor shall furnish all material to construct a fully functional electrical system, other than the transformer provided by PSE&G.

All material must meet the minimum requirements of the NEC, PSE&G and the construction details specified herein.

Interior light fixtures to be Lithonia Lighting JHBL 24000LM Fixtures, One Lithonia Way, Conyers, GA 30012, Phone 800-315-4963, or approved equal.

Interior emergency exit and lights meeting the requirements of NJIBC, NEC and all other applicable codes.

CONSTRUCTION

The installation shall be in accordance with NEC and PSE&G standards or as determined by the Engineer. All prospective bidders and/or the contractor are responsible for contacting PSE&G to determine the electric source location/feeder.

The Contractor shall include in the price bid for this item 1,400 linear feet (LF) of two (2) 4-inch dia. conduits (2,800-LF total), which includes one (1) spare 4-inch dia. conduit.

The Contractor shall include in the price bid for this item all light fixtures as illustrated on the Lighting Plan.

The Contractor shall install a pull-wire throughout all spare conduits for future use as per the requirements of the NEC and PSE&G.

The Contractor shall provide a complete set of designed electrification drawings by a New Jersey Licensed Electrician and submit the signed and sealed drawings to the Engineer prior to the commencement of construction. The electrification design shall include, but not be limited to, main service connection to off-site area(s), coordination with PSE&G, primary service conduits, connections, terminations and pull boxes, main electrical panel, concrete pad, exterior panel enclosure, bollards, meters, secondary service conduits, connections, terminations, panels and pull boxes, building connections, terminations and meter, lighting connections (emergency and

standard), terminations and meter, and for a complete electrical system design and build program for the Indoor Riding Arena building.

The Indoor Riding Arena shall have the following but not limited to: LED Lights and associated conduit, wiring and controls, four (4) Emergency Exit signs with lighting, eight (8) GFCI 20 Amp Outlets, twelve (12) Heavy Duty Indoor/Outdoor Ceiling Fans, two (2) motorized door openers with controls and all necessary switches and controls.

All construction must meet the minimum requirements of the NEC, PSE&G and the construction details specified herein.

QUANTITY AND PAYMENT

Quantity and Payment for Electric Supply, Panel, Meter, Emergency Exit Signs, Outlets, Switches, Controls, Lighting and all associated wiring and conduit will not be made and the cost shall be included in the LUMP SUM price for the **INDOOR RIDING RING STRUCTURE, COMPLETE** in the Proposal, which shall cover the cost of excavation, backfill, concrete encasement, compaction, testing, at grade restoration, electrification drawings, energizing, terminations, breakers, pull wires, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

DOORS

DESCRIPTION

This item shall consist of the furnishing and installation of two (2) 14'x14' rolling doors with electric operator, four (4) 8'x8' rolling doors, two 3'x7' mandors with viewing glass and two (2) 3'x7' double mandors complete with all framing and required hardware.

MATERIALS

ROLLING DOORS

Rolling doors to be continuous sheet rolling door model 3100 as manufactured by Janus International, Temple, GA or approved equal. Mounting to be done in accordance with the building manufacturer requirements and all hardware and mounting plates shall be furnished.

2.01 CURTAIN—

- 2.01.01 Sheets: Continuous 20" corrugated sheets roll formed from 26 gauge ASTM A653 Grade 80 full hard steel and lock seamed together. Reinforced with 12 gauge wind locks spaced on alternating corrugations and attached with rivets.
- 2.01.02 Finish: Galvanized and pre-painted with Super Durable Polyester paint guaranteed with a 40 year film integrity warranty to not crack, peel, flake, split, delaminate or blister. Additional guarantee up to 25 years against fading or changing color based on color chosen.
- 2.01.03 Bottom Bar: Roll formed clear acrylic coated galvanized steel reinforced with a 2" x 1-1/2" - 12 gauge galvanized angle that extends fully into the guides.
- 2.01.04 1-1/2" wide nylon strips attached on each end of both the front and back of the curtain to control stretch and reduce wear.
- 2.01.05 Wind locks: Made of 11 gauge galvanized steel spaced every other corrugation through 12'0" opening widths. Over 12'0" through 16'0" opening width, spaced at every corrugation. Excludes seamed corrugation for all widths.

2.02 WEATHERSTRIPPING—

- 2.02.01 Black PVC bulb-type astragal affixed to the bottom bar assembly provides positive contact with the floor.
- 2.02.02 Side draft stop attaching to guide leg.
- 2.02.03 Black flexible neoprene top draft stop with 2" lip attached to curtain.
- 2.02.04 4" Header seal attached to header.

2.03 BARREL ASSEMBLY— Galvanized coil steel fabricated in a 12" diameter spiral formation to enclose spring counterbalance system and provide full span curtain weight support. Attached galvanized drums are furnished with grease-filled, shielded radial ball bearings at rotating points around the axle.

2.04 SPRING COUNTERBALANCE— Factory lubricated, oil tempered, helical

torsion springs located inside the barrel made of wire conforming to ASTM A229. Springs are attached the steel axle tube by means of a welded spring clip. Axle tube provided is sufficient size to carry curtain load and spring torque. Spring cycle life of 15,000.

- 2.05 SUPPORT BRACKETS— Galvanized and reinforced one-piece 12 gauge formed steel brackets.
- 2.06 SPRING TENSIONER—External mounted cam action tension retaining device allows for field adjustment of spring tension on all springs.
- 2.07 GUIDE ASSEMBLY— Universal mounted guides rolled formed from 12 gauge galvanized steel. 3” guide depth furnished for sufficient curtain engagement with 12 gauge wind load bar. Removable galvanized door stop at the top of each guide.
- 2.08 OPERATION—
 - 2.08.01 Universal 5.7:1 cast iron reduced drive hand operated chain hoist furnished for all doors.
 - 2.08.02 Electric operator (furnished by vendor) with electric 72 tooth sprocket operator kit for door adaptation. This is for the two 14’x14’ doors.
- 2.09 LOCKING MECHANISM—Dual steel bottom bar slide locks suitable for pad locks (provided by others) mount to the inside angle of the bottom bar. Chain keeper guide mounted to wall for chain operation doors.
- 2.10 HOOD Fabricated from 20 gauge steel and reinforced with end caps and roll formed edges. Manufactured square.
- 2.11 FINISH—Non-galvanized surfaces, excluding axle tube, to consist of shop coat of rust inhibitor primer. Color to be as selected by owner and/or engineer.

MAN DOORS

Man doors to be steel walk doors with steel jambs prehung, Model 5100 door as manufactured by AJ Manufacturing, Inc. Single doors to have Vue Lite single-glazed tempered glass in brown finish. Double door to be standard style door in brown finish. Doors to be equipped with optional panic bar and dead bolt locks with matching key set for the four doors.

CONSTRUCTION

The installation shall be in accordance with manufacturer requirements and all applicable codes..

QUANTITY AND PAYMENT

Quantity and Payment for Rolling Doors and Man Doors will not be made and the cost shall be included in the LUMP SUM price for the **INDOOR RIDING RING STRUCTURE, COMPLETE** in the Proposal, which shall cover the cost of all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

CEILING FAN

DESCRIPTION

This item shall consist of the furnishing and installation of twelve (12) heavy-duty indoor/outdoor ceiling fan-60” along with two variable speed controllers and associated conduit and wiring.

MATERIALS

Materials shall consist of heavy duty indoor/outdoor ceiling fan 60” model CP60HPWP as manufactured by Canarm or approved equal. The ceiling fan shall include all necessary hangers and supports to install within the free span structure.

MC Industrial Ceiling Fan Speed Control or approved equal having the capability to operate six (6) fans simultaneous.

CONSTRUCTION

The installation shall be in accordance with manufacturer requirements and all applicable codes.

QUANTITY AND PAYMENT

Quantity and Payment for heavy-duty indoor/outdoor ceiling fan – 60” and associated controls and wiring will not be made and the cost shall be included in the LUMP SUM price for the **INDOOR RIDING RING STRUCTURE, COMPLETE** in the Proposal, which shall cover the cost of all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION

FREE SPAN FABRIC STRUCTURE

DESCRIPTION

This work shall consist of furnishing and installing a permanent rectangular shape tension membrane covered truss type building which shall occupy an approximate area of 100 feet to 110 feet wide by 192 feet long, with a complete fabric enclosed back and enclosed, as shown on the drawings. The building roof profile shall be gable style. The sizing of the structure shall be selected based on accommodating the following items: a 90' wide by 165.5' long indoor riding ring that provides a minimum height clearance of 14' along the outer edge of the riding ring. The size of the structure shall also be able to accommodate the construction of indoor riding ring kickboards. The structure shall also provide additional floor area for storage at the end with a minimum dimension of 20'x90'. The floor area shall be entirely free of columns and roof supports of any type allowing unimpeded use of the riding arena. The west end of the building shall be closed with fabric. The east end shall be closed with fabric and include appropriate bracing to accommodate cultured stone up to 30" above grade. The fabric for the structure shall be multi-color with brown up to 8' from ground level and white for the remaining portion. The building shall have doors per the plans and other specifications.

It is anticipated that the building will have an IBC2009, New Jersey Edition Use Group Designation of "Group U" with a maximum occupancy of less than 50 Persons. At a minimum all building equipment shall meet or exceed the requirements for the Use Group. The Contractor is responsible for submission of all required documents for obtaining the necessary building permits. As is customary with municipalities the permit fees should be waived; however in the event that they are required the contractor will pay the fees and be reimbursed for the actual cost of the permits through the Bid Contingency pay item.

REFERENCES

Except where more stringent requirements are specified, comply with the applicable requirements of the following organizations and standards, for products, materials, and construction methods:

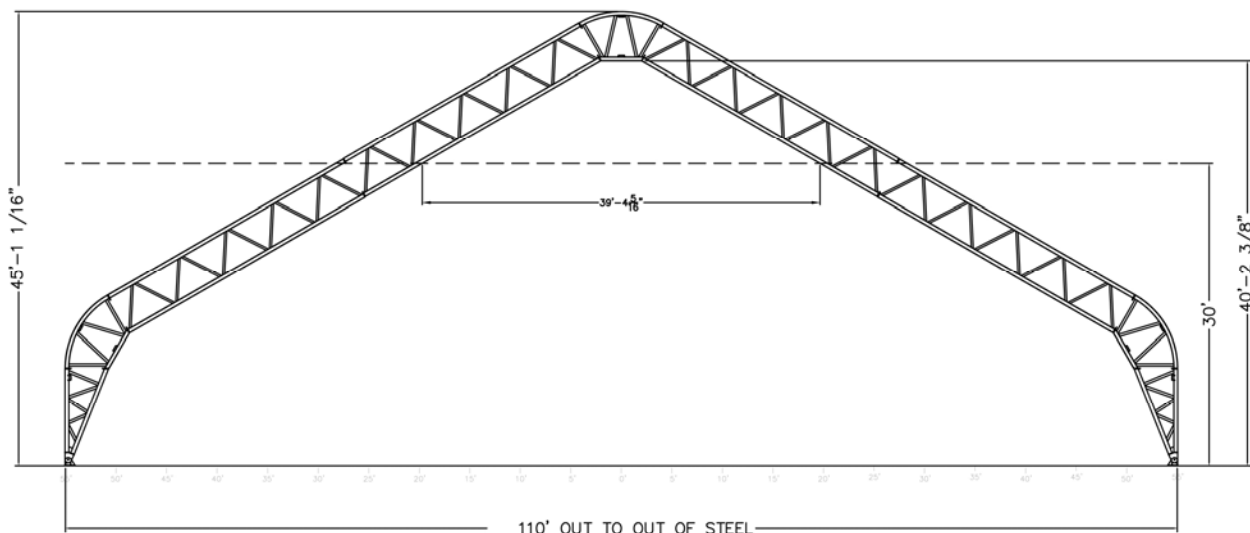
1. NJ State Building Codes.
2. IBC 2009 Building Code.
3. American Institute of Steel Construction (AISC) .
4. American Iron and Steel Institute (AISI).
5. American Society of Civil Engineers (ASCE 7-10 Minimum Design Loads for Buildings and Other Structures).
6. American Welding Society (AWS) or Canadian Welding Bureau (CWB)
7. Aluminum – 6000 Series natural mill finish, unpainted and unanodized.
8. Welders must be qualified and tested and certified to the CSA Standard W47.1 Div. 2.1
9. ASCE 7 - Minimum Design Loads for Buildings and Other Structures; American Society of Civil Engineers; 2011.
10. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2008.

11. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2012.
12. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength; 2012.
13. ASTM A325 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength; 2010.
14. ASTM A325M - Standard Specification for Structural Bolts, Steel, Heat Treated 830MPa Tensile Strength (Metric); 2013.
15. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; 2010a.
16. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2013a.
17. AWS D1.1/D1.1M - Structural Welding Code - Steel; American Welding Society; 2010 or CWB Canadian Welding Bureau.
18. NFPA 701 - Standard Methods of Fire Tests for Flame Propagation of Textiles and Films; National Fire Protection Association; 2010.
19. SSPC-SP 6 - Commercial Blast Cleaning; Society for Protective Coatings; 2007.
20. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic"); Society for Protective Coatings; 2002 (Ed. 2004).
21. SSPC-Paint 22 - Epoxy-Polyamide Paints (Primer, Intermediate, and Topcoat); Society for Protective Coatings; 1982 (Ed.2004).

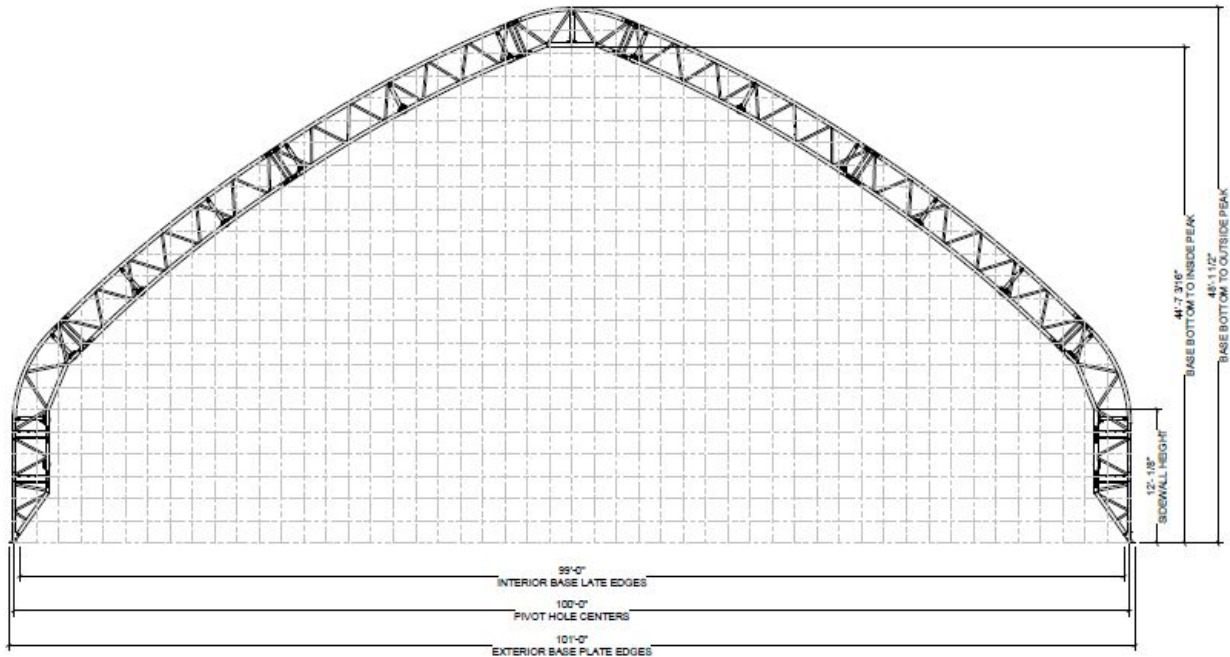
PRODUCT/PRODUCT MANUFACTURERS:

The following is a list of products and manufacturers:

1. Britespan Genesis Series 4-110'W or approved equal as manufactured by
 Britespan Building Systems Inc.
 37651 Amberly Road
 Lucknow, Ontario
 NOG 2H0
 Phone No. 1-800-407-5846



2. ClearSpan Fabric Structures International, Inc. or approved equal
1395 John Fitch Blvd.
South Windsor, CT 06074
Phone: 1-800-603-4445 x1241



MATERIALS

BUILDING PRODUCT REQUIREMENTS

The building may be a Britespan or Clearspan building or approved equal provided the following minimum required standards are met.

1. Membrane used in the building design shall be designed to withstand the corrosive UV light according to the manufacturer warranty.
2. All trusses including the webbing between the trusses must be Hot Dip Galvanized "POST" fabrication. The Hot Dipped Galvanizing must be fully attained inside and outside of the truss and web tubing. Failure to provide this would cause the bid to not be accepted.
3. All purlins, bearing plates and other structural members must be hot dipped galvanized "POST" fabrication, no welding shall take place after the galvanized coating is applied. All anchor bolts, bolts and washers etc., shall be stainless steel or Hot Dip Galvanized.
4. In-line Galvanization can be used as approved alternate to Hot Dip Galvanized "POST" fabrication.

METAL SPECIFICATIONS

The main structure shall consist of a welded truss arches with parallel tubes separated apart by tube webs. The framing shall be designed to handle a minimum snow loading of 35 psf as well as a minimum wind loading of 100 mph. The structure shall provide similar loadings as specified below with the main objective to meet the minimum design requirements for the region.

Steel tubing used in the structure shall provide similar structural and mechanical properties (ASTM A-500): Tension Ultimate: 55 KSI and Yield: 50 KSI

PAINTING:

Painting of steel components shall only be utilized if necessary for field repairs and shall not be employed as a factory finish. Should field repair be necessary, a zinc rich field coat shall be used.

FIELD WELDING:

In-Field fabric welding is accepted as a standard method of joining panels, rounding corners, repairing minor cuts or abrasions.

FABRIC SPECIFICATIONS:

The HDPE fabric must be produced in North America with fabric specification as follows:

(Fire Rated)

Coated Weight	12 .6 oz/sy (373 gsm)
Base Fabric Weight	4 mils average, each side
Finished Thickness	24 mils (ASTM D-5199)
Grab Tensile Strength, lbs	452 lbs Weft (ASTM -D5304) 408 lbs Warp (ASTM -D5035)
Tongue Tear Strength, lbs	106 lbs Weft (ASTM -D2261) 83 lbs Warp (ASTM -D2261)
Mullen Burst	653 psi (ASTM -D3786)
Cold Crack Resistance	-55°C (ASTM -D2136)
Resistance to UV & Weathering	90% retention after 2000 hr.
Permittivity	<2.5 x 10 ⁻⁶ cm/s (ASTM D-5199)
Hydrostatic Resistance	>171 psi (ASTM D-751A)
Flame Retardency	NFPA 701
Flame Spread	ASTM E84
Smoke Developed	170 (ASTM E84)

The stressed membrane structure shall be designed to shed snow before the design load is exceeded, or alternatively provide structural capacity to meet or exceed required roof snow load requirements of specified site. The architectural membrane shall be continuous from the base of the structure to the peak and manufactured in such a way that no eave will exist.

FABRIC COVER ATTACHMENT

HDPE Fabric roof material must consist of individual panels between frames. The cover must be securely attached at ends and sides. Field welding is acceptable. Alternate fabric attachments as subject to owner and/or engineers review.

QUALITY ASSURANCE

- A. Manufacturer 's Qualification: The fabricator of the building or building components shall be regularly engaged in the fabrication of this type of building. They must meet the requirements of this Section and shall show evidence of having an adequate manufacturing facility, equipment, and a quality control system. The fabricator must provide evidence that they have produced a minimum of 50 such structures in the previous 12 months before acceptance of this contract. Perspective bidders must submit a copy of their A660 quality control certification at the time of the bid opening. The fabricator shall be subject to the Owner and/or Engineer's approval.
- B. Erector's Qualification: The building erector shall be regularly engaged in the erection of fabric covered buildings, meeting the requirements of this Section. The erectors shall be subject to the approval of the Owner.

WARRANTY

- A. Steel Truss Warranty: Truss Framework tubing must be Hot dip Galvanized inside and out of tubing - completely after fabrication. Failure to provide proof of this will cause the bid to be denied. The manufacturer is to provide a minimum 15-year pro-rata warranty on the trusses according to the standard manufacturer's warranty.
- B. In-Line Galvanization option shall provide a 50-year pro rata warranty on the trusses according to the standard manufacturer's warranty.
- C. Fabric Warranty: All membranes used are to be North American made, water and mildew resistant, insect proof, and UV stabilized. They are to withstand extreme climatic variations and contain ultra-violet inhibitors to reduce degradation by the sun's rays. Manufacturer is to provide a minimum a 10- year pro-rata warranty on fire rated fabric according to the standard manufacturer's warranty.

STRUCTURAL REQUIREMENTS

- A. Structure shall be engineered so it is capable of withstanding the loads specified in ASCE 7-10, and the IBC 2009 code without failure or damage. Design must incorporate both balanced and unbalanced loads. Additional rain on snow surcharge loading must also be added to gable shaped (non arch) buildings per ASCE 7-10.
- B. The building system is to be designed to meet a minimum ground snow load of 35 psf, and a wind load of 100mph.

- C. Structure must be capable of maintaining structural integrity in the event of a tear propagating in the fabric, without endangering occupants.
- D. Structural calculations shall be prepared by a licensed professional engineer and a signed and sealed copy shall be provided demonstrating the proposed structure meets the minimum design loads.
- E. Truss Framework tubing that is welded shall be Hot Dip Galvanized as per Building Product requirements stated above or options below. The Hot Dip Galvanizing must meet ASTM 123 as per the building code.
 - Acceptable products:
 - a) Hot Dip Galvanized Product, galvanizing inside and out after fabrication is completed
 - b) Aluminum
 - c) In-Line Galvanization (ASTM 123 N/A)
- F. All tie down pipe (tie down pipe may be inline pregalvanized) that is used to fasten the cover to the building must be secured by a 10,000 pound lashing winch at every truss. Ratchet strap attachment to the tie down pipe will not be accepted as a main cover tensioning system.

FOUNDATION

The proposed footing shall be a conventional spread footing sized in accordance with the building loads, soil loads and all other applicable loads. The contractor is responsible to furnish signed and sealed engineering calculations and plans for the footing design utilizing the existing soils information provided in the February 18, 2015 Geotechnical Report as prepared by Johnson Soils Company. All concrete for the footing shall be Class B concrete (4000 psi).

CONSTRUCTION

As per manufacturer requirements.

QUANTITY AND PAYMENT

The quantity of Free Span Fabric Structure for which payment will be made will be on a lump sum basis for the item **INDOOR RIDING RING STRUCTURE, COMPLETE WITH FOUNDATION, STRUCTURE, DOORS, LIGHTING, ELECTRIC AND MECHANICAL VENTILATION** 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 --

SLIDING WOOD BARN DOORS

DESCRIPTION

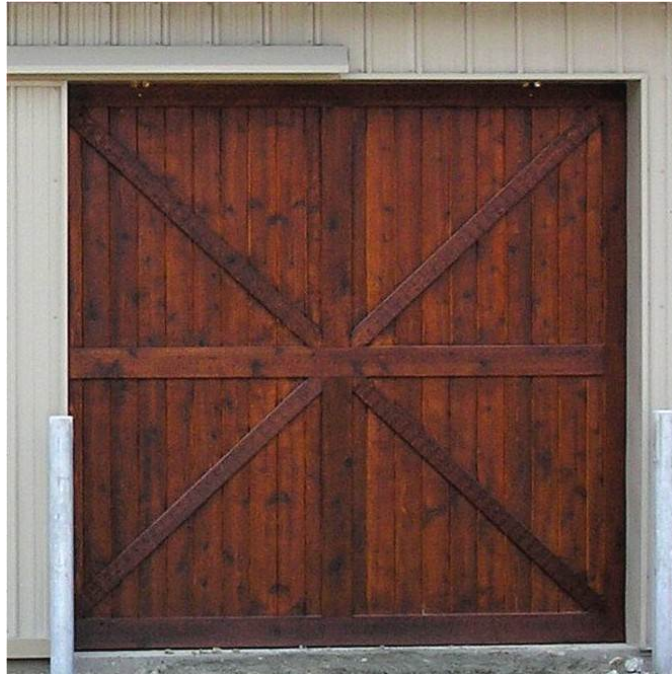
This work shall consist of the removal and disposal of the existing Stable Barn Doors and Isolation Barn Doors and the furnishing and installation of new Custom Wood Barn Doors along with all necessary hardware.

MATERIALS

The doors to be wooden construction suitable for exterior use with appropriate hardware designed for a door of the size and weight. Existing hardware may be reused as determined by the owner and/or engineer. New weather stripping and/or other measures are required to ensure that the doors are draft free. The work shall consist of the removal and replacement of 13 total barn style doors with an approximate dimension of 9' high by 12' wide. There will be three (3) solid wood doors with a 3'-6"x6'-8" man door installed within the door, three (3) solid wood doors and seven (7) wood doors with two 12"x18" windows (See Photograph 1 and 3). All new doors shall be a solid one piece door similar to as shown in Photograph 2. Double doors are not acceptable.



Photograph 1: Existing Barn Style Door with Window



Photograph 2: Sample of Proposed Barn Style Door



Photograph 3: Sample of Proposed Barn Style Door

CONSTRUCTION

The Contractor will provide subcontractor information and proposed door styles and material for review and approval by the owner and/or engineer prior to start of work related to the doors. The removal and replacement of the 13 doors shall be made a priority and shall be started immediately after the preconstruction meeting and installed within 6 - 8 weeks.

Custom Door Manufacturer Example:

King Construction Co. LLC or approved equal
525 Hollander Road
New Holland, PA 17557
1-888-354-4740

The contractor is responsible to measure the openings and provide a new door that is properly sized to eliminate drafts within the barn. The Contractor shall meet with the owner and/or engineer prior to fabricating the doors to ensure that the goals and needs of the owner are known and met by this work. The Contractor will be responsible for all carpentry work related to fabrication of the doors and installation of the new doors. This work shall include all material to properly install the doors to ensure that they are plumb, square and that the doors roll freely on the rail system. The contractor is responsible to remove and replace any and all lumber and masonry materials and shall restore in kind the finishes of the buildings.

QUANTITY AND PAYMENT

Quantity and Payment for Sliding Wood Barn Doors will be paid out of the **BID CONTINGENCY** in the proposal through a negotiated price between the owner and/or engineer.

-- END OF SECTION --

DIVISION 16 - ELECTRICAL

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SECTION 16010 - BASIC ELECTRICAL REQUIREMENTS

This Section specifies the basic requirements for electrical installations and includes requirements common to more than one section of Division 16.

Electrical Installations:

It is the intent of this Section that all equipment and devices, furnished and installed under this and other Sections, be properly connected and interconnected with other equipment so as to render the installations complete for successful operation, regardless of whether all the connections and interconnections are specifically mentioned in the Specifications or shown on the Drawings.

The Contractor shall provide a complete electrical installation including all electrical equipment, labor, material, tools, transportation, procurement of all necessary permits, certificates and other incidentals services, whether described in these specifications and Drawings or not, to provide a satisfactory operating electrical installation.

All work shall be performed in strict compliance with the applicable State and Local Codes and the latest edition of the National Electrical Code of the National Fire Protection Association, and the OSHA Standards.

Obtain all permits required to complete the work and, upon completion of the work, obtain and deliver to the Engineer a Certificate of Inspection and Approval from the State Board of Fire Underwriters or other authority having jurisdiction. Pay all fees and costs associated with the securing of all required certificates and permits. These fees and costs shall be included in the bid price.

All work, equipment and materials furnished shall conform with the existing rules, requirements and specifications of the Insurance Rating Organization having jurisdiction, National Electrical Code (NEC), National Electrical Manufacturer's Association (NEMA), Institute of Electrical and Electronic Engineers (IEEE), Insulated Cable Engineers Association (ICEA), American Society of Testing Materials (ASTM), American National Standards Institute (ANSI), Illuminating Engineering Society (IES), the requirements of the Occupational Safety Hazards Act (OSHA), and all other applicable Federal, State and local laws and/or ordinances, most stringent shall apply.

All materials and equipment shall bear the inspection labels of Underwriters' Laboratories, if the material or equipment is of the class inspected by said laboratory.

Any paragraph of requirements in these specifications, or Drawings, deviating from the rules, requirements and specifications of the above organizations shall be invalid and their requirements shall hold precedent thereto. The Contractor shall be held responsible for adherence to all rules, requirements and specifications as set forth above. Any additional work or material necessary for adherence will no be allowed as an extra, but shall be included in the bid price. Ignorance of any rule, requirement or specification shall not be allowed as an excuse for non-conformity.

Acceptance by the Engineer or Owner does not relieve the contractor from the expense involved for the correction of any errors which may exist on the drawings submitted or in the satisfactory operation of any equipment.

Coordinate electrical equipment and materials installation with other building components.

Verify all dimensions by field measurements.

Arrange for chases, slots and openings in other components to allow for electrical installations.

Coordinate the installation of required supporting devices and sleeves to be set in poured in place concrete and other structural components, as they are constructed.

Sequence, coordinate and integrate installation of electrical materials equipment for efficient flow of the Work. Give particular attention to large equipment requiring positioning.

Coordinate the cutting and patching to accommodate the installation of electrical equipment and materials.

Where mounting heights are not detailed or dimensioned, install electrical services and overhead equipment to provide the maximum headroom possible.

Install electrical equipment to facilitate maintenance and repair or replacement of equipment components. As much as practical, connect equipment for ease of disconnecting, with minimum of interference with other installations.

Coordinate the installation of electrical materials and equipment and structural components.

Coordinate connection of electrical systems with exterior underground and overhead utilities and services. Comply with requirements of governing regulations, franchised service companies, and controlling agencies. Provide required connection for each service.

The Drawings are not intended to serve as working or installation drawings. These drawings are for engineering and general arrangement purposes only. The Contractor shall maintain a record set of drawings showing his own work based on the Drawings. These drawings shall show all details of construction, such as dimensioned equipment and conduit layouts, and similar drawings depicting the construction and installation work performed.

Electrical Coordination Drawings:

Prepare and submit a set of coordination drawings showing major elements, components and systems of electrical equipment and materials in relationship with other components. Prepare drawings to an accurate scale of 1/4" = 1'0" or larger. Indicate the locations of all equipment and materials, including clearances for servicing and maintaining equipment. Indicate movement and positioning of large equipment during construction. Coordination drawings are to be prepared and submitted before any work is started.

Prepare plans, elevations, sections and details to conclusively coordinate and integrate all installations. Indicate locations where space is limited, and where sequencing and coordination of installations are of importance to the efficient flow of the Work, including (but not necessarily limited to) the following:

Equipment Layouts:

Specific equipment installations, including but not limited to, the following:

- Generators
- Substations
- Main Switchgear
- Ductbanks
- Transformers
- Switchboards and Panelboards
- Equipment Connections
- Control panels
- Conduits

Wiring Diagrams: indicating field installed electrical power and control wiring and cabling layouts, overcurrent protective devices, equipment and equipment connections.

Work in pipe spaces, chases, trenches and tunnels

Exterior wall penetrations

Ceiling plenums which contain piping, ductwork or equipment in congested arrangement

Exterior underground lines

Cutting and Patching:

This Article specifies the cutting and patching of electrical equipment, components, and materials to include removal and legal disposal of selected materials, components and equipment.

Do not endanger or damage installed Work through procedures and processes of cutting and patching.

Arrange for repairs required to restore other work, because of damage caused as a result of electrical installations.

No additional compensation will be authorized for cutting and patching work that is necessitated by ill-timed, defective or non-conforming installations.

Perform cutting, fitting and patching of electrical equipment and materials required to:

Uncover work to provide for installation of ill-time work

Remove and replace defective work

Remove and replace work not conforming to requirements of the Contract Documents

Remove samples of installed work as specified for testing

Install equipment and materials in existing structures

Upon written instructions from the Architect/Engineer, uncover and restore work to provide for Architect/Engineer observation of concealed work

Cut, remove to source and make safe and legally dispose of selected electrical equipment, components and materials as indicated, including, but not limited to, removal of electrical items indicated to be removed and items made obsolete by the new Work

Protect the structure, furnishings, finishes and adjacent materials not indicated or scheduled to be removed.

Electrical Submittals:

The Contractor shall furnish for review of the Engineer six (6) sets of each of the manufacturer's specifications, drawings, operating and maintenance instructions and any other data required to provide a complete description of the equipment being supplied and the construction to be performed.

These sets shall be in addition to those required for the Contractor's use. The contractor shall also furnish samples of electrical construction material such as conduit and cable, etc., if instructed to do so by the Engineer.

Installation of materials, or equipment before review and acceptance by the Engineer will be at the Contractor's risk. Equipment or materials installed by the Contractor and not accepted by the Engineer will be removed and replaced at the expense of the Contractor.

The Contractor shall furnish six (6) sets each of detailed shop drawings, including elementary and connection wiring diagrams, in addition to those required for his own use. All wiring diagrams shall bear wire numbers required for his own use. All wiring diagrams shall bear wire numbers using a uniform numbering method so that wiring can be easily followed.

Product Listing:

Prepare listing of major electrical equipment and materials for the project. Provide all information requested.

When two or more items of the same material or equipment are required, they shall be of the same manufacturer. Product manufacturer uniformity does not apply to raw materials, bulk materials, wire, conduit, fittings, sheet metal, steel bar stock, welding rods, solder, fasteners, and similar items used in Work, except as otherwise indicated.

Provide products which are compatible within systems and other connected items.

Nameplate Data:

Provide permanent operational data nameplate on each item of power operated equipment, indicating manufacturer, Product name, model number, serial number, capacity, operating and power characteristics, labels of tested compliances and similar essential data. Locate nameplates in an accessible locations.

Delivery, Storage and Handling:

Delivery products and project properly identified with names, model numbers, types, grades, compliance labels, and similar information needed for distinct identifications; adequately packaged and protected to prevent damage during shipment, storage and handling.

Store equipment and materials at the site, unless off-site storage is authorized in writing. Protect stored equipment and materials from damage.

Coordinate deliveries of electrical materials and equipment to minimize construction site congestion. Limit each shipment of materials and equipment to the items and quantities needed for smooth and efficient flow of installations.

Mark Drawings to indicate revisions to conduit size and location both exterior and interior; actual equipment locations; concealed equipment; distribution and branch electrical circuitry; fuse and circuit breaker size and arrangements; support and hanger details; change orders; concealed control system devices.

Mark specifications to indicate approved substitutions; change orders; actual equipment and materials used.

Operations and Maintenance Data:

Description of function, normal operating characteristics and limitations, performance curves,

engineering data and tests, and complete nomenclature and commercial numbers of all replaceable parts.

Manufacturer's printed operating procedures to include start-up, break-in, routine and normal operating instructions; regulation, control, stopping, shut-down and emergency instructions and summer and winter operating instructions.

Servicing instructions and lubrication charts and schedules.

Warranties:

Compile and assemble the warranties specified in Division 16, into a separate set of vinyl covered, three ring binders, tabulated and indexed for easy reference.

Provide complete warranty information for each item to include Product or equipment to include date of beginning of warranty or bond; duration of warranty or bond; and names, addresses and telephone numbers and procedures for filing a claim and obtaining warranty services.

Cleaning:

Clean all light fixtures, lamps and lenses prior to final acceptance. Replace all inoperative lamps.

After completion of the work, the Contractor shall furnish to the Engineer a complete set of Record Drawings "As-Built" reproducible tracings of all electrical construction drawings, such as conduit layouts, interconnection and elementary wiring diagrams. Record drawings furnished upon completion of the work shall be corrected to show any deviations from the drawings.

In addition, the Contractor shall furnish one set of manufacturer's drawings and operating instruction marked to reflect "As-Built" conditions. This data shall also be furnished to the Engineer.

All Record Drawings submitted to the Engineer shall be so marked by ½" high letters as follows "RECORD DRAWING". In addition, the Contractor's name shall appear on the drawings along with the signature of the person who prepared same and the date prepared shall also be affixed thereto.

Guarantee:

The Contractor shall guarantee that all work installed by him is free from any and all defects in workmanship and/or materials, and that all apparatus will develop the capacities and characteristics specified. He further guarantees that if, during a period of one year from the date of the certificate of completion and acceptance of his work, any such defects in workmanship, material or performance appear, such defects will be remedied by him without costs to the Owner.

If, in the opinion of the Engineer, remedial measures are not taken within a reasonable time, the Engineer or the Owner may have defects remedied and such costs charged to the Contractor.

SECTION 16015 - TESTING

The Contractor shall perform such tests as required for all component parts of the completed installation to demonstrate the satisfactory functioning of all equipment and wiring and the adequacy of the entire electrical system. Any equipment or materials which fail under test shall be repaired or replaced and then retested until satisfactory results are obtained, entirely at the expense of the contractor. The Contractor shall assume full responsibility for the proper functioning and quality of the entire electrical installation to the extent that any breakdowns, deficiencies or deteriorations caused by poor workmanship, equipment, materials or method of installation shall be promptly remedied, replaced or repaired by the contractor. Any corrections required during the guarantee period and established following a survey of the installation at the end of the guarantee period shall be modified as above. The terms of the guarantee are stipulated elsewhere in these specifications.

The contractor shall furnish all instruments with a qualified Technician from an outside testing firm to properly perform all tests required,. Written notice of all tests shall be given the Engineer at least ten (10) working days in advance.

Unless waived in writing by the Engineer, all tests shall be made in the presence of a duly authorized representative of the Engineer. When the presence of such representative is so waived, sworn statements, in duplicate, of the tests made and the results thereof, shall be furnished to the Engineer by the Contractor.

Cost of all tests shall be borne by the Contractor and shall be included in the Contract bid price.

All electrical circuits shall be tested to insure circuit continuity, insulation resistance, proper splicing and freedom from improper grounds.

All connections to be infrared tested after energizing and again after one month of carrying actual loads.

Necessary adjustment shall be made in cooperation with the manufacturer and other contractors when necessary. All tests shall be made in accordance with the latest standards of the ANSI.

"Megger" tests of insulation resistance on all new rotating machines shall be conducted. The results will be accepted when a Megger shows the insulation resistance to be not less than one megohm per 100 volts at 20EC. Utilize a 1,000V megger for equipment rated 600V or less. All motors shall be properly connected to protective devices and controls.

"Megger" tests of the insulation resistance of all power feeders shall be conducted. The results will be accepted when the megger shows the insulation resistance to be not less than one megohm per 100 volts at 20EC using a megger. Utilize a 1000V megger for cables rated 600V. Test reports shall indicate date, weather conditions, cable size, length of run and resistance observed on a per conductor basis. Test shall be conducted phase to phase, phase to neutral and phase to ground for all feeders and branch circuits.

Test results shall be given in "Ohms" at 20°C ambient. All tests and resistance readings shall be made per the applicable ANSI Standards which apply.

The grounding system shall have a resistance to ground of five (5) ohms or less when measured by a fall of potential ground resistance test, I.E.E.E. Standard No. 81, Section 9.04. Two (2) additional reference ground rods must be driven away from the ground under test. The ground under test and the reference ground rods shall be connected to the test instrument with insulated lead wires. Tests shall not be conducted when the soil within a 10 foot radius of the ground under test is water logged or has been subjected to chemical additives.

Before energizing any motor, the overload heaters and relays shall be checked for manufacturer recommendations based on actual motor nameplate full load current. Motor voltage requirements shall also be confirmed.

All motors shall be properly connected to protective devices and controls to give proper motor acceleration and correct motor rotation. The control wiring shall be properly interconnected to all the control devices associated with a machine, a group of machines, or the device to produce the correct operation, timing and/or sequencing of the equipment.

The equipment shall then be given an operational test to determine that all components including motors, controls protective and switching devices and auxiliary associated equipment are in an operable condition and can function as described and shown on relevant specifications, operating instructions and drawings.

Motor currents shall be recorded and the Engineer shall be advised as soon as possible of any unbalance or value above 5% of nameplate full load. Overload heater ratings or relay settings shall not be increased in size or setting if trip occurs. The Engineer shall be informed of such trips and the contractor shall be advised accordingly.

Four (4) copies each of all test results shall be forwarded to the Engineer by the Contractor for review and record purposes.

No equipment shall be energized until all tests and adjustments have been made to the satisfaction of the Engineer and the Owner.

Tests shall be witnessed by the Engineer. The cause of any failure shall be impartially examined by the Engineer and the results shall be binding on the Contractor, if in the Engineer's judgement such failure was caused by poor workmanship, materials and/or equipment provided by the Contractor.

SECTION 16110 - RACEWAYS

NEMA Compliance: Comply with applicable requirements of NEMA standards pertaining to raceways.

UL Compliance and Labeling: Comply with provisions of UL safety standards pertaining to electric raceway systems; and provide products and components which have been UL-listed and labeled.

NEC Compliance: Comply with NEC requirements as applicable to construction and installation of raceway systems.

Conduit and Tubing:

General: Provide metal and nonmetallic conduit, tubing and fittings of types, grades, sizes and weights (wall thicknesses) for each service indicated. Where types and grades are not indicated, provide proper selection determined by Installer to fulfill wiring requirements, and comply with applicable portions of NEC for raceways.

Rigid Metal Conduit: Provide rigid steel, zinc-coated, threaded type conforming to FS WW-C-581, ANSI C80.1 and UL 6. Provide zinc coating fused to inside and outside walls,

Intermediate Steel Conduit: Rigid intermediate grade (IMC) hot-dip galvanized conforming to FS WW-C-581 and UL 1242.

Rigid Metal Conduit Fittings: Cast malleable iron, galvanized or cadmium plated, conforming to FS W-F-408. Use Type 1 fittings for raintight connections, Type 2 fittings for concrete tight connections, and Type 3 fittings for other miscellaneous connections.

Electrical Metallic Tubing (EMT): FS WW-C-563, ANSI C80.3 and UL 797..

EMT Fittings: FS W-F-408.

Use Type 1 fittings for raintight connections.

Use Type 2 fittings for concrete tight connections.

Use Type 3 fittings for miscellaneous connections.

Flexible Metal Conduit: FS WW-C-566 and UL 1. Formed from continuous length of spirally wound, interlocked zinc-coated strip steel.

Flexible Metal Conduit Fittings: Provide conduit fittings for use with flexible steel conduit of threadless hinged clamp type.

Straight Terminal Connectors: One piece body, with female end with clamp and deep slotted machine screw for securing conduit, and male threaded end provided with locknut.

45° or 90° Terminal Angle Connectors: Two-piece body construction with removable upper section, female end with clamp and deep slotted machine screw for securing conduit and male threaded and provided with locknut.

Liquid-Tight Flexible Metal Conduit: Provide liquid-tight flexible metal conduit; constructed of single strip, flexible, continuous, interlocked and double-wrapped steel; galvanized inside and outside; coat with liquid-tight jacket of flexible polyvinyl chloride (PVC).

Electrical Plastic Conduit

Heavy Wall Conduit: Schedule 40, 90, UL rated, constructed of PVC and conforming to NEMA TC-2, for direct burial, or normal above ground use, UL listed and in conformity with NEC Article 347.

Extra Heavy Wall Conduit: Schedule 80, UL rated, constructed of PVC compound C-200 PVC, and UL listed in accordance with NEC Article 347 for direct burial or above ground use.

Thin Wall Conduit: Type A, UL rated for concrete encasement underground, constructed of PVC compound C-2000, and UL listed in accordance with NEC Article 347.

Conduit and Tubing Accessories: provide conduit, and tubing accessories of types, sizes and materials, complying with manufacturer's published product information, which mate and match conduit and tubing.

Conduit Bodies: Provide galvanized cast-metal conduit bodies of types, shapes and sizes as required to fulfill job requirements and NEC requirements. Construct conduit bodies with threaded conduit entrance ends, removable covers, either cast or of galvanized steel and corrosion-resistant screws.

Manufacturers: Provide conduit bodies of one of the following:

Appleton Electric; Div of Emerson Electric Co.
Arrow-Hart Div; Crouse-Hinds Co.
Bell Electric Div; Square D Co.
Gould, Inc.
O/Z Gedney Div; General Signal Co.
Spring City Electrical Mfg. Co.

Wireways:

General: Provide electrical wireways of types, grades, sizes and number of channels for each type of service as indicated. Provide complete assembly of raceway including, but not limited to, couplings, offsets, elbows, expansion joints, adapters, holddown straps, end caps and other components and accessories as required for complete system.

Lay-In Wireways: Construct lay-in wireways with hinged covers, in accordance with UL 870 and with components UL listed, including lengths, connectors and fittings. Design units to allow fastening hinged cover closed without use of parts other than standard lengths, fittings and connectors. Construct units to be capable of sealing cover in closed position with sealing wire. Provide wireways with knockouts.

Connectors: Provide wireway connectors suitable for "lay-in" conductors, with connector covers permanently attached that removal is not necessary to utilize the lay-in feature.

Finish: Protect sheet metal parts with rust inhibiting coating and baked enamel finish. Plate finish hardware to prevent corrosion. Protect screws installed toward inside of wireway with spring nuts to prevent wire insulation damage.

Raintight Troughs: Construct in accordance with UL 870, with components UL listed.

Construction: 16 gauge galvanized sheet metal parts for 4"x4" to 6"x6" sections, and 14-gauge parts for 8"x7" and larger sections. Provide knockouts only in bottom of troughs, with suitable adapters to facilitate attaching to other NEMA 3R enclosures. Do not use gasketing that can rip or tear during

installation, or would compromise raintight capability of the trough. Do not use cover screws that will protrude into the trough area and damage wire insulation.

Finish: Provide 14 gauge and 16 gauge galvanized sheet metal parts with corrosion-resistant phosphate primer and baked enamel finish. Plate hardware to prevent corrosion.

Conduits: Install concealed conduits in new construction work, either in walls or slabs. Run concealed conduits in existing work where practicable.

Use rigid steel zinc coated conduit where embedded in concrete, masonry, earth, or installed outdoors.

Use rigid steel zinc coated conduit in mechanical equipment rooms, electrical equipment rooms, penthouses, crawl spaces, service splines, ceiling plenum areas, kitchens or cafeterias and warehouse spaces below 18'-0" height and for main feeder circuits.

Use steel zinc coated EMT in offices, corridors, toilets, lunchroom areas, lab areas, and warehouse spaces above 18'-0" height.

Use flexible conduit in moveable partitions and from outlet boxes to recessed lighting fixtures and final 24" of connection to motors or control items subject to movement or vibration and in cells of precast concrete panels.

Use liquid-tight flexible conduit where subjected to one or more of the following conditions:

- Exterior location

- Moist or humid atmosphere where condensate can be expected to accumulate

- Corrosive atmosphere

- Subjected to water spray or dripping oil, water or grease

Surface Raceways and Wireways: Mechanically assemble metal enclosures and raceways to form continuous electrical conductor and connect to electrical boxes, fittings and cabinet as to provide effective electrical continuity and rigid mechanical assembly.

Where practicable, avoid use of dissimilar metals throughout system to eliminate possibility of electrolysis. Where dissimilar metals are in contact, coat all surfaces with corrosion inhibiting compound before assembling.

Install expansion fittings in all raceways wherever structural expansion joints are crossed.

Make changes in direction of raceway run with proper fittings, supplied by raceway manufacturer. Field bends of raceway sections are not permitted.

Properly support and anchor raceways for their entire length by structural materials. Raceways are not to span any space unsupported.

Use boxes as supplied by raceway manufacturer wherever junction, pull or devices boxes are required. Standard electrical "handy" boxes, etc., are not to be permitted for use with surface raceway installations.

SECTION 16120 - WIRES AND CABLES

NEC Compliance: Comply with applicable requirements of NEC for construction and installation of wires/cables and connectors.

UL Compliance: Comply with UL Stds 83 and 486A. Provide wiring/cabing and connector products which are UL listed and labeled.

NEMA/ICEA Compliance: Comply with NEMA/ICEA Stds Pub/No.'s WC-5 and WC-30.

IEEE Compliance: Comply with IEEE Stds 82 and 241 pertaining to wiring systems.

ASTM Compliance: Comply with ASTM B1, 2, 3, 8 and D-753. Provide copper conductors with conductivity of not less than 98% at 20 deg. C (68 deg. F).

FS Compliance: Comply with FS J-C-30 and W-S-610.

Manufacturers: Provide wire/cable products of one of the following (for each type of wire/cable and connectors):

Wire and Cable:	Apex Wire and Cable Corp. American Insulated Wire Corp American Wire and Cable Co. Anaconda-Ericsson Inc.; Wire and Cable Div. Belden Div; Cooper Industries Brand-Rex Div; Pyle National Co. Cerro Wire and Cable Corp. Cleveland Insulated Wire Co. General Cable Corp.	Helix Wire Corp. Hitemp Wires, Inc. Indiana Insulated Wire, Inc. Madison Wire and Cable Corp. Phelps Dodge Cable & Wire Co. Pirelli Cable Corp. Radix Wire Co. Rome Cable Corp. Southwire Company Triangle PWC, Inc.
Connectors:	AMP, Inc. Appleton Electric Co.; Emerson Electric Co. Burndy Corp. Brand-Rex Div; Pyle National Co. Electrical Products Div; Midland-Ross Corp. General Electric Co. Gould Inc.	Ideal Industries, Inc. Leviton Mfg. Co. 3M Company OZ/Gedney Co. Southport Industries, Inc. Square D Company Thomas and Betts Corp.

General: Provide electrical wires, cables and connectors of manufacturer's standard materials, as indicated by published product information; designed and constructed as recommended by manufacturer, for a complete installation, and for applications indicated. Except as otherwise indicated, provide copper conductors with conductivity of not less than 98% at 20 deg. C (68 deg. F).

Building Wires: Provide factory fabricated wires of sizes, ampacity ratings, and materials for applications and services indicated. Select from the following UL types, those wires which construction features which fulfill project requirements.

Type RHH: For dry locations, max. Operating temperature 90 deg. C (194 deg. F). Insulation, heat resistant rubber, outer covering, moisture-resistant, flame retardant, nonmetallic covering, conductor, annealed copper.

Type RHW: For dry and wet locations; max. Operating temperature 75 deg. C (167 deg. F). Insulation, moisture and heat resistant rubber; outer covering, moisture resistant, flame retardant, nonmetallic covering; conductor, annealed copper.

Type RUH: For dry locations; max. Operating temperature 75 deg. C (167 deg. F). Insulation, 90% unmilled, grainless rubber; outer covering, moisture resistant, flame retardant, nonmetallic covering; conductor, annealed copper.

Type RUW: For wet and dry locations; max. Operating temperature 60 deg. C (120 deg. F). Insulation, 90% unmilled, grainless rubber; outer covering, moisture resistant, flame retardant, nonmetallic covering; conductor, annealed copper.

Type THW: For dry and wet locations; max. Operating temperature 75 deg. C (167 deg. F). Insulation, flame retardant, moisture and heat resistant, thermoplastic; conductor, annealed copper.

Type THWN: For dry and wet locations; max. Operating temperature 75 deg. C (167 deg. F). Insulation, flame retardant, moisture and heat resistant, thermoplastic; outer covering, nylon jacket; conductor, annealed copper.

Type TW: For dry and wet locations; max. Operating temperature 60 deg. C (140 deg. F). Insulation, flame retardant, moisture resistant thermoplastic, conductor, annealed copper.

Type XHHW: For dry locations; max. Operating temperature 90 deg. C (194 deg. F). Insulation, flame retardant, cross-linked synthetic polymer; conductor, annealed copper.

Type TBS: For switchboard wiring only; max. Operating temperature 90 deg. C (194 deg. F). Insulation, thermoplastic; outer covering, flame retardant, nonmetallic covering; conductor, annealed copper.

Type MI: For wet and dry locations; max. Operating temperature 85 deg. C (185 deg. F). Insulation, magnesium oxide; outer covering, copper sheath; conductor, annealed copper.

Cables: Provide UL-Type factory fabricated cables of sizes, ampacity ratings, materials and jacketing/sheathing as indicated for services indicated. Select from the following types, those cables with construction features which fulfill project requirements:

Type MI: Mineral insulated, metal sheathed (copper) cable; used for services, feeders and branch circuits in hazardous locations; underground, indoors or outdoors. No used where exposed to destructive corrosive conditions.

Type MC: Metal clad cable; used for wet or dry locations; exposed or concealed; suitable for cable tray usage.

Type AC: Armored cable; used in dry locations for under-plaster extensions. Not for direct burial in earth.

Type SNM: Shielded nonmetallic sheathed cable; used in cable trays or in other raceways, and for hazardous conditions.

Type SE: Service entrance cable for above ground installation; flame retardant, moisture resistant.

Type USE: Service entrance cable for underground installation; moisture resistant, but does not have flame retardant covering.

Type UF: Underground feeder, metallic and nonmetallic armored types for direct burial; also used for interior wiring in wet, dry and corrosive locations.

NOTE: SPECIAL CABLE TYPES FOR PROJECT INDICATED ON DRAWING.

Connectors:

General: Provide UL type factory fabricated, metal connectors of sizes, ampacity ratings, materials, types and classes for applications and services indicated. Where not indicated, provide proper selection as determined by Installer to comply with project's installation requirements, NEC and NEMA standards. Select from the following, those types, classes, kinds and styles of connectors to fulfill project requirements:

Type: Pressure

Type: Crimp

Type: Threaded

Class: Insulated

Class: Non-Insulated

Kind: Copper (for Cu to Cu connection)

Kind: Aluminum-Copper (for Al to Cu connection)

Style: Butt connection

Style: Elbow connection

Style: Combined "T" and straight connection

Style: "T" connection

Style: Split bolt parallel connection

Style: Tap connection

Style: Pigtail connection

Style: Wirenut connection

Installation:

Install cables, wires and wiring connectors as indicated, in accordance with recognized industry installation practices. Comply with applicable requirements of NEC, UL and NEMA standards and with NECA's "Standard of Installation".

Coordinate wire/cable work including electrical raceway and equipment installation work, as necessary to properly interface installation of wires/cables with other work.

Install UL Type UF cable with nonmetallic outer jacketing, for underground feeders.

Install UL Type THW wiring in conduit for feeders and branch circuits.

Tighten electrical connectors and terminals, including screws and bolts, in accordance with manufacturer's published torque tightening requirements. If not indicated, tighten connectors and terminals to comply with tightening torques specified in UL Stds 486A and B.

Prior to energization, test wires and cables for continuity o circuitry, insulation resistance and for short circuits. Correct malfunctions when detected.

Subsequent to wire/cable hook-ups, energize circuitry and demonstrate functioning in accordance with requirements. Correct malfunctions, if any, and retest.

SECTION 16135 - ELECTRICAL BOXES AND FITTINGS

NEC Compliance: Comply with NEC as applicable to construction and installation of electrical wiring boxes and fittings.

NEC ARTICLE 370 APPLIES ABOVE.

UL Compliance: Comply with UL Std. Nos. 50, 514 series and 886. Provide electrical boxes and fittings which are UL listed and labeled.

NEMA Compliance: Comply with applicable requirements of NEMA Stds/Pub No.'s OS1, OS2 and Pub 250.

Federal Specification Compliance: COMPLY with applicable requirements of FS W-C-586, "Electrical Cast Metal Conduit Outlet Boxes, Bodies and Entrance Caps".

Fabricated Materials:

Outlet Boxes: Provide galvanized coated flat rolled sheet steel Outlet wiring boxes, of shapes, cubic inch capacities, and sizes, including box depths as indicated, suitable for installation at respective locations. Construct Outlet boxes with mounting holes, and with cable and conduit size knockout openings in bottom and sides. Provide boxes with threaded screw holes, with corrosion resistant cover and grounding screws for fastening surface and device type box covers and for equipment type grounding.

OUTLET Box Accessories: PROVIDE Outlet box accessories as required for each installation, including box supports, mounting ears and brackets, wallboard hangers, box extension rings, fixture studs, cable clamps and metal straps for supporting Outlet boxes, which are compatible with Outlet boxes being used to fulfill installation requirements for individual wiring situations. Choice of accessories is Installer's code compliance option.

Device Boxes: Provide galvanized coated flat rolled sheet steel non-gangable device boxes of shapes, cubic inch capacities and sizes, including box depths as indicated, suitable for installation at respective locations. Construct device boxes for flush mounting with mounting holes, and with cable size knockout openings in bottom and ends, and with threaded screw holes in end plates for fastening devices. Provide cable clamps and corrosion-resistant screws for fastening cable clamps, and for equipment type grounding.

Device Box Accessories: Provide device box accessories as required for each installation, including mounting brackets, device box extensions, switch box supports, plaster ears and plaster board expandable grip fasteners, which are compatible with device boxes being utilized to fulfill installation requirements for individual wiring situations. Choice of accessories is Installer's code compliance option.

Manufacturers: PROVIDE interior Outlet boxes of one of the following (for each type interior box):

Adalet-PLM Div, Scott Fetzer Co.
Appleton Electric; Emerson Electric Co.
Bell Electric; Square D Company
Eagle Electric Mfg. Co., Inc.
Midland-Ross Corp.
OZ/Gedney; General Signal Co.
Pass and Seymour, Inc.

RACO Div; Harvey Hubbell Inc.
Thomas & Betts Co.

Raintight Outlet Boxes: Provide corrosion-resistant cast metal raintight Outlet wiring boxes, of types, shapes and sizes, including depth of boxes with threaded conduit holes for fastening electrical conduit, cast-metal face plates with spring-hinged watertight caps suitably configured for each application, including face plate gaskets and corrosion-resistant plugs and fasteners.

Manufacturers: Provide raintight Outlet boxes on one of the following:

Appleton Electric; Emerson Electric Co.
Arrow-Hart Div; Crouse-Hinds Co.
Bell Electric; Square D Company
Eagle Electric Mfg. Co., Inc.
Gould, Inc.
Harvey Hubbell, Inc.
OZ/Gedney; General Signal Co.
Pass and Seymour, Inc.

Junction and Pull Boxes: Provide galvanized code-gauge sheet steel junction and pull boxes, with screw-on covers; of types, shapes and sizes, to suit each respective location and installation; with welded seams and equipped with stainless steel nuts, bolts, screws and washers.

Manufacturers: Provide junction and pull boxes of one of the following (for each type junction and pull box):

Adalet-PLM Div, Scott Fetzer Co.
Appleton Electric; Emerson Electric Co.
Arrow-Hart Div; Crouse-Hinds Co.
Bell Electric; Square D Company
GTE Corporation
Keystone Columbia, Inc.
OZ/Gedney; General Signal Co.
Spring City Electrical Mfg. Co.

Floor Boxes: Provide cast-iron raintight adjustable floor boxes as indicated, with threaded-conduit-entrance ends, and vertical adjusting rings, gaskets, brass floor plates with flush screw-on covers with ground flange and stainless steel cover screws.

Poke-Throughs: Provide factory pre-wired poke-through units, suitable for power and communication work, with UL fire resistance rating of three hours. Construct integral fire-stop with cold smoke barrier to prevent passage of smoke where heat is not present.

Manufacturers: Provide floor boxes of one of the following (for each type floor box):

Arrow-Hart Div; Crouse-Hinds Co.
Harvey Hubbell, Inc.
Midland-Ross Corp.
Nelson Electric; General Signal Co.
Pyle-National Co.
Spring City Electrical Mfg. Co.
Square D. Company

Bushings, Knockout Closures and Locknuts: Provide corrosion resistant box knockout closures, conduit locknuts and malleable iron conduit bushings, offset connectors, of types and sizes, to suit respective installation requirements and applications.

Manufacturers: Provide bushings, knockout closures, locknuts and connectors of one of the following:

Adalet-PLM Div; Scott Fetzer Co.
AMP, Inc.
Arrow-Hart Div; Crouse-Hinds Co.
Appleton Electric Co.; Emerson Electric Co.
Bell Electric; Square D Co.
Midland-Ross Corp.
Midwest Electric; Cooper Industries, Inc.
OZ/Gedney Co.; General Signal Co.
RACO Div; Harvey Hubbell Inc.
Thomas & Betts Co., Inc.

Installation:

Install

electrical boxes and fittings as indicated, in accordance with manufacturer's written instructions, applicable requirements of NEC and NECA's "Standard of Installation", and in accordance with recognized industry practices to fulfill project requirements.

Coordinate installation of electrical boxes and fittings with wire/cable, wiring devices, and raceway installation work.

Provide weathertight outlets for interior and exterior locations exposed to weather or moisture.

Install electrical boxes in those locations which ensure ready accessibility to enclosed electrical wiring.

Avoid installing aluminum products in concrete.

Position recessed Outlet boxes accurately to allow for surface finish thickness.

Set floor boxes level and flush with finish flooring material.

Fasten electrical boxes firmly and rigidly to substrates, or structural surfaces to which attached, or solidly embed electrical boxes in concrete or masonry.

BOX SUPPORT MUST BE INDEPENDENT OF CONDUIT.

Provide electrical connections for installed boxes.

Ground electrical boxes properly upon completion of installation work and demonstrate compliance with requirements.

SECTION 16142 - ELECTRICAL CONNECTIONS FOR EQUIPMENT

NEC Compliance: Comply with applicable requirements of NEC.

UL Compliance: Comply with UL Std 486A. Provide electrical connection products and materials which are UL-listed and labeled.

ANSI Compliance: Comply with applicable requirements of ANSI/NEMA and ANSI/EIA standards pertaining to products and installation of electrical connections.

IEEE Compliance: Comply with requirements of Std 241 pertaining to connectors and terminations.

Manufacturers: Provide connection products of one of the following (for each type of connector):

Adalet-PLM Div, Scott and Fetzer Co.
 Allen-Stevens Conduit Fittings Corp.
 AMP Incorporated
 Appleton Electric Co.
 Arrow-Hart Div, Crouse-Hinds Co.
 Atlas Technologies, Inc.
 Bishop Div, General Signal Corp.
 Burndy Corporation
 Eagle Electric Mfg Co., Inc.
 Electroline Mfg Co.
 Gardner Bender, Inc.
 General Electric Co.
 Gould, Inc.
 Harvey Hubbell Inc.
 Ideal Industries, Inc.
 Pyle National Co.
 Reliable Electric Co.
 Square D Company
 Thomas and Betts Corp.

General: For each electrical connection indicated, provide complete assembly of materials, including pressure connectors, terminals (lugs), electrical insulating tape, electrical solder, electrical soldering flux, heat-shrinkable insulating tubing, cable ties, solder less wirenuts, and other items and accessories as needed to complete splices and terminations of types indicated.

Materials:

Raceways: Provide metal conduit and tubing complying with Division 16 Basic Electrical Materials and Methods section, "Raceways".

General: Provide metal conduit, tubing and fittings of types, grades, sizes and weights (wall thicknesses) indicated for each type service. Where types and grades are not indicated, provide proper selection determined by Installer to fulfill wiring requirements; and comply with NEC requirements for raceways.

Rigid Aluminum Conduit: FS WW-C-540 and ANSI C80.5.

Rigid Steel Conduit: FS WW-C-581 and ANSI C80.1.

PVC Externally Coated Rigid Steel Conduit: ANSI C80.1 and NEMA Std Pub No. RN 1.

Rigid Metal Conduit Fittings: FS W-F-408.

Electrical Metallic Tubing (EMT): FS WW-C-563 and ANSI C80.3.

PVC Externally Coated Electrical Metallic Tubing (EMT): ANSI C80.3 and NEMA Std Pub No. RN 1.

EMT Fittings: FS W-F-408.

Flexible Metal Conduit: FS WW-C-566 of the following type:

Type I: Aluminum

Type II: Zinc-coated steel

Flexible Metal Conduit Fittings: FS W-F-406.

Liquid-tight Flexible Metal Conduit: Provide liquid-tight flexible metal conduit comprised of single strip, continuous, flexible, interlocked, double-wrapped steel, galvanized inside and outside; forming smooth internal wiring channel; with liquid-tight jacket of flexible polyvinyl chloride (PVC).

Liquid-tight Flexible Metal Conduit Fittings: FS W-F-406.

Wires/Cables: Provide wires, cables and conductors complying with Division 16 Basic Electrical Materials and Methods section, "Wires and Cables". Unless otherwise indicated, provide wires, cables and conductors for electrical connections which match, including sizes and ratings, wires, cables and conductors of those supplying power to equipment. Provide copper conductors with conductivity of not less than 98% at 20 deg. C (68 deg. F).

Connectors and Terminals: Provide electrical connectors and terminals which mate and match, including sizes and ratings, and are recommended by equipment manufacturer for intended applications.

Electrical Connection Accessories: Provide electrical insulating tape, heat-shrinkable insulating tubing and boots, electrical solder, electrical soldering flux, cable ties, wirenuts, lugs and clamps as recommended for use by accessories manufacturers for type services indicated.

Installation:

Install electrical connections as indicated, in accordance with connector manufacturer's written instructions and wiring diagrams, and complying with UL, NEC and NECA's "Standard of Installation".

Mate and match conductors of electrical connections for proper interface between electrical power supplies and installed equipment, wherever possible.

Maintain existing electrical service and feeders and operational facilities, unless otherwise indicated, or when authorized otherwise in writing by Owner, or Architect/Engineer.

Cover splices with electrical insulation material equivalent to, or of greater insulation resistivity rating, than electrical insulation rating of those conductors being spliced.

Trim cables and wires to be short as practicable and arrange routing to facilitate inspection, testing and maintenance.

Provide PVC coated conduit and fittings for highly corrosive atmospheres as indicated.

Provide flexible conduit for motor connections, and for other electrical equipment connections where subject to movement and vibration.

Tighten connectors and terminals, including screws and bolts in accordance with equipment manufacturers published torque tightening values for equipment connectors. Accomplish tightening by utilizing proper torquing tools. Where manufacturer's torquing requirements are not available, tighten connectors and terminals to comply with torquing values contained in UL's 486A.

Fasten identification markers to each electrical power supply wire/cable conductor which indicates their voltage, phase and feeder number in accordance with Division 16 section "Electrical Identification". Affix markers on each terminal conductor, as close as possible to the point of connection.

Test electrical connections to demonstrate capability and compliance with requirements upon completion of installation of connections. Ensure that phase of rotation fulfills requirement. Correct malfunctioning units at site, then retest to demonstrate compliance.

SECTION 16143 - WIRING DEVICES

NEC Compliance: Comply with NEC as applicable to installation and wiring of electrical wiring devices.

UL Compliance: Comply with applicable requirements of UL 20, 486A, 498 and 943 pertaining to installation of wiring devices. Provide wiring devices which are UL listed and labeled.

IEEE Compliance: Comply with applicable requirements of IEEE Std 241, "Recommended Practice for Electric Power Systems in Commercial Buildings", pertaining to electrical wiring systems.

Manufacturers: Provide products of one of the following (for each type and rating of wiring device):

Adalet-PLM Div, Scott and Fetzer Co.
 Allen-Bradley
 AMP Incorporated
 Appleton Electric Co.
 Arrow-Hart Div, Crouse-Hinds Co.
 Bryant Electric Co.
 Culter-Hammer, inc.
 Eagle Electric Mfg Co., Inc.
 Furnas Electric Co.
 General Electric Co.
 GTE Products Corp.
 Harvey Hubbell Inc.
 Ideal Industries, Inc.
 Leviton Mfg. Co.
 Pass and Seymour Inc.
 Slater Electric Company
 Square D Company
 Thomas and Betts Corp.
 Warker Parkersburg Div; Textron Inc.
 Wiremold Company

General: Provide factory-fabricated wiring devices, in types, colors and electrical ratings for applications indicated and which comply with NEMA Stds Pub/No. WD 1. Provide brown color devices and wall plates except as otherwise indicated; color selection to be verified by contractor with Architect/Engineer.

Receptacles:

General-Duty Duplex: Provide duplex general-duty type receptacles, 2-pole, 3-wire, grounding, with green hexagonal equipment ground screw, ground terminals and poles integrally connected to mounting yoke, 15 amperes, 125 volts with metal plaster ears; design for side and back wiring with spring loaded, screw activated pressure plate, with NEMA configuration 5-15R unless otherwise indicated.

General-Duty Simplex: Provide single general-duty type receptacles, 2-pole, 3-wire, grounding, with green hexagonal equipment ground screw, 20-amperes, 125-volts with metal plaster ears; design for side and back wiring with spring loaded, screw activated pressure plate, with NEMA configuration 5-20R unless otherwise indicated.

Heavy-Duty Duplex: Provide heavy-duty duplex receptacles, 2-pole, 3-wire, grounding, 15-amperes, 125-volts, with metal plaster ears, design for side and back wiring with spring loaded, screw activated pressure plate, with NEMA configuration 5-15R unless otherwise indicated.

Ground-Fault Circuit Interrupters: Provide "feed thru" type ground-fault circuit interrupters, with heavy duty duplex receptacles, capable of protecting connected downstream receptacles on single circuit, and of being installed in a 2¾" deep outlet box without adapter, grounding type UL rated Class A, Group 1, rated 20-amperes, 120 volts, 60 Hz; with solid-state ground-fault sensing and signaling; with 5 milliamperes ground-fault trip level; equip with NEMA configuration 5-15R.

Plugs and Connectors:

Plugs: Provide 15-amperes, 125-volts, 3-wire, grounding, armored cap plugs, parallel blades with cord clamp and 0.4" cord hole; match NEMA configuration with power sources.

Connectors: Provide 15-amperes, 125-volts, bakelite-body armored connectors, 3-wire, grounding, parallel blades, double wipe contact, with cord clamp, and 0.4" cord hole, match NEMA configuration to mating plug's.

Switches:

Snap: Provide general duty flush single pole toggle switches, 15 amperes, 120/277 volts AC, with mounting yoke insulated from mechanism, equip with plaster ears, switch handle, and side wired screw terminals.

Duplex Snap: Provide general duty flush double pole AC quiet switches, 15 amperes, 120/277 volts, with mounting yoke insulated from mechanism, equip with plaster ears, switch handles, side wired screw terminals with break off tab features, which allows wiring with separate or common feed.

Three Way: Provide general duty flush 3-way AC switches, 15 amperes, 120/277 volts, with mounting yoke insulated from mechanism, equip with plaster ears, lock type switch handles, side wired screw terminals, with break off tab features, which allows wiring with separate or common feed.

Four Way: Provide general duty flush 4-way AC quiet switches, 15 amperes, 120/277 volts, with mounting yoke insulated from mechanism, equip with plaster ears, switch handles, side wired screw terminals, with break off tab features, which allows wiring with separate or common feed.

Touch Snap: Provide soft touch snap switches, capable of effortless fingertip operation; single pole AC quiet, with lighted rocker switch handles; side wire screw terminals for connecting copper clad aluminum wire, 20 amperes, 120/277 volts rating, equip with plaster ears.

Combination Devices: Provide general duty 3-way quiet switch, 20 amperes, 120/277 volts AC, with toggle switch handle, and 3-wire grounding receptacle, 20 amperes, 120 volts, equip with plaster ears, and with break off tab feature which allows wiring with separate or common feed, with NEMA configuration 5-20R.

Wiring Device Accessories:

Wall Plates: Provide wall plates for single and combination wiring devices, of types, sizes and with ganging and cutouts as indicated. Select plates which mate and match wiring devices to which attached. Construct with metal screws for securing plates to devices; screw heads colored to match finish to plates; wall plates colored to match wiring devices. Provide plates possessing the following additional construction features:

Material and Finish: Steel plate with wrinkled finish, baked-on white insulating enamel

Material and Finish: 0.04" thick type 302 satin finished stainless steel

Material and Finish: 0.04" thick brass, brushed
Material and Finish: 0.04" thick brass, satin chrome plated
Material and Finish: 0.05" thick aluminum, anodized
Material and Finish: Steel plate, galvanized
Material and Finish: Plastic, ribbed
Material and Finish: Plastic, smooth

Installation:

Install wiring devices as indicated, in accordance with manufacturer's written instructions and applicable requirements of NEC and NECAs "Standard of Installation".

Install wiring devices after wiring work is completed.

Tighten connectors and terminals, including screws and bolts, in accordance with equipment manufacturer's published torque tightening values for wiring devices. Where manufacturer's torquing requirements are not indicated, tighten connectors and terminals to comply with tightening torques specified in UL Stds 486A and B. Use properly scaled torque indicating hand tool.

Testing: Prior to energizing circuitry, test wiring for electrical continuity, and for short circuits. Ensure proper polarity of connections is maintained. Subsequent to energization, test wiring devices to demonstrate compliance with requirements.

SECTION 16170 - CIRCUIT AND MOTOR DISCONNECTS

NEC Compliance: Comply with NEC requirements pertaining to construction and installation of electrical circuit and motor disconnect devices.

ARTICLE 430, ET AL., APPLIES ABOVE

UL Compliance: Comply with requirements of UL 98 "Enclosed and Dead Front Switches". Provide circuit and motor disconnect switches which have been UL listed and labeled.

NEMA Compliance: Comply with applicable requirements of NEMA Stds Pub No. KS 1, "Enclosed Switches".

Manufacturers: Provide disconnect products of one of the following (for each type of device):

Crouse-Hinds Co.
Culter-Hammer, inc.
Federal pacific Electric Co.
Furnas Electric Co.
General Electric Co.
General Switch Corp.
GTE Sylvania Inc.
Square D Company
Westinghouse Electric Corp.

Fabricated Switches:

General Duty Disconnect Switches: Provide surface mounted, general duty type, sheet steel enclosed switches, of types, sizes and electrical characteristics indicated; rated 240 volts, 200 amperes, 60 Hz, with 3-blades, 3-poles; and incorporating spring assisted, quick-make, quick break switches which are so constructed that switch blades are visible in OFF position with door open. Equip with operating handle which is integral part of enclosure base and whose operating position is easily recognizable, and is capable of being padlocked in OFF position. Construct current carrying parts of high-conductivity copper, with silver tungsten type switch contacts, and stamped enclosure knockouts. Provide NEMA Type 1 enclosure.

Heavy Duty Safety Switches: Provide surface mounted, heavy duty type, sheet steel enclosed safety switches, of types, sizes and electrical characteristics indicated; fusible type, rated 600 volts, 400 amperes, 60 Hz, 3-blades, 4-poles solid neutral; and incorporating quick make, quick break type switches; construct so that switch blades are visible in OFF position with door open. Equip with operating handle which is integral part of enclosure base and whose operating position is easily recognizable, and is padlockable in OFF position; construct current carrying parts of high conductivity copper, with silver tungsten type switch contacts, and positive pressure type reinforced fuse clips provide NEMA Type 3R enclosure.

Fuses: Provide fuses for safety switches, as recommended by switch manufacturer, of classes, types and ratings needed to fulfill electrical requirements for service indicated.

Installation:

Install circuit and motor disconnect switches as indicated, complying with manufacturer's written instructions, applicable requirements of NEC, NEMA and NECA's "Standard of Installation" and in accordance with recognized industry practices.

Coordinate circuit and motor disconnect switch installation work with electrical raceway and cable work, as necessary for proper interface.

Install disconnect switches for use with motor driven appliances, and motors and controller within sight of controller position unless otherwise indicated.

SECTION 16190 - SUPPORTING DEVICES

NEC Compliance: Comply with NEC as applicable to construction and installation of electrical supporting devices.

MSS Compliance: Comply with applicable MSS standard requirements pertaining to fabrication and installation practices for pipe/conduit hangars and supports.

NECA Compliance: Comply with National Electrical Contractors Association's "Standard of Installation" pertaining to anchors, fasteners, hangers, supports, and equipment mounting.

UL Compliance: Provide electrical components and devices which are UL listed and labeled.

FS Compliance: Comply with Federal Specification FF-S-760 pertaining to retaining strap for conduit, pipe and cable.

Manufactured Supporting Devices:

General: Provide supporting devices which comply with manufacturer's standard materials, design and construction in accordance with published product information, and as required for complete installation; and as herein specified. Where more than one type of device fulfills indicated requirements, selection is Installer's option.

Supports: Provide supporting devices of types, sizes and materials indicated; and have the following construction features:

Clevis Hangers: For supporting 3" rigid metal conduit; galvanized steel with ½" diameter hole for round steel rod; approximately 54 pounds per 100 units.

Riser Clamps: For supporting 5" rigid metal conduit; black steel; with 2 bolts and nuts, and 4" ears; approximately 510 pounds per 100 units.

Reducing Couplings: Steel rod reducing coupling, ½" x 5/8"; black steel; approximately 16 pounds per 100 units.

C-Clamps: Black malleable iron; ½" rod size; approximately 70 pounds per 100 units.

I-Beam Clamps: Black steel, 1¼" x 3/16" stock; 3/8" cross bolt; flange width 2"; approximately 52 pounds per 100 units.

One-Hole Conduit Straps: For supporting 3/4" rigid metal conduit; galvanized steel; approximately 7 pounds per 100 units.

Two-Hole Conduit Straps: For supporting 3/4" rigid metal conduit; galvanized steel; 3/4" strap width; and 2" between center of screw holes.

Hexagon Nuts: For ½" rod size; galvanized steel; approximately 4 pounds per 100 units.

Round Steel Rod: black steel; ½" diameter; approximately 67 pounds per 100 feet.

Offset Conduit Clamps: For supporting 2" rigid metal conduit; black steel; approximately 200 pounds per 100 units.

Anchors: Provide anchors of types, sizes and materials indicated; and having the following construction features:

Lead Expansion Anchors: ½"; approximately 38 pounds per 100 units.

Toggle Bolts: Springhead; 3/16" x 4"; approximately 5 pounds per 100 units.

Manufacturers: Provide anchors of one of the following (for each type of anchor):

Abbeon Cal Inc.
Ackerman Johnson Fastening Systems Inc.
Elcen Metal Products Co.
Ideal Industries, Inc.
Joslyn Mfg and supply Co.
McGraw Edison Co.
Rawlplug Co., Inc.
Star Expansion co.
U.S. Expansion Bolt Co.

Sleeves and Seals: Provide sleeves and seals, including armored cable seals, of types, sizes and materials indicated, with the following construction features:

Wall and Floor Seals: Provide factory assembled watertight wall and floor seals, of types and sizes indicated; suitable for sealing around conduit, pipe, or tubing passing through concrete floors and walls. Construct seals with steel sleeves, malleable iron body, neoprene sealing grommets and rings, metal pressure rings, pressure clamps and cap screws.

Conduit Cable Supports: Provide cable supports with insulating wedging plug for non-armored type electrical cables in risers; construct for 2" rigid metal conduit; 3-wires, type wire as indicated; construct body of malleable iron casting with hot-dip galvanized finish.

U-Channel Strut Systems: Provide U-channel strut system for supporting electrical equipment, 12-gage hot-dip galvanized steel, of types and sizes indicated; construct with 9/16" holes, 8" o.c. on top surface, with standard green finish, and with the following fittings which mate and match with U-channel:

Fixture hangers
Channel hangers
End caps
Beam clamps
Wiring studs
Thin wall conduit clamps
Rigid conduit clamps
Conduit hangers
U-bolts

Manufacturers: Provide U-channel strut systems of one of the following (for each type system):

Allied Tube and Conduit Corp.
B-Line Systems, Inc.
Elcen Metal Products co.
Greenfield Mfg. Co., Inc.
Midland-Ross Corp.

OZ/Gedney Div; General Signal Corp.
Power-strut Div.; Van Huffel Tube Corp.
Unistrut Div.; GTE Products Corp.

Fabricated Supporting Devices:

Pipe Sleeves: Provide pipe sleeves of one of the following:

Sheet Metal: Fabricate from galvanized sheet metal; round tube closed with snaplock joint, welded spiral seams or welded longitudinal joint. Fabricate sleeves from the following gage metal: 3" and smaller, 20-gage; 4" to 6", 16-gage; over 6", 14-gage.

Steel Pipe: Fabricate from Schedule 40 galvanized steel pipe; remove burrs.

Iron Pipe: Fabricate from cast-iron or ductile iron pipe; remove burrs.

Plastic Pipe: Fabricate from Schedule 80 PVC plastic pipe; remove burrs.

Sleeve Seals: Provide sleeves for piping which penetrates foundation walls below grade, or exterior walls. Caulk between sleeve and pipe with non-toxic, UL classified caulking material to ensure watertight seal.

Installation:

Install hangers, anchors, sleeves and seals as indicated, in accordance with manufacturer's written instructions and with recognized industry practices. Comply with installation requirements of NECA and NEC pertaining to supporting devices.

Coordinate with other electrical work, including raceway and wiring work, as necessary to interface installation of supporting devices with other work.

Install hangers, supports, clamps and attachments to support piping properly from building structure. Arrange for grouping of parallel runs of horizontal conduits to be supported together on trapeze type hangers where possible. Install supports with spacings indicated and in compliance with NEC requirements.

Torque sleeve seal nuts, complying with manufacturer's recommended torquing values. Ensure sealing grommets expand to form watertight seal.

SECTION 16195 - ELECTRICAL IDENTIFICATION

UL Compliance: Comply with UL Std 969.

NEC and NEMA Compliance: Comply with NEC and NEMA No.'s WC-1 and WC-2.

ANSI Compliance: Comply with ANSI Std A13.1.

Manufacturer: Provide electrical identification products of one of the following (for each type marker):

Alarm Supply Co., Inc.
Brady, W.H. Co.
Calpico Inc.
Cole-Flex Corp.
Direct Safety Co.
George-Ingraham Corp.
Griffolyn Company
Ideal Industries, Inc.
LEM Products, inc.
Markal Company
National Band and Tag Co.
Panduit Corp.
Radar Engineers Div.; EPIC Corp.
Seton Name Plate Co.
Tesa Corp.

General: Except as otherwise indicated, provide manufacturer's standard products of categories and types required for each application. Where more than single type is specified for an application, selection is Installer's option, but provide single selection for each application.

Colored-Coded Conduit Markers: Provide manufacturer's standard pre-printed, flexible or semi-rigid, permanent, plastic sheet conduit markers, extending 360 degrees around conduits; designed for attachment to conduit by adhesive, adhesive lap joint of marker, matching adhesive plastic tape at each end of marker, or pre-tensioned snap-on. Except as otherwise indicated, provide lettering which indicates voltage of conductor(s) in conduit. Provide 8" minimum length for 2" and smaller conduit, 12" length for larger conduit.

Colors: Unless otherwise indicated or required by governing regulation, provide white markers with black letters.

Color Coded Plastic Tape: Provide manufacturer's standard self-adhesive vinyl tape not less than 3 mils thick by 1 1/2" wide.

Colors: Unless otherwise indicated, or required by governing regulations, provide orange tape.

Underground Type Plastic Line Marker: Manufacturer's standard permanent, bright colored, continuous printed plastic tape, intended for direct burial service, not less than 6" wide x 4 mils thick. Provide tape with printing which most accurately indicates type of service of buried cable.

Cable/Conductor Identification Bands: Provide manufacturer's standard aluminum wrap around cable/conductor markers of size required for proper application, and numbered to show circuit identification.

Plasticized Tags: Manufacturer's standard preprinted or partially preprinted accident prevention and operational tags, of plasticized card stock with matte finish suitable for writing, approximately 3 1/4" x 5", with brass grommets and wire fasteners and with appropriate preprinted wording including large size primary wording, e.g. DANGER, CAUTION, DO NOT OPERATE.

Self-Adhesive Plastic Signs: Provide manufacturer's standard, self-adhesive or pressure sensitive, pre-printed, flexible vinyl signs for operational instructions or warnings; of sizes suitable for application areas and adequate for visibility, with proper wording for each application, e.g. 208V, EXHAUST FAN, RECTIFIER.

Colors: Unless otherwise indicated, or required by governing regulations, provide white signs with black lettering.

Baked Enamel Danger Signs: Provide manufacturer's standard "DANGER" signs of baked enamel finish on 20-gauge steel; of standard red, black and white graphics; 14"x10" size except where 10"x7" is the largest size which can be applied where needed, and except where larger size is needed for adequate vision; with recognized standard explanation wording, e.g. HIGH VOLTAGE, KEEP AWAY, BURIED CABLE, DO NOT TOUCH SWITCH.

Engraved Plastic-Laminate Signs: Provide engraving stock melamine plastic laminate with black face and white core plies (letter color), complying with FS L-P-387, in sizes and thicknesses indicated. Engrave laminate with engraver's standard letter style of sizes and wording indicated, and punch for mechanical fastening except where adhesive mounting is necessary because of substrate.

Thickness: 1/8", except as otherwise indicated.

Fasteners: Self-tapping stainless steel screws, except contact-type permanent adhesive where screws cannot or should not penetrate substrate.

Lettering and Graphics: Coordinate names, abbreviations and other designations used in electrical identification work, with corresponding designations shown, specified or scheduled. Provide numbers, lettering and wording as indicated or, if not otherwise indicated, as recommended by manufacturers or as required for proper identification and operation/maintenance of electrical systems and equipment systems and equipment. Comply with ANSI A13.1 pertaining to minimum sizes for letters and numbers.

Installation:

Install electrical identification products as indicated, in accordance with manufacturer's written instructions and requirements of NEC.

Coordination: Where identification is to be applied to surfaces which require finish, install identification after completion of painting.

Regulations: Comply with governing regulations and requests of governing authorities for identification of electrical work.

Conduit Identification: Where electrical conduit is exposed in spaces with exposed mechanical piping which is identified by color-coded method, apply color-coded identification on electrical conduit in manner similar to piping identification. Except as otherwise indicated, use white as coded color for conduit.

Underground Cable Identification: During backfilling/topsoiling of each exterior underground electrical, signal or communication cable, install continuous underground type plastic line marker, located directly over buried line at 6" to 8" below finished grade. Where multiple small lines are buried in a common trench and do not exceed an overall width of 16", install a single line marker.

Install line marker for every buried cable, regardless of whether direct buried or protected in conduit.

Cable/Conductor Identification: Apply cable conductor identification, including voltage, phase and feeder number, on each cable/conductor in each box/enclosure/cabinet where wires of more than one circuit or communication/signal system are present, except when another form of identification (such as color coded conductors) is provided. Match identification with marking system used in panelboards, shop drawings, contract documents and similar previously established identification for project's electrical work.

Operational Identification and Warnings: Wherever reasonably required to ensure safe and efficient operation and maintenance of electrical systems, and electrically connected mechanical systems and general systems and equipment, including prevention of misuse of electrical facilities by unauthorized personnel, install self-adhesive plastic signs or similar equivalent identification instruction or warnings on switches, outlets and other controls, devices and covers of electrical enclosures. Where detailed instructions or explanations are needed, provide plasticized tags with clearly written messages adequate for intended purposes.

Danger Signs: In addition to installation of danger signs required by governing regulations and authorities, install appropriate danger signs at locations indicated and at locations subsequently identified by Installer of electrical work as constituting similar dangers for persons in or about project.

High Voltage: Install danger signs where it is possible, under any circumstances, for persons to come into contact with electrical power of voltages higher than 110-120 volts.

Critical Switches/Controls: Install danger signs on switches and similar controls, regardless of whether concealed or locked up, where untimely or inadvertent operation (by anyone) could result in significant danger to persons, or damage to or loss of property.

Equipment/System Identification: Install engraved plastic-laminate sign on each major unit of electrical equipment in building; including central or master unit of each electrical system including communication/control/signal systems, unless unit is specified with its own self-explanatory identification or signal system. Except as otherwise indicated, provide single line of text, ½" high lettering on 1 ½" high sign (2" high where 2 lines are required), white lettering in black field. Provide text matching terminology and numbering of the contract documents and shop drawings. Provide signs for each unit of the following categories of electrical work. All circuits shall be identified on panel door schedules. All circuits shall be identified on panel door schedules.

Panelboards, electrical cabinets and enclosures.

Access panel/doors to electrical facilities.

Major electrical switchgear.

Electrical substations.

Power transfer equipment.

Transformers.

Battery racks.

Install signs at locations indicated, or where not otherwise indicated, at location of best convenience of viewing without interference with operation and maintenance equipment. Secure to substrate with fasteners, except use adhesive where fasteners should not or cannot penetrate substrate.

SECTION 16420 - SERVICE ENTRANCE

Codes and Standards:

Electrical Code Compliance: Comply with applicable local code requirements of the authority having jurisdiction and NEC, including Articles 230, 250 and 338, as applicable to installation, and construction of service entrances.

NEMA Compliance: Comply with applicable construction and installation requirements of the following NEMA standards for service entrance equipment and accessories:

Stds Pub/No. AB 1:	Molded-Case Circuit Breakers
Stds Pub/No. AB 3:	Molded-Case Circuit Breakers and Their Application
Stds Pub/No. KS 1:	Enclosed Switches
Stds Pub/No. PB 2:	Deadfront Distribution Switchboards
Stds Pub/No. PB 2.2:	Application Guide for Ground-Fault Protective Devices for Equipment
Stds Pub/No. SG 3:	Low-Voltage Power Circuit Breakers
Stds Pub/No. SG 4:	Alternating Current High-Voltage Circuit Breakers
Stds Pub/No. SG 5:	Power Switchgear Assemblies

UL Compliance: Comply with construction and installation requirements of the following UL standards for service entrance equipment and accessories:

UL 50:	Electrical Cabinets and boxes
UL 489:	Molded-Case Circuit Breakers and Circuit Breaker Enclosures
UL 854:	Service Entrance Cables
UL 869:	Electrical Service Equipment

Provide service entrance equipment where necessary by code and accessories which are UL listed and labeled, and marked "SUITABLE FOR USE AS SERVICE EQUIPMENT".

IEEE Compliance: Comply with applicable requirements of IEEE Std 241 pertaining to service entrances.

ANSI Compliance: Comply with ANSI C2, "National Electrical Safety Code", installation requirements for above-ground service entrance conductors.

Schedule delivery of service entrance equipment which permits ready building ingress for large equipment components to their designated installation spaces. Coordinate delivery of equipment with the installation of other building components.

Coordinate the size and location of concrete equipment pads. Cast anchor bolt inserts into pad. Concrete, reinforcement, and form work requirements are specified in Division 3.

Maintenance Stock, Fuses: For types and ratings required, furnish additional fuses, amounting to one unit for every 10 installed units, but not less than 5 units of each.

Service Entrance Equipment:

General: Provide service entrance equipment and accessories; of types, sizes, ratings and electrical characteristics indicated, which comply with manufacturer's standard materials, design and construction in accordance with published product information, and as required for complete installation; and as herein specified.

Circuit Breakers: Except as otherwise indicated, provide circuit breakers and ancillary components, OF types, sizes, ratings and electrical characteristics indicated, which comply with manufacturer's standard design, materials, components and construction in accordance with published product information, and as required for a complete installation.

Air Circuit Breakers: Provide factory-assembled, electronically operated, low voltage air circuit breakers, 3-phase, 3-wire, back connected, 100% equipment rated, continuous current rating, 50,000 RMS symmetrical amperes interrupting capacity rating; and with 24 volts closing relays for operating breakers. Provide bolted type stationary-mounted breaker elements with NEMA Type 3R raintight enclosures. Construct with ground fault protection devices as integral part of breakers. Construct breaker with solid-state overcurrent trip devices; and equip circuit breakers with solid-state controls and programming units possessing the following operating features:

- Adjustable current setting
- Adjustable long-time pickup and delay
- Adjustable short-time pickup and delay
- Adjustable instantaneous pickup
- Adjustable ground fault pickup
- Overload and short circuit trip indicators
- Local and remote target indication

Circuit Breaker Accessories: Provide the following air circuit breaker accessories:

- Shunt trip
- Undervoltage release
- Bell alarm with lockout
- Auxiliary contacts
- Enclosure-mounted interlock

Current-Limiting Circuit Breakers: Provide molded case current limiting circuit breakers, 60 Hz, 3-poles, with interrupting ratings of 100,000 RMS, or less, symmetrical amperes,. Select breakers with common trip, and thermal magnetic circuitry with independently operating limiter elements in series with each pole, which automatically resets after circuit interruptions. Provide limiters with let-through current range. Construct with overcenter, trip-free toggle-type mechanism with quick-make, quick-break action and positive handle indication. Provide current-limiting breakers with permanent trip units containing individual thermal and magnetic trip elements in each pole.

Calibrate trip elements for 40 deg C ambient temperature. Select circuit breakers with mechanical screw type lugs for use with copper conductors.

Molded Case Circuit Breakers: Provide factory assembled, molded case circuit breakers of frame sizes indicated; 60 Hz, 3-poles with 75,000 RMS symmetrical interrupting ratings. Provide breakers with permanent thermal and instantaneous magnetic trips in each pole, and with fault-current limiting protection, ampere ratings as indicated. Construct with overcenter, trip-free, toggle-type operating mechanisms with quick-break action and positive handle trip indication. Provide push-to-trip button on enclosure cover for mechanically tripping circuit breakers. Construct breakers for mounting and operating in any physical position and operating in an ambient temperature of 40 deg C. Provide breakers with mechanical screw type removable connector lugs, AL/CU rated.

Internal Breaker Accessories: Provide the following internal circuit breaker accessories:

- Shunt trip
- Auxiliary contacts
- Alarm switch

Undervoltage trip

Solid-State Trip Circuit Breakers: Provide solid-state trip circuit breakers rated 60 Hz, 3-poles, with 100,000 RMS symmetrical ampere interrupting ratings. Construct breakers with ampere setting adjustment knobs for changing current carrying capability of units, and with ground-fault protection components with external neutral current transformer (CT). Provide electronic components for timing and monitoring internal currents and for initiating automatic tripping action. Construct with trip-free mechanisms, and with positive handle indication. Provide push-to-trip button on cover for mechanical tripping circuit breakers. Construct breakers for mounting in any physical position and operating in an ambient temperature of 40 deg C. Select breakers with mechanical screw type removable connectors, AL/CU rated.

Insulated Case Circuit Breakers: Provide factory-assembled, electronically operated, insulated case circuit breakers, 3-phase, 3-wire, back connected, 100% equipment rated, continuous current rating, 65,000 RMS symmetrical amperes interrupting capacity rating. Provide draw-out breaker elements. Construct with ground-fault protection sensors as integral part of breakers. Equip circuit breakers with solid-state controls and programming units possessing the following operating features:

- Adjustable current, long time delay
- Adjustable intermediate delay
- Ground-fault pickup and delay
- Adjustable instantaneous pickup
- Short time pickup and delay
- Overload, short circuit and ground fault target indicators
- Local and remote target indication

Circuit Breaker Accessories: Provide the following insulated case circuit breaker accessories:

- Shunt trip
- Undervoltage release
- Bell alarm with lockout
- Auxiliary contacts
- Enclosure mounted interlock

Interrupter Switches and Fuse Units: Provide interrupter switches and fuse units; consisting of 3-pole, single-throw switch with 3 power fuses; front mounted operating handle with mechanical interlock between switch and access door to fuses; with underground cable entry and set of terminal blocks, small wiring and ground bus, as indicated.

Fuses: Provide fuses complying with Division 16 Service and Distribution Section entitled "Fuses", in accordance with the following listed electrical characteristics:

- Class L time delay
- Class L fast acting
- Class RK1 time delay
- Class RK1 current-limiting
- Class J current-limiting
- Class RK5 time delay
- Class K5 one-time
- Class H
- Class T

Meter Sockets:

General: Provide meter sockets which comply with requirements of local utility company supplying electrical power to service entrance equipment of building project.

Manufacturers: Provide meter sockets of one of the following (for each type of meter):

Circle AW Products Co.
Duncan Electric Co., Inc.
Federal Pacific Electric Co.
General Electric Co.
GTE Sylvania Inc.
Square D Co.

Switches: Provide safety switches complying with Division 16 Basic Electrical Materials and Methods Section "Circuit and Motor Disconnects", in accordance with the following listing:

Heavy-Duty Safety Switches, provide with NEMA Type 1 enclosures

Cables/Wires: Provide cables/wires complying with Division 16 Basic Electrical Materials and Methods section "Wires and Cables" in accordance with the following listing:

Type SE, copper cable for above ground installation
Type USE, copper cable for underground installation

Raceways: Provide raceways complying with Division 16 Basic Electrical Materials and Methods section "Raceways" in accordance with the following listing:

Rigid Steel Conduit, and fittings

Service Entrance Accessories:

Service Entrance Caps: Provide service entrance cable caps, of types, sizes and number of cable holes indicated; with keyhole mounting brackets, suitable for use with Type SE cable. Construct of weather-resistant hot dip galvanized malleable iron, with clamping shoe in cap to hold cable, and with overlap cover to protect cables from weather.

Manufacturers: Provide service entrance caps of one of the following:

Allen-Stevens Conduit Fittings Corp.
Anchor Electric Co.
Burndy Corp.
Crouse-Hinds co.
Killark Elect Mfg Co.
Midland-Ross Corp.
OZ Gedney Co.
Raco Inc.
Thomas and Betts Corp.

Wall and Floor Seals: Provide wall and floor seals complying with Division 16 Basic Electrical Materials and Methods Section "Supporting Devices" in accordance with the following listing:

Wall and Floor Seals

Installation:

Install service entrance equipment as indicated, in accordance with equipment manufacturer's written instructions, and with recognized industry practices, to ensure that service entrance equipment fulfills requirements. Comply with applicable installation requirements of NEC and NEMA standards.

Install fuses, if any, in service entrance equipment.

Install ground-fault protection devices complying with electrical winding polarities indicated.

Install units on vibration isolators in accordance with Division 15 section; and comply with manufacturer's indicated method of installation.

Set field-adjustable GFP devices and circuit breakers for pickup and time current sensitivity ranges as indicated, subsequent to installation of devices and CB's.

Install fuses, of size indicated, in each switchgear.

Tighten electrical connectors and terminals, including screws and bolts, in accordance with equipment manufacturer's published torque tightening values of equipment connectors. Where manufacturer's torquing requirements are not indicated, tighten connectors and terminals to comply with tightening torques specified in UL Stds 486A and B, and the National Electrical Code.

Prior to energization of service entrance equipment, check accessible connections for compliance to manufacturer's torque tightening specifications.

Prior to energization of service entrance equipment, check with ground resistance tester, phase-to-phase and phase-to-ground insulation resistance levels to ensure requirements are fulfilled.

Prior to energization, check circuitry for electrical continuity, and for short-circuits.

Grounding: Provide equipment grounding connections for service entrance equipment as indicated. Tighten connections to comply with tightening torques specified in UL Std 486A to assure permanent and effective grounding.

Adjust operating mechanisms for free mechanical movement.

Touch up scratched or marred enclosure surfaces to match original finishes.

Demonstration: Upon completion of installation of service entrance equipment and electrical circuitry, energized circuitry and demonstrate capability and compliance with requirements. Where possible, correct malfunctioning units at site, then retest to demonstrate compliance; otherwise, remove and replace with new units and retest to demonstrate compliance.

SECTION 16452 - GROUNDING

Electrical Code Compliance: Comply with applicable local electrical code requirements of the authority having jurisdiction and NEC as applicable to electrical grounding and bonding, pertaining to systems, circuits and equipment.

UL Compliance: Comply with applicable requirements of UL 467, 486A and 869 pertaining to grounding and bonding of systems, circuits and equipment. Provide grounding and bonding products which are UL listed and labeled for their intended usage.

IEEE Compliance: Comply with applicable requirements and recommended installation practices of IEEE Standards 80, 81, 141 and 142 pertaining to grounding and bonding of systems, circuits and equipment.

Manufacturers: One of the following (for each type of grounding and bonding product):

Adalet-PLM Div; Scott Fetzer Co.
 Burndy Corporation
 Cadweld Div; Erico Products Inc.
 Crouse-Hinds Div; Cooper Industries
 Eagle Electric Mfg Co.
 Ideal Industries, Inc.
 Joslyn Corporation
 Okonite Company
 OZ Gedney Div; General Signal Corp.
 Thomas and Betts Corp.

Materials and Components:

General: Except as otherwise indicated, provide electrical grounding and bonding systems indicated; with assembly of materials, including, but not limited to, cables/wires, connectors, solder less lug terminals, grounding electrodes and plate electrodes, bonding jumper braid, surge arresters, and additional accessories needed for a complete installation. Where more than one type component product meets indicated requirements, selection is Installer=s option. Where materials or components are not indicated, provide products which comply with NEC, UL and IEEE requirements and with established industry standards for those applications indicated.

Conductors: Unless otherwise indicated, provide electrical grounding conductors for grounding system connections that match power supply wiring materials and are sized according to NEC.

Conductors: Copper cable, strand dia 0.045"; 0.187#/ft; 57,400 circular mils

Conductors: Copper solid strip; 0.051" thick; 1" wide

Conductors: Copper solid rod; 0.187#/ft.

Conductors: Copper cable, strand dia 0.045"; 14 strands

Conductors: Copper solid strip; 0.051" thick; 2" wide

Conductors: Copper solid rod; dia 0.162"

Bonding Jumper Braid: Copper braided tape, constructed of 30-gauge bare copper wires and properly sized for indicated applications.

Flexible Jumper Strap: Flexible flat conductor, 480 strands of 30-gauge bare copper wire; 3/4" wide, 92' long; 48,250 CM. Select braid with holes sized for 3/8" diameter bolts and protect braid with copper bolt hole ends.

Bonding Plates, Connectors, Terminals and Clamps: Provide electrical bonding plates, connectors, terminals, lugs and clamps as recommended by bonding plate, connector, terminal and clamp manufacturers for indicated applications.

Ground Electrodes and Plates:

Grounding Electrodes: Steel with copper welded exterior, 3/4" dia by 10 feet.

Plate Electrodes: Sheet copper plate, 20-gauge by 36" x 36" with 2 cable attachments sized as indicated for either 1/0 or 1/0 cables.

Electrical Grounding Connection Accessories: Provide electrical insulating tape, heat-shrinkable insulating tubing, welding materials, bonding straps, as recommended by accessories manufacturers for type of service indicated.

Field Welding: Comply with AWS Code for procedures, appearance and quality of welds; and methods used in correcting welding work. Provide welded connections where grounding conductors connect to undergrounding and plates electrodes.

Installation:

Install electrical grounding and bonding systems as indicated, in accordance with manufacturer's instructions and applicable portions of NEC, NECA's "Standard of Installation", and in accordance with recognized industry practices to ensure that products comply with requirements.

Coordinate with other electrical work as necessary to interface installation of electrical grounding and bonding system with other work.

Weld grounding conductors to underground grounding electrodes.

Ground electrical service system neutral at service entrance equipment to grounding electrodes.

Ground each separately-derived system neutral to:

Separate grounding electrode and water pipe or building steel.

Connect together system neutral, service equipment enclosures, exposed noncurrent carrying metal parts of electrical equipment, metal raceway systems, grounding conductor in raceways and cables, receptacle ground connectors and plumbing systems.

Terminate feeder and branch circuit insulated equipment grounding conductors with a grounding lug, bus or bushing.

Tighten grounding and bonding connectors and terminals, including screws and bolts, in accordance with manufacturer's published torque tightening values for connectors and bolts. Where manufacturer's torquing requirements are not indicated, tighten connections to comply with tightening torque values specified in UL 486A to assure permanent and effective grounding.

Route grounding connections and conductors to ground and protective devices in shortest and straightest paths as possible to minimize transient voltage rises.

Apply corrosion-resistant finish to field connections, buried metallic grounding and bonding products, and places where factory applied protective coatings have been destroyed, which are subjected to corrosive action.

Install clamp-on connectors to clean metal contact surfaces, to ensure electrical conductivity and circuit integrity.

Ground resistance shall be 5 OHMS or less.

SECTION 16460 - TRANSFORMERS

NEC Compliance: Comply with applicable requirements of NEC for electrical power/distribution transformers.

Standard Compliance: ANSI, IEEE, NEMA, NESC, and REA.

ANSI/UL Compliance: ANSI C57-Series and UL 506. Provide products which are UL listed and labeled.

Manufacturers: Provide transformers of one of the following (for each type of transformer):

Basler Electric Co.
Cutler Hammer Div; Eaton Corp.
Ferranti-Packard Inc.
General Electric Co.
Hevi-Duty Electric Div; General Signal Corp.
Siemens-Allis Inc.
Sorgel Electric Div; Square D Co.
Westinghouse Electric Corp.

General: Provide manufacturer's standard materials and components as indicated by published product information, designed and constructed as recommended by manufacturer and as required for complete installation.

Dry-Type Distribution Transformers (45 kVA or less): Provide factory-assembled, general purpose, air cooled, dry type distribution transformers where shown; of sizes, characteristics and rated capacities indicated; single-phase; 60 hertz, 30 kV BIL, 4.0% impedance with primary and secondary voltage as indicated, or three-phase; 60 hertz, 30 kV BIL, 4.0% impedance with primary and secondary voltage as indicated. Provide primary winding with 2 taps; both 5% increments below full-rated voltage for de-energized tap-changing operation. Insulate with Class 150 insulation and rate for continuous operation at kVA. Limit transformer surface temperature rise to maximum of 65 deg. C. Provide terminal enclosure, with cover, to accommodate primary and secondary coil wiring connections and electrical supply raceway terminal connector. Equip terminal leads with connectors installed. Limit terminal compartment temperature to 75 deg. C when transformer is operating continuously at rated load with ambient temperature of 40 deg. C. Provide wiring connectors suitable for copper or aluminum wiring. Cushion-mount transformers with external vibration isolation supports; sound level ratings not to exceed 45 db as determined in accordance with ANSI/NEMA standards. Electrically ground core and coils to transformer enclosure by means of flexible metal grounding strap. Provide transformers with fully enclosed sheet steel enclosures. Apply manufacturer's standard light gray indoor enamel over cleaned and phosphatized steel enclosure. Provide transformers suitable for wall mounting.

Installation:

Install transformers as indicated, in accordance with equipment manufacturer's written instruction and with NEC, NESC, ANSI, NEMA and IEEE standards.

Coordinate transformer work with electrical raceway and wire/cable work, as necessary for proper interface.

Install units on vibration mounts as shown, complying with manufacturer's indicated installation method if any.

Connect transformer units to electrical wiring system; comply with requirements of other Division 16 sections.

Tighten electrical connectors and terminals, including screws and bolts, in accordance with equipment manufacturer's published torque tightening values for equipment connectors. Where manufacturer's torquing requirements are not indicated, tighten connectors and terminals to comply with tightening torques specified in UL Std 486A and B.

Provide equipment grounding and bonding connections for transformers as indicated. Tighten connections to comply with tightening torques specified in UL Std 486A to assure permanent and effective grounding.

Test installed transformers to demonstrate capability and compliance with requirements. Field correct malfunctioning units, or replace units where not field correctable, and proceed with retesting.

SECTION 16470 - PANELBOARDS - STATION SERVICE

Codes and Standards:

Electrical Code Compliance: Comply with applicable local code requirements of the authority having jurisdiction and NEC Article 384 as applicable to installation, and construction of panelboards.

UL Compliance: Comply with applicable requirements of UL 67, "Electric Panelboards", and UL's 50, 869, 486A, 486B and 1053 pertaining to panelboards, accessories and enclosures. Provide panelboard units which are UL listed and labeled.

Special Use Markings: Provide panelboards, constructed for special use, with appropriate UL markings which indicates that special type of use/application.

NEMA Compliance: Comply with NEMA Stds Pub/No. 250, Pub/No. PB1, and Pub/No. PB 1.1 pertaining to panelboards.

Federal Specification Compliance: Comply with FS W-P-115, "Power Distribution Panel", pertaining to panelboards and accessories.

Manufacturers: Provide panelboard products of one of the following (for each type and rating of panelboard and enclosure):

Crouse-Hinds Company
 Cutler-Hammer Products, Eaton Corp.
 Federal Pacific Electric Co.
 General Electric Company
 Gould, Inc.
 Nelson Electric; Div of General Signal Corp.
 Parker Electrical Mfg Co.
 Siemens-Allis, Inc.
 Square D Company
 Westinghouse Electric Corp.

Panelboards:

General: Except as otherwise indicated, provide panelboards, enclosures and ancillary components of types, sizes and ratings indicated, which comply with manufacturer's standard materials; with the design and construction in accordance with published product information; equip with proper number of unit panelboard devices as required for complete installation. Where types, sizes or ratings are not indicated, comply with NEC, UL and established industry standards for those applications indicated.

Power Distribution Panelboards: Provide dead-front safety type power distribution panelboards as indicated, with panelboard switching and protective devices in quantities, ratings, types and with arrangement shown; with anti-turn solderless pressure type main lug connectors approved for use with copper conductors. Select unit with feeders connecting at top of panel. Equip with copper bus bars with not less than 98% conductivity, and with full sized neutral bus; provide suitable lugs on neutral bus for outgoing feeders requiring neutral connections. Provide molded-case main and branch circuit breaker types for each circuit, with toggle handles that indicate when tripped. Where multiple-pole breakers are indicated, provide with common trip so overload on one pole will trip all poles simultaneously. Provide panelboards with bare uninsulated grounding bars suitable for bolting to enclosures. Select enclosures fabricated by same manufacturer as panelboards, which mate and match properly with panelboards.

Lighting and Appliance Panelboards: Provide dead-front safety type lighting and appliance panelboards as indicated, when switching and protective devices in quantities, ratings, types and arrangements as shown; with anti-burn solderless pressure type lug connectors approved for use with copper conductors; construct unit for connecting feeders at top of panel; equip with copper bus bars, full-sized neutral bar, with bolt-in type heavy-duty, quick-make, quick-break, single-pole lugs on neutral bus for each outgoing feeder required; and provide bare uninsulated grounding bars suitable for bolting to enclosures. Select enclosures fabricated by same manufacturer as panelboards, which mate and match properly with panelboards.

Panelboard Enclosures: Provide galvanized sheet steel cabinet type enclosures, in sizes and NEMA types as indicated, code-gauge, minimum 16-gauge thickness. Construct with multiple knockouts and wiring gutters. Provide fronts with adjustable trim clamps, and doors with flush locks and keys, all panelboard enclosures keyed alike, with concealed piano door hinges and door swings as indicated. Equip with interior circuit-directory frame, and card with clear plastic covering. Provide baked gray enamel finish over a rust inhibitor coating. Design enclosures for recessed mounting. Provide enclosures which are fabricated by same manufacturer as panelboards, which mate and match properly with panelboards to be enclosed.

Molded-Case Circuit Breakers: Provide factory assembled, molded-case circuit breakers of frame sizes, characteristics and ratings including RMS symmetrical interrupting ratings indicated. Select breakers with permanent thermal and instantaneous magnetic trip, and with fault current limiting protection, ampere ratings as indicated. Construct with overcenter, trip-free, toggle-type operating mechanisms with quick-make, quick-break action and positive handle trip indication. Construct breakers for mounting and operating in any physical position, and operating in an ambient temperature of 40 deg. C. Provide breakers with mechanical screw type removable connector lugs, AL/CU rated.

Accessories: Provide panelboard accessories and devices including, but not necessarily limited to, cartridge and plug time-delay type fuses, ground-fault protection units, etc., as recommended by panelboard manufacturer for ratings and applications indicated.

Installation:

Install panelboards and enclosures as indicated, in accordance with manufacturer's written instructions, applicable requirements of NEC standards and NECA's "Standards of Installation", and in compliance with recognized industry practices to ensure that products fulfill requirements.

Tighten connectors and terminals, including screws and bolts, in accordance with equipment manufacturer's published torque tightening values for equipment connectors. Where manufacturer's torquing requirements are not indicated, tighten connectors and terminals to comply with tightening torques specified in UL Stds 486A and B.

Fasten enclosures firmly to walls and structural surfaces, ensuring that they are permanently and mechanically anchored.

Provide properly wired electrical connections for panelboards within enclosures.

Fill out panelboard's circuit directory card upon completion of installation work.

Insert fuses, if any, of ratings indicated, within installed panelboards.

Grounding: Provide equipment grounding connections for panelboard enclosures as indicated. Tighten connections to comply with tightening torques specified in UL 486A to assure permanent and effective grounds.

Prior to energization of electrical circuitry, check all accessible connections to manufacturer's tightening torque specifications.

Prior to energization of panelboards, check with ground resistance tester phase-to-phase and phase-to-ground insulation resistance levels to ensure requirements are fulfilled.

Prior to energization, check panelboards for electrical continuity of circuits and for short-circuits.

Adjust operating mechanisms for free mechanical movement.

Touch-up scratched or marred surfaces to match original finishes.

Demonstration: Subsequent to wire and cable hook-ups, energize panelboards and demonstrate functioning in accordance with requirements. Where necessary, correct malfunctioning units, and then retest to demonstrate compliance.

GEOTECHNICAL REPORT



66 Glen Avenue
Glen Rock, NJ 07452
Telephone: 201-301-1045
Fax: 201-857-8002
Email: johnsonsoils@gmail.com

February 18, 2015

NEGLIA ENGINEERING ASSOCIATES

34 Park Avenue
PO Box 426
Lyndhurst, NJ 07071

Attn: David Atkinson

Re: Geotechnical Engineering Report
Proposed Indoor Riding Building
Watchung Reservation Equestrian Center
Summit Lane
Mountainside, NJ
JSC Project No. 15-032

This report is submitted to the **NEGLIA ENGINEERING ASSOCIATES** as per our proposal dated January 23, 2015. It includes our findings, conclusions and recommendations related to the design and construction of the proposed indoor riding building.

The site is located in Mountainside, New Jersey. The existing and proposed features are shown on the plan entitled "Boring Location Plan", which was provided by **Neglia Engineering Associates**.

INVESTIGATION

Seven (7) Borings were drilled January 10 & 11, 2015. The Borings were advanced using truck mounted drilling equipment in accordance with the procedures of the Standard Penetration Test (ASTM-1586). For this test, a standard split barrel sampler of two (2) inches outside diameter, one and three eighth (1¾) inches inside diameter is advanced into the soil using a one hundred and forty (140) pound weight hammer falling 30 inches. Standard Penetration Tests were taken continuously from zero (0) to twelve (12) feet and at five (5) feet intervals thereafter.

The boring location plan and record sheet for each boring are attached to this report.

FINDINGS

Surface Features: The property is an existing Equestrian Center surround by horse paddocks and gravel roads.

Subsurface Conditions: The explorations for this study indicate that the site is underlain by fairly uniform subsurface conditions. The strata are listed below in order of increasing depth. Detailed descriptions of the subsurface conditions are shown on the individual logs of Borings, Plates 3A through 3G.

1. Misc. Fill: A layer of Misc. Fill was encountered from the surface in Borings 1, 3, 4, 5, 6 & 7 to depths ranging from one to four (1-4) feet below the existing surface grade.
2. Silty Sand (SM): A layer of Silty Gravel was encountered below the Fill in Borings 1, 3, 4, 5, 6 & 7 and from the surface of Boring 2 to depths ranging from twelve to twenty (12-20) feet below the existing surface grade.
3. Silt (ML): A layer of Silt was encountered below the Silty Sand in Boring 1 to a completion depth of twenty (20) feet below the existing surface grade.

No ground water was observed at the time of the investigation. It should be noted that the water level conditions might vary due to variations in seasons, rainfall, temperature and other factors.

COMMENTS AND CONCLUSIONS

The proposed new indoor riding building can be supported using conventional spread footings after the removal of all the Misc. Fill and down to the natural dense Silty Sand in accordance with our recommendations.

Please see the recommendations section for additional information.

In the instance where groundwater or surface runoff that may enter the proposed excavations may be effectively controlled by sump pits placed within or adjacent to the proposed excavations. It should be noted that the water level conditions might vary due to variations in rainfall, temperature and other factors at the time of construction.

RECOMMENDATIONS

The following recommendations are offered:

1. Foundation:
 - a. Excavate down to the natural dense Silty Sand.
 - i. In the area near Boring 4, over-excavation of an additional 6" to 1' will be required.
 - ii. Proof roll bottom of excavation with a minimum of four passes of plate tamper or equivalent.
 - iii. Replace with controlled fill and compacted as per recommendations #7 & #8.
 - iv. Any areas, which are observed to be soft or unstable, should be removed and replaced with controlled fill and compacted as per recommendations #7 & #8.
 - b. Use an allowable bearing capacity of three thousand (3,000) pounds per square foot (PSF) on Silty Sand.
 - c. Estimated Maximum settlement is less than 1 in.
 - d. Estimated differential settlement is less than 0.5 in.

- e. All concrete footings should be kept dry a minimum of 48 hours after the footings are poured, for proper curing.
 - f. Concrete blankets (or equivalent) are required if the temperature drops below 32°F, to prevent the concrete from freezing.
2. The minimum footing depth is to be three feet six inches (3'6") below the proposed outside grade for frost protection.
3. Sidewalk & Parking subgrade:
- a. Proof roll area with a minimum of four passes of heavy vibratory compactor with a minimum static drum weight of 12,000 pounds or equal.
 - b. Any areas, which are observed to be soft or unstable, should be removed and replaced with controlled fill and compacted as per recommendations #7 & #8.
4. Slab Subgrade Design:
- a. Proof roll area with a minimum of four passes of heavy vibratory compactor with a minimum static drum weight of 12,000 pounds or equal.
 - i. Any areas, which are observed to be soft or unstable, should be removed and replaced with controlled fill and compacted as per recommendations #7 & #8
 - b. Where compaction is performed, use a Modulus of Subgrade Reaction (k) of one hundred fifty (150) pounds per cubic inch (pci) for slab design.
 - c. A minimum of six (6) inches of ¾" crushed stone should be placed under all concrete slabs on grades.
 - d. JSC recommends that a 6 mil. Vapor barrier should be placed on the crushed stone.
5. Use Site Class 'C' in accordance with the International Building Code –for seismic structural related design. The soils are not subject to liquefaction
- | | |
|-----------------------|-----------------------|
| a. $S_s = 0.268 g$ | d. $S_{M1} = 0.120 g$ |
| b. $S_1 = 0.071 g$ | e. $S_{DS} = 0.214 g$ |
| c. $S_{MS} = 0.321 g$ | f. $S_{D1} = 0.080 g$ |

6. Soil Classification "C" as per OSHA 1926 Subpart P App A with maximum allowable slopes (H:V) of 1 ½:1 as per OSHA 1926 Subpart P App B Table B-1.
 - a. This is for short term maximum allowable slopes less than 12 feet.
 - b. Sloping or benching for excavations greater than 20 feet deep shall be designed by a Professional Engineer licensed in the State of New Jersey.

7. Controlled Fill:
 - a. Crushed Stone – ¾" or 1 ½" with no fines
 - b. Sand and Gravel with less than 20% passing the #200 sieve.
 - c. Dense Graded Aggregate (DGA) with less than 20% passing the #200 sieve.
 - d. The onsite Silty Sand can be used as backfill when within +/- 2% of optimum water content and approved by a geotechnical engineer at the time of use.
 - i. Any cobbles over 6" must be removed before use as backfill around the building area.

8. Controlled and compacted Fill Requirements:
 - a. A geotechnical engineer licensed in the state of New Jersey to inspect all earthwork operations.
 - b. The contractor and/or owner shall notify the geotechnical engineer in writing a minimum of 5 days prior to the start of all work on the project. The notification shall include all sources of fill, equipment to be used and estimated dates of the work and the proposed onsite supervisor.
 - c. All misc. Fill and Topsoil shall be removed prior to the start of all earthwork operations.
 - d. All fill areas shall be proof rolled prior to the placement of any fill. All proof rolling shall be performed in the presence of the geotechnical engineer. If soft areas are found during the proof rolling process, the area shall be removed and replaced with compacted controlled fill as per the direction of the geotechnical engineer.
 - e. Any proposed fill area shall be leveled before placement of any fill. The area shall be free from ruts, hummocks or other uneven surfaces that would prevent uniform compaction.

- f. Use any of the material stated in the types of controlled fill section or other material approved by the geotechnical engineer.
- g. A 50-lb bag of material shall be submitted to the geotechnical engineer for approval and testing a minimum of 5 days prior to the start of work. No fill material shall be placed until the geotechnical engineer has approved the material for use in the project.
- h. All controlled fill should be placed in horizontal layers of eight to twelve (8-12) inches in loose thickness and be uniformly compacted to achieve a density of at least ninety-five (95) percent of the maximum dry density as determined by in the laboratory when tested in accordance with the most recent ASTM D1557 Standard.
- i. Backfill within confined areas should be placed in layers of six to eight (6-8) inches in loose thickness and compacted to the same 95% of maximum dry density using portable compaction equipment.
- j. No fill material shall be placed, spread, or compacted when the ground or fill is frozen or thawing or during unfavorable weather conditions. When work is interrupted by heavy rain or frost, operations shall not be resumed unless the moisture content and density of the fill are acceptable to the geotechnical engineer.
- k. A sufficient number of passes shall be approved by the geotechnical engineer in order to achieve the acceptable specified density above. A minimum of 4 passes of the approved compactor shall be required over all areas of each lift.
- l. Field density tests shall be made by the geotechnical engineer to determine the in place field density in each layer placed. No fill shall be placed over any layer that has not been previously approved by the geotechnical engineer. Should any of the tests find insufficient density; additional compaction will be required until the required density is obtained.

9. The following construction tasks should be inspected by a geotechnical engineer using appropriate laboratory and field testing support:
 - i. Confirmation of undisturbed soil levels for footings
 - ii. Compaction and proof rolling of soils at footings and slab subgrade levels.
 - iii. Approve all types of controlled fill soils to be used in footings and slab subgrade area.
 - iv. Compaction of all controlled fill in footings and slab subgrade areas

The recommendations above are based on the data obtained from soil borings performed at the indicated specific locations and from other identified information. This report does not reflect any variations which may occur between borings or across the site apart from the borings. The nature and extent of such variations may not become evident until construction. If variations appear evident, it will be necessary to re-evaluate the recommendations of this report.

This report has been prepared for the specific application to the project noted. In the event that there are changes in the nature, design or locations of the proposed structures, the conclusions and recommendations contained herein are not valid unless the changes are reviewed and the recommendations modified in writing by JSC.

The information and opinions rendered in our report are exclusively for use by **NEGLIA ENGINEERING ASSOCIATES & JSC** will not distribute or publish this report without written consent except as required by law or court order. The information and opinions expressed in this report are given in response to a limited assignment and should be considered and implemented only in light of that assignment. The services provided by JSC in completing this project were consistent with normal standards of the profession. No warranty, expressed or implied, is made.

The following Plates are attached to this report:

Plate 1-	Site Location Map
Plate 2-	Boring Location Plan
Plate 3A through 3G-	Logs of Borings
Plate 4-	Unified Soil Classification System

Very truly yours,

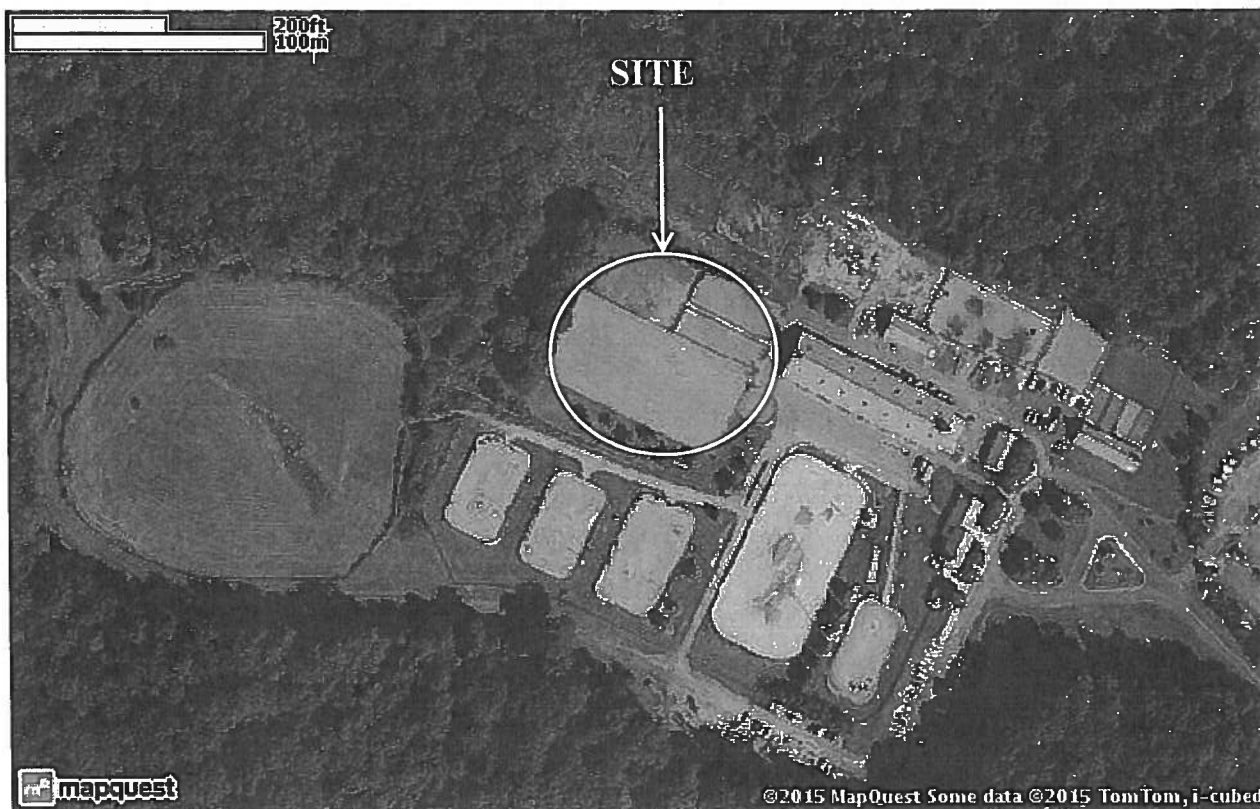
JOHNSON SOILS COMPANY




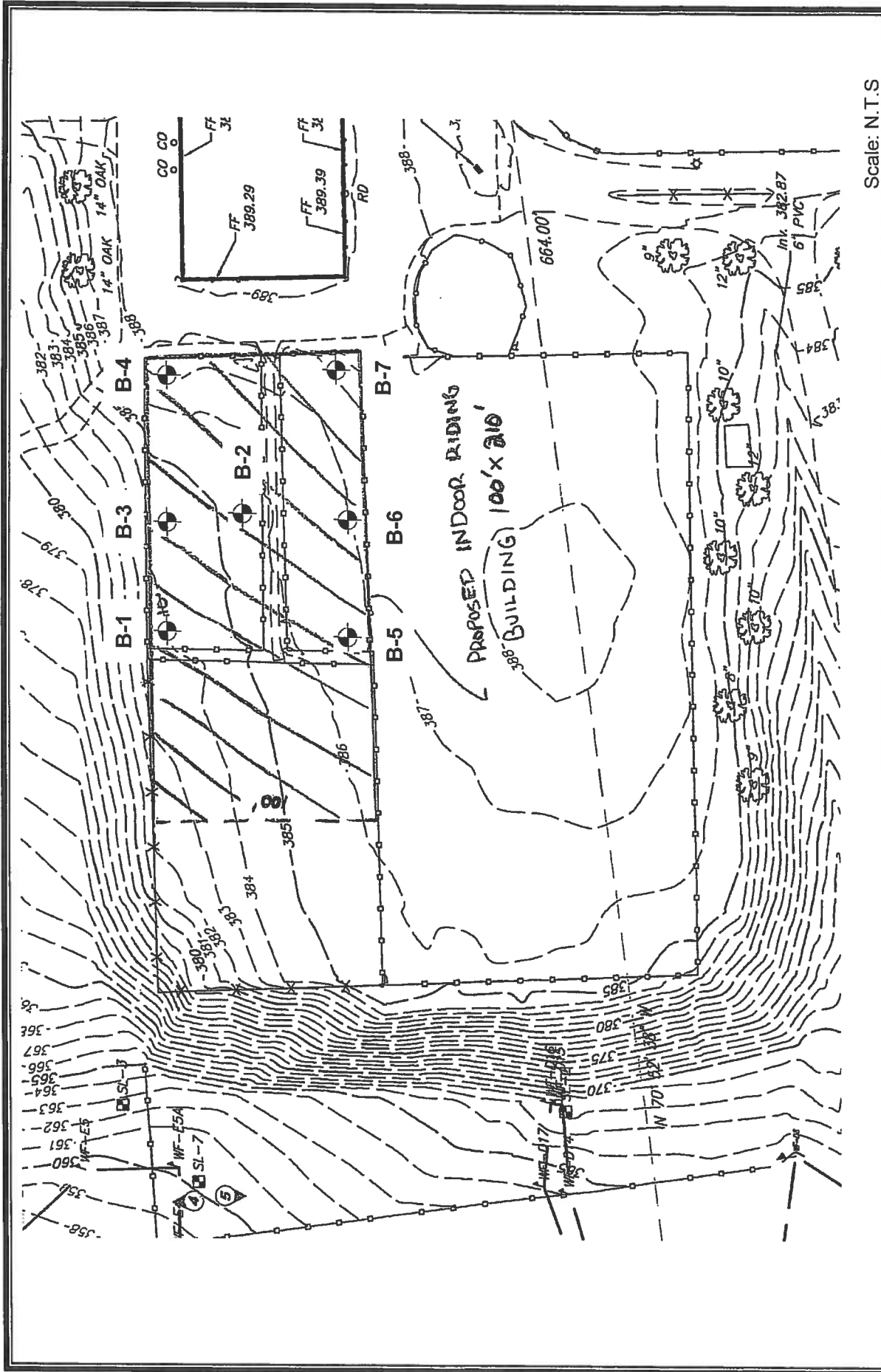
Lisa V. Mahle-Greco, P.E.

Engineering Manager

NJ Lic. # 43197



	Site Location Plan	JSC #15-032
	Summit Lane Mountainside, NJ	PLATE 1



Scale: N.T.S

JSC # 15-032

Boring Location Plan

Summit Lane
Mountainside, NJ

PLATE 2





LOG OF BORING

B-1

Sheet: 1 of 1
 Project Number : 15-032
 Date Started: 02/10/15
 Date Completed: 02/10/15
 Ground Surface El:
 Depth to Ground Water: Dry

Depth (Feet)	Sample No.	Depth (Feet)	Sample/Spoon Blows/6"	Symbol USCS	Description
0	S-1	0-2	22-30-25-23	SM	0"-1' Misc. Fill
-	S-2	2-4	18-19-13-14		1'-12' Brown fine to medium Sand, some Silt, little Gravel. (moist, dense)
-	S-3	4-6	5-5-8-7		-grading to medium dense@4'
5	S-4	6-8	8-8-15-65		
-	S-5	8-10	29-12-8-5		
-	S-6	10-12	3-3-3-5		-grading to loose@10'
10				ML	12'-22' Brown Silt, some fine Sand, little Clay & Gravel. (moist, firm)
-	S-7	15-17	2-3-4-5		
-					
20	S-8	20-22	5-6-7-6		-grading to stiff @20'
-					
-					
25					
-					
-					
30					
-					
-					
35					
-					

Remarks: Boring 1 Completed @ 22' 02/10/2015

Client: **NEGLIA ENGINEERING ASSOCIATES**
 Project: **Summit Lane**
 Location: **Mountainside, NJ**
 Driller: **RV Drilling, Inc.**

Hollow Stem Auger
 Mud Rotary - Portable Equipment
 Air Rotary



LOG OF BORING

B-2

Sheet: 1 of 1
 Project Number : 15-032
 Date Started: 02/10/15
 Date Completed: 02/10/15
 Ground Surface El:
 Depth to Ground Water: Dry

Depth (Feet)	Sample No.	Depth (Feet)	Sample/Spoon Blows/6"	Symbol USCS	Description
0	S-1	0-2	27-52-25-18	SM	0"-12' Brown fine to medium Sand, little Silt & Gravel. (moist, very dense) -grading to medium dense@2'
-	S-2	2-4	14-14-15-14		
-	S-3	4-6	11-12-13-12		
5	S-4	6-8	5-5-6-5		
-	S-5	8-10	5-6-7-5		
10	S-6	10-12	3-3-4-4		
-					
-					
15	S-7	15-17	5-7-13-15		12'-20' Brown fine to medium Sand, some Silt, little Gravel. (moist, loose) -grading to medium dense@15'
-					
-	S-8	18-20	33-35-18-13		-grading to very dense@18'
20					
-					
-					
-					
25					
-					
-					
-					
30					
-					
-					
35					
-					

Remarks: Boring 2 Completed @ 20' 02/10/2015

Client: **NEGLIA ENGINEERING ASSOCIATES**
 Project: **Summit Lane**
 Location: **Mountainside, NJ**
 Driller: **RV Drilling, Inc.**

Hollow Stem Auger
 Mud Rotary - Portable Equipment
 Air Rotary



LOG OF BORING

B-3

Sheet: 1 of 1
 Project Number : 15-032
 Date Started: 02/10/15
 Date Completed: 02/10/15
 Ground Surface El:
 Depth to Ground Water: Dry

Depth (Feet)	Sample No.	Depth (Feet)	Sample/Spoon Blows/6"	Symbol USCS	Description
0					0"-1' Misc. Fill.
-	S-1	0-2	8-8-19-20	SM	1'-12' Brown fine to medium Sand, little Silt & Gravel. (moist, medium dense) -grading to loose@6' -grading to very loose@10' 12'-20' Brown fine to medium Sand, little Silt. (moist, very loose) -grading to medium dense@15'
-	S-2	2-4	17-15-14-16		
-	S-3	4-6	15-14-10-8		
5					
-	S-4	6-8	5-4-4-4		
-	S-5	8-10	5-5-5-4		
10					
-	S-6	10-12	2-2-2-2		
-					
-					
15					
-	S-7	15-17	5-6-10-11		
-					
-	S-8	18-20	10-12-13-13		
-					
20					
-					
-					
-					
25					
-					
-					
-					
30					
-					
-					
35					
-					

Remarks: Boring 3 Completed @ 20' 02/10/2015

Client: **NEGLIA ENGINEERING ASSOCIATES**
 Project: **Summit Lane**
 Location: **Mountainside, NJ**
 Driller: **RV Drilling, Inc.**

Hollow Stem Auger
 Mud Rotary - Portable Equipment
 Air Rotary



LOG OF BORING

B-4

Sheet: 1 of 1
 Project Number : 15-032
 Date Started: 02/10/15
 Date Completed: 02/10/15
 Ground Surface El:
 Depth to Ground Water: Dry

Depth (Feet)	Sample No.	Depth (Feet)	Sample/Spoon Blows/6"	Symbol USCS	Description	
0	S-1	0-2	10-8-13-15	SM	0"-4' Misc. Fill.	
-	S-2	2-4	15-65-20-18			
-	S-3	4-6	14-13-13-11		4'-17' Brown fine to medium Sand, little Silt & Gravel. (moist, medium dense)	
5	S-4	6-8	10-10-10-9			
-	S-5	8-10	8-8-7-7			
-	S-6	10-12	5-5-4-4			-grading to loose@10'
10						
-	S-7	15-17	7-8-8-8			-grading to medium dense@15'
15				17'-20' Brown fine to medium Sand, little Silt. (moist, medium dense)		
-	S-8	18-20	8-8-9-9			
20						
-						
-						
-						
25						
-						
-						
-						
30						
-						
-						
-						
35						
-						

Remarks: Boring 4 Completed @ 20' 02/10/2015

Client: **NEGLIA ENGINEERING ASSOCIATES**
 Project: **Summit Lane**
 Location: **Mountainside, NJ**
 Driller: **RV Drilling, Inc.**

Hollow Stem Auger
 Mud Rotary - Portable Equipment
 Air Rotary



LOG OF BORING

B-5

Sheet: 1 of 1
 Project Number : 15-032
 Date Started: 02/11/15
 Date Completed: 02/11/15
 Ground Surface El:
 Depth to Ground Water: Dry

Depth (Feet)	Sample No.	Depth (Feet)	Sample/Spoon Blows/6"	Symbol USCS	Description
0	S-1	0-2	19-23-22-21	SM	0"-1' Misc. Fill.
-	S-2	2-4	23-23-21-22		1'-20' Brown fine to medium Sand, little Silt & Gravel. (moist, dense)
-	S-3	4-6	18-18-14-12		
5	S-4	6-8	10-10-9-6		-grading to medium dense@6'
-	S-5	8-10	5-6-9-11		
10	S-6	10-12	4-4-4-3		-grading to loose@10'
-					
-					
15	S-7	15-17	8-9-13-14	-grading to medium dense@15'	
-					
-	S-8	18-20	13-18-18-15		
20					
-					
-					
-					
25					
-					
-					
30					
-					
-					
35					
-					

Remarks: Boring 5 Completed @ 20' 02/11/2015

Client: **NEGLIA ENGINEERING ASSOCIATES**
 Project: **Summit Lane**
 Location: **Mountainside, NJ**
 Driller: **RV Drilling, Inc.**

Hollow Stem Auger
 Mud Rotary - Portable Equipment
 Air Rotary



LOG OF BORING

B-6

Sheet: 1 of 1
 Project Number : 15-032
 Date Started: 02/11/15
 Date Completed: 02/11/15
 Ground Surface El:
 Depth to Ground Water: Dry

Depth (Feet)	Sample No.	Depth (Feet)	Sample/Spoon Blows/6"	Symbol USCS	Description
0					0"-1' Misc. Fill.
-	S-1	0-2	22-26-22-23	SM	1'-12' Brown fine to medium Sand, little Silt & Gravel. (moist, dense) -grading to medium dense@2' -grading to dense@4' -grading to medium dense@6'
-	S-2	2-4	18-15-15-19		
-	S-3	4-6	19-19-18-15		
5	S-4	6-8	7-6-6-6		
-	S-5	8-10	6-10-11-9		
10	S-6	10-12	5-6-6-10		
-					
-					
15	S-7	15-17	6-6-6-13		12'-20' Brown fine to coarse Sand, some Gravel, little Silt. (moist, medium dense)
-	S-8	18-20	12-12-12-15		
20					
-					
-					
-					
25					
-					
-					
30					
-					
-					
35					
-					

Remarks: Boring 6 Completed @ 20' 02/11/2015

Client: **NEGLIA ENGINEERING ASSOCIATES**
 Project: **Summit Lane**
 Location: **Mountainside, NJ**
 Driller: **RV Drilling, Inc.**

Hollow Stem Auger
 Mud Rotary - Portable Equipment
 Air Rotary



LOG OF BORING

B-7

Sheet: 1 of 1
 Project Number : 15-032
 Date Started: 02/11/15
 Date Completed: 02/11/15
 Ground Surface El:
 Depth to Ground Water: Dry

Depth (Feet)	Sample No.	Depth (Feet)	Sample/Spoon Blows/6"	Symbol USCS	Description
0	S-1	0-2	21-18-17-15	SM	0"-1' Misc. Fill.
-	S-2	2-4	16-15-15-14		1'-12' Brown fine to medium Sand, little Silt & Gravel. (moist, dense) -grading to medium dense@6'
-	S-3	4-6	11-10-9-8		
5	S-4	6-8	6-7-8-9		
-	S-5	8-10	6-5-4-4		-grading to loose@8'
10	S-6	10-12	2-2-2-2		-grading to very loose@10'
-					12'-20' Brown fine to coarse Sand, some Gravel, little Silt. (moist, very loose)
15	S-7	15-17	4-4-4-5		
-	S-8	18-20	6-8-8-9	-grading to medium dense@ 18'	
20					
-					
-					
-					
25					
-					
-					
-					
30					
-					
-					
35					
-					

Remarks: Boring 7 Completed @ 20' 02/11/2015

Client: **NEGLIA ENGINEERING ASSOCIATES**
 Project: **Summit Lane**
 Location: **Mountainside, NJ**
 Driller: **RV Drilling, Inc.**

Hollow Stem Auger
 Mud Rotary - Portable Equipment
 Air Rotary



UNIFIED SOIL CLASSIFICATION SYSTEM

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			LETTER SYMBOL	TYPICAL DESCRIPTIONS	
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)	GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES	
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)	GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES	
	MORE THAN 50% OF COURSE FRACTION <u>RETAINED</u> ON NO. 4 SIEVE	SAND AND SANDY SOILS	CLEAN SAND (LITTLE OR NO FINES)	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
			SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)	GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	MORE THAN 50% OF MATERIAL IS <u>LARGER</u> THAN NO. 200 SIEVE SIZE	MORE THAN 50% OF COURSE FRACTION <u>PASSING</u> NO.4 SIEVE		SW	WELL-GRADED SANDS, GRAVELLY-SANDS LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SANDS LITTLE OR NO FINES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT <u>LESS</u> THAN 50	SM	SILTY SANDS, SAND-SILT MIXTURES	
			SC	CLAYEY SANDS, SAND-CLAY MIXTURES	
			ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY	
	SILTS AND CLAYS	LIQUID LIMIT <u>GREATER</u> THAN 50	CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDS CLAYS, SILTY CLAYS, LEAN CLAYS	
			OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY	
			MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS	
		CH	INORGANIC CLAYS OF HIGH PLASTICITY FAT CLAYS		
		OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS		
HIGHLY ORGANIC SOILS			PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS	

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS.

GRADUATION*	COMPACTNESS* SAND AND/OR GRAVEL	CONSISTENCY* CLAY AND/OR SILT
% FINER BY WEIGHT	RELATIVE DENSITY	RANGE OF SHEARING STRENGTH IN POUND PER SQUARE FOOT
TRACE.....0% TO 10%	LOOSE.....0% TO 40%	VERY SOFT.....LESS THAN 250
LITTLE.....10% TO 20%	MEDIUM DENSE.....40% TO 70%	SOFT.....250 TO 500
SOME.....20% TO 35%	DENSE.....70% TO 90%	MEDIUM.....500 TO 1000
AND.....35% TO 50%	VERY DENSE.....90% TO 100%	STIFF.....1000 TO 2000
VALUES ARE FROM LABORATORY OR FIELD TEST DATA WHERE APPLICABLE WHEN NO TESTING WAS PERFORMED, VALUES ARE ESTIMATED.		VERY STIFF.....2000 TO 4000
		HARD.....GREATER THAN 4000