

**SPECIFICATIONS
FOR
REBID: CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS
LIGHTING AT RAHWAY RIVER PARK
CITY OF RAHWAY, COUNTY OF UNION, NEW JERSEY
BA#72-2015; UNION COUNTY ENGINEERING PROJECT #2011-019**

NOVEMBER 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
Bette Jane Kowalski, Freeholder
Alexander Mirabella, Freeholder
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
Fax: (908) 789-3674

PREPARED BY:

**Neglia Engineering Associates
1119 Raritan Road
Clark, New Jersey 07066
T: 732-943-7067
F: 732-943-7249**

**REBID: CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING
AT RAHWAY RIVER PARK, CITY OF RAHWAY
COUNTY OF UNION, NEW JERSEY**
BA#72-2015; Union County Engineering Project #2011-019

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(Draft form until contract is awarded)

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(Draft form until contract is awarded)

**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 December 1, 2015 at 10:30 a.m. ., prevailing time, in the 3rd Floor Conference Room, U.C. Administration Building, 10 Elizabethtown Plaza, Elizabeth, New Jersey for:

**REBID: CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT
RAHWAY RIVER PARK
CITY OF RAHWAY, COUNTY OF UNION, NEW JERSEY
BA#72-2015; UNION COUNTY ENGINEERING PROJECT #2011-019**

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.

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 C019 and/or C054 and C056 and C059 and C060 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: REBID: Construction of Artificial Turf and Sports Lighting at
Rahway River Park, City of Rahway, County of Union, New Jersey
BA#72-2015; Union County Engineering Project #2011-019**

BIDDER: Bidder shall be a single overall contract bidder

ARCHITECT/ENGINEER: Neglia Engineering Associates

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

COUNTY ENGINEER:

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

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 statutes and local ordinances applicable to the Work to be done under the contract.

It is agreed and understood that any contracts and/or orders placed as a result of this proposal will be governed and construed and the rights and obligations of the parties hereto will be determined in accordance with the laws of the State of New Jersey.

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

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: _____

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

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

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

_____ Security in the form of:

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

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

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

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

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

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

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

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

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

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

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

_____ Affirmative Action Requirement

_____ Experience Statement

_____ Certificate of Bidder showing ability to perform Contract

_____ Non-Collusion Affidavit – Fill out completely and notarize

_____ Certificates from New Jersey Department of Labor – Public Works Contractor Registration Act. **(Only for certain types of work)**

_____ Federal Attachments **(If applicable)**

_____ NJDPMC Certificate / Notice of Classification **(If applicable)**

_____ Americans with Disabilities Act

_____ 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

**REBID: CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT
RAHWAY RIVER PARK, CITY OF RAHWAY, COUNTY OF UNION, NEW JERSEY
BA #72-2015; Union County Engineering Project #2011-019**

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/Demobilization | L.S. | 1 | | |
| 2. | Construction Layout | L.S. | 1 | | |
| 3. | Site Clearing/Demolition | L.S. | 1 | | |
| 4. | Soil Erosion and Sediment Control Devices | L.S. | 1 | | |
| 5. | Test Pits, 10' Deep Max (If & Where Directed) | Unit | 20 | | |
| 6. | Site Grading & Fill Import | L.S. | 1 | | |
| 7. | Inlet, Type "A" | Unit | 3 | | |
| 8. | Inlet, Type "E" | Unit | 1 | | |
| 9. | Field Inlet | Unit | 3 | | |
| 10. | ADS Inlet | Unit | 6 | | |
| 11. | Stormwater Manhole | Unit | 2 | | |
| 12. | Stormwater Backflow Valve | Unit | 2 | | |
| 13. | Inlet Track Drain | Unit | 8 | | |
| 14. | Channel Track Drain | L.F. | 1,325 | | |
| 15. | Water Quality Inserts | Unit | 6 | | |
| 16. | 12" HDPE Pipe | L.F. | 796 | | |
| 17. | 12" Perf. HDPE Pipe | L.F. | 1,515 | | |

| | | | | | |
|-----|---|-------|-------|--|--|
| 18. | 24" Perf. HDPE Pipe | L.F. | 42 | | |
| 19. | 30" Perf. HDPE Pipe | L.F. | 257 | | |
| 20. | 12" RCP, Class V | L.F. | 49 | | |
| 21. | 6" PVC Pipe | L.F. | 21 | | |
| 22. | Televise and Clean Storm Sewer Line | L.F. | 1000 | | |
| 23. | Concrete Sidewalk, 4" Thick | S.Y. | 800 | | |
| 24. | Hot Mix Asphalt Pathway | S.Y. | 150 | | |
| 25. | Synthetic Turf, Underdrains and Stone (Complete Cross-Section) | L.S. | 1 | | |
| 26. | Synthetic Track System, Complete with Concrete Sub-Base for Field Events & Striping | L.S. | 1 | | |
| 27. | Concrete Depressed Curb | L.F. | 1,715 | | |
| 28. | Black Vinyl Coated Chain Link Fence, 3' High | L.F. | 261 | | |
| 29. | Black Vinyl Coated Chain Link Fence, 4' High | L.F. | 1,300 | | |
| 30. | Black Vinyl Coated Chain Link Single Leaf Swing Gate, 4' Wide x 4' High | Units | 7 | | |
| 31. | Black Vinyl Coated Chain Link Double Leaf Swing Gate, 16' Wide x 4' High | Units | 1 | | |
| 32. | Field Lighting Poles & Fixtures, Complete with Foundations, Conduit & Electrical Components | L.S. | 1 | | |
| 33. | Flagpole System, Complete with Up-Lights (Including Electric) | L.S. | 1 | | |
| 34. | Trash Receptacles with Concrete Pad | Unit | 20 | | |
| 35. | Bicycle Rack | Unit | 1 | | |
| 36. | 16' Portable Player Shelter and Bench | Unit | 2 | | |
| 37. | Football Goals, Complete with Turf Cover and Pads | Unit | 2 | | |
| 38. | Portable Soccer Goals, Complete with Netting | Unit | 2 | | |
| 39. | Portable Lacrosse Goals, Complete with Netting | Unit | 2 | | |
| 40. | Pole Vault Box, Lid & Concrete Pad | L.S. | 1 | | |
| 41. | Long Jump/Triple Jump, Concrete with Sand Pit, Cover, Takeoff Board & Concrete Pad | L.S. | 1 | | |

| | | | | | |
|-----|---|------|--------|--|--|
| 42. | Discus and Hammer Circles, Complete with Ring, Enclosure and Concrete Pad | L.S. | 1 | | |
| 43. | Shot Circle, Complete with Ring, Enclosure, Toeboard and Concrete Pad | L.S. | 1 | | |
| 44. | Shade Tree, 3-1/2" to 4" Caliper | Unit | 12 | | |
| 45. | Topsoil and Hydroseed | S.Y. | 10,900 | | |
| 46. | Final Cleanup/Site Restoration | L.S. | 1 | | |

Written

Figures

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

ONE HUNDRED THOUSAND DOLLARS

Written

\$100,000.00

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.

BID ALTERNATES

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

1. Award Base Bid Only
2. Award Base Bid + Alternate A
3. Award Base Bid + Alternate A + Alternate B
4. Award Base Bid + Alternate A + Alternate B + Alternate C
5. Award Base Bid + Alternate A + Alternate B + Alternate C + Alternate D
6. Award Base Bid + Alternate A + Alternate B + Alternate C + Alternate D + Alternate E
7. Award Base Bid + Alternate A + Alternate B + Alternate C + Alternate D + Alternate E + Alternate F
8. Award Base Bid + Alternate A + Alternate B + Alternate C + Alternate D + Alternate E + Alternate F + Alternate G

ALTERNATE A:

| ITEM | DESCRIPTION | UNITS | CONTRACT QUANTITY | UNIT PRICE | AMOUNT |
|------|--|-------|-------------------|------------|--------|
| 1. | Bleachers 10 Row, 79'-6" Long w/ Concrete Pad | Unit | 1 | | |
| 2. | Bleachers 10 Row, 145'-6" Long w/ Concrete Pad | Unit | 1 | | |

Written

Figures

ALTERNATE B:

| ITEM | DESCRIPTION | UNITS | CONTRACT QUANTITY | UNIT PRICE | AMOUNT |
|------|---|-------|-------------------|------------|--------|
| 1. | Outdoor Multi-Sport LED Scoreboard, Complete with Concrete Footings and Post (Including Electric) | L.S. | 1 | | |

Written

Figures

ALTERNATE C:

| ITEM | DESCRIPTION | UNITS | CONTRACT QUANTITY | UNIT PRICE | AMOUNT |
|------|---|-------|-------------------|------------|--------|
| 1. | Outdoor, Weatherproof Public Address System | L.S. | 1 | | |

Written _____

Figures _____

ALTERNATE D:

| ITEM | DESCRIPTION | UNITS | CONTRACT QUANTITY | UNIT PRICE | AMOUNT |
|------|---|-------|-------------------|------------|--------|
| 1. | Black Vinyl Coated Chain Link Fence, 4' High | L.F. | 415 | | |
| 2. | Black Vinyl Coated Chain Link Single Leaf Swing Gate, 4' Wide x 4' High | Unit | 4 | | |

Written _____

Figures _____

ALTERNATE E:

| ITEM | DESCRIPTION | UNITS | CONTRACT QUANTITY | UNIT PRICE | AMOUNT |
|------|-----------------------|-------|-------------------|------------|--------|
| 1. | Coach's Box, Complete | Unit | 1 | | |

Written _____

Figures _____

ALTERNATE F:

| ITEM | DESCRIPTION | UNITS | CONTRACT QUANTITY | UNIT PRICE | AMOUNT |
|------|---|-------|-------------------|------------|--------|
| 1. | Multipurpose Building, Complete | L.S. | 1 | | |
| 2. | 6" SDR-35 PVC Pipe Sanitary Sewer Service (Shall be Coordinated with Owner and Utility Provider) | L.S. | 1 | | |
| 3. | 2" Dia. K-Type Copper Tubing Water Service (Shall be Coordinated with Owner and Utility Provider) | L.S. | 1 | | |

Written _____

Figures _____

ALTERNATE G:

| ITEM | DESCRIPTION | UNITS | CONTRACT QUANTITY | UNIT PRICE | AMOUNT |
|------|-----------------------------|-------|-------------------|------------|--------|
| 1. | Open Air Pavilion, Complete | Unit | 2 | | |

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 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 <small>FOR STATE AGENCY AND CASINO SERVICE CONTRACTORS</small> | |  | STATE OF NEW JERSEY BUSINESS REGISTRATION CERTIFICATE |
| TAXPAYER NAME: TAX REGISTRATION TEST ACCOUNT | TRACE NAME: CLIENT REGISTRATION | Taxpayer Name: TAX REG TEST ACCOUNT | |
| TAXPAYER IDENTIFICATION: 010-007-382/000 | SEQUENCE NUMBER: 0107510 | Trade Name: | |
| ADDRESS: 847 ROEBLING AVE TRENTON NJ 08611 | ISSUANCE DATE: 07/14/04 | Address: 847 ROEBLING AVE TRENTON, NJ 08611 | |
| EFFECTIVE DATE: 09/01/01 | <i>John S. Tully</i> Accepted for The Certificate is NOT assignable or transferable. It must be temporarily employed at above address. | Certificate Number: 1093907 | |
| FORM BRC06(04) | | Date of Issuance: October 14, 2004 | |
| | | For Office Use Only: 20041014112623533 | |

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 _____

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 |
|--------------------------|-----------------------------------|--|-------------------------------------|-------------------------|
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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 |
|---------------|---|--------------------|---|----------------------------|----------------|-------------------------------|----------------------------|---|
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* 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__.

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 |
|--------|---------------|--------------------------|---|---|
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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)

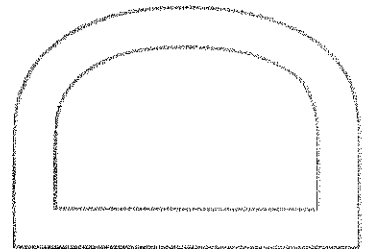
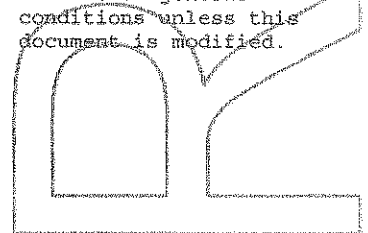
The Owner and Contractor agree as follows.



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.

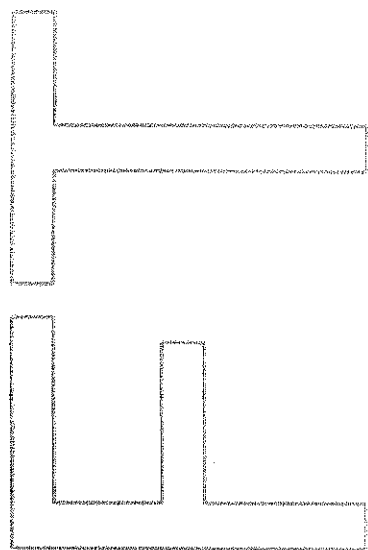
AIA Document A201™-2007, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.



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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

(())

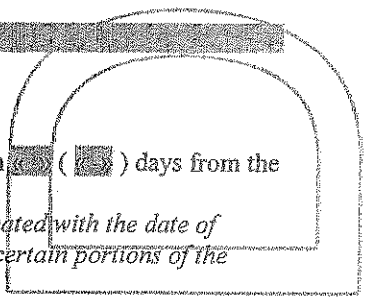
If, prior to the commencement of the Work, the Owner requires time to file mortgages and other security interests, the Owner's time requirement shall be as follows: Not applicable.

(())

§ 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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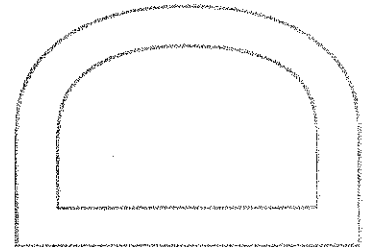
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ADDITIONS AND DELETIONS:

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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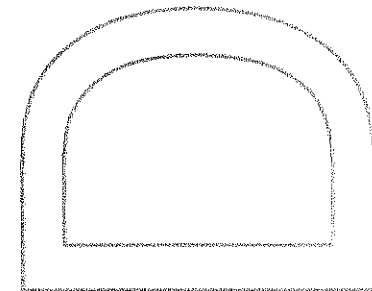
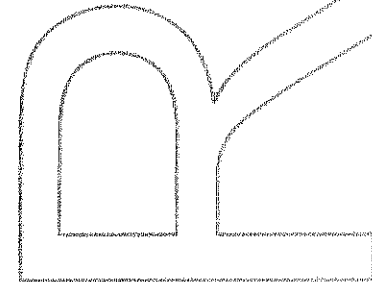
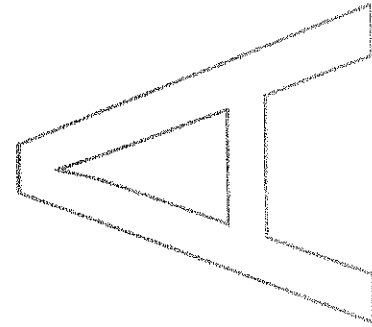
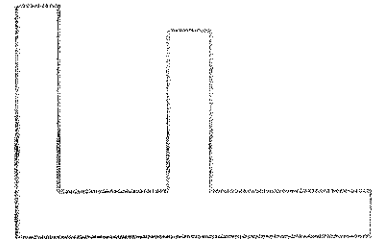
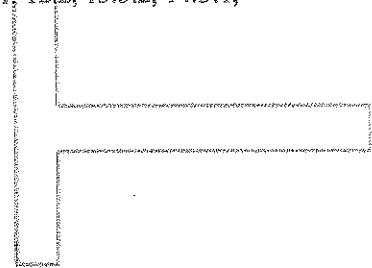
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ARTICLE 1 GENERAL PROVISIONS

§ 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 ACTIONE 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

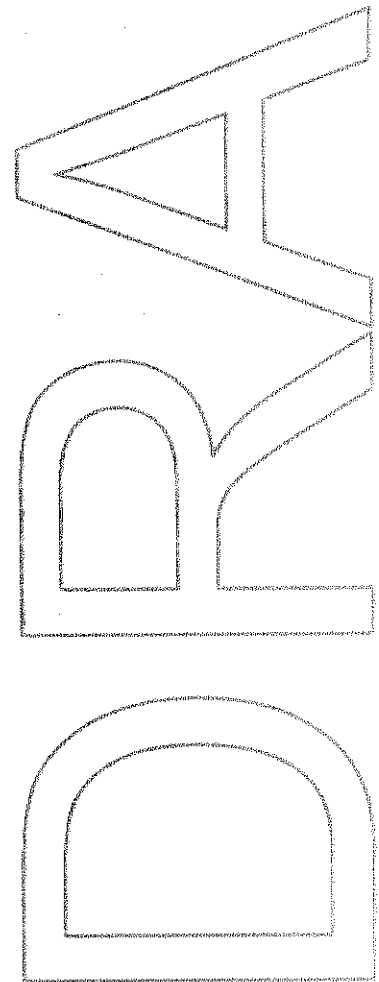
§ 19.1.1 The Contractor acknowledges and agrees that pursuant to P.L. 2004, c. 57, enacted by the State of New Jersey on June 29, 2004, contractors or contractors with subcontractors, or their affiliates, who enter into contracts

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 | | | | | | | | | |
|---------------|------------------|---------|----------|----------|----------|----------|----------|----------|----------|----------|
| | As Shown | Mo. 1-3 | Mo. 4-12 | 2nd Year | 3rd Year | 4th Year | 5th Year | | Wage = % | of Jnymn |
| 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

| | |
|----------------|----------------------------|
| | 11/02/15 |
| Deputy Foreman | W41.25 B30.58 T71.83 |
| Foreman | W44.25 B30.58 T74.83 |
| Journeyman | W38.25 B30.58 T68.83 |

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 | 20.22 | 21.56 | 22.91 | 24.25 | | |

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

| | |
|------------|----------------------------|
| | 11/01/15 |
| Foreman | W51.81 B29.53 T81.34 |
| Journeyman | W45.05 B25.68 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 | 57% 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

| | |
|------------|----------------------------|
| | 11/01/15 |
| Foreman | W51.81 B29.53 T81.34 |
| Journeyman | W45.05 B25.68 T70.73 |

Expiration Date: 04/30/2016

Craft: Carpenter - Resilient Flooring

APPRENTICE RATE SCHEDULE

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|----------|------------------|-----|--------|------|------|------|-----|---------|-----------|-----|
| 6 Months | 40% | 45% | 50% | 55% | 60% | 65% | 70% | 75% | 85% | 95% |
| Benefit | 57% | 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

| | |
|------------------------------------|----------------------------|
| | 11/06/15 |
| Foreman | W50.14 B43.07 T93.21 |
| Foreman (Concrete Form Work) | W50.14 B35.23 T85.37 |
| Journeyman | W43.60 B43.07 T86.67 |
| Journeyman (Concrete Form Work) | W43.60 B35.23 T78.83 |

Expiration Date: 04/30/2016

Craft: Dockbuilder APPRENTICE RATE SCHEDULE

| <u>INTERVAL</u> | <u>PERIOD AND RATES</u> | | | | | | | | | |
|-----------------|-------------------------|---------|-----------|-------|----------|--------------|--------------|---------|---------|-----------|
| Yearly | 17.44 | 21.80 | 28.34 | 34.88 | | | | | | |
| Benefit | 29.28 | for all | intervals | | Concrete | Form Work | Only Ben. | = 24.03 | 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 | W43.05 | W44.30 |
| | B22.60 | B22.60 | B22.60 |
| | T64.40 | T65.65 | T66.90 |
| General Foreman | W43.70 | W44.95 | W46.20 |
| | B22.60 | B22.60 | B22.60 |
| | T66.30 | T67.55 | T68.80 |
| Journeyman | W38.00 | W39.25 | W40.50 |
| | B22.60 | B22.60 | B22.60 |
| | T60.60 | T61.85 | T63.10 |

Expiration Date: 04/30/2018

Craft: Drywall Finisher

APPRENTICE RATE SCHEDULE

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

Ratio of Apprentices to Journeymen - 1:4

Craft: Drywall Finisher

COMMENTS/NOTES

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

SHIFT DIFFERENTIALS:

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

OVERTIME:

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

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

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

County - UNION

Craft: Electrician

PREVAILING WAGE RATE

| | 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

| | 11/06/15 |
|---|----------------------------|
| Master Technician/General Foreman | W51.01 B29.16 T80.17 |
| Senior Technician/Lead Foreman (21-30 Workers on Job) | W46.70 B26.69 T73.39 |
| Technician A/Foreman (11-20 Workers on Job) | W44.73 B25.57 T70.30 |
| Technician B/Working Foreman (4-10 Workers on Job) | W42.77 B24.45 T67.22 |
| Technician C/Journeyman (1-3 Workers on Job) | W39.24 B22.43 T61.67 |

Expiration Date: 10/30/2016

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

APPRENTICE RATE SCHEDULE

| <u>INTERVAL</u> | <u>PERIOD AND RATES</u> | | | | | | | | | |
|-----------------|-------------------------|-------|-------|-------|-------|-------|-------|-------|--|--|
| 6 Months | 19.66 | 20.97 | 23.15 | 25.77 | 28.83 | 31.45 | 34.51 | 37.56 | | |
| Benefits | 8.15 | 8.70 | 9.60 | 10.69 | 11.96 | 13.04 | 14.31 | 15.57 | | |

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 | 17.47 | 18.78 | 20.97 | 23.59 | 26.64 | 29.27 | 32.32 | 35.38 | | |
| Benefits | 7.25 | 7.79 | 8.70 | 9.78 | 11.05 | 12.14 | 13.40 | 14.67 | | |

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

| | 08/20/15 | 05/30/16 | 05/29/17 | 05/28/18 |
|---|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Cable Splicer | W57.79 B32.60 T90.39 | W58.99 B33.46 T92.45 | W60.37 B34.24 T94.61 | W61.82 B35.06 T96.88 |
| Certified Welder | W55.17 B31.13 T86.30 | W56.31 B31.94 T88.25 | W57.62 B32.68 T90.30 | W59.01 B33.47 T92.48 |
| Equipment Operator | W52.54 B29.64 T82.18 | W53.63 B30.42 T84.05 | W54.88 B31.13 T86.01 | W56.20 B31.88 T88.08 |
| Foreman (1-10 Journeyman workers on job) | W58.84 B33.20 T92.04 | W60.07 B34.07 T94.14 | W61.47 B34.86 T96.33 | W62.94 B35.70 T98.64 |
| Foreman (11-20 Journeyman workers on job) | W60.42 B34.09 T94.51 | W61.67 B34.98 T96.65 | W63.11 B35.79 T98.90 | W64.63 B36.66 T101.29 |
| General Foreman (21-30 Journeyman workers on job) | W62.00 B34.98 T96.98 | W63.28 B35.89 T99.17 | W64.76 B36.73 T101.49 | W66.32 B37.61 T103.93 |
| General Foreman (31-60 Journeyman workers on job) | W67.25 B37.94 T105.19 | W68.65 B38.94 T107.59 | W70.25 B39.84 T110.09 | W71.94 B40.80 T112.74 |
| General Foreman (61+ Journeyman workers on job) | W68.30 B38.53 T106.83 | W69.72 B39.54 T109.26 | W71.34 B40.46 T111.80 | W73.06 B41.44 T114.50 |
| Groundman | W31.52 B17.79 T49.31 | W32.18 B18.26 T50.44 | W32.93 B18.68 T51.61 | W33.72 B19.13 T52.85 |
| Journeyman Lineman/Technician | W52.54 B29.64 T82.18 | W53.63 B30.42 T84.05 | W54.88 B31.13 T86.01 | W56.20 B31.88 T88.08 |
| Sub-Foreman | W58.84 B33.20 T92.04 | W60.07 B34.07 T94.14 | W61.47 B34.86 T96.33 | W62.94 B35.70 T98.64 |

Expiration Date: 05/31/2019

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

County - UNION

Craft: Electrician- Outside Commercial

APPRENTICE RATE SCHEDULE

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

Craft: Electrician- Outside Commercial

COMMENTS/NOTES

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

* FOR UTILITY WORK PLEASE SEE STATEWIDE RATES

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

FOREMAN REQUIREMENTS:

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

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

SHIFT DIFFERENTIALS:

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

OVERTIME:

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

RECOGNIZED HOLIDAYS:

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

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

County - UNION

Craft: Electrician-Utility Work (North)

PREVAILING WAGE RATE

Rates are located in the "Statewide" rate package

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 Constructor

PREVAILING WAGE RATE

| | 03/27/15 | 03/17/16 | 03/17/17 | 03/17/18 |
|------------|----------|----------|----------|----------|
| Journeyman | W59.55 | W60.96 | W62.64 | W64.48 |
| | B38.02 | B39.77 | B41.56 | B43.36 |
| | T97.57 | T100.73 | T104.20 | T107.84 |

Expiration Date: 03/16/2019

Craft: Elevator Constructor

APPRENTICE RATE SCHEDULE

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|----------|------------------|-------|-------|-------|-------|--|--|--|--|--|
| | Yearly | 26.62 | 32.75 | 38.71 | 44.66 | | | | | |
| Benefits | 30.23 | 31.32 | 32.81 | 34.30 | | | | | | |

Ratio of Apprentices to Journeymen - 1:1

Craft: Elevator Constructor

COMMENTS/NOTES

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

OVERTIME:

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

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

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

County - UNION

Craft: Elevator Modernization & Service

PREVAILING WAGE RATE

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

| | |
|-----------------|----------------------------|
| | 10/13/15 |
| Foreman | W51.77 B29.42 T81.19 |
| General Foreman | W54.32 B30.53 T84.85 |
| Journeyman | W50.49 B28.86 T79.35 |

Expiration Date: 09/18/2016

Craft: Heat & Frost Insulator

APPRENTICE RATE SCHEDULE

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|----------|------------------|-------|-------|-------|--|--|--|--|--|--|
| Yearly | 23.39 | 27.74 | 33.52 | 39.36 | | | | | | |
| Benefits | 17.46 | 20.63 | 22.69 | 24.56 | | | | | | |

Ratio of Apprentices to Journeymen - 1:3

Craft: Heat & Frost Insulator

COMMENTS/NOTES

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

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

SHIFT DIFFERENTIAL:

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

OVERTIME:

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

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

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

County - UNION

Craft: Heat & Frost Insulator - Asbestos Worker

PREVAILING WAGE RATE

| | |
|------------------------------|----------------------------|
| | 10/13/15 |
| Asbestos Helper Abatement | W33.52 B22.69 T56.21 |
| Firestop/Hazmat | W26.93 B9.25 T36.18 |
| Foreman | W51.77 B29.42 T81.19 |

Expiration Date: 09/18/2016

Craft: Heat & Frost Insulator - Asbestos Worker

APPRENTICE RATE SCHEDULE

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|----------|------------------|--------|-------|---------------|--|--|--|--|--|--|
| | SEE | HEAT & | FROST | INSULAT OR | | | | | | |
| | | | | | | | | | | |

Ratio of Apprentices to Journeymen - 1:3

Craft: Heat & Frost Insulator - Asbestos Worker

COMMENTS/NOTES

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

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

SHIFT DIFFERENTIALS:

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

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

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

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

County - UNION

Craft: Ironworker

PREVAILING WAGE RATE

| | 08/13/15 | 01/01/16 | 07/01/16 | 07/01/17 |
|-----------------------|----------------------------|----------------------------|--------------------------|--------------------------|
| Rod /Fence Foreman | W41.24 B42.27 T83.51 | W0.00 B0.00 T84.51 | W0.00 B0.00 T86.51 | W0.00 B0.00 T88.51 |
| Rod/Fence Journeyman | W38.24 B42.27 T80.51 | W0.00 B0.00 T81.51 | W0.00 B0.00 T83.51 | W0.00 B0.00 T85.51 |
| Structural Foreman | W44.29 B42.77 T87.06 | W44.29 B42.77 T87.06 | W0.00 B0.00 T88.81 | W0.00 B0.00 T90.56 |
| Structural Journeyman | W41.29 B42.77 T84.06 | W41.29 B42.77 T84.06 | W0.00 B0.00 T85.81 | W0.00 B0.00 T87.56 |

Expiration Date: 06/30/2018

Craft: Ironworker

APPRENTICE RATE SCHEDULE

| <u>INTERVAL</u> | <u>PERIOD AND RATES</u> | | | | | | | | | |
|-----------------|-------------------------|-----|--|--------|-----|-----|-----|--|--|--|
| 6 Months | 50% | 60% | | Yearly | 70% | 80% | 90% | | | |
| | | | | | | | | | | |

Ratio of Apprentices to Journeymen - 1:4

Craft: Ironworker

COMMENTS/NOTES

HAZARDOUS WASTE WORK: On hazardous waste removal work on a state or federally designated hazardous waste site where the Ironworker is required to wear Level A,B, or C personal protection: + \$3.00 per hour

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

FOREMAN REQUIREMENTS:

When there are 2 or more Ironworkers on a job, 1 shall be designated a Foreman.

SHIFT DIFFERENTIALS:

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

OVERTIME:

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

County - UNION

- All hours in excess of 8 per day, or before or after an established shift that are not shift work, and all hours on Saturday, shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sunday and holidays shall be paid at double the hourly rate, inclusive of benefits. Saturday may be used as a make-up day for a day lost to inclement weather. If Saturday is not a make-up day, all hours on Saturday shall be paid at time and one-half the hourly rate, inclusive of benefits.

- Four 10-hour days may be worked, Monday to Thursday, at straight time. Friday may be used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate, inclusive of benefits.

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

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

County - UNION

Craft: Laborer - Asbestos & Hazardous Waste Removal

PREVAILING WAGE RATE

| | |
|----------------------|----------------------------|
| | 12/17/14 |
| Foreman | W38.00 B16.20 T54.20 |
| Journeyman (Handler) | W36.00 B16.20 T52.20 |

Expiration Date: 11/30/2015

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

| | 11/02/15 |
|--------------------|----------------------------|
| Class A Journeyman | W30.90 B25.97 T56.87 |
| Class B Journeyman | W30.40 B25.97 T56.37 |
| Class C Journeyman | W25.84 B25.97 T51.81 |
| Foreman | W34.76 B25.97 T60.73 |
| General Foreman | W38.63 B25.97 T64.60 |

Expiration Date: 04/30/2016

Craft: Laborer - Building

APPRENTICE RATE SCHEDULE

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|-----------------|-------------------------|-------|-------|-------|--|--|--|--|--|--|
| 6 Months | 60% | 70% | 80% | 90% | | | | | | |
| Benefit | 22.72 | 22.72 | 22.72 | 22.72 | | | | | | |

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.

With respect to the APPRENTICE RATE SCHEDULE, the following shall apply:

- On 9-1-15- benefits shall be \$18.03.
- On 3-1-16- benefits shall be \$18.78.
- On 9-1-16- benefits shall be \$18.78.
- On 3-1-17- benefits shall be \$19.53.

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

County - UNION

Craft: Millwright

PREVAILING WAGE RATE

| | |
|------------|----------------------------|
| | 11/01/15 |
| Foreman | W52.30 B30.36 T82.66 |
| Journeyman | W45.48 B26.47 T71.95 |

Expiration Date: 04/30/2016

Craft: Millwright

APPRENTICE RATE SCHEDULE

| INTERVAL | PERIOD AND RATES | | | | | | | | | |
|----------|------------------|--------|------|------|------|---------|-----------|------|-----|-----|
| | 40% | 45% | 50% | 55% | 60% | 65% | 70% | 75% | 85% | 95% |
| 6 Months | | | | | | | | | | |
| Benefits | 57% 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: 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

| | |
|------------|----------------------------|
| | 10/22/15 |
| Foreman | W32.89 B29.26 T62.15 |
| Journeyman | W31.64 B29.26 T60.90 |

Expiration Date: 03/31/2016

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 | 9.84 | 11.24 | 12.61 | 14.01 | 15.76 | 17.17 | 18.60 | 20.03 | 21.44 | 22.85 |

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

| | |
|-----------------|----------------------------|
| | 07/23/15 |
| Foreman | W49.22 B37.00 T86.22 |
| General Foreman | W50.22 B37.00 T87.22 |
| Journeyman | W45.72 B37.00 T82.72 |

Expiration Date: 05/31/2016

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

| | 08/27/15 | 01/01/16 | 07/01/16 | 01/01/17 |
|----------------------|----------|----------|----------|----------|
| Grinder or Assistant | W49.10 | W0.00 | W0.00 | W0.00 |
| | B32.45 | B0.00 | B0.00 | B0.00 |
| | T81.55 | T82.70 | T83.85 | T85.00 |
| Mechanic | W50.71 | W0.00 | W0.00 | W0.00 |
| | B32.46 | 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

| | 11/02/15 |
|--|----------------------------|
| Bucket, Utility, Pick-up, Fuel Delivery trucks | W35.60 B31.76 T67.36 |
| Dump truck, Asphalt Distributor, Tack Spreader | W35.60 B31.76 T67.36 |
| Euclid-type vehicles (large, off-road equipment) | W35.75 B31.76 T67.51 |
| Helper on Asphalt Distributor truck | W35.60 B31.76 T67.36 |
| Slurry Seal, Seeding/Fertilizing/ Mulching truck | W35.60 B31.76 T67.36 |
| Straight 3-axle truck | W35.65 B31.76 T67.41 |
| Tractor Trailer (all types) | W35.75 B31.76 T67.51 |
| Vacuum or Vac-All truck (entire unit) | W35.60 B31.76 T67.36 |
| Winch Trailer | W35.85 B31.76 T67.61 |

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

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

{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.

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

Effective Dates:

| | 07/23/2015 | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|-------|-------------------|-------|-------------------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total | Total |
| 45.48 | 29.48 | 74.96 | 76.11 | 77.11 | 78.26 |

CLASSIFICATIONS:

- A-Frame
- Backhoe (combination)
- Boom Attachment on loaders (Except pipehook)
- Boring & Drilling Machine
- Brush Chopper, Brush Shredder, Tree Shredder
- Bulldozer, finish grade
- Cableway
- Carryall
- Concrete Pump
- Concrete Pumping System (Pumpcrete & similar types)
- Conveyor, 125 feet or longer
- Drill Doctor (Duties include dust collector and maintenance)
- Front End Loader (2 cu. yds. but less than 5 cu. yds.)
- Grader, finish
- Groove Cutting Machine (ride-on type)
- Heater Planer
- Hoist (all types including steam, gas, diesel, electric, air hydraulic, single and double drum, concrete, brick shaft caisson, snorkle roof, and other similar types, Except Chicago-boom type)
- Hydraulic Crane (10 tons & under)
- Hydro-Axe
- Hydro-Blaster
- Jack (screw, air hydraulic, power-operated unit, or console type, Except hand jack or pile load test type)
- Log Skidder

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

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|-------------------|--------|-------|-------------------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total | Total |
| 45.48 | 29.48 | 74.96 | 76.11 | 77.11 | 78.26 |

CLASSIFICATIONS:

- Pan
- Paver, concrete
- Plate & Frame Filter Press
- Pumpcrete (unit type)
- Pumpcrete, Squeezecrete, or Concrete Pumping machine
(regardless of size)
- Scraper
- Side Boom
- Straddle Carrier (Ross and similar types)
- Vacuum Truck
- Whiphammer
- Winch Truck (hoisting)

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

Effective Dates:

| | 07/23/2015 | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 43.57 | 29.48 | 73.05 | 74.60 | 75.20 | 76.35 |

CLASSIFICATIONS:

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

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

Effective Dates:

| | 07/23/2015 | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 43.57 | 29.48 | 73.05 | 74.60 | 75.20 | 76.35 |

CLASSIFICATIONS:

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

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

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 43.57 | 29.48 | 73.05 | 74.60 | 75.20 | 76.35 |

CLASSIFICATIONS:

Locomotive (Dinky-type)

Maintenance Utility Man

Master Environmental Maintenance Technician

Mechanic

Mixer (Except paving mixers)

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

Pavement Breaker - maintenance of compressor or hydraulic unit

Pipe Bending Machine (power)

Pitch Pump

Plaster Pump (regardless of size)

Post Hole Digger (post pounder, auger)

Roller (black top)

Scale (power)

Seamen Pulverizing Mixer

Shoulder Widener

Silo

Skimmer Machine (boom type)

Steel Cutting Machine (service & maintenance)

Tamrock Drill

Tractor

Transfer Machines

Tug Captains

Tug Master (Power Boats)

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

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|-------------------|--------|-------|-------------------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total | Total |
| 43.57 | 29.48 | 73.05 | 74.60 | 75.20 | 76.35 |

CLASSIFICATIONS:

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

Vacuum Blasting Machine - Operator/Maintenance Technician

Vibrating Plant (used with unloading)

Welder & Repair Mechanic

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|-------------------|--------|-------|-------------------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total | Total |
| 40.23 | 29.48 | 69.71 | 70.86 | 71.86 | 73.01 |

CLASSIFICATIONS:

Assistant Engineer/Oiler

Driller's Helper

Field Engineer - Transit man or Instrument man

Maintenance Apprentice (Deckhand)

Maintenance Apprentice (Oiler)

Mechanic's Helper

Off Road Back Dump

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|-------------------|--------|-------|-------------------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total | Total |
| 37.65 | 29.48 | 67.13 | 68.28 | 69.28 | 70.43 |

CLASSIFICATIONS:

Field Engineer - Rodman or Chainman

TERRITORY
ENTIRE STATE

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

OPERATING ENGINEERS Rates Expiration Date : 06/30/2017

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 47.81 | 29.48 | 77.29 | 78.44 | 79.44 | 80.59 |

CLASSIFICATIONS:

Lead Engineer, Foreman Engineer, Safety Engineer (minimum)

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

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 47.07 | 29.48 | 76.55 | 77.70 | 78.70 | 79.85 |

CLASSIFICATIONS:

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

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

Effective Dates:

| | 07/23/2015 | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|-------|-------------------|-------|-------------------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total | Total |
| 47.07 | 29.48 | 76.55 | 77.70 | 78.70 | 79.85 |

CLASSIFICATIONS:

Pile Driver

Prentice Truck

Roadway Surface Grinder

Scooper (loader & shovel)

Shovel (Excavator)

Trackhoe (Excavator)

Tree Chopper with boom

Trenching Machine (cable plow)

Tunnel Boring Machine

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

Effective Dates:

| | 07/23/2015 | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 41.94 | 29.48 | 71.42 | 72.57 | 73.57 | 74.72 |

CLASSIFICATIONS:

- Chipper
- Compressor (single)
- Concrete Spreader (small type)
- Conveyor Loader (Except elevator graders)
- Engines, Large Diesel (1620 HP) & Staging Pump
- Farm Tractor
- Fertilizing Equipment (operation & maintenance)
- Fine Grade Machine (small type)
- Form Line Grader (small type)
- Front End Loader (under 1 cubic yard)
- Generator (single)
- Grease, Gas, Fuel, & Oil Supply Trucks
- Heaters (Nelson or other type)
- Lights - portable generating light plant
- Mixer, Concrete (small)
- Mulching Equipment (operation & maintenance)
- Power Broom or Sweeper
- Pump (diesel engine & hydraulic - regardless of power)
- Pump (larger than 2 inch suction, including submersible pumps)
- Road Finishing Machine (small type)
- Roller - grade, fill, or stone base
- Seeding Equipment (operation & maintenance)
- Sprinkler & Water Pump Trucks

OPERATING ENGINEERS Rates Expiration Date : 06/30/2017

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 41.94 | 29.48 | 71.42 | 72.57 | 73.57 | 74.72 |

CLASSIFICATIONS:

Steam Generator or Boiler

Stone Spreader

Tamping Machine (vibrating ride-on type)

Temporary Heating Plant (Nelson or other type, including propane, natural gas, and flow-type units)

Water or Sprinkler Truck

Welding Machine (gas, diesel, or electric convertor, of any type)

Welding System - Multiple (rectifier transformer type)

Wellpoint Systems (including installation by bull gang and maintenance)

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 48.89 | 29.48 | 78.37 | 79.52 | 80.52 | 81.67 |

CLASSIFICATIONS:

Helicopter Pilot/Engineer

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 50.32 | 29.48 | 79.80 | 80.95 | 81.95 | 83.10 |

CLASSIFICATIONS:

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

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 49.32 | 29.48 | 78.80 | 79.95 | 80.95 | 82.10 |

CLASSIFICATIONS:

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

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

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|-------------------|--------|-------|-------------------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total | Total |
| 49.07 | 29.48 | 78.55 | 79.70 | 80.70 | 81.85 |

CLASSIFICATIONS:

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

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|-------------------|--------|-------|-------------------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total | Total |
| 48.32 | 29.48 | 77.80 | 78.95 | 79.95 | 81.10 |

CLASSIFICATIONS:

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

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|-------------------|--------|-------|-------------------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total | Total |
| 48.07 | 29.48 | 77.55 | 78.70 | 79.70 | 80.85 |

CLASSIFICATIONS:

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

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

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

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

SHIFT DIFFERENTIALS:

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

OVERTIME:

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

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

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

Effective Dates:

| | 07/23/2015 | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|-------|-------------------|-------|-------------------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total | Total |
| 50.70 | 29.48 | 80.18 | 81.33 | 82.33 | 83.48 |

CLASSIFICATIONS:

Helicopter Pilot or Engineer

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

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 46.64 | 29.48 | 76.12 | 77.27 | 78.27 | 79.42 |

CLASSIFICATIONS:

A-Frame

Cherry Picker -10 tons or less (Over 10 tons use crane rate)

Hoist (all types Except Chicago-boom)

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

Side Boom

Straddle Carrier

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 43.98 | 29.48 | 73.46 | 74.61 | 75.61 | 76.76 |

CLASSIFICATIONS:

Aerial Platform Used On Hoists

Apprentice Engineer/Oiler with Compressor or Welding Machine

Captain (Power Boats)

Compressor (2 or 3 in battery)

Conveyor or Tugger Hoist

Elevator or House Car

Fireman

Forklift

Generator (2 or 3)

Maintenance Utility Man

Tug Master (Power Boats)

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

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

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 42.45 | 29.48 | 71.93 | 73.08 | 74.08 | 75.23 |

CLASSIFICATIONS:

Compressor (Single)

Generators

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

Welding System, Multiple (Rectifier Transformer Type)

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 40.69 | 29.48 | 70.17 | 71.32 | 72.32 | 73.47 |

CLASSIFICATIONS:

Assistant Engineer/Oiler

Drillers Helper

Field Engineer - Transit/Instrument Man

Maintenance Apprentice (Deckhand)

Maintenance Apprentice (Oiler)

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 48.26 | 29.48 | 77.74 | 78.89 | 79.89 | 81.04 |

CLASSIFICATIONS:

Lead Engineer, Foreman Engineer, Safety Engineer (Minimum)

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 37.65 | 29.48 | 67.13 | 68.28 | 69.28 | 70.43 |

CLASSIFICATIONS:

Field Engineer - Rodman or Chainman

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

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 47.40 | 29.48 | 76.88 | 78.03 | 79.03 | 80.18 |

CLASSIFICATIONS:

Field Engineer-Chief of Party

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 53.34 | 29.48 | 82.82 | 83.97 | 84.97 | 86.12 |

CLASSIFICATIONS:

Cranes (all cranes, land or floating with booms, including jib, 140 ft. and over, above ground). Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, 140 ft. and over, above ground), and Pile Drivers (all types) over 100 tons and Tower Cranes.

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 51.68 | 29.48 | 81.16 | 82.31 | 83.31 | 84.46 |

CLASSIFICATIONS:

Cranes (all cranes, land or floating with booms including jib, less than 140 ft. above ground), Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, less than 140 ft. above ground), Pile Drivers (all types), over 100 tons and Tower Crane.

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 51.09 | 29.48 | 80.57 | 81.72 | 82.72 | 83.87 |

CLASSIFICATIONS:

Cranes (all cranes, land or floating with booms including jib, 140 ft. and over, above ground), Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, 140 ft. and over, above ground), Pile Drivers (all types), under 100 tons.

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 49.43 | 29.48 | 78.91 | 80.06 | 81.06 | 82.21 |

CLASSIFICATIONS:

Cranes (all cranes, land or floating with booms including jib, less than 140 ft. above ground), Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, less than 140 ft. above ground), Pile Drivers (all types), under 100 tons.

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

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 51.09 | 29.48 | 80.57 | 81.72 | 82.72 | 83.87 |

CLASSIFICATIONS:

Helicopter Co-Pilot

Helicopter Communications Engineer

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

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Hunterdon, Mercer, Monmouth, Ocean, Salem, Sussex, Warren

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 Dates:

| | 07/23/2015 | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 47.07 | 29.48 | 76.55 | 77.70 | 78.70 | 79.85 |

CLASSIFICATIONS:

Driller

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

Effective Dates:

| 07/23/2015 | | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|-------------------|--------|-------|-------------------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total | Total |
| 40.23 | 29.48 | 69.71 | 70.86 | 71.86 | 73.01 |

CLASSIFICATIONS:

Driller's Helper

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

{For apprentice rates refer to "Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

SHIFT DIFFERENTIALS:

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$2.50 per hour.

OVERTIME:

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

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

Hazardous Waste Work:

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 39.00 | 26.53 | 65.53 | 67.03 | 68.13 | 70.53 |

CLASSIFICATIONS:

Walking Boss & Superintendent

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 38.70 | 26.53 | 65.23 | 66.73 | 67.83 | 70.23 |

CLASSIFICATIONS:

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

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

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 38.20 | 26.53 | 64.73 | 66.23 | 67.33 | 69.73 |

CLASSIFICATIONS:

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

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 40.70 | 26.53 | 67.23 | 68.73 | 69.83 | 72.23 |

CLASSIFICATIONS:

Blaster

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 37.65 | 26.53 | 64.18 | 65.68 | 66.78 | 69.18 |

CLASSIFICATIONS:

Top Labor Foreman

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 37.30 | 26.53 | 63.83 | 65.33 | 66.43 | 68.83 |

CLASSIFICATIONS:

Skilled Men (including Caulker, Powder Carrier, all other skilled men)

Skilled Men (including Miner, Drill Runner, Iron Man, Conveyor Man, Manintenance Man, Safety Miner, Rigger, Block Layer, Cement Finisher, Tod Man)

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 37.15 | 26.53 | 63.68 | 65.18 | 66.28 | 68.68 |

CLASSIFICATIONS:

Semi-Skilled Men (including Bell or Signal Man Top or Bottom, Form Worker & Mover, Concrete Worker, Shaft Man, Tunnel Laborer, Caulker's Helper, all other semi-skilled)

Semi-Skilled Men (including Miner's Helper, Chuck Tender, Track Man, Nipper, Brake Man, Derail Man, Cable Man, Hose Man, Gravel Man, Form Man)

TERRITORY
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PREVAILING WAGE RATE DETERMINATION

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

Effective Dates:

| 09/01/2015 | | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------------------|--------|-------|-------------------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total | Total |
| 36.65 | 26.53 | 63.18 | 64.68 | 65.78 | 68.18 |

CLASSIFICATIONS:

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

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

The well driller and/or helper may perform all work relative to the construction, finishing, and servicing of wells, pumps and borings for ground water supply. The present methods of well drilling entailing as they do, many diverse job operations calling for drilling, pump discharge, piping, and the operation of various types of related power equipment, shall all be within the job duties and functions of the well driller and/or helper. In the event that an extension of work should occur beyond water well drilling functions, into the field of general construction work, such extension of work would come under the appropriate rates listed elsewhere in this wage determination.

- For Work Hours, Shift Differentials, Overtime Rates, and Recognized Holidays see the "Operating Engineers" section of this wage determination.

Effective Dates:

| | 07/23/2015 | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|-------|-------------------|-------|-------------------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total | Total |
| 45.82 | 29.48 | 75.30 | 76.45 | 77.45 | 78.60 |

CLASSIFICATIONS:

Driller

Effective Dates:

| | 07/23/2015 | | 01/01/2016 | 07/01/2016 | 01/01/2017 |
|-------|-------------------|-------|-------------------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total | Total |
| 38.98 | 29.48 | 68.46 | 89.61 | 70.61 | 71.76 |

CLASSIFICATIONS:

Driller's Helper

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 Dates:

10/01/2014

| Rate | Fringe | Total |
|-------|--------|-------|
| 35.63 | 12.89 | 48.52 |

CLASSIFICATIONS:

Lead Dredgerman, Operator, Leverman

Licensed Tug Operator (over 1000 HP)

Effective Dates:

10/01/2014

| Rate | Fringe | Total |
|-------|--------|-------|
| 30.81 | 12.50 | 43.31 |

CLASSIFICATIONS:

Derrick Operator, Spider/Spill Barge Operator

Engineer, Electrician, Chief Welder, Chief Mate

Fill Placer, Operator II

Licensed Boat Operator

Maintenance Engineer

Effective Dates:

10/01/2014

| Rate | Fringe | Total |
|-------|--------|-------|
| 29.01 | 12.36 | 41.37 |

CLASSIFICATIONS:

Certified Welder

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

Effective Dates:

10/01/2014

| Rate | Fringe | Total |
|-------|--------|-------|
| 28.22 | 12.00 | 40.22 |

CLASSIFICATIONS:

Mate, Drag Barge Operator, Steward, Assistant Fill Placer

Welder

Effective Dates:

10/01/2014

| Rate | Fringe | Total |
|-------|--------|-------|
| 27.30 | 11.92 | 39.22 |

CLASSIFICATIONS:

Boat Operator

Effective Dates:

10/01/2014

| Rate | Fringe | Total |
|-------|--------|-------|
| 22.68 | 11.25 | 33.93 |

CLASSIFICATIONS:

Shoreman, Deckhand, Rodman, Scowman

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

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer, Ocean, Salem

IN ALL OTHER COUNTIES use the Heavy and General Laborers - North "Slurry Seal Laborer" rates.

SHIFT DIFFERENTIALS:

Any shift starting at 3:30 PM or later shall receive an additional \$0.35/hr

OVERTIME:

Hours in excess of 8 per day or 40 per week shall be paid at time and one-half the hourly rate. All hours on holidays shall be paid at double the hourly rate.

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

Effective Dates:

| | 03/01/2015 | | 03/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|
| Rate | Fringe | Total | Total | Total |
| 35.00 | 19.69 | 54.69 | 56.10 | 57.77 |

CLASSIFICATIONS:

Foreman

Effective Dates:

| | 03/01/2015 | | 03/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|
| Rate | Fringe | Total | Total | Total |
| 32.40 | 19.69 | 52.09 | 53.45 | 55.07 |

CLASSIFICATIONS:

Box man

Effective Dates:

| | 03/01/2015 | | 03/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|
| Rate | Fringe | Total | Total | Total |
| 30.40 | 19.69 | 50.09 | 51.45 | 53.02 |

CLASSIFICATIONS:

Microsurface/Slurry Preparation

Effective Dates:

| | 03/01/2015 | | 03/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|
| Rate | Fringe | Total | Total | Total |
| 30.40 | 19.69 | 50.09 | 51.45 | 53.02 |

CLASSIFICATIONS:

Squeegee man

TERRITORY
ENTIRE STATE

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

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

Effective Dates:

| 03/01/2015 | | | 03/01/2016 | 03/01/2017 |
|------------|--------|-------|------------|------------|
| Rate | Fringe | Total | Total | Total |
| 28.90 | 19.69 | 48.59 | 49.95 | 51.57 |

CLASSIFICATIONS:

Cleaner, Taper

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

"THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY: Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer, Ocean, Salem

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

SHIFT DIFFERENTIALS:

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$2.50 per hour.

OVERTIME:

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

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

Hazardous Waste Work:

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 38.50 | 26.53 | 65.03 | 66.53 | 67.63 | 70.03 |

CLASSIFICATIONS:

Paving Foreman

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 37.05 | 26.53 | 63.58 | 65.08 | 66.18 | 68.58 |

CLASSIFICATIONS:

Head Raker

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 36.90 | 26.53 | 63.43 | 64.93 | 66.03 | 68.43 |

CLASSIFICATIONS:

Raker, Screedman, Luteman

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

Effective Dates:

| 09/01/2015 | | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------------------|--------|-------|-------------------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total | Total |
| 36.65 | 26.53 | 63.18 | 64.68 | 65.78 | 68.18 |

CLASSIFICATIONS:

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

Effective Dates:

| 09/01/2015 | | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------------------|--------|-------|-------------------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total | Total |
| 36.75 | 26.53 | 63.28 | 64.78 | 65.88 | 68.28 |

CLASSIFICATIONS:

Milling Controller

Effective Dates:

| 09/01/2015 | | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------------------|--------|-------|-------------------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total | Total |
| 36.95 | 26.53 | 63.48 | 64.98 | 66.08 | 68.48 |

CLASSIFICATIONS:

Traffic Control Coordinator

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 Dates:

11/13/2014

| Rate | Fringe | Total |
|-------|--------|-------|
| 29.44 | 22.89 | 52.33 |

CLASSIFICATIONS:

Helper (4th year helper)

Effective Dates:

11/13/2014

| Rate | Fringe | Total |
|-------|--------|-------|
| 36.82 | 22.89 | 59.71 |

CLASSIFICATIONS:

Driller

Effective Dates:

11/13/2014

| Rate | Fringe | Total |
|-------|--------|-------|
| 42.22 | 22.89 | 65.11 |

CLASSIFICATIONS:

Foreman

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

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Passaic, Somerset, Sussex, Union, Warren

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

SHIFT DIFFERENTIALS:

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$2.50 per hour.

OVERTIME:

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

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

Hazardous Waste Work:

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 36.25 | 26.53 | 62.78 | 64.28 | 65.38 | 67.78 |

CLASSIFICATIONS:

"D" Rate:

basic, landscape, asphalt, slurry seal, or railroad track laborer; utility meter installer; traffic director/flagman; salamander tender; pitman; dumpman; rakers or tampers on cold patch work; wrappers or coaters of pipe; waterproofer; timberman; wagon drill or drill master helper; powder carrier; magazine tender; signal man; power buggy operator; tree cutter; operator of basic power tools

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 36.95 | 26.53 | 63.48 | 64.98 | 66.08 | 68.48 |

CLASSIFICATIONS:

"C" Rate:

pipe layer; laser man; conduit or duct line layer; operator of jack hammer, chipping hammer, pavement breaker, concrete cutter, asphalt cutter, sheet hammer, or walk-behind saw cutter; sandblaster; acetylene cutting or burning; wagon drill, directional drill, or hydraulic drill operator; drill master; core driller; traffic control coordinator; asphalt raker or lute man

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

Effective Dates:

| 09/01/2015 | | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 37.20 | 26.53 | 63.73 | 65.23 | 66.33 | 68.73 |

CLASSIFICATIONS:

"B" Rate:

concrete finisher; setter of brick or stone pavers; stone cutter; form setter; manhole, catch basin, or inlet builder; asphalt screedman; rammer; hardscaping; gunite nozzle man

Effective Dates:

| 09/01/2015 | | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 40.75 | 26.53 | 67.28 | 68.78 | 69.88 | 72.28 |

CLASSIFICATIONS:

"A" Rate:

blaster

Effective Dates:

| 09/01/2015 | | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 38.50 | 26.53 | 65.03 | 66.53 | 67.63 | 70.03 |

CLASSIFICATIONS:

"FOREMAN" Rate:

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

Effective Dates:

| 09/01/2015 | | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 39.50 | 26.53 | 66.03 | 67.53 | 68.63 | 71.03 |

CLASSIFICATIONS:

"GENERAL FOREMAN" Rate

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

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer, Ocean, Salem

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

SHIFT DIFFERENTIALS:

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$2.50 per hour.

OVERTIME:

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

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

Hazardous Waste Work:

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 36.25 | 26.53 | 62.78 | 64.28 | 65.38 | 67.78 |

CLASSIFICATIONS:

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

tree cutter, timberman

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 36.25 | 26.53 | 62.78 | 64.98 | 66.08 | 68.48 |

CLASSIFICATIONS:

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

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

Effective Dates:

| 09/01/2015 | | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 36.95 | 26.53 | 63.48 | 64.98 | 66.08 | 68.48 |

CLASSIFICATIONS:

pipe layer; laser man; conduit or duct line layer; operator of jack hammer, chipping hammer, pavement breaker, concrete cutter, asphalt cutter, sheet hammer, or walk-behind saw cutter; sandblaster; acetylene cutting or burning

Effective Dates:

| 09/01/2015 | | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 36.95 | 26.53 | 63.48 | 64.98 | 66.08 | 68.48 |

CLASSIFICATIONS:

wagon or directional drill operator; drill master

Effective Dates:

| 09/01/2015 | | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 40.75 | 26.53 | 67.28 | 68.78 | 69.88 | 72.28 |

CLASSIFICATIONS:

blaster

Effective Dates:

| 09/01/2015 | | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 38.50 | 26.53 | 65.03 | 66.53 | 67.63 | 70.03 |

CLASSIFICATIONS:

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

Effective Dates:

| 09/01/2015 | | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 39.50 | 26.53 | 66.03 | 67.53 | 68.63 | 71.03 |

CLASSIFICATIONS:

general foreman

TERRITORY
ENTIRE STATE

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

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

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|-------------------|-------|-------------------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total | Total |
| 37.20 | 26.53 | 63.73 | 65.23 | 66.33 | 68.73 |

CLASSIFICATIONS:

concrete finisher; setter of brick or stone pavers; stone cutter; form setter; manhole, catch basin, or inlet builder; rammer; gunite nozzle man

PIPELINE - MAINLINE TRANSMISSION Rates Expiration Date : 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 Dates:

06/02/2015

| Rate | Fringe | Total |
|-------|--------|-------|
| 52.53 | 26.14 | 78.67 |

CLASSIFICATIONS:

Pipeline Journeyman Welder

TERRITORY
ENTIRE STATE

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

PIPELINE - MAINLINE TRANSMISSION Rates Expiration Date : 05/31/2016

Effective Dates:

06/02/2015

| Rate | Fringe | Total |
|-------|--------|-------|
| 52.53 | 26.14 | 78.67 |

CLASSIFICATIONS:

Pipeline Journeyman

Effective Dates:

06/02/2015

| Rate | Fringe | Total |
|-------|--------|-------|
| 31.82 | 18.28 | 50.10 |

CLASSIFICATIONS:

Pipeline Helper

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

These rates apply to the following: welding on gas line distribution systems (that portion of the gas distribution system placed in streets, roads, subways, tunnels, viaducts, highways and easements which serves the users of gas).

SHIFT DIFFERENTIALS:

An "irregular" shift may start any time from 5:00 PM to 12:00 AM, Monday through Friday, and shall receive an additional 15% of the regular rate per hour, inclusive of benefits.

OVERTIME:

Hours in excess of forty per week, and all hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.

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

Effective Dates:

| 10/30/2014 | | | 11/01/2015 | 11/01/2016 |
|-------------------|--------|-------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total |
| 54.13 | 20.90 | 75.03 | 77.05 | 79.13 |

CLASSIFICATIONS:

Pipeline Journeyman Welder

Effective Dates:

| 10/30/2014 | | | 11/01/2015 | 11/01/2016 |
|-------------------|--------|-------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total |
| 54.13 | 20.90 | 75.03 | 77.05 | 79.13 |

CLASSIFICATIONS:

Pipeline Journeyman

Effective Dates:

| 10/30/2014 | | | 11/01/2015 | 11/01/2016 |
|-------------------|--------|-------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total |
| 35.07 | 15.09 | 50.16 | 51.51 | 52.90 |

CLASSIFICATIONS:

Pipeline Helper

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

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Passaic, Somerset, Sussex, Union, Warren

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

SHIFT DIFFERENTIALS:

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$2.50 per hour.

OVERTIME:

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

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

Hazardous Waste Work:

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 38.50 | 26.53 | 65.03 | 66.53 | 67.63 | 70.03 |

CLASSIFICATIONS:

Asphalt Foreman

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 37.20 | 26.53 | 63.73 | 65.23 | 66.33 | 68.73 |

CLASSIFICATIONS:

Asphalt Screedman

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 36.95 | 26.53 | 63.48 | 64.98 | 66.08 | 68.48 |

CLASSIFICATIONS:

Asphalt Raker or Lute Man

TERRITORY
ENTIRE STATE

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

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

Effective Dates:

| 09/01/2015 | | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|------------|--------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 36.25 | 26.53 | 62.78 | 64.28 | 65.38 | 67.78 |

CLASSIFICATIONS:

Asphalt Laborer

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

Electrician-Utility Work (North)

(For apprentice rates refer to Electrician-Utility Work (North) in any county rate package).

These rates apply to work contracted for by the following utility companies:

Public Service Electric & Gas Co. of NJ, GPU Energy, Borough of Madison Electric Department, Sussex Rural Electric Cooperative, Rockland Utilities, and Butler Municipal Electric Co.

These rates do not apply to work on substations or switching stations.

For Utility work contracted for by a utility company other than those listed above or those listed under "Electrician-Utility Work (South), see the "Outside Commercial Rates" for the county in which the jobsite is located.

* FOR OUTSIDE COMMERCIAL RATES PLEASE SEE COUNTY RATES

The regular workday is 8 hours, between 6:00 AM and 6:00 PM.

FOR EMERGENCY WORK ONLY: (emergency work is defined as work caused by storm, catastrophe, act of god, and circumstances beyond the control of the employer)-all hours of work shall be paid at double the hourly rate.

SHIFT DIFFERENTIALS:

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

2nd shift (between the hours of 4:30 PM and 1:00 AM): 8 hours of work + 17.3% of the regular rate, inclusive of benefits.

3rd shift (between the hours of 12:30 AM and 9:00 AM): 8 hours of work + 31.4% of the regular rate per hour, inclusive of benefits.

OVERTIME:

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

Four 10-hour days may worked, at straight time, between 7:00 AM and 6:30 PM, Monday through Thursday.

RECOGNIZED HOLIDAYS:

New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day and Christmas Day, or day on which they are legally observed.

Effective Dates:

| | 12/01/2014 | | 11/29/2015 | 12/04/2016 |
|-------|-------------------|-------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total |
| 48.93 | 32.78 | 81.71 | 84.36 | 87.27 |

CLASSIFICATIONS:

Chief Lineman

Effective Dates:

| | 12/01/2014 | | 11/29/2015 | 12/04/2016 |
|-------|-------------------|-------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total |
| 46.16 | 30.92 | 77.08 | 79.59 | 82.34 |

CLASSIFICATIONS:

Journeyman Lineman

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

Effective Dates:

| 12/01/2014 | | | 11/29/2015 | 12/04/2016 |
|------------|--------|-------|------------|------------|
| Rate | Fringe | Total | Total | Total |
| 46.16 | 30.92 | 77.08 | 79.59 | 82.34 |

CLASSIFICATIONS:

Special License Operator

Effective Dates:

| 12/01/2014 | | | 11/29/2015 | 12/04/2016 |
|------------|--------|-------|------------|------------|
| Rate | Fringe | Total | Total | Total |
| 45.70 | 30.61 | 76.31 | 78.79 | 81.51 |

CLASSIFICATIONS:

Transit Man

Effective Dates:

| 12/01/2014 | | | 11/29/2015 | 12/04/2016 |
|------------|--------|-------|------------|------------|
| Rate | Fringe | Total | Total | Total |
| 44.32 | 29.69 | 74.01 | 76.40 | 79.04 |

CLASSIFICATIONS:

Line Equipment Operator

Effective Dates:

| 12/01/2014 | | | 11/29/2015 | 12/04/2016 |
|------------|--------|-------|------------|------------|
| Rate | Fringe | Total | Total | Total |
| 38.78 | 25.98 | 64.76 | 66.85 | 69.17 |

CLASSIFICATIONS:

Dynamite Man

Effective Dates:

| 12/01/2014 | | | 11/29/2015 | 12/04/2016 |
|------------|--------|-------|------------|------------|
| Rate | Fringe | Total | Total | Total |
| 54.47 | 36.49 | 90.96 | 93.92 | 97.16 |

CLASSIFICATIONS:

General Foreman

Effective Dates:

| 12/01/2014 | | | 11/29/2015 | 12/04/2016 |
|------------|--------|-------|------------|------------|
| Rate | Fringe | Total | Total | Total |
| 53.09 | 35.57 | 88.66 | 91.53 | 94.68 |

CLASSIFICATIONS:

Assistant General Foreman

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

Effective Dates:

| 12/01/2014 | | | 11/29/2015 | 12/04/2016 |
|------------|--------|-------|------------|------------|
| Rate | Fringe | Total | Total | Total |
| 51.70 | 34.63 | 86.33 | 89.14 | 92.21 |

CLASSIFICATIONS:

Line Foreman

Effective Dates:

| 12/01/2014 | | | 11/29/2015 | 12/04/2016 |
|------------|--------|-------|------------|------------|
| Rate | Fringe | Total | Total | Total |
| 37.39 | 25.05 | 62.44 | 64.46 | 66.69 |

CLASSIFICATIONS:

Straight Light Mechanical Leader

Effective Dates:

| 12/01/2014 | | | 11/29/2015 | 12/04/2016 |
|------------|--------|-------|------------|------------|
| Rate | Fringe | Total | Total | Total |
| 35.54 | 23.81 | 59.35 | 61.28 | 63.40 |

CLASSIFICATIONS:

Groundman Winch Operator

Effective Dates:

| 12/01/2014 | | | 11/29/2015 | 12/04/2016 |
|------------|--------|-------|------------|------------|
| Rate | Fringe | Total | Total | Total |
| 35.54 | 23.81 | 59.35 | 61.28 | 63.40 |

CLASSIFICATIONS:

Groundman Truck Operator

Effective Dates:

| 12/01/2014 | | | 11/29/2015 | 12/04/2016 |
|------------|--------|-------|------------|------------|
| Rate | Fringe | Total | Total | Total |
| 35.08 | 23.50 | 58.58 | 60.48 | 62.57 |

CLASSIFICATIONS:

Straight Light Mechanic

Effective Dates:

| 12/01/2014 | | | 11/29/2015 | 12/04/2016 |
|------------|--------|-------|------------|------------|
| Rate | Fringe | Total | Total | Total |
| 35.08 | 23.50 | 58.58 | 60.48 | 62.57 |

CLASSIFICATIONS:

Line Equipment Mechanic

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

Effective Dates:

| 12/01/2014 | | | 11/29/2015 | 12/04/2016 |
|-------------------|--------|-------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total |
| 30.01 | 20.10 | 50.11 | 51.73 | 53.52 |

CLASSIFICATIONS:

Groundman 2nd Year

Effective Dates:

| 12/01/2014 | | | 11/29/2015 | 12/04/2016 |
|-------------------|--------|-------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total |
| 27.70 | 18.55 | 46.25 | 47.76 | 49.39 |

CLASSIFICATIONS:

Groundman 1st Year

Effective Dates:

| 12/01/2014 | | | 11/29/2015 | 12/04/2016 |
|-------------------|--------|-------|-------------------|-------------------|
| Rate | Fringe | Total | Total | Total |
| 45.70 | 30.61 | 76.31 | 78.79 | 81.51 |

CLASSIFICATIONS:

Line Equipment Foreman

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.

Effective Dates:

12/04/2014

| Rate | Fringe | Total |
|-------|--------|-------|
| 56.05 | 41.02 | 97.07 |

CLASSIFICATIONS:

General Foreman

ELECTRICIAN- UTILITY WORK (SOUTH) **Rates Expiration Date : 11/30/2015**

Effective Dates:

12/04/2014

| Rate | Fringe | Total |
|-------|--------|-------|
| 49.92 | 37.54 | 87.46 |

CLASSIFICATIONS:

Foreman

Effective Dates:

12/04/2014

| Rate | Fringe | Total |
|-------|--------|-------|
| 47.29 | 36.06 | 83.35 |

CLASSIFICATIONS:

Small Job Foreman

Effective Dates:

12/04/2014

| Rate | Fringe | Total |
|-------|--------|-------|
| 43.79 | 34.05 | 77.84 |

CLASSIFICATIONS:

Heavy Equipment Operator

Effective Dates:

12/04/2014

| Rate | Fringe | Total |
|-------|--------|-------|
| 43.79 | 34.05 | 77.84 |

CLASSIFICATIONS:

Cable Splicer

Effective Dates:

12/04/2014

| Rate | Fringe | Total |
|-------|--------|-------|
| 43.79 | 34.05 | 77.84 |

CLASSIFICATIONS:

Journeyman Lineman

Effective Dates:

12/04/2014

| Rate | Fringe | Total |
|-------|--------|-------|
| 43.79 | 34.05 | 77.84 |

CLASSIFICATIONS:

Journeyman Welder

ELECTRICIAN- UTILITY WORK (SOUTH) **Rates Expiration Date : 11/30/2015**

Effective Dates:

12/04/2014

| Rate | Fringe | Total |
|-------|--------|-------|
| 43.79 | 34.05 | 77.84 |

CLASSIFICATIONS:

Journeyman Painter

Effective Dates:

12/04/2014

| Rate | Fringe | Total |
|-------|--------|-------|
| 35.03 | 29.07 | 64.10 |

CLASSIFICATIONS:

Light Equipment Operator

Effective Dates:

12/04/2014

| Rate | Fringe | Total |
|-------|--------|-------|
| 30.65 | 26.57 | 57.22 |

CLASSIFICATIONS:

Groundman Truck Driver

Effective Dates:

12/04/2014

| Rate | Fringe | Total |
|-------|--------|-------|
| 28.46 | 25.33 | 53.79 |

CLASSIFICATIONS:

Groundman 3rd Year

Effective Dates:

12/04/2014

| Rate | Fringe | Total |
|-------|--------|-------|
| 26.27 | 24.08 | 50.35 |

CLASSIFICATIONS:

Groundman 2nd Year

Effective Dates:

12/04/2014

| Rate | Fringe | Total |
|-------|--------|-------|
| 24.08 | 22.84 | 46.92 |

CLASSIFICATIONS:

Groundman 1st Year

TERRITORY
ENTIRE STATE

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

ELECTRICIAN- UTILITY WORK (SOUTH) Rates Expiration Date : 11/30/2015

Effective Dates:

12/04/2014

| Rate | Fringe | Total |
|-------|--------|-------|
| 19.27 | 20.09 | 39.36 |

CLASSIFICATIONS:

Flagman

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

****THESE RATES APPLY TO CONSTRUCTION ON NEW TRANS HUDSON TUNNELS ONLY****

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

SHIFT DIFFERENTIALS:

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$2.50 per hour.

OVERTIME:

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

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

Hazardous Waste Work:

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 58.50 | 26.53 | 85.03 | 86.78 | 88.31 | 91.28 |

CLASSIFICATIONS:

Walking Boss & Superintendent

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 58.05 | 26.53 | 84.58 | 86.03 | 87.86 | 90.83 |

CLASSIFICATIONS:

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

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

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 57.30 | 26.53 | 83.83 | 85.58 | 87.11 | 90.08 |

CLASSIFICATIONS:

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

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 61.05 | 26.53 | 87.58 | 89.33 | 90.86 | 93.83 |

CLASSIFICATIONS:

Blaster

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 56.48 | 26.53 | 83.01 | 84.76 | 86.28 | 89.26 |

CLASSIFICATIONS:

Top Labor Foreman

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 55.95 | 26.53 | 82.48 | 84.23 | 85.76 | 88.73 |

CLASSIFICATIONS:

Skilled Men (including Caulker, Powder Carrier, all other skilled men)

Skilled Men (including Miner, Drill Runner, Iron Man, Conveyor Man, Maintenance Man, Safety Miner, Rigger, Block Layer, Cement Finisher, Rod Man)

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 55.73 | 26.53 | 82.26 | 84.01 | 85.53 | 88.51 |

CLASSIFICATIONS:

Semi-Skilled Men (including Bell or Signal Man top or bottom, Form Worker & Mover, Concrete Worker, Shaft Man, Tunnel Laborer, Caulker's Helper, all other semi-skilled)

Semi-Skilled Men (including Miner's Helper, Chuck Tender, Track Man, Nipper, Brake Man, Derail Man, Cable Man, Hose Man, Gravel Man, Form Man)

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 : 08/31/2017

Effective Dates:

| | 09/01/2015 | | 03/01/2016 | 09/01/2016 | 03/01/2017 |
|-------|------------|-------|------------|------------|------------|
| Rate | Fringe | Total | Total | Total | Total |
| 54.98 | 26.53 | 81.51 | 83.26 | 84.78 | 87.76 |

CLASSIFICATIONS:

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

TECHNICAL SPECIFICATIONS

This project shall be governed by the “New Jersey of Transportation Standard Specifications for Road and Bridge Construction” 2007 using U.S. Customary English Units except as noted in the following specification.

Payment descriptions within the following specifications prevail over the “New Jersey Department of Transportation Standard Specifications for Road and Bridge Construction” 2007

All unit prices shall be in accordance with the Bidder’s Proposal. Any unit prices not included in the Bidder’s Proposals shall be assumed distributed across all unit prices.

Any references in this specification to a specific product line or proprietary item, it is understood that the specification refers to that product or approved equal. The lack of the phrase “or approved equal” does not imply that the specified product is the only product that will be allowed. However, it will be the successful bidder’s burden to prove that an alternate product meets the specification called for.

Should there be a conflict between the plans and specifications, the items shall govern in the following order.

- Addendums to the bid to include changes to the plans

- Supplemental (Technical) Specifications

- Plans

MOBILIZATION / DEMOBILIZATION

DESCRIPTION

Mobilization/Demobilization shall consist of the cost of initiating the contract, including preparatory work and operations, necessary for the movement of personnel, equipment, supplies and incidentals to the Project site, and other work performed or costs incurred prior to beginning work. In any case of inconsistencies with the N.J.A.C. 7:14-2.9, the New Jersey Administrative Code shall govern.

QUANTITY AND PAYMENT

Payment for mobilization 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 the 2007 NJDOT Standard Specifications Section 154.04.

Payment will be made in accordance with the following schedule:

1. 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.
2. 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.
3. 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.
4. 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 – Materials Payments and Storage, as shown on the monthly estimates of the approximate quantities of work done, prepared in accordance with Subsection 109.05 – Estimates of the 2007 NJDOT Standard Specification.

(A) The lump sum price bid for mobilization is limited to the following maximum amounts:

Original Contract Amount
(Including Mobilization)

| <u>For More Than</u> | <u>To and Including</u> | <u>Max. Amount for Item of Mobilization</u> |
|----------------------|-------------------------|---|
| \$ 0 | 100,000 | \$ 3,000 |
| 100,000 | 500,000 | 15,000 |

| | | |
|------------|------------|--------------------|
| 500,000 | 1,000,000 | 30,000 |
| 1,000,000 | 2,000,000 | 60,000 |
| 2,000,000 | 3,000,000 | 90,000 |
| 3,000,000 | 4,000,000 | 120,000 |
| 4,000,000 | 5,000,000 | 125,000 |
| 5,000,000 | 6,000,000 | 150,000 |
| 6,000,000 | 7,000,000 | 175,000 |
| 7,000,000 | 10,000,000 | 200,000 |
| 10,000,000 | | 2.5% of amount bid |

Quantity and Payment for Mobilization/Demobilization will be made in accordance with the Contract Documents on a lump sum basis at the price bid for the item **MOBILIZATION/DEMOBILIZATION** in the Proposal, which shall include the cost of delivery, installation, storage, permitting, agreements, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- 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/her 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 at no additional cost to the Owner or Owner's Representatives.

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.

QUANTITY & 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 photographs, taken by a professional photographer acceptable to the Engineer, to show the condition of the site prior to construction, as well as to show the progress of the work.

MATERIALS

Prints of pre-construction and construction photographs shall be 3 inch by 5 inch size, mounted on cardboard and provided with reinforced 1inch wide flap, punched with 2 holes for binding, spaced 4 ¼ inches apart. The binding flap shall be located along the 8-inch dimension, and at the lower right hand corner on the front. The title shall include the name of the photographer, name of the project, contract number, station or other description, direction of view and date the picture was taken. The photographs shall also be numbered consecutively. Negatives of all photographs shall be furnished to the Engineer.

MEHODS OF PHOTOGRAPHS

Pre-construction photographs shall be taken where directed by the Engineer to especially note the character of all 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 street or easement in the contract. The Engineer shall be provided with one matte print of each photograph. A minimum of thirty six construction photographs shall be taken each month at regular intervals while the work is in progress. Photographs shall be taken at such times and at such locations as may be determined by the Engineer. One matte print of each picture 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 and pedestrians for safe ingress and egress to properties abutting the limits of construction, including but not limited to the use of flagmen, cones, barrels, etc. in any and all areas where contractor deems it necessary. The portions outside the limits of construction which are open to traffic shall be kept in pre-construction conditions to allow for the safe passage of vehicular and pedestrian traffic.

This item shall also include the maintenance and protection of off-site traffic (e.g. roadways, sidewalks, curbs, etc.) 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 110 - Traffic Control of the applicable New Jersey State Highway Department Standard Specifications as amended in the Standard Specifications of this project.

The contractor may utilize outside agencies (e.g. security company) to maintain traffic.

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 from the construction site. Thus there is no specific pay item for the Maintenance & Protection of Traffic. The contractor shall include these costs within the bid item MOBILIZATION/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/DEMOLITION

DESCRIPTION

Under this item the Contractor shall remove and dispose of all fences, concrete pads, concrete foundations, clay mounds, clay, utility poles, asphalt, long jump runway, long jump sand pits, pole vault runway, pole vault pit, bleachers, benches, drainage structures, flagpoles, gates, boulders, drainage pipes, curb, sidewalk, grass, pruning of existing trees, trees up to 48" dia., tree roots/stumps, shrubs, hedges, brush, stumps, roots, topsoil, dirt, stones, and all debris; the removal of which is required for carrying out the work of this project, shall be removed. 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 curb, as necessary for the proposed construction. Contractor shall remove and reset street and road 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.

The contractor shall provide a closed environment with a six (6) foot minimum height chain link construction fence, construction signage and gates provided by the contractor. The temporary gates on-site for construction shall remain locked and secured during non-working hours. The temporary fence shall remain on-site until all project work is complete or as directed by Engineer.

METHODS OF CONSTRUCTION

The lights, signs, inlets, sidewalk, pavement, bollards, curb, slabs, runways, posts, fence, and excavation unclassified shall be disposed of off-site at no additional cost to the Owner or Owner's Representatives in accordance with all client, local, state, and federal solid waste removal regulations.

Trees up to 48" dia. 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 locations conform with the adjoining grade in elevation and alignment. No trees shall be trimmed, cut, or removed outside the limits of construction without the permission of the Engineer.

Trees to be pruned shall be cut clean and straight. Measures shall be taken to protect the remaining limbs from damage during the work.

Any and all clean soil that is excavated during site clearing/demolition shall be backfilled and compacted with suitable soil.

Manhole frames, catch basin frames, valves, and other structures shall be removed and carefully reset to match proposed grades.

QUANTITY AND PAYMENT

The quantity of Site Clearing/Demolition for which payment will be made, will be a lump sum covering all work of **SITE CLEARING/DEMOLITION** 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--

SAWCUTTING

DESCRIPTION

Sawcutting shall consist of the cutting of concrete sidewalks, driveways, and curbs and concrete and asphalt pavements through their full depths, in order to maintain a clean finished look when matching into existing areas of concrete and asphalt where directed by the Engineer. Sweeping and cleanup shall also be included as needed or as directed by the Engineer.

MATERIALS - METHODS OF CONSTRUCTION

Concrete or bituminous surfaces shall be cut through the entire pavement thickness in a straight neat line using diamond-tipped blades with water, as approved by the Engineer. Sawcutting shall be in accordance with 2007 NJDOT Standard Specifications Section 202-Roadway Excavation.

QUANTITY AND PAYMENT

No specific payment will be made for sawcutting and the cost thereof shall be included in the prices bid for the installation of various sizes of the proposed pipe, pavement, curbing, driveways and other structures.

--END OF SECTION--

SOIL EROSION AND SEDIMENT CONTROL DEVICES

DESCRIPTION

The work performed under this item shall include construction of all Best Management Practices (BMPs) soil erosion measures (e.g. inlet filter protection, silt sacks, silt fence, 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 Soil Conservation District, in writing, seventy-two (72) hours prior to the start of construction.

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 item.

METHODS OF CONSTRUCTION

State Standard Specifications and 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 fourteen (14) days shall be temporarily seeded and/or mulched until proper weather conditions exist 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 thirty (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.

Somerset - Union Soil Conservation District soil erosion and sediment control procedures:

- A. All soil erosion and sediment control practices shall be installed prior to any major soil disturbance, or in their proper sequence and maintained until permanent protection is established.
- B. Any disturbed areas that will be left exposed more than thirty (30) days and not subject to construction traffic will immediately receive a temporary seeding. If the season prevents the establishment of a temporary cover, the disturbed areas will be mulched with straw or equivalent material, at a rate of two (2) tons per acre, according to state Standards.
- C. Permanent vegetation shall be seeded or sodded on all exposed areas within ten (10) days after final grading. Mulch will be used for protection until seeding is established.
- D. All work shall be done in accordance with the State Standards for Soil Erosion and Sediment Control in New Jersey.
- E. A sub-base course will be applied immediately following rough grading and installation of improvements in order to stabilize streets, roads, driveways and parking areas. In areas where no utilities are present, the sub-base shall be installed within 15 days of preliminary grading.
- F. Immediately following initial disturbance or rough grading, all critical areas subject to erosion (i.e. steep slopes, roadway embankments) will receive a temporary seeding in combination with straw mulch or a suitable equivalent, at a rate of two (2) tons per acre, according to the State Standards.
- G. Any steep slopes receiving pipeline installation will be backfilled and stabilized daily, as the installation proceeds (i.e. slopes greater than 3:1).
- H. Traffic Control Standards require the installation of a 50'x30'x1" pad of 1 1/2" or 2" stone, at all construction driveways, immediately after initial site disturbance.
- I. The Somerset-Union Soil Conservation District shall be notified in writing 48 hours in advance of any land disturbing activity.
- J. At the time when the site preparation for permanent vegetative stabilization is going to be accomplished, any soil that will not provide suitable environment to support adequate vegetative ground cover, shall be removed or treated in such a way that will permanently adjust the soil conditions and render it suitable for vegetative ground cover. If the removal or treatment of the soil will not provide suitable conditions, non-vegetative means or permanent ground stabilization will have to be employed.

- K. In that NJSA 4:24-39 et seq., requires that no Certificate of Occupancy be issued before the provisions of the Certified Plan for Soil Erosion and Sediment Control have been complied with for permanent measures, all site work for site plans and all work around individual lots in subdivisions, will have to be completed prior to the District issuing a Report of Compliance for the issuance of a Certificate of Occupancy by the Municipality.
- L. Conduit Outlet Protection must be installed at all required outfalls prior to the drainage system becoming operations.
- M. Any changes to the Certified Soil Erosion and Sediment Control Plan will require the submission of revised Soil Erosion and Sediment Control Plans to the District for recertification. The revised plans must meet all current State Soil Erosion and Sediment Control Standards.
- N. The Somerset-Union Soil Conservation District shall be notified of any changes in ownership.
- O. Mulching in the Standards is required for obtaining a conditional Report of Compliance. Conditions are only issued when the season prohibits seeding.
- P. The Contractor is responsible for keeping all adjacent roads clean during the life of the construction project.
- Q. The developer shall be responsible for remediating any erosion or sediment problems that arise as a result of ongoing construction at the request of the Somerset-Union soil Conservation District.
- R. Hydroseeding is a two-step process. The first step includes seed, fertilizer, lime, etc., along with minimal amounts of mulch to promote consistency, good seed to soil contact, and give a visual indication of coverage. Upon completion of the seeding operation, hydro-mulch should be applied at a rate of 1500 lbs. per acre in the second step. The use of hydro-mulch as opposed to straw, is limited to optimum seeding dates as listed in the Standards.

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 AND SEDIMENT CONTROL DEVICES** in the Proposal, which price shall include the cost of all BMPs, soil erosion measures, 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 of surface and subsurface materials for the location of subsurface utilities and backfill of all earth, rock, boulders, brick and removal of all materials encountered and all incidental work to the satisfaction of the engineer, and shall also include the restoration of all hardscape areas in accordance with the construction documents.

METHODS OF CONSTRUCTION

Prior to the excavation of Test Pits, all existing on-site and off-site subsurface items (e.g. utilities, drainage, conveyance networks, tunnels) 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, 10' DEEP MAX (IF & 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--

SOIL TESTING

DESCRIPTION

Under this item, the contractor shall provide structural design drawings and calculations signed and sealed by a New Jersey Licensed Structural Engineer to be designed in accordance with manufacturer's specifications and local, state and federal codes for the construction of all structural footings, foundations, and concrete pads for Field Lighting Poles, Football Goals, Flagpoles, Bleachers, Scoreboard, Coach's Box, Pavilions and Multi-Purpose Building. The Contractor shall refer to Appendix A entitled "Geotechnical Engineering Report" as prepared by Johnson Soils Company, dated March 2, 2015 and November 16, 2011.

The contractor shall submit to the Project Engineer a signed and sealed copy of all structural footing, foundation, and slab designs prior to construction and installation for review.

METHODS OF CONSTRUCTION

NOT USED.

QUANTITY AND PAYMENT

Soils Testing will not be measured. Payment for this item, and all work related thereto, shall be included in the bid items FIELD LIGHTING POLES & FIXTURES, COMPLETE W/ FOUNDATIONS, CONDUIT & ELECTRICAL COMPONENTS, FOOTBALL GOALS, COMPLETE W/TURF COVER AND PADS, FLAGPOLE SYSTEM, COMPLETE W/ UP-LIGHTS (INCLUDING ELECTRIC), BLEACHERS OF VARIOUS SIZE, SCOREBOARD, COMPLETE WITH ELECTRIC AND MOUNTING, COACH'S BOX, COMPLETE, PAVILIONS, COMPLETE AND MULTIPURPOSE BUILDING, COMPLETE in the proposal.

--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 or in unsuitable soils or as directed by the Engineer.

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 properties or off-site areas and shall meet the maximum turbidity requirements of the local soil conservation district and State regulations.

QUANTITY AND PAYMENT

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--

UTILITY COORDINATION

DESCRIPTION

This work shall consist of the resetting of all existing castings to finished grade during the resurfacing of the streets and walkways as shown on the Contract Drawings, the reconstruction of valve boxes, utility connections, and structures as required, in accordance with all utility provider requirements. The contractor shall coordinate the resetting of any castings and the reconstruction of any valves and utility connections with the respective utility company and the Engineer within the limits of construction in accordance with the Contract Drawings.

MATERIALS

Portland cement concrete shall conform to Section 903 – Concrete and Section 909 - Drainage of the 2007 NJDOT Standard Specifications for Road and Bridge Construction.

CONSTRUCTION

The Castings shall be reset in a manner covered under Division 650 – Utilities and Section 602 – Drainage Structures of the 2007 NJDOT Standard Specifications for Road and Bridge Construction.

Castings will be reset once for this project. They will be set flush with the asphalt base course for the settling period and then again in the final wearing course elevation.

QUANTITY AND PAYMENT

Utility Coordination will not be measured. Quantity and Payment for this item, and all costs related thereto, shall be included in the price for the various items within the Proposal, which shall cover the cost of excavation, backfill, stems, caps, covers, extensions, fittings, inlets, manholes, cleanouts, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

EARTHWORK

PART 1 - GENERAL

1.1 DEFINITIONS

A. The following terms shall have the meanings ascribed to them in this Article, wherever they appear in this Section.

1. Earth Excavation: The removal of all surface and subsurface material not classified as rock (as defined below).
2. Rock Excavation, Unclassified: Rock excavation, unclassified shall mean removal of all rock, boulders or pieces of concrete, and solid ledge rock and masonry, which in the opinion of The Engineer requires for its removal, drilling and blasting, wedging, sledging, barring, or breaking up with a power operated tool. Soft or disintegrated rock which can be removed with a pick or power operated excavator or shovel, loose, shaken or previously blasted rock, broken stone in rock fill or elsewhere, and rock exterior to the maximum limits allowed, or which may fall in the excavation, shall not be included as rock excavation. Pavements, curbs, gutters, sidewalks and driveways shall not be included as rock excavation.
3. Subgrade Surface: Surface upon which subbase or topsoil is placed.
4. Subbase: Select granular material or subbase course Type 2 which is placed immediately beneath pavement or concrete slabs.
5. Maximum Density: The dry unit weight in pounds per cubic foot of the soil at "Optimum Moisture Content" when determined by ASTM D 698 (Method C), and ASTM D 2922 (Method B).
6. Landscaped Areas: Areas not covered by structures, walks, roads, paving, or parking.
7. Unauthorized Excavation: The removal of material below required elevation indicated on the Drawings or beyond lateral dimensions indicated or specified without specific written direction by The Engineer.

1.2 SUBMITTALS

A. Product Data:

1. Filter Fabric: Manufacturer's catalog sheets, specifications, and installation instructions.

B. Samples: Submit samples as follows. Take the samples in the presence of the Engineer, and complete a Granular Material Sample Information Form for each sample. Forms and field sample designation numbers will be furnished by The Engineer.

1. Select Granular Material: 10 lb.
2. Selected Fill: 10 lb.
3. Subbase Course Type 2: 10 lb.

1.3 PROJECT CONDITIONS

A. Protect existing trees and plants during performance of the Work unless otherwise indicated. Box trees and plants indicated to remain within the grading limit line with temporary steel fencing or solidly constructed wood barricades as required. Protect root systems from smothering. Do not store excavated material, or allow vehicular traffic or parking within the branch drip line. Restrict foot traffic to prevent excessive compaction of soil over root systems.

B. Cold Weather Requirements:

1. When freezing temperatures are predicted, do not excavate to final required elevations for concrete Work unless concrete can be placed immediately. Retain enough earth over the bottom elevation of footings to prevent frost penetration. If excavation has progressed to final footing elevations and concrete cannot be placed immediately, cover the bottom of the excavations with protective material to adequately insulate the exposed earth surface from frost. Remove protective material immediately before placing concrete.
2. Do not backfill between November 1 and April 1, except with written permission of The Engineer and/or the County of Union.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Select Granular Material: Stockpiled, sound, durable, sand, gravel, stone, or blends of these materials, free from organic and other deleterious materials. Comply with NJDOT Standard Specifications for subbase course material.

| Sieve | Percent Passing |
|--------------|------------------------|
| 2 inch | 100 |
| 1/4 inch | 30-65 |
| No. 40 | 5-40 |
| No. 200 | 0-10 |

1. Magnesium Sulfate Soundness Test: 20 percent maximum loss by weight after 4 test cycles.
2. Plasticity Index: The plasticity index of the material passing the No. 40 mesh sieve shall not exceed 5.0.
3. Elongated Particles: Not more than 30 percent, by weight, of the particles retained on a 1/2 inch sieve shall consist of flat or elongated particles. A flat or elongated particle is defined as one which has its greatest dimension more than 3 times its least dimension.

- B. Selected Fill: Sound, durable, sand, gravel, stone, or blends of these materials, free from organic and other deleterious materials.

| Sieve | Percent Passing |
|---------|-----------------|
| 4 inch | 100 |
| No. 40 | 0-70 |
| No. 200 | 0-15 |

- C. Subbase Course Type 2: Stockpiled, crushed ledge rock or approved blast furnace slag. Comply with NJDOT 2007 Standard Specifications for Subbase Course material.

| Sieve | Percent Passing |
|----------|-----------------|
| 2 inch | 100 |
| 1/4 inch | 25-60 |
| No. 40 | 5-40 |
| No. 200 | 0-10 |

1. Magnesium Sulfate Soundness Test: 20 percent maximum loss by weight after 4 test cycles.
2. Plasticity Index: The plasticity index of the material passing the No. 40 mesh sieve shall not exceed 5.0.
3. Elongated Particles: Not more than 30 percent, by weight, of the particles retained on a 1/2 inch sieve shall consist of flat or elongated particles. A flat or elongated particle is defined as one which has its greatest dimension more than 3 times its least dimension.

- D. Suitable Material (Fill and Backfill for Landscaped Areas): Material consisting of mineral soil (inorganic), blasted or broken rock and similar materials of natural or man-made origin, including mixtures thereof. Maximum particle size shall not exceed 2/3 of the specified layer thickness prior to compaction. NOTE: Material containing cinders, industrial waste, sludge, building rubble, land fill, muck, and peat shall be considered unsuitable for fill and backfill, except topsoil and organic silt may be used as suitable material in landscaped areas provided it is placed in the top layer of the subgrade surface.

- E. Filter Fabric (Separation, Drainage, Slope Protection): Amoco CEF 4545, CEF 4551; Exxon Chemical Co. GTF 150 EX; Mirafi Inc. 140N, 140NL; Nicolon Corp. Filterweave 70/06; Phillips Fibers Corp. Supac 4NP, 5NP, 7NP; Wellman Quline Inc. Q60, Q80, Q100 or approved equal.

- F. Filter Fabric (Stabilization): Amoco CEF 2002 & 2006; Exxon Chemical Co. GTF 350; Mirafi Inc. 500X, 600X, 700X; Nicolon Corp. 500; Phillips Fibers Corp. Supac 3WS, 4WS, 5WS, 6WS; Wellman Quline Inc. Q160 or approved equal.

- G. Light Weight Fill and Backfill: Contractor is advised to follow the specifications of lightweight fill and backfill material if proposed under this project. The placement of this and all fill material must meet the requirements of a geotechnical engineer.
- H. Geofoam: Contractor is advised to follow the specifications of Geofoam if proposed under this project. The placement of any Geofoam must meet the requirements of the Geotechnical Engineer and installed per manufacturer specifications.

PART 3 - EXECUTION

3.1 CLEARING AND GRUBBING

- A. Clear and grub the site of trees, shrubs, brush, other prominent vegetation, debris, and obstructions except for those items indicated to remain. Completely remove stumps and roots protruding through the ground surface.
- B. Fill depressions caused by the clearing and grubbing operations in accordance with the requirements for filling and backfilling, unless further excavation is indicated.

3.2 UNDERGROUND UTILITIES

- A. Locate existing underground utilities and service connections prior to commencing excavation Work. Determine exact utility locations by hand excavated test pits. Support and protect utilities to remain in place.
- B. Remove inactive, abandoned utilities within the limits of the areas to be excavated. Cap or plug open ends of abandoned utilities extending outside the excavation limits.

3.03 EXCAVATION

- A. Excavate earth as required for the Work.
- B. Maintain sides and slopes of excavations in a safe condition until completion of backfilling. Comply with Code of Federal Regulations Title 29 - Labor, Part 1926 (OSHA).
- C. Stockpile excavated materials classified as suitable material where directed, until required for fill. Place, grade, and shape stockpiles for proper drainage as approved by The Engineer and/or the County of Union.
- D. Excavation for Structures: Conform to elevations, lines, and limits indicated. Excavate to a vertical tolerance of plus or minus 1 inch. Extend excavation a sufficient lateral distance to provide clearance to execute the Work.
- E. Footings and Foundations: Trim bottoms to required lines and elevations. Excavate to final elevations by hand just prior to concrete placement. Leave solid undisturbed base for concrete.

- F. Slabs and Floors: Excavate to the following depths below bottom of concrete for addition of select granular material:
 - 1. Interior Floors: 6 inches unless otherwise indicated.
 - 2. Exterior Slabs and Steps: 12 inches unless otherwise indicated.
- G. Pipe Trenches: Open only enough trench length to facilitate laying pipe sections. Unless otherwise indicated on the Drawings, excavate trenches approximately 24 inches wide plus the outside pipe diameter, equally divided on each side of pipe centerline. Cut trenches to cross section, elevation, profile, line, and grade indicated. Accurately grade and shape trench bottom for uniform bearing of pipe.
- H. Pavement: Excavate to subgrade surface elevation.
- I. Unauthorized Excavations: Unless otherwise directed, backfill unauthorized excavation under footings, foundation bases, and retaining walls with compacted select granular material without altering the required footing elevation. Elsewhere, backfill and compact unauthorized excavation as specified for authorized excavation of the same classification, unless otherwise directed by The Engineer.

3.4 ROCK EXCAVATION

- A. No blasting shall be performed by the Contractor except upon written permission of The Engineer. Any request by the Contractor for permission to blast must be submitted to The Engineer at least 24 hours prior to start of said proposed blasting.
- B. If blasting permission is granted, the Contractor shall adhere strictly to all required Federal, State and Local safety regulations. In no case shall blasting caps or other exploders be kept at the same place where dynamite or other explosives are stored. A watchman shall be stationed at all times at the place of storage of explosives.
- C. The prepared blast shall be carefully covered with a heavy woven wire blasting mat, placed so that the area affected by the explosion is positively confined. Should a gas, water or any other conduit intersect the line of trench, the rock must be removed without blasting from a distance of ten (10) feet on each side of such pipe or conduit.
- D. The contractor shall be responsible for any damage to adjacent structures and property caused by his operations. He shall inspect all structures adjacent to the site of blasting and, when ordered by The Engineer, he shall take clear, close-up photographs of these structures before and after blasting. Copies of these photographs shall be submitted to The Engineer and the County of Union. The Engineer or their representative must be present at all times during blasting operations.

3.5 DEWATERING

- A. Prevent surface and subsurface water from flowing into excavations and trenches and from flooding the site and surrounding area.

3.6 PLACING FILTER FABRIC

- A. Place and overlap filter fabric in accordance with the manufacturer's installation instructions, unless otherwise shown. Backfill over fabric in accordance with the manufacturer's instructions and in a manner to prevent damage to the fabric.

3.7 PLACING FILL AND BACKFILL

- A. Surface Preparation of Fill Areas: Strip topsoil, remaining vegetation, and other deleterious materials prior to placement of fill. Break up or scarify old pavements to a maximum of 2 square feet.
- B. Excavations: Backfill as promptly as practicable, but only after approval by The Engineer. Do not backfill with excavated material unless it meets the requirements of this Section.
- C. Place backfill and fill materials in layers not more than 8 inches thick in loose depth unless otherwise specified. Before compaction, moisten or aerate each layer as necessary to facilitate compaction to the required density. Do not place backfill or fill material on surfaces that are muddy, frozen, or covered with ice.
 - 1. Place fill and backfill against foundation walls, and in confined areas (such as trenches) not easily accessible by larger compaction equipment, in maximum 6 inch thick (loose depth) layers.
- D. Prevent wedging action of backfill against structures by placing backfill uniformly around structure to approximately same elevation in each layer. Place backfill against walls of structures containing basements or crawl spaces only after the first floor structural members are in place.
- E. Under Exterior Concrete Slabs and Steps:
 - 1. Up to Subgrade Surface Elevation: Place selected fill when fill or backfill is required.
 - 2. Subbase Material: Place 12 inches of select granular material over subgrade surface.
- F. Under Interior Concrete Slabs:
 - 1. Up to Subgrade Surface Elevation: Place selected fill when fill or backfill is required.
 - 2. Subbase Material: Place 6 inches of select granular material over subgrade surface.

G. Under Pavements and Walks:

1. Up to Subgrade Surface Elevation: Place selected fill when fill or backfill is required.
2. Subbase Material: Place as indicated.

H. Landscaped Areas: Place suitable material when required to complete fill or backfill areas up to subgrade surface elevation. Do not use material containing rocks over 4 inches in diameter within the top 12 inches of suitable material.

I. Plastic Pipe and Cement Water Pipe in Trenches: Place cushion material a minimum of 4 inches deep under pipe, 4 inches on both sides, and 4 inches over top of pipe. Complete balance of backfill as specified.

J. Copper Tubing and Steel Gas Pipe in Trenches: Place cushion material a minimum of 6 inches deep under pipe, 6 inches on both sides, and 4 inches over top of pipe. Complete balance of backfill as specified.

K. Rigid Non-Metallic Conduit: Except where concrete encasement is required, place cushion material a minimum of 4 inches deep under conduit, 4 inches on both sides, and 12 inches over top of conduit. Complete balance of backfill as specified.

3.8 COMPACTION

A. Compact each layer of fill and backfill for the following area classifications to the percentage of maximum density specified below and at a moisture content suitable to obtain the required densities, but at not less than 3 percent drier or more than 2 percent wetter than the optimum content as determined by ASTM D 698.

1. Structures: 95 percent.
2. Concrete Slabs and Steps: 95 percent.
3. Landscaped Areas: 90 percent.
4. Pavements and Walks: 95 percent.
5. Pipes: 95 percent.

3.9 GRADING

A. Rough Grading: Trim and grade area required by this Contract to a level of 4 inches below the finish grades indicated unless otherwise specified herein or where greater depths are indicated. Provide smooth uniform transition to adjacent areas.

B. Finish Grading: Finish surfaces free from irregular surface changes, and as follows:

1. Grassed Areas: Finish areas to receive topsoil to within 1 inch above or below the required subgrade surface elevations.
2. Walks and Pavements: Place and compact subbase material as specified. Shape surface of areas to required line, grade and cross section, with the

finish surface not more than 1/2 inch above or below the required subbase elevation.

3. Building Slabs: Grade subbase material smooth and even, free of voids, compacted as specified to within 1/4 inch above or below required subbase elevation.

C. Spread approved topsoil directly upon prepared subgrade surface to a depth measuring 4 inches after natural settlement of the topsoil has occurred in areas to be seeded or to receive sod. Place to greater depth when necessary to adjust grades to required elevations.

1. Approved existing topsoil within the Grading Limit Line may be used. Provide additional topsoil from outside sources as required.

D. Finish topsoil surface free of depressions which will trap water, free of stones over 1 inch in any dimension, and free of debris.

3.10 SUBGRADE SURFACE FOR WALKS AND PAVEMENT

A. Shape and grade subgrade surface as follows:

1. Walks: Shape the surface of areas under walks to required line, grade and cross section, with the finish surface not more than 1 inch above or below the required subgrade surface elevation.
2. Pavements: Shape the surface of areas under pavement to required line, grade and cross section, with the finish surface not more than 1/2 inch above or below the required subgrade surface elevation.

B. Grade Control: During construction, maintain lines and grades including crown and cross-slope of subbase course.

C. Thoroughly compact subgrade surface for walks and pavement by mechanical rolling, tamping, or with vibratory equipment as approved to the density specified.

3.11 RESTORATION

A. Restore pavements, walks, curbs, lawns, and other exterior surfaces damaged during performance of the Work to match the appearance and performance of existing corresponding surfaces as closely as practicable.

B. Topsoil and seed or sod damaged lawn areas outside of the project area as directed. Water as required until physical completion of the Work.

3.12 DISPOSAL OF EXCESS AND UNSUITABLE MATERIALS

A. Remove from the project site and dispose of excess and unsuitable materials, including materials resulting from clearing and grubbing and removal of existing improvements.

- B. Transport excess and unsuitable materials, including materials resulting from clearing and grubbing and removal of existing improvements, to spoil areas away from the project site.

3.13 FIELD QUALITY CONTROL

- A. Compaction Testing: Notify The Engineer at least 3 working days in advance of all phases of filling and backfilling operations. Compaction testing will be performed by an independent lab retained by the contractor to ascertain the compacted density of the fill and backfill materials. Compaction testing will be performed on certain layers of the fill and backfill as determined by a Geotechnical Engineer. If a compacted layer fails to meet the specified percentage of maximum density, the layer shall be recompacted and will be retested. No additional material may be placed over a compacted layer until the specified density is achieved.

3.14 PROTECTION

- A. Protect areas from traffic and erosion, and keep them free of trash and debris.

PART 4 – QUANTITY AND PAYMENT

Earthwork will not be measured as a separate item. Quantity and Payment for this item, and all costs related thereto, shall be distributed amongst the items specified in the Proposal or as directed by the Engineer

-- END OF SECTION --

SITE GRADING

DESCRIPTION

Site Grading shall include grading, excavation, backfill, 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.

MATERIALS

Borrow and export material required for site grading shall conform to Section 200 of the 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 Section 200 of the NJDOT Standard Specifications.

The contractor shall make provisions to implement approved dust control measures while performing this work as not to impact surrounding property (e.g. railways, roadways, sidewalks, parking areas, buildings, athletic fields, business, residences, trees, landscape areas, vehicles, conveyance systems, watercourses). Should the contractor fail to implement these measures, the Contractor shall be responsible to restore all off-site surrounding properties to its original condition prior to the commencement of construction at no additional cost to the Owner or Owner's Representatives.

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 & FILL IMPORT** in the Proposal, which price shall include the cost of furnishing the equipment for excavation, placing backfill, compaction 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 & FILL IMPORT** in the Proposal.

--END OF SECTION--

EXCAVATION, UNCLASSIFIED

DESCRIPTION

Roadway Excavation Unclassified shall consist of the excavation, removal, and disposal of all materials of whatever nature, waste, rock, boulders, brick, stone, and concrete masonry, small structures, removal of pipe where directed, removal of any other materials encountered of whatsoever nature, required for the proposed construction, 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.

MATERIALS

No materials are involved.

METHODS OF CONSTRUCTION

N. J. Department of Transportation Standard Specifications – Section 202 – Roadway Excavation.

QUANTITY AND PAYMENT

Payment for Excavation, Unclassified will not be made. The item EXCAVATION, UNCLASSIFIED shall be included in the various items within the Proposal; which price shall include the cost of excavation of the materials encountered, removal of small structures, embankment with the materials excavated, the removal of existing pipes, and other structures encountered, the disposal of all excess and unsuitable materials, cleaning payment, Roadway Excavation-Rock, Roadway Excavation-Regulated Waste, Wet Excavation, Removal of Concrete Base Course and Concrete Surface Courses, Joint Removal, all labor equipment and all else necessary thereof and incidental thereto.

--END OF SECTION--

BORROW EXCAVATION & PIPE BEDDING

DESCRIPTION

Borrow Excavation and pipe bedding shall include furnishing, transporting, placing and compacting all material required for embankment, bedding under pipes and backfill, and all incidental work as specified herein or as directed by the Engineer.

MATERIALS

Borrow Excavation and Pipe Bedding shall be of the various types as specified in proposal and shall conform to the applicable section of the NJDOT Standard Specifications for each designation. The Contractor shall provide certified testing results for all Borrow Excavation and Pipe Bedding brought to the site; all Borrow Excavation and Pipe Bedding must be approved by the engineer, prior to its use on this project.

METHODS OF CONSTRUCTION

The borrow material and pipe bedding shall be placed and compacted in accordance with Subsection 203.07 of the Standard Specification.

The final grade shall match the elevations shown on the Plans. Losses due to settlement, compaction or erosion are to be included under this item.

QUANTITY AND PAYMENT

No specific payment will be made for borrow excavation and pipe bedding 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--

MANHOLES, INLETS, CATCH BASINS AND RESET CASTINGS

DESCRIPTION

Manholes, 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, castings, grates, and covers.

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 NJDOT Standard Specifications.

All Type 'A' Inlets shall be Campbell Foundry Pattern No. 3405, or approved equal.

All Field Inlets located in landscape areas shall be Campbell Foundry Pattern No. 2815 and all Field Inlets located in hardscape areas shall have ADA compliant frames and grates and shall be Campbell Foundry Pattern No. 2815 1400, or approved equal.

Manufactured PVC or HDPE drainage inlets, including all covers, lids, grates and necessary appurtenances, manufactured by Advanced Drainage Systems, Inc. (ADS), or approved equal.

All castings shall have the name of the County, 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 County projects. Concrete blocks shall conform to the compressive strength and absorption requirements of A.S.T.M. C -139.

Dense-Graded Aggregate (DGA) and Recycled Concrete Aggregate (RCA) shall conform to the requirements of Section 901.10; Course Aggregate shall be broken stone or washed gravel conforming to the requirements of Section 901.03 and Section 901.05, respectively of the 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 – Construction, for precast concrete structures, the reconstruction of concrete or block drainage structures, the resetting and setting of castings, and the reconstruction and conversion of existing structures in compliance with NJDOT Standard Specifications.

Excavation shall be in accordance with Subsection 202 – Excavation; and Backfilling shall be in accordance with Division 200 – Earthwork; of the NJDOT Standard Specifications.

QUANTITY AND PAYMENT

The quantity of Manholes, Inlets, and Catch Basins of the various categories herein above specified, for which payment will be made, will be the number of each type thereof constructed, reconstructed, reset or installed, in accordance with the Contract Plans or as directed by the Engineer.

--END OF SECTION--

TIDEFLEX CHECKMATE VALVE

PART 1 - GENERAL

1.01 SUBMITTALS

- A. Submit product literature that includes information on the performance and operation of the valve, materials of construction, dimensions and weights, elastomer characteristics, headloss, flow data and pressure ratings.
- B. Upon request, provide shop drawings that clearly identify the valve materials of construction and dimensions.

1.02 QUALITY ASSURANCE

- A. Supplier shall have at least twelve (12) years experience in the design and manufacture of “CheckMate®” style elastomeric check valves or approved equal..
- B. Manufacturer shall have conducted independent hydraulic testing to determine headloss, jet velocity and vertical opening height characteristics on multiple sizes of CheckMate® valves ranging from 4” through 72”. The testing must have been conducted for free discharge (discharge to atmosphere) and submerged conditions.

PART 2 - PRODUCTS

2.01 “CHECKMATE®” ELASTOMERIC CHECK VALVES, **OR EQUAL;**

- A. Check Valves are to be all rubber and the flow operated check type with slip-in cuff or flange connection. The entire CheckMate® Valve shall be ply reinforced throughout the body, disc and bill, which is cured and vulcanized into a one-piece unibody construction. A separate valve body or pipe used as the housing is not acceptable. The valve shall be manufactured with no metal, mechanical hinges or fasteners, which would be used to secure the disc or bill to the valve housing. The port area of the disc shall contour down, which shall allow passage of flow in one direction while preventing reverse flow. The entire valve shall fit within the pipe I.D. Once installed, the CheckMate® Valve shall not protrude beyond the face of the structure or end of the pipe.
- B. The downstream end of the valve must be circumferentially in contact with the pipe while in the closed positions.
- C. Slip-in style CheckMate® Valves will be furnished with a set of stainless steel expansion clamps. The clamps, which will secure the valve in place, shall be installed inside the cuff portion of the valve, based on installation orientation, and shall expand outwards by means of a turnbuckle. Each clamp shall be predrilled allowing for the valve to be pinned and secured into position in accordance with the manufacturer’s

installation instructions. Flange style CheckMate® Valves will be furnished with a stainless steel, ANSI 125/150 drilled, retaining ring unless specified otherwise.

- D. Manufacturer must have flow test data from an accredited hydraulics laboratory to confirm pressure drop and hydraulic data. Company name, plant location, valve size patent number, and serial number shall be bonded to the check valve.

2.02 FUNCTION

- A. When line pressure exceeds the backpressure, the line pressure forces the bill and disc of the valve open, allowing flow to pass. When the backpressure exceeds the line pressure, the bill and disc of the valve is forced closed, preventing backflow.

2.03 MANUFACTURER

- A. All valves shall be of the slip-in or flanged CheckMate® as manufactured by Tideflex Technologies®, A Division of Red Valve Company, Carnegie, PA 15106; **or equal**. All valves shall be manufactured in the U.S.A.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Valve shall be installed in accordance with manufacturer's written Installation and Operation Manual and approved submittals.

3.02 MANUFACTURER'S CUSTOMER SERVICE

- A. Manufacturer's authorized representative shall be available for customer service during installation and start-up, and to train personnel in the operation, maintenance and troubleshooting of the valve.
- B. If specified, the manufacturer shall also make customer service available directly from the factory in addition to authorized representatives for assistance during installation and start-up, and to train personnel in the operation, maintenance and troubleshooting of the valve.

PART 4 - QUANTITY AND PAYMENT

- A. Quantity and Payment for Tideflex Checkmate Valve will be made in accordance with the Contract Documents at the per unit price bid for the item **STORMWATER BACKFLOW VALVE** in the Proposal, which shall cover the cost of the valve, clamp, gasket, installation, all labor, tools, equipment, and material necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

PRECAST TRACK PERIMETER CHANNEL DRAIN & TRACK INLET

PART 1 - GENERAL

1.01 RELATED WORK

- A. Review Contract Documents for requirements that affect work of this section.

1.02 SYSTEM DESCRIPTION

- A. System to be SportsEdge PRO-S Channel Drain System, **or equal**, of one meter (1m) long drain channels manufactured of Polymer Concrete with removable grates, grate locking devices, catch basin/track inlet, and accessories. Assembly number SE2192/336.

PART 2 - PRODUCTS

2.01 PRE-FABRICATED CHANNEL DRAIN

A. ACCEPTABLE MANUFACTURERS

SURFACE DRAIN: Base; as manufactured by:

SportsEdge®
P.O. Box 837
259 Murdock Rd.
Troutman, NC 28166
P: 800-334-6057
F: 704-528-0179
info@sportsedge.com
www.sportsedge.com

Or Approved Equal;

B. COMPONENTS

1. Channel: # S-192, **or approved equal**, fabricated of polymer concrete, 6 inches wide, 4 inch ID and 8.75" deep minimum with radius non-sloping bottom having the following attributes:
 - a. Length: 1 meter (39.2 in).
 - b. Depth: 8.75" minimum O.D.
 - c. Anchoring ribs: full length.
 - d. Grate locking slots: blind, vibration dampening, thermoplastic.
 - e. Interlocking ends.
2. Grates: Fabricated of thermoplastic polymer.
 - a. #2336 Herringbone Pattern: Meeting Heel proof (0.25" <) and ADA (0.5" <) requirements.
 - b. 6.2 mm drainage openings.
 - c. Color: Black

- d. Length: 1/2 meter (19.7")
 - e. UV stabilizers
3. Catch Basins/Track Inlet: # S900 fabricated of polymer concrete
- a. Width: 6" OD, 4" ID
 - b. Depth: 22.1"
 - c. Length: 1/2 meter (19.7")
 - d. Grate locking slots: blind, vibration dampening, thermoplastic.
4. Accessories:
- a. Grate Locking devices.

PART 3 - EXECUTION

3.01 INSTALLATION / QUALITY ASSURANCE

- A. Install per the manufacturer's instructions and as indicated on the plans; or by a factory trained and authorized installer.

PART 4 - QUANTITY AND PAYMENT

- A. Quantity and Payment for Precast Track Perimeter Channel Drain will be made in accordance with the Contract Documents at the per unit price bid for item **INLET TRACK DRAIN** and at the linear foot price bid for item **CHANNEL TRACK DRAIN** in the Proposal, which shall cover the cost of excavation, backfill, concrete, connection to drainage, fittings, grates, grate locking devices, catch basin/track inlet, surface treatments, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

STORMWATER TREATMENT SYSTEM

DESCRIPTION

This work shall consist of furnishing and installing a stormwater treatment system (Water Quality Inserts) that is comprised of a square, rectangular or cylindrically shaped basket, providing multi-stage filtration through the use of different sieve size screens. The basket is placed in a grated catch basin directly below the grate for best performance and servicing. The purpose of the system is to provide a safe and effective means of filtering stormwater entering the catch basin.

PRODUCTS

A. ACCEPTABLE MANUFACTURERS:

SUNTREE TECHNOLOGIES, INC. or Approved Equal
GRATE INLET SKIMMER BOX
798 Clearlake Road, Suite 2
Cocoa, FL 32922
Ph: 321-637-7552
www.suntreetech.com

B. MATERIALS AND DESIGN

1. Filtration basket structure manufactured from marine grade isophthalic polyester resin and chopped fiberglass with thickness being minimum 3/16" per ASTM C582-02 Standard Specification for Contact-Molded Reinforced Thermosetting Plastic Laminates for Corrosion-Resistant Equipment. The entire basket is gel coated with a polyester gel coating that has UV inhibitors incorporated into the coating for maximum UV protection.
2. The filtration basket flanges are reinforced by hand lamination of Biaxial (+/- 45) fiberglass cloth onto the flange per ASTM C582-02.
3. Filtration basket fine, medium and coarse screens are manufactured from 304 stainless steel with 47%, 68%, 56% and 75% open areas respectively. The screen open area provides for particle size and flow control. All stainless steel screens are manufactured in accordance to ASTM E2016-99 (2004)e1 Standard Specification for Industrial Woven Wire Cloth. Screens of differing sieve sizes are available according to application.
4. Filtration basket fitted with skimmer protected bypass and turbulence deflector which are manufactured by hand lamination of fiberglass described in 1.
5. Top of filtration basket fitted with removable tray which holds a replaceable absorbing media for hydrocarbon collection. Tray is manufactured by same technique described in 4. Absorbent media ranges from treated cellulose to

polymer particles depending on application. Baskets that are less than 10” deep will not provide a top tray. The Absorbent media will be located in the bottom of the basket attached to a separate stainless steel coarse screen.

6. Product provided with 5 year warranty.

EXECUTION

As per manufacturer requirements.

QUANTITY AND PAYMENT

The quantity of Water Quality Inserts herein above specified, for which payment will be made, will be by the units of **WATER QUALITY INSERTS** thereof r installed, in accordance with the Contract Plans or as directed by the Engineer.

--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.

SUBMITTALS

Submit samples and catalogue cuts of the proposed HDPE pipe, geogrid, and geotextile fabric.

MATERIALS

HDPE pipe shall be Type N-12 as manufactured by Advanced Drainage Systems, Inc., Tel. 800-821-6710, or approved equal.

Flat Drains shall be AdvanEdge as manufactured by Advanced Drainage Systems, Inc., Tel. 800-821-6710, 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 Division 200 – Earthwork; of the 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.

QUANTITY AND PAYMENT

Drainage Pipe will not be measured. Payment for this item shall be included in the square yardage price for the “SYNTHETIC TURF, UNDERDRAINS AND STONE” in the proposal, which shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto for completion of the work as shown and specified in accordance with the Contract Plans and Specifications or as directed by the Engineer.

--END OF SECTION--

HDPE DRAINAGE PIPE

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This work shall consist of furnishing and installing underground detention and pipe conveyance systems composed of lengths of perforated and solid high-density polyethylene (HDPE) pipe varying in size from 12" to 30" diameter. It shall include the required excavation, clean stone, fabric and any other material, tools, equipment necessary to construct the underground recharge basin and pipe conveyance systems and structures as shown on the Contract Drawings and shall conform to Division 200 – Earthwork of the NJDOT Standard Specifications for Road and Bridge Construction, latest revised.
- B. Clean Crushed Stone shall be furnished and placed above, around, and below the perforated recharge basin pipes, manifolds and fittings, and enclosed with geotextile filter fabric as specified and as shown on the Contract Drawings and as specified in this Section or as directed by the Engineer. 3/4" clean crushed stone shall be used.

1.2 SUBMITTALS

- A. Submit samples and catalogue cuts of the proposed HDPE pipe, risers, manifolds, fittings, covers/lids, geogrid, clean stone, cleanouts and geotextile fabric.

PART 2 - MATERIALS

- 2.1 High-Density Polyethylene Pipe (HDPE), perforated and solid, varying in size from 12" to 30" diameter, all risers and fittings of various sizes shall be Type N-12 as manufactured by Advanced Drainage Systems, Inc., Tel. 800-821-6710, **or approved equal**.
- 2.2 Geotextile Filter Fabric shall Type 140N as manufactured by Mirafi, Tel. 706-693-2226 or US Fabrics, Tel. 800-518-2290. Geogrid to be Mirafi Miragrid of US Fabrics, **or approved equal**.
- 2.3 Clean Crushed Stone shall be uniform in texture and quality and shall conform with Section 901 – Aggregates, Section 601 – Pipe, and Section 602 – Drainage Structures, of the 2007 NJDOT Standard Specifications, latest revised.

PART 3 - CONSTRUCTION

- 3.1 Excavation, bedding, and backfilling shall conform to the applicable Sections and/or Subsections of the 2007 NJDOT Standard Specifications.
- 3.2 All HDPE pipe shall be installed in accordance with ASTM D2321 – Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications.
- 3.3 Pipe bedding shall be 18" minimum thickness for 12", 24" and 30" dia. perforated HDPE pipe.

3.4 Pipe bedding shall be 6" minimum thickness for all solid HDPE pipe for sizes 12" dia. up to 30" dia.

PART 4 – QUANTITY AND PAYMENT

4.1 Quantity and Payment for HDPE Drainage Pipe will be made in accordance with the Contract Documents at the linear foot price bid for items **12" PERFORATED HDPE PIPE, 24" PERFORATED HDPE PIPE, 30" PERFORATED HDPE PIPE, 12" HDPE PIPE** in the Proposal. GEOTEXTILE FILTER FABRIC and cleanouts shall not be measured and shall be included in the unit price for the various bid items in the Proposal, The above items price shall cover the cost of excavation, backfill, sheathing, shoring, bracing, pumping, dewatering, stone, geogrid, all bedding, fittings, risers, covers, compaction, testing, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

REINFORCED CONCRETE PIPE

DESCRIPTION

This Specification covers reinforced concrete pipe varying in size from 12” to 30” diameter intended to be used for the conveyance of storm water, and shall include the excavation for the construction of reinforced concrete storm pipe, subgrade, sawcutting, temporary reconstruction section for trench restoration, relocation of all gas, water and sanitary connections and in accordance with Section 602 - Storm Drains of the Standard Specifications, and as shown on the Contract Plans and Specifications, or as directed by the Engineer.

The contractor is responsible for providing neat sawcuts and for protection of existing curbs and driveway aprons adjacent to the installation of any reinforced concrete pipe. Any damage to existing curbs and/or driveway aprons shall be replaced at the contractor’s cost.

Any gas and water relocations and connections shall be coordinated with the respective utility companies. The contractor is responsible for the complete installation of all utility connections in accordance with the respective utility company’s requirements and shall include (if required) any valves, bends, tees, taps, saddles, thrust blocks, site restoration, curb replacement, sidewalk replacement, etc. required for a continued use of service

The contractor is responsible for replacing any conflicts with the existing sanitary sewer laterals with newly constructed laterals, wye-connections, cleanouts, site restoration, curb replacement, sidewalk replacement, etc. required for a continued use of service.

Note: Contractor shall confirm location and elevation of all utility crossings via test pits prior to ordering reinforced concrete drainage pipe.

MATERIALS

All reinforced concrete pipe shall be Class V.

Fine aggregate shall conform to the requirements of Section 901.13; Course aggregate shall be broken stone or washed gravel conforming to the requirements of Section 901.04 and Section 901.05, respectively. Elliptical reinforcing will not be permitted in circular pipe.

Sub-grade shall be as shown on the site plan

METHODS OF CONSTRUCTION

Construction shall be in accordance with Section 602 and excavation and backfill for all drains shall be governed by the provisions of Section 207 - Subsurface Structure Excavation of the Standard Specifications.

QUANTITY AND PAYMENT

Quantity and Payment for Reinforced Concrete Pipe will be made in accordance with the Contract Documents at the linear foot price bid for items **12” RCP, CLASS V** in the Proposal,

which shall cover the cost of excavation, backfill, bedding, furnishing, laying, assembling and caulking the pipe, sheathing, shoring, bracing, pumping, backfilling, sawcutting, temporary pavement trench reconstruction, sub-grade, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

SCH 40 PVC STORM PIPE

DESCRIPTION

Schedule 40 PVC Storm Pipe shall consist of the excavation for the construction of the various sizes and classes of PVC pipe as shown on the Contract Documents or as otherwise directed by the Engineer. PVC storm pipe shall be constructed if and where directed.

PRODUCTS

MATERIALS and TESTING

BASIC MATERIAL

A. The pipe shall be made of Polyvinyl Chloride (PVC) plastic having a cell classification of 12454B or 12454C or 13364B, (with minimum tensile modulus of 500,000 PSI) as defined in ASTM Specification D1784. Fittings shall be made of PVC plastic having a cell classification of 12454B or 12454C or 13343C as defined in ASTM Specification D1784. Compounds that have different cell classifications because one or more properties are superior to those of the specified compounds are also acceptable.

B. All PVC drainage pipe, fittings, cleanouts, and materials shall be schedule 40.

METHODS OF CONSTRUCTION

Storm Sewer Pipes shall be constructed in accordance with Section 909.02.03 – Plastic Drainage Pipe, of the 2007 N.J. Department of Transportation Standard Specifications.

QUANTITY AND PAYMENT

Quantity and Payment for SCH 40 PVC Storm Pipe will be made in accordance with the Contract Documents at the linear foot price bid for item **6” PVC PIPE** in the Proposal, which shall cover the cost of excavation, backfill, bedding, furnishing, laying, assembling, pumping, dewatering, fittings, caps/covers, cleanouts, gutter connections, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

TELEWISE AND CLEAN STORM SEWER LINES

DESCRIPTION

Televising Sewer Lines shall consist of the furnishing of all materials, labor, equipment and plans necessary for the performance of all work to properly televising and documenting all findings in and report on all sewers designated in accordance with Plans and Specifications in those locations as directed by the Engineer. The televised sewer lines shall be cleaned and jetted.

EQUIPMENT

The Contractor shall supply as a minimum the following equipment for the closed circuit television inspection.

The television inspection equipment shall consist of a sealed color video camera with an articulating head, a color video monitor for viewing during inspection, one thousand feet of camera cable, water proof camera light, camera skids or powered crawler, power control unit, continuous contract reel assembly, footage meter, Polaroid camera, tow cable and winch (if required), enclosed inspection trailer or truck, and all else necessary for the safe and orderly execution of same.

The color camera shall be specifically designed and constructed for the purpose of televising sewers. Same shall have a high resolution lens, capable of spanning 360 degrees circumference and 270 degrees on horizontal axis to televise sewer lines 6-inch in diameter and larger. Focal distance shall be adjustable through a range of 1 inch to infinity. The purpose of the articulating head camera is to view all service connections and to locate all defects, as well as any questionable problem areas.

Camera and lighting quality shall be suitable to provide a clear, continuous in-focus picture of the entire inside periphery of the sewer pipe for all conditions encountered during the work. The camera shall be capable of operating efficiently during the work. The camera, television monitor and all other necessary components of the video system shall be capable of producing a minimum 650 line resolution color video picture.

Camera construction shall be cable of sustaining shock loads same shall operate only on restricted MCS video band widths which are free from interference from externally generate R.F. signals. The composite video signal output shall be maintained at a minimum of 1.5V through 2000' of cable. The color camera shall have a vidicon target circuit to replace the iris control and it shall adjust automatically to optimum settings for light levels incident on the subject. This compensation shall be achieved without moving parts.

The camera housing shall be 3" diameter or less, and the camera housing face plate shall be 5/16" optically ground quartz glass to insure a distortion free image. The front and rear ball assemblies shall be precision threaded to the camera housing and o-ring sealed. The connection from the color camera to the camera cable shall be of the quick disconnect type.

The power control unit shall be a solid state unit containing two auto transformers. The purpose for same shall be to regulate the line voltage input for the entire electrical system and to allow for variable control of the voltage to the lighthouse. The light control auto-transformers

shall allow for varying the light intensity from no light to 10,000 foot candles. Each auto transformance shall have a separate volt meter and indicator light.

The lighthouse shall be able to produce the proper illumination for all pipe 6" through 24" with no modifications or adjustments.

TELEVISION METHODS

The television inspection shall be performed utilizing a closed circuit television and shall be performed one reach at a time. Flow will have to be controlled such that flow depth is less than one third of the full flow depth. All sewer reaches must be properly cleaned prior to televising in accordance with the sewer cleaning Specifications, described herein.

The Contractor is permitted to use several means to control the flow. A plug may be used and carefully monitored to assure that no surcharging conditions will result or by either bypass pumping or by utilizing the cleaning jets to vacuum the flow from impairing the camera. Bypass pumping into a separate sewer system is permitted provided that said system can handle the additional flow and this operation is approved by the Engineer in advance.

During the inspection, the camera is to be stopped and photographs taken at the points where one or more of the following conditions are observed: Infiltration/Inflow Sources, service conditions, structural defects, including broken pipe, cracks, deterioration, punctures, etc., abnormal joint conditions (ie horizontal and vertical misalignments) open joints, joints not fully sealed, etc., and any other unusual conditions.

The Contractor shall provide a mobile television studio for inspection during the televising. The studio shall be capable of accommodating a skilled technician for the operation of the camera and two authorized personnel. All operation of the equipment shall be controlled above ground.

Color video tape recordings of all television inspections shall be made on standard VHS cassette at high speed, 2 hours per tape. At the start and end of each reach, the recording shall display: date, street, job number, footage flow direction, pipe diameter and a description by the operator. Once the inspection begins, the footage shall be the only information to remain on the screen.

The recording shall also have an audio portion describing all physical features of the sewer. Same shall be free from electrical interference and background noise.

Camera lighting shall be capable of producing light levels from 50-100 foot candles which allows a clear, in-focus picture of a minimum of 6 linear feet of the entire periphery of the sewer pipe.

The Contractor shall submit two copies to the Engineer's office of all written report logs and video tapes of the existing sewers in question before beginning construction and after construction is complete.

The Contractor shall submit two copies of all written report logs and video tapes upon completion of inspection and shall be delivered to the Engineer's office within a timely manner after completion of work, and before payment has been made.

QUANTITY AND PAYMENT

The quantity of sewer televising for which payment will be made shall be on a lump sum basis as outlined in the proposal and as directed by the Engineer. No payment will be made for travel time.

Maintenance and protection of traffic, bypass pumping, and any flow control measures shall be included in the unit price bid for each item requiring same for the various sizes as listed in the Proposal.

Should the contractor fail to supply the Engineer with conclusive data, he shall re-televis the sewer at his own expense.

Payment for televising sewer lines shall be made on a lump sum basis for the item **TELEWISE & CLEAN STORM SEWER LINES** as outlined in the contract documents.

--END OF SECTION--

COPPER TUBING WATER PIPE (K-TYPE)

DESCRIPTION

This item shall consist of the installation of all water service pipe, meter, fittings, thrust blocks, wet-tap, permits, road opening permits, and corporation stop for the water service connection to the multipurpose building.

This item shall include the excavation, backfill, restoration and materials necessary to install the water service connection from the multipurpose building to existing water main located in close proximity to the pool parking lot exit driveway.

The contractor is responsible for returning all curb, sidewalk, driveway and grass areas to pre-construction conditions and shall be included in the base bid for this item.

MATERIALS

The Contractor shall provide all water service materials in accordance with Section 651 – Water of the 2007 NJDOT Standard Specifications, latest revised.

The Contractor shall include in the price bid for this item 800 linear feet of 2” dia. K-Type Copper Tubing, one (1) corporation stop and appurtenances, one (1) wet tap service connection to the off-site water main, one (1) water meter and components, two (2) water service valves, boxes, and appurtenances, a 2” dia. water service connection to the existing off-site water main located in close proximity to the pool parking lot exit driveway, and shall furnish all material to construct a fully functional water service system design-build program from the proposed restroom, concession, and utility building to the existing off-site water service main in rosewood Avenue. The Contractor shall submit all water design plans to the Engineer for review prior to the commencement of construction.

Copper tubing and fittings shall conform to the requirements of A.S.T.M. Designation B88, Type K, for underground service and Type L, for above ground / interior applications. Type K tube shall be annealed and used in conjunction with cast bronze flaired tube fittings. The tubing and fittings shall be installed in accordance with recommendations of the manufacturer.

All service connections shall be complete with Corporation Stop, Copper Service Lines, and Curb Stop and Box, with Curb Box Sleeve, where applicable.

A 2” Corporation Stop shall be Mueller H-15008, or as specified by the local utility company, and a 2” Curb Stop shall be Mueller H-15209, or as specified by the local utility company, **or approved equal**. A 2” curb box shall be H10316 manufactured by Mueller Company Inc., or as specified by the local utility company, **or approved equal**. Mueller Company Inc., equivalent to be utilized for 2” services and foot piece. All curb boxes shall include the foot piece as manufactured by Mueller Company Inc., or as specified by the local utility company, **or approved equal**.

Larger size threaded connections shall be made with the use of a double strap pipe saddle. The saddle is to have corporation stop threads with neoprene gaskets, a malleable iron body, a forged steel strap, and cadmium plated threads on straps and nuts. All service lines and connections shall be made to all types of existing service lines. The corporation stop shall be Model H-15025 and the curb stop shall be Model H-10314, and the curb valve shall be Model H-15204 as manufactured by Mueller Company Inc., or approved equivalent.

A curb box which does not fall within a grassed area shall be installed within a monument box.

METHODS OF CONSTRUCTION

The Contractor shall construct the water services in accordance with all local ordinances and Section 207 - Subsurface Structure Excavation of the N. J. Department of Transportation Standard Specifications, with the addition of the following paragraphs.

All work shall be inspected and approved by the local Municipal Water Department and Water Utility Provider.

No work shall be closed or covered up until it has been duly inspected and approved for proper and satisfactory construction and installation, and in compliance with the Contract Documents or as directed by the Engineer. Should uncompleted or unapproved work be covered, the Contractor shall, at his own expense, uncover all work so that it can be properly inspected and approved; and, after such inspection and approval, he will properly repair and replace all work found defective, unsatisfactory, and not in accordance with the Contract Documents. After such repair and replacement, he will bring all work to the completeness and status that it was before it was closed and covered; all at his own expense.

Service connections shall be made with an approved tapping machine in conformance with pipe manufacturer's recommendations, and the Municipality's and Water Utility Provider's rules and regulations, or as directed by the Engineer.

The Contractor shall provide and submit a domestic water service design and layout to the Engineer for review prior to the commencement of construction. The domestic water service design shall include, but not be limited to, water service connection to off-site area(s) within the park, coordination with the local water utility company, water service tap to existing water main, water service connections, fittings, valve boxes, valve stems, thrust blocks, water pipe, building connections, and meter for a complete 2" dia. k-type copper tubing water service system design and build program to connect the multipurpose building to the off-site water main located in close proximity to the pool parking lot exit driveway.

QUANTITY AND PAYMENT

Quantity and Payment for Copper Tubing Water Service (K-Type) will be made in accordance with the Contract Documents at the lump sum price bid for the item **2” DIA. K-TYPE COPPER TUBING WATER SERVICE (SHALL BE COORDINATED WITH OWNER AND UTILITY PROVIDER)** in the Proposal, which shall cover the cost of installation, excavation, backfill, dewatering, sheathing, shoring, bracing, restoration, compaction, testing, gaskets, pipe, fittings, meter, valve boxes, stems, caps, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

SANITARY SEWER

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The Contractor shall do all excavations and embankments, do all shaping of trenches, laying and joining all pipes of the various kinds and sizes, construct all sanitary sewer structures and appurtenances, as indicated on the Contract Plans, do all backfilling, core drill connection of proposed system to existing sanitary sewer system and shall do such additional extra work and incidental work as may be considered necessary to replace the pavement and wearing surface, etc., and complete the roadway to the finished lines, grades, and cross-sections in a substantial and acceptable manner and repair any damage to existing sanitary sewer system caused by core drilling. He shall furnish all implements, machinery, equipment, tools, labor and materials necessary to the prosecution of the work and shall construct the sewer in accordance with the Plans, Specifications, and Contract.
- B. See Site Grading Specification.
- C. Pressure testing for PVC Pipe shall be in conformance with municipal specifications.

PART 2 - EXECUTION

2.1 EXCAVATION

- A. **TRENCHING:** The trenches in which the pipe is to be laid, shall be opened in accordance with the grades designated by the Engineer. All excavations shall be open cut from the surface and the trench shall be excavated to a width, as specified by the Engineer. Unless by written consent from the Engineer, no tunneling will be allowed. The Contractor shall grub clear, etc., the surface over the trench wherever it may be necessary and remove from the ground all surplus material of whatever nature and kind.

Excavation for pipes in rock shall be made to a grade six (6") inches below the bottom of the pipe barrel, for a width of two (2') feet, and the rock trimmed to remove all projected parts. Selected earth shall then be placed in the trench and thoroughly tamped for a depth of six (6") inches and depressions made in said earth to receive the bells of pipes. The pipes shall be laid upon the earth bed so prepared, and thereafter tested and backfilled, as herein specified.

Trenches for house connections will not be opened on both sides of the street at the same time, in a manner to needlessly obstruct the roadway, unless permission has been previously given to close the street.

- B. **EXECUTION OF CONTRACT:** In the execution of this contract, the Contractor shall not, without previous permission of the Engineer, open more than one hundred (100') feet of trench in advance of the completed sewer. The street surface must be

restored in good condition and all surplus material and rubbish from that section be immediately removed. The material excavated from the trench shall be all laid compactly in the sides of the trench and kept trimmed up so that little or no inconvenience may be caused to the traveling public and adjoining tenants. The surplus earth, if any, will be the property of the Contract and must be disposed of by him. The Contractor shall not obstruct the gutter or any passage of surface water along its course.

- C. PUBLIC SAFETY: The Contractor shall provide, at his own expense, suitable bridges over the trenches, where required, for the accommodation and safety of the traveling public. Also, suitable barriers around the excavation to prevent accidents to the public on the street, and shall place and maintain sufficient red lights on or near the work during the night. A space of twenty (20') feet must be left so that free access may at all times be had to fire hydrants and proper precaution shall be taken as to the locations of fire houses.
- D. EMBANKMENT: Where embankment may be found necessary to support the foundations of the sewer, or to cover the same, it shall be made on the width and slopes ordered by the Engineer. The ground shall be prepared by carefully grubbing and clearing it, removing all loose rock and stone and all muck and improper material of whatever nature. The embankment formed of good loam, gravel or sand, free from all stones above four (4") inches in diameter, and shall not contain in any place a proportion of stones of or greater than one part to three parts of earth. The material shall be deposited and spread in horizontal layers not more than one (1') foot in thickness in the loose, each layer to be separately compacted, to the satisfaction of the Engineer so that no settlement of the sewer or its appurtenances will thereafter occur.
- E. ROCK EXCAVATION: Rock, a name for material excavated shall refer to and include the solid ledge-rock formation whenever found in the materials in which the lines and other appurtenances are to be built. It shall refer to that formation which can be removed properly only by means of explosives, barring or wedging or by means of some other recognized methods of quarrying solid rock. All boulders found in the trenches are required to be immediately removed, measuring 1/3 cubic yards or more, and those portions of large boulders projecting into the trenches, requiring removal. Loose rock, "red horse" or shale that can be excavated or loosened by pick or ploughing, and other material, except solid rock, will be classified as earth excavation.
- F. BLASTING: In all cases of blasting, the prepared blast shall be carefully covered with heavy timbers securely chained together and placed so that the area affected by the explosive is positively confined. No blasting will be done within forty (40') feet of the finished pipe line and should a gas or sewer pipe or any underground conduit intersect the line of trench, the rock must be removed without blasting for a distance of ten (10') feet on each side of such pipes or conduits. The end of the finished pipe shall be covered or stopped with plank or earth during each blast.
- G. PUMPING AND BAILING: The Contractor shall furnish all necessary machinery for the work. He shall pump, bail or otherwise remove any water which may be

found or shall accumulate in the trenches and shall perform all work necessary to keep them clear of water while the sewer is being laid. In no case, unless by special permission of the Engineer, shall water be allowed to run through the sewer until the joints have satisfactorily hardened. The disposal of the water, after removal, shall be satisfactory to the Engineer. If in the opinion of the Engineer it is deemed advisable to use well point, the Contractor shall furnish, install, and operate the well point system in order to keep trenches dry.

- H. INTERFERENCE WITH EXISTING STRUCTURES AND WATER COURSE: In excavating and backfilling trenches and laying sewer, care must be taken not to injure any gas, water, sewer or other pipes, conduits or structures without the order of the Engineer. The Contractor shall, at his own expense, sling, shore up and secure and maintain a continuous flow in said structures, whether the structures run parallel with or across the sewer, and shall repair any damage done to them, and shall keep them in repair, until the final acceptance of the completed work, leaving them in a good condition as when uncovered.

2.2 FOUNDATIONS

- A. WORK INCLUDED: If in the judgment of the Engineer, the soil does not afford sufficient bearing power to sustain the weight of the pipe, the Contractor may be required to construct a foundation, as specified by the Engineer.

2.3 PIPE LAYING

- A. SCOPE OF WORK: The Contractor shall include in the price bid for this item 450 linear feet of 6" dia. SDR-35 PVC Pipe, six (6) 6" dia. SDR-35 PVC Cleanouts, two (2) Sanitary Sewer Manholes, connection to the existing manhole located within Parkway Drive, and shall furnish all material to construct a fully functional sanitary sewer service system design-build program from the proposed multipurpose building to the existing manhole located within Parkway Drive submit all design plans to the Engineer for review prior to the commencement of construction and obtain all necessary approvals from the Rahway Valley Sewerage Authority. All materials shall conform to Section 652 – Sanitary Sewers of the 2007 NJDOT Standard Specifications, latest revised.
- B. INSPECTION AND QUALITY OF PIPE: No pipe shall be laid, except in the presence of the Engineer or Inspector, and the Engineer shall have the power to order the removal or relaying of any pipe laid contrary to his instructions during his absence or that of his assistants or the Inspector. Previous to being lowered into the trench, each pipe shall be carefully inspected, and those not meeting the requirements of the foregoing specifications shall be rejected and either destroyed or removed from the work within ten (10) hours, except pipe suitable for subdrains which may be used for that purpose, but shall be kept apart from the sewer pipe. All lumps and excrescences on the ends of each pipe shall be removed before it is lowered into the trench. Pipes having any defects, which do not cause their rejection, shall be laid as to bring these on the top half of the sewer, and if the bell or spigot be broken the defective place

must be liberally covered with neat cement mortar, reinforced with a piece of pipe ring if the Engineer so directs.

- B. **GRADES AND ALIGNMENTS:** The pipes shall be so laid in the trench that after the sewer is completed, the interior surface thereof shall conform accurately to the grades and alignments fixed and given by the Engineer. All adjustments to the line and grade of pipes laid directly upon the bottom must be done by scraping away or filling in the earth under the body of the pipe, and not by blocking or wedging up.

Before joining, the interior of the joints shall be carefully cleaned of dirt, water or stone, and as each length of pipe is laid and the joining properly done, a swab of disk mould attached to a rope or rod shall be pulled ahead so as to remove earth, stone or other debris which has been permitted to find lodgment therein.

All pipes must be laid in perfectly straight lines from inlet or manhole to inlet or manhole, unless directed to the contrary by the Engineer, in writing, as it is a necessary condition of acceptance of the work that all pipe after being laid must be capable of inspection of natural or artificial light from end to end.

All pipes previous to being lowered into the trench shall be fitted together and matched so that when joined in the trench they may form a true and smooth line. No pipes shall be trimmed in any case, and pipes which do not fit truly will be rejected. When necessary, and when directed by the Engineer, the Contractor shall lay the pipe in concrete. Before leaving work for the night, or any other time, the ends of the sewer shall be securely closed with a tight fitting plug.

Specials that are required and designed, or are found to be necessary as the work progresses, shall be furnished and set in their proper places. Any omission of the required special intended to be laid, or that may be specially ordered by the Engineer, shall be rectified by the Contractor without compensation.

- C. **STRAIGHT AND TRUE LINES:** While the pipes and specials are being laid in each section between the manholes or other permanent openings, light from the remote ends of the section shall remain constantly in plain view throughout the entire length of such section or division. Sections between openings will in general not exceed three hundred (300') feet; in particular cases, distances may be somewhat greater.
- D. **CLEANING PIPE:** No sewer shall be laid without the use of a swab. This shall consist of a circular disc of wood, covered with burlap or bagging and fastened to one end of a long pole or rod. The disc shall be such size as to snugly fit the interior of the pipe; it shall be drawn forward as the work progresses to remove all cement that may have entered the interior through the joints. Attention to this detail will greatly lessen the expense of passing a ball through the sewers at the time of completion.
- E. **TESTING SEWER LINES:** Before backfilling, and while trench is dry, bulk heads shall be inserted by the Contractor in the pipe at adjacent manholes. The pipe shall be filled with water until ahead of four (4') feet from the top of the pipe at the upper

manhole is attained. Another standard method of testing leakage may be substituted, if the opinion of the Engineer deems it advisable.

The leakage between any two manholes tested must not exceed the following:

| | |
|------------------------------|-------------------------------------|
| 6" Sewer Pipe | 1,300 Gallons per mile in 24 Hours |
| 8" Sewer Pipe | 2,500 Gallons per mile in 24 Hours |
| 10" Sewer Pipe | 4,000 Gallons per mile in 24 Hours |
| 12" Sewer Pipe | 5,500 Gallons per mile in 24 Hours |
| 18" Sewer Pipe | 12,000 Gallons per mile in 24 Hours |
| 24" Sewer Pipe | 15,000 Gallons per mile in 24 Hours |
| 30" Sewer Pipe, or Larger | 18,000 Gallons per mile in 24 Hours |

Any section having a greater leakage shall be immediately repaired or replaced and tested by the Contractor at his own expense, until such time as leakage in the section is within the limit as specified.

- F. **TESTING CAST IRON FORCE MAIN:** The Contractor shall furnish all materials, water, pump, gauges, test heads, plugs, and perform all labor for testing cast iron pipe lines before backfilling. All cast iron pipe, after being laid and jointed, shall be tested at a hydrostatic pressure of 100 pounds per square inch for thirty minutes in the presence of the Engineer or his representative. All pipes, joints, or valves, which in the opinion of the Engineer or his representative show excessive leakage, shall be immediately repaired, as the case necessitates, and the tests repeated until the section is accepted by the Engineer.
- G. **PROTECTION OF WORK:** Great care shall be exercised in the protection of the finished work. Joints once made and disturbed shall be subject to immediate rejection. It shall therefore be the duty of the Contractor to take such precautions as may be necessary to avoid the slightest movement in the completed work; while in the act of laying the pipe, in backfilling or in the passage of workmen up and down the trench. At all times, during which pipe is not being laid, the end of the sewer shall be sealed with a tight-fitting plug excepting, however, such cases where special permission has been granted for the draining of trench water through a completed sewer. No trench water shall be drained through a completed sewer until the Engineer has been satisfied that proper precautions have been taken to prevent the admission of said or other material therein.

2.4 BACKFILLING

- A. **AMOUNT OF PIPE UNCOVERED:** The backfilling shall follow immediately after the construction of the sewer, and in no case shall there be more than one hundred fifty (150') feet of finished pipe uncovered. The backfill shall be placed in successive lifts not more than twelve (12") inches thick. Mechanical tampers or vibratory soil compactors use shall be in accordance with Section 2.7.3 of the Standard Specifications, as amended.

2.5 SPECIALS

- A. **WORK INCLUDED:** During the progress of the work, Specials shall be inserted as they are required or designated by the Engineer, and they shall be placed at the proper intervals. Where those of the said Specials have been omitted, through carelessness or otherwise on the part of the Contractor, the Specials, so omitted, shall be placed without compensation, other than the price bid for furnishing same.
- B. **"Y" OR "T" BRANCHES:** In front of each building, or where directed, the "Y" or "T" Branch will be set and Specials for future use will also be provided. The ends of "Y"s and "T"s left in the sewer must be closed within vitrified detachable covers cemented or covered over with a thin layer of Portland Cement, and where the sewer is being laid under conditions requiring the adoption of and use of a special bituminous joint. The same material used in preparing the joint shall be used in sealing the vitrified cover.
- C. **MARKER FOR SPECIALS:** The Contractor shall leave a marker denoting the position of each house connection or "Y" or "T" Branch. The dimensions of same to be one (1") inch by two (2") inches and it shall extend from the sewer to one (1') foot above the surface of the ground. The price for providing these marks will be included in the price bid for Specials. The price for furnishing Branches, Bends, etc., shall not be interpreted to include the laying of same, but will include Covers, and cementing the same and such other work in connection therewith, as may be designed by the Engineer.

2.6 FINAL INSPECTION

- A. **NOTIFICATION AND REQUIREMENTS:** Upon notification by the Contractor of the completion of the work contracted for, the Engineer will inspect all sewers, appurtenances, and all other work done by the Contractor. In each section of pipe/sewer, where intended to be straight, light shall be visible from one end to the other. Any broken cracked pipes, protruding cement or packing, shall be replaced or removed, and the sewer bore left clean and free through its entire length. There shall be no excess amount of leakage into any stretch of sewer. All underdrains shall discharge water freely and give evidence of having a clean open bore. All manholes and other appurtenances shall be of the specified sizes and form and of neat appearance, and their tops shall be set to the proper grade. If the work is found to be in any condition other than in accordance with these Specifications, it shall be brought to proper condition by cleaning, pointing, and if necessary, excavating and rebuilding at the expense of the Contractor.

PART 3 – QUANTITY AND PAYMENT

- 3.1 Quantity and Payment for Sanitary Sewer will be made in accordance with the Contract Documents at the lump sum price bid for the item **6” SDR-35 PVC PIPE SANITARY SEWER SERVICE (SHALL BE COORDINATED WITH OWNER AND UTILITY PROVIDER)** in the Proposal, which shall cover the cost of excavation, backfill, compaction, testing, gaskets, pipe, fittings, installation, dewatering, pumping, sheathing,

shoring, bracing, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

ELECTRIC SUPPLY, PANEL, METER, AND LIGHTING

DESCRIPTION

This item shall consist of the installation of all light poles, light fixtures (complete with lamp, cover, etc.), panels, conduits, fittings, wiring, pull-boxes, and foundations for the field lighting and various site items requiring electricity. It shall also include the eventual energizing of the system.

MATERIALS

All primary service wiring will be provided by PSE&G up to the main electric service panel. The Contractor shall furnish all material to construct a fully functional electrical system, other than the primary service wiring provided by PSE&G.

All material must meet the minimum requirements of the NEC, PSE&G and the construction details specified herein.

CONSTRUCTION

The installation shall be in accordance with NEC and PSE&G standards or as determined by the Engineer. The foundations shall be so constructed as to hold lights in a proper and permanent position, to resist swaying in the wind or displacement by vandalism. 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 all necessary conduit of suitable size with one spare conduit.

The Contractor shall include in the price bid for this item all pull-boxes as required by code.

The Contractor shall include in the price bid an enclosure for all electrical control systems that will be located outside. The enclosure shall be a 6' high vinyl coated chain link with gate.

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, meters, secondary service conduits, connections, terminations, panels and pull boxes, building connections, terminations and meter, security site lighting connections, terminations and meter, and MUSCO electrical conduits (**or approved equal**), connections, terminations, pull boxes, and connection to MUSCO poles (**or approved equal**) for a complete electrical system

design and build program for the multipurpose building, pavilions, flagpole lights, LED Scoreboard, Coach's Box and sports lighting.

All construction must meet the minimum requirements of the NEC, PSE&G and the construction details specified herein.

QUANTITY AND PAYMENT

No separate payment will be made for Electric Supply, Panel, Meter, And Lighting. The cost of the work shall be included in the various site items requiring electric such as FIELD LIGHTING POLES & FIXTURES, COMPLETE WITH FOUNDATIONS, CONDUIT & ELECTRICAL COMPONENTS, FLAGPOLE SYSTEM, COMPLETE WITH UPLIGHTS, OUTDOOR MULTISPORT LED SCOREBOARD, COMPLETE WITH CONCRETE FOOTINGS AND POST (INCLUDING ELECTRIC), COACH'S BOX, COMPLETE, SOUND SYSTEM, MULTIPURPOSE BUILDING, COMPLETE AND OPEN AIR PAVILION, 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 --

CONCRETE PADS, 6" THICK REINFORCED CONCRETE

DESCRIPTION

Concrete Pads, 6" Thick Reinforced, shall include the construction of Portland Cement Concrete and landings and pads (6" thick) as shown on the plans, steel mesh reinforcement, and shall include the excavation and removal of all earth, rock, boulders, brick, sawcutting, stone and concrete masonry, including small structures and other materials encountered of whatever nature, required for the construction of reinforced concrete aprons. Concrete pads shall be constructed as all new bleachers, all new trash receptacles, all new benches, and at the proposed existing bleacher relocations as shown on the plans. It shall also include the transportation and disposal of the excavated materials; the construction of embankments with the materials excavated; the disposal of unsuitable and surplus materials; and other work as shown on the plans or specified herein.

MATERIALS

Materials shall be as those specified for Concrete Sidewalk and Driveways, as specified in Section 607, Sidewalks and Driveways of the N. J. Department of Transportation Standard Specifications.

METHODS OF CONSTRUCTION

Methods of construction shall be the same as for Concrete Sidewalk, as specified in Section 607, Sidewalks and Driveways of the N. J. Department of Transportation Standard Specifications.

QUANTITY AND PAYMENT

No separate payment will be made for Concrete Pads, 6" Thick Reinforced Concrete. Payment for reinforced concrete pads shall be included in the various bid items. Payment for any reinforced concrete pads as required per construction details or specifications shall be included in the various bid items.

-- END OF SECTION --

CONCRETE SIDEWALK

DESCRIPTION

This item shall include the construction of concrete sidewalks as shown on the construction plans and the subgrade therefore, the excavation and removal of all earth, rock, boulders, brick, stone and concrete masonry including small structures, existing concrete sidewalk, and other materials encountered of whatever nature, required for the construction of concrete sidewalk. It shall also include the transportation of excavated materials; the construction of embankments with the materials excavated; the disposal of unsuitable and surplus materials; and other work as herein described. Portland Cement Concrete Sidewalk is hereinafter termed concrete sidewalk.

MATERIALS

Materials shall be as those specified for Concrete Sidewalk and Driveways, as specified in 606-Sidewalks, Driveways, and Islands of the 2007 NJDOT Standard Specification.

METHODS OF CONSTRUCTION

Methods of construction shall be the same as for Concrete Sidewalk, as specified in Section 606-Sidewalks, Driveways, and Islands of the 2007 NJDOT Standard Specification.

Excavation and Backfilling shall be in accordance with Section 202-Excavation and Table 203.03.02-1 Compacting Requirements of the 2007 NJDOT Standard Specification.

PAYMENT

The quantity of Concrete Sidewalk will be the actual area, installed in accordance with the Standard Specifications, or as directed by the Engineer. Payment will be made for the quantity in square yard at the unit price in the item **CONCRETE SIDEWALK, 4"THICK** in the Proposal, which price shall include the cost of any and all materials, inclusive of dense graded aggregate, labor and equipment and all else necessary therefore and incidental thereto. All existing concrete sidewalk and curbing shall be restored as it is.

Separate payment will not be made for sidewalks damaged during construction. Concrete Sidewalks damaged by the contractor during construction activities, not specifically designated to be replaced by the Engineer, shall be the responsibility of the contractor to replace and restore to existing conditions at no cost to the owner.

--END OF SECTION--

DENSE GRADED AGGREGATE (DGA)

DESCRIPTION

This item shall include the placement of ¾" Dense Graded Aggregate (DGA), 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 in accordance with all Client, Local, State, and Federal regulations.

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 Division 200 – Earthwork; of the NJDOT Standard Specifications.

QUANTITY AND PAYMENT

No Separate Payment will be made for Dense Graded Aggregate and payment will be included in the various items within the proposal. The cost shall include all materials, labor, equipment and all else necessary to complete the work as directed by the Engineer.

--END OF SECTION--

HOT MIX ASPHALT SURFACE COURSE

DESCRIPTION

Hot Mix Asphalt Surface Course shall be Mix I-5, constructed in two lifts, and conforming to the lines and grades and at the thickness after compaction, as shown on the Contract Drawings. This surface course shall be installed on the dense graded aggregate base course, in accordance with the Contract Documents.

MATERIALS

The bituminous materials for Mix I-5 shall consist of asphalt cement. The penetration grade shall be 85/100, conforming to the requirements specified therefore in SubSection 902 – Asphalt; of the NJDOT Standard Specifications unless otherwise directed by the Laboratory. All other materials shall be as shown in the Standard Specifications.

CONSTRUCTION

This article shall be as set forth in the "Standard Specifications", except that the following shall be included into the total price bid.

The Contractor shall be responsible for hiring an independent laboratory, which has been approved by the Engineer, for the purpose of taking pavement cores. These cores shall be tested to determine the conformance of the materials with the Specifications. Tests will be made for composition, air voids, and thickness.

The Contractor shall supply the Engineer with two (2) copies of all results.

QUANTITY AND PAYMENT

The quantity for which payment will be made, will be the actual tonnage delivered and used.

In computing the tonnage, proven truck weights shall govern. The net weight mixture delivered in each truckload shall be determined in the following manner.

Each truckload of material delivered shall be weighed by a certified weigh master, on certified scales approved by the Division of Weights and Measures, Department of Law and Public Safety. The weigh master shall furnish to the truck driver duplicate weight slips showing the gross, tare and net weight. To each weight slip shall be affixed his signature and official seal or approved commissioned stamp attesting that he is a duly constituted weigh master. One of these delivery slips shall be furnished to the Engineer's Representative on the project. No material will be accepted unless accompanied by such a delivery slip, which shall be completely legible and clearly indicate the title of the project for which delivery is intended.

The Engineer shall deduct the weight of all material lost, wasted, damaged or rejected, or laid in excess of the Engineer's direction or contrary to the Specifications, in determining the quantity for payment.

Payment for Hot Mix Asphalt, Mix I-5 will be made for the quantity as above determined, at the price bid for **HOT MIX ASPHALT PATHWAY** in the Proposal, which shall include the cost of bituminous concrete, dense graded aggregate, tack coat, all materials, labor, equipment, testing of materials and all else necessary to complete the surface course as shown on the plans or as directed by the Engineer.

--END OF SECTION--

SYNTHETIC TURF

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division I Specification Sections apply to this section.

1.2 SUMMARY

- A. The work under this section shall consist of furnishing all labor, materials, and equipment necessary to install, in place, all synthetic turf and other materials as indicated on the plans and as specified herein. The installation of all new materials shall be performed in strict accordance with these specifications, the manufacturer's instructions and in accordance with all details and shop drawings.

1.3 SUBMITTALS

Items A, B, F, G, and H must be submitted with the bid.

- A. Product Data: For each type of product indicated. Includes product cut-sheets proving compliance with this specification..
- B. The contractor shall provide the following samples of the artificial turf system for this project:
 - 1. A 12-inch x 12-inch minimum infilled sample of the exact synthetic turf system being proposed for this project.
 - 2. Infill mix in accordance with product specifications.
- C. Synthetic turf system shall be approved as ADA Handicap accessible as determined by Test Method ASTM 1951-99 (Standard Specification for determination of accessibility of surface under and around playground equipment).
- D. All components of the synthetic turf system must indicate detection levels below those levels established in Table 1A - Residential Direct Contact Health Based Criteria and Soil Remediation Standards (mg/kg) N.J.A.C. 7:26D (Remediation Standards).
- E. Shop Drawings: Show fabrication and installation details for synthetic turf including, but not limited to:
 - a. Proposed locations of all seams in fabric surfacing.
 - b. Field lining and marking - Submit a complete scale and dimensional drawing of inlaid or tufted-in field lines and marking boundaries. Include graphics for end zones and center logo artwork for approval as well.
 - c. This shall be submitted prior to field fabrication for approval.
 - d. 3rd party ASTM testing proving compliance with this specification.

- F. **Manufacturer Certificates:** Certified list of two (2) existing installations of a long pile synthetic turf and sand/rubber infill system with a nylon or polypropylene or polyethylene thatch layer in the last three years, including Owner Representative and telephone number, attesting compliance with quality assurance information. All must be located within the continental United States.
- G. **Qualification Data:** The turf contractor/manufacturer must have 100 full-sized sand/rubber infill fields that have been in use for a minimum of three years all being located in the Continental United States in locations similar in climate to the Northeast United States.
- H. **Sample Warranty & Sample 3rd Party Insurance Policy:** Provide a sample pre-paid third party insured warranty & sample manufacturer's warranty with the bid. Policy must be in force at the time of bid. Submission must comply with Section 1.5 Warranties.
- I. **Maintenance and Operations Data:** At the completion of the project submit 3 complete sets, in manual form, of all the manufacturer's recommended procedures and materials for, but not limited to general maintenance, line/marketing installation, small repair procedures, cleaning, etc.

1.4 QUALITY ASSURANCE

- A. All components and their installation method shall be designed and manufactured for use on outdoor athletic fields. The materials as hereinafter specified, should be able to withstand full climatic exposure in the Northeast USA, be resistant to insect infestation, rot, fungus and mildew; to ultra-violet light and heat degradation, and shall have the basic characteristic of flow-through drainage allowing free movement of surface run-off through the turf and directly into prepared granular base and into the field drainage system.
- B. The synthetic turf manufacturer shall be of national reputation with systems that have been in use at all levels of competition, including professional and collegiate levels of football and soccer and shall have been in use for a period of not less than three years. The turf fabric shall be produced by the manufacturer and installed by factory-authorized distributors directly employing the installation crew.
- C. The turf manufacturer must be experienced in the manufacture of synthetic turf. The turf manufacturer shall have completed installations in the United States and have completed at least two hundred (200) installations within the last two (2) years in the Continental United States.

- D. The turf manufacturer must have installed at least five (5) fields of tufted polyethylene fiber with a secondary nylon or polypropylene or polyethylene thatch layer tufted through a porous secondary backing with silica sand & SBR rubber infill.
- E. Prior to approval of a specified synthetic turf system, the company shall specify in writing that their turf system does not violate any other manufacturer's patents allowed or patents pending.

1.5 WARRANTIES

- A. The Contractor shall provide a manufacturer's warranty to the Owner that covers defects in materials and installation workmanship of the turf for a period of eight (8) years from the date of substantial completion. The turf manufacturer must verify that their representative has inspected the installation and that the work conforms to the manufacturer's requirements and any written directives. The manufacturer's warranty shall include general wear and damage caused from UV degradation. Other items that must be addressed include the following:
 - 1. Acceptable uses for the field.
 - 2. Fading.
 - 3. Color match within specifications.
 - 4. Excessive fiber wear.
 - 5. Wrinkling and panel movement.
 - 6. Shock absorbency (Gmax) not to exceed 175.
 - 7. Drainage (through the turf only).
 - 8. Flammability.
- B. The manufacturer's warranty shall be fully third party insured, through a pre-paid policy of 8 years and be non-prorated. Warranties that include language which pro-rates benefits shall not be accepted. Prior to final payment for the synthetic turf, the Contractor shall submit to the Owner, this policy guaranteeing the warranty to the Owner. Insurance must reflect the following values:
 - 1. Must provide coverage for \$7 million dollars per claim of total installed turf for removal, disposal and replacement of new synthetic turf.
 - 2. Must have a minimum of a \$15 million dollar annual aggregate towards repairs/replacements in a given policy year. The annual aggregate shall be applied only to policies executed in the 12 month policy window. Every annual policy year, another \$15 million worth of annual aggregate shall be set aside for the policies executed in that policy year.
 - 3. Policy must be in-force at time of bid.
 - 4. Policy must be issued by an A-rated or greater A.M. Best Rating
 - 5. Must be pre-paid for the entire 8 years.
 - 6. Policies that include self-insurance or self retention clauses shall not be considered.
 - 7. Sample copy of this policy must be provided with the bid detailing compliance with policy limits as described.

2.1 MANUFACTURERS

“Not Used” – The phrase means no manufacturer is specified. Bidders are directed to provide a manufacturer which meets the specification requirements for the material.

2.2 MATERIALS

- A. Synthetic Turf System: A complete synthetic turf system consisting of a minimum of 2" 100% polyethylene with a combination of extruded spined monofilament & slit-film polyethylene fiber and shorter texturized nylon or polypropylene or polyethylene monofilament thatch fiber tufted to a minimum two -part woven backing primary backing. The spined monofilament shall be a minimum 10,000 denier. The fiber shall be specifically designed to virtually eliminate abrasion.
- B. The tufted fiber shall not weight less than 60 ounces per square yard. The tufted rows of fibers are to be spaced no more than ½" apart. The tufted carpet shall consist of both spined monofilament & slit-film polyethylene fibers and texturized monofilament thatch fiber.
- C. The carpets' primary backing shall be a minimum of 6.5 oz/sy thick and coated with a secondary backing of polyurethane at a minimum application rate of 22 oz/sy. Non-perforated carpet shall not be accepted.
- D. The carpet shall be delivered in 15' wide rolls. The rolls shall be of sufficient length to go from sideline to sideline. Head seams, other than at sidelines, will not be acceptable.
 - 1. The pile surface shall provide good traction in all types of weather with the use of conventional sneaker type shoes, composition sole athletic shoes, baseball spikes and screw-on football spikes.
 - 2. The pile surface shall be suitable for both temporary and permanent line markings using acrylic paint, as per the manufacturer's recommendations.
 - 3. All synthetic turf seams shall be glued.

2.2 FABRIC SURFACE

- A. The pile surface shall resemble freshly mown natural grass in appearance, texture and color.
- B. The pile surface shall be nominally uniform in length.
- C. The pile fiber angle shall be 90 degrees + 15 degrees, measured from the horizontal after installation of the infill material.
- D. The synthetic turf system shall have a nominal fiber length of 2".
- E. Each roll shall be minimum 15' wide.

- F. Synthetic turf system shall be perforated at 4-6" on center. Systems that are not perforated for maximum drainage shall not be acceptable.

2.3 PILE YARN SPECIFICATIONS

- A. Yarn shall be proved athletic quality yarn designed specifically for outdoor use and stabilized to resist the effects of ultraviolet degradation, heat, foot traffic, water and airborne pollutants. The fabric shall possess the following minimum physical characteristics. ASTM testing shall be provided with the bid and any products not meeting the minimum characteristics will be rejected.

| | |
|---------------------------------------|----------------|
| 1. Polyethylene Yarn Denier (minimum) | 10,000 |
| 2. Texturized Yarn Denier (minimum) | 4,200 |
| 3. Pile Height (nominal) | 2" |
| 4. Pile Ribbon Face Weight | 60 oz/sy |
| 5. Tufting Gauge | 1/2" maximum |
| 6. Primary Backing Weight | 6.5 oz/sy |
| 7. Secondary Backing Weight | 22oz/sy |
| 8. Total System Weight | 86 oz/sy |
| 9. Tuft Bind | >9 lbs |
| 10. Carpet Percolation Rate | >30 in/hr |
| 11. Grab Tear Strength | >200 lbs/force |

2.4 INFILL MATERIAL

- A. Infill particles shall be recycled granulates SBR rubber, free of belting fabric and/or wire, with a minimum fill height necessary to achieve the required shock absorbing properties and silica sand. Manufacturer shall provide a cross section indicating fill materials with specific system dimensions of materials to be used with a minimum of three and a half (3.5) pounds per square foot of rubber and a minimum of two and a half (2.5) pounds per square foot of silica sand.
- B. Infill materials: Infill materials are comprised of a base layer of silica sand (minimum of three and a half (3.5) pounds per square foot) and a top layer of SBR rubber (minimum of two and a half (2.5) pounds per square foot) placed on top of the synthetic turf backing and dressed between the synthetic surface fibers.

2.5 SYNTHETIC TURF GROOMER:

- A. Groomer - Contractor shall supply a Manufacturer recommended grooming system as part of the price for the synthetic turf. The groomer shall include a deep rake that penetrates the infill and sweep away debris. This should include all necessary equipment to properly clean and maintain the turf. The equipment should be capable of being pulled behind a standard tractor or utility vehicle. No additional payment will be made for providing the equipment.

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for maximum moisture content, installation tolerances, and other conditions affecting performance of work. Proceed with installation only after satisfactory conditions have been corrected.
- B. Certification of prior work: The synthetic turf manufacturer and/or installation contractor shall perform an inspection of the field base onto which the synthetic turf system is to be installed and to examine the finished surface for required compaction, permeability and grade tolerances (through string line testing). After any discrepancies between the required materials, application and tolerance requirements noted have been corrected, the synthetic turf installer should submit a written certification of VISUAL acceptance of the base for installation of the synthetic turf system. Any tests other than VISUAL tests (string line, water hose, etc.) shall be the responsibility of the General Contractor or Design Professional.
- C. Installation of all materials shall be performed in full compliance with approved project shop drawings. Only factory trained technicians skilled in the installation of athletic caliber synthetic turf systems, working under the direct supervision of the manufacturer's supervisors, shall undertake the placement of the turf system. The designated Supervisory personnel on the project must be certified, in writing by the turf manufacturer as competent in the installation of these materials, including sewing seams and proper installation of the infill mixture. The manufacturer shall certify the installation and warranty compliance.
- D. Inspect delivered field surface fabric and components immediately prior to installation. Any damaged or defective items shall be rejected. Installed artificial system shall be inspected for, but not limited to, the following:
 - i. Uniformity of product and color.
 - ii. Surface bubbles.
 - iii. Field markings.
 - iv. Field Edge installation.
 - v. Pile height of each roll shall be measured. Any material(s) that does not meet minimum height and thickness specifications shall be rejected.
 - vi. Pile height shall be measured in its finished positions.
- E. All installation shall be completed in strict accordance with the manufacturer's current printed installation instructions as approved by the Engineer.
- F. Environmental Conditions: Weather conditions are important for the successful installation of the systems. No work under this section will proceed when:
 - a. Ambient temperatures are below 45 degrees F.
 - b. Material temperatures are below 45 degrees F.
 - c. Surfaces are wet or damp.

- d. Rain is imminent or falling.
 - e. Conditions exist or are imminent, which will be unsuitable to installation requirements of the systems specified herein. Humidity levels will be inside the limits recommended by the adhesive manufacturer to obtain optimum bonding characteristics of the surfaces.
- G. The carpet rolls are to be installed directly over the properly prepared base stone. Extreme care should be taken to avoid disturbing the base stone both in regard to compaction and planarity. A 2-5 ton static roller shall be on site and available to repair and properly compact any disturbed areas of the base stone.
- H. The full width rolls shall be laid out across the field. Utilizing standard state of the art gluing procedures, each roll shall be attached to the next. Each seam will be glued. When all of the rolls of the playing surface have been installed, the sideline areas will be installed at right angles to the playing field turf. All work shall be such that seams shall remain as required for the duration of the warranty period at a minimum. All seam widths are to be held to a minimum and shall be traverse to the field direction. Seams shall be flat, tight and permanent, with no separation or fraying.
- I. The perimeter of the field shall be firmly secured to the edge anchors for the life of the warranty and in accordance to project details.
- J. Resilient Infill: The infill material shall be spread evenly with a large spreader (minimum 5-foot wide). Between applications the infill area shall be brushed with a motorized rotary nylon broom.
- a. Inlays shall conform to the manufacturer's specifications, directions and recommendations for the best results.
 - b. Striping layout shall be accurately surveyed by the Contractor before installation of inlaid filed markings.
 - c. Install inlays only when the surface is completely dry. Adhere all inlays securely into place. Never loose-lay and sew an inlay into place.

3.2 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Testing Services: Testing and inspecting of completed applications of synthetic turf system shall take place in suggestive states, in areas of extent and using methods that are industry standard. Do not proceed with application of next stages until test results for previously completed applications show compliance.
- C. Remove and replace items where test results indicate that it does not comply with

specified requirements.

3.3 FINAL ACCEPTANCE

- A. Prior to final acceptance, the Contractor shall submit to the Owner three (3) copies of Maintenance Manual, which will include all necessary instructions for the proper care and preventative maintenance of the synthetic turf system, including painting and striping.
- B. The Contractor shall provide evidence that the turf can be plowed with conventional rubber bladed snow removal equipment.
- C. The finished playing surface shall appear as mowed grass with no irregularities and shall afford excellent traction for conventional athletic shoes for all types. The finished surface shall resist abrasion and cutting from normal use.

3.4 CLEANING

- A. Contractor shall provide the labor, supplies and equipment as necessary for final cleaning of surfaces and installed items. All usable remnants of new material shall become the property of the Owner. The Contractor shall keep the area clean throughout the project and clear of debris. Surfaces, recesses, enclosures, etc. shall be cleaned, as necessary, to leave the work area in a clean, immaculate condition ready for immediate occupancy and use by the Owner.

QUANTITY AND PAYMENT

Quantity and Payment for Synthetic Turf will be made in accordance with the Contract Documents at the square yard price bid for the item **SYNTHETIC TURF, UNDERDRAINS AND STONE (COMPLETE CROSS-SECTION)** in the Proposal, which shall cover the cost of installation of the turf, infill, field markings, turf equipment, synthetic turf base, turf edge, removal turf covers and area, excavation, backfill, nailers, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION--

SYNTHETIC TURF BASE

DESCRIPTION

Furnish all labor, materials, tools and equipment necessary to install, in place, aggregate base, drainage and fabric for the synthetic turf as indicated on the plans and as specified herein. The installation of all new materials shall be performed in strict accordance with the manufacturers written installation instructions, and in accordance with all approved shop drawings.

MATERIALS

The system shall consist of a vertical draining base consisting of the following:

GEOTEXTILE FABRIC

The entire field shall be underlain directly on subgrade by a continuous non-woven geotextile fabric, as manufactured by Tencate Mirafi, Mirafi 140N, **or equal**.

UNDERDRAIN SYSTEM

An underdrain system shall be installed as indicated on the plans and in accordance with all shop drawings. The underdrain system shall be connected to a perimeter drain as indicated on the plans.

POROUS STONE BASE

The 6" stone base shall consist of a large base stone and a porous "choking" finish aggregate material. The large stone base layer shall consist of a blended mix of clean, washed, No.3 and No. 2 Crushed Stone or 3/4" clean stone as per turf manufacturer's recommendation. The aggregate "choking" material shall consist of clean, washed, No. 1 Crushed Stone. All stone must be approved in writing by the turf installer / supplier and must conform to the following gradations:

% PASSING

| <u>SIEVES</u> | <u>BASE STONE</u> | <u>FINISHING STONE</u> |
|----------------------|--------------------------|-------------------------------|
| 3" or 75mm | | |
| 2" or 50mm | 100 | |
| 1½" or 38mm | 90-100 | |
| 1" or 25mm | 75-100 | |
| ¾ or 19mm | 65-95 | |
| ½" or 12.5mm | 55-85 | 100 |
| 3/8" or 9.5mm | 40-75 | 85-100 |
| ¼" or 6.3mm | 25-65 | 75-100 |
| US #4 or 4.75mm | 15-60 | 60-90 |
| US #8 or 2.36mm | 0-40 | 35-75 |
| US #16 or 1.18mm | 0-20 | 10-55 |
| US #30 or 600mm | 0-7 | 0-40 |
| US #60 or 250mm | 0-5 | 0-15 |
| US #100 or 150mm | 0-3 | 0-8 |

| | | |
|-----------------|-----|-----|
| US #200 or 75mm | 0-2 | 0-2 |
|-----------------|-----|-----|

RESTRICTIONS:

To ensure structural stability: $D_{60}/D_{10} > 5$ and $1 < \frac{D_{30}^2}{D_{10} D_{60}} < 3$

Fragmentation must be 100%.

To ensure separation of both stones: $\frac{D_{85} \text{ of finishing stone}}{D_{15} \text{ of base stone}} > 2$

and $3 < \frac{D_{50} \text{ of base stone}}{D_{50} \text{ of finishing stone}} < 6$

To ensure proper drainage:

Permeability of base stone > 500 in/hr (3.5×10^{-1} cm/sec)

Permeability of finishing stone > 20 in/hr (1.4×10^{-2} cm/sec)

Porosity of both stones $> 25\%$

(When stone is saturated and compacted to 95% Proctor.)

Depending on the type of rock present in the crushed stone mix, other mechanical characteristics might be necessary for approval

“Dx” is the size of the sieve (in mm) that lets pass x% of the stone. For example, D₆₀ is the size of the sieve that lets 60% of the stone pass. These sizes, for calculation purposes, may be obtained by interpolation on a semi-log graph of the sieve analysis.

CONSTRUCTION

All topsoil, organic, and non-compactable materials shall be removed. The sub-grade slope shall be between 0.5% to 1% from the center of the field to the sidelines. The base installer shall strictly adhere to the installation procedures outlined under this section. Any variance from these requirements must be approved in writing by the manufacturer's representative, and submitted to the Engineer, verifying that the changes do not in any way affect the warranty. The turf manufacturer and turf installer must accept the aggregate base prior to the installation of the synthetic grass system. The surface tolerance shall not exceed 1/4 inch over 10 feet when measured in any direction. Laser grading shall be utilized. The soil bed must be compacted in both directions to attain the specified compaction rate which is generally 95% standard Proctor.

The 6” crushed stone shall be laid without damaging the soil bed. If the required compacted depth of the base course exceeds 6”, the base shall be constructed in 2 or more layers or lifts of approximate equal thickness. Each layer shall be compacted in both directions to attain the specified compaction rate. The finished crushed stone base shall be sloped 0.5% from the center longitudinal axis towards the sidelines or as specified. The finished crushed stone base surface of the leveling course shall not vary from the specified grade by more than 1/4 inch over 10 feet when measured in any direction.

The final grade aggregate layer shall not be more than 2” thick. The final grade material shall be sloped 0.5% from the center longitudinal axis towards the sidelines unless otherwise specified. The final grade shall be compacted in both directions according to the specifications.

QUANTITY AND PAYMENT

Synthetic Turf Base will not be measured under a separate item. Quantity and Payment for this item, and all costs related thereto, shall be included in the square yard price bid for **SYNTHETIC TURF, UNDERDRAINS AND STONE (COMPLETE CROSS-SECTION)** in the Proposal.

-- END OF SECTION --

TURF EDGE

DESCRIPTION

This item shall include the construction of 6" x 12" Concrete Curb with attached nailer around the outside of the synthetic turf, the attachment of the synthetic turf to the curb, the excavation and removal of all earth, rock, boulders, brick, stone and concrete masonry, including small structures and other materials encountered of whatever nature, required for the construction of concrete curb. It shall also include the transportation of the excavated materials; the construction of embankments with the materials excavated; the disposal of unsuitable and surplus materials; and other work as shown on the plans or specified herein.

MATERIALS

Class B concrete shall be used throughout.

CONSTRUCTION

Excavation and backfill shall conform to the requirements of NJDOT Specifications Section 202 - Excavation. The backfill and curb foundation shall be well compacted by means of flat-faced mechanical tampers, or by other means to be approved by the Engineer.

Curbs shall be constructed in accordance with Section 607 – Curbs of the NJDOT specifications.

QUANTITY AND PAYMENT

Turf Edge will not be measured under a separate item. Quantity and Payment for this item, and all costs related thereto, shall be included in the square yard price bid for SYNTHETIC TURF, UNDERDRAINS AND STONE (COMPLETE CROSS-SECTION) in the Proposal.

-- END OF SECTION --

BEYNON BSS-1000
10mm ENCAPSULATED SYNTHETIC TRACK SURFACING SYSTEM

SECTION 02880

DESCRIPTION

- A. This section may include, but is not limited to the following track & field equipment:
1. Beynon BSS-1000 10mm Encapsulated Synthetic Track Surfacing System
 2. Pole Vault Box, Lid & Concrete Pad
 3. Long Jump / Triple Jump, Complete w/ Sand Pit, Cover, Takeoff Board & Concrete Pad
- B. Related Sections: Review Contract Documents for requirements that affect work of this section. Specification sections that directly relate to work of this section include, but are not limited to:

Section 02881 – Long Jump / Triple Jump Sand Pit With Sand Catchers & Pit Cover

Section 02882 – Long Jump Pit cover

Section 02883 – Take Off Board System

Section 02891 – Pole Vault Box & Lid

Section 02995 – Track Equipment (items 6, 7 & 8 under Part 1, 1.01, A)

The synthetic surfacing contractor shall furnish all labor, materials, equipment, supervision and services necessary for the proper completion of the BSS 1000 Dual Durometer, **or Approved Equal**, synthetic track surfacing and related work and track and field equipment indicated on the Contract Drawings and specified herein.

The synthetic surfacing contractor shall refer to the drawings for the required locations of synthetic track surfacing to be installed and for the location of all track and field equipment and materials. All quantities and dimensions shall be field verified by the synthetic surfacing contractor.

A. Specific Scope of Work:

1. Install a full depth poured-in-place two component; UV stabilized elastomeric polyurethane Dual Durometer synthetic surfacing system with encapsulated textured finish.
2. Layout and paint all track and runway lines and event markings as required and specified by current IAAF and NFHS rules.
3. Contractor shall include, as part of this item, the cost for the construction, installation, excavation, backfill, soil movement, etc. of all track and field event equipment, runways, concrete pads, subbase, and items A1 and A2 above to provide complete long jump/triple jump and pole vault systems in accordance with the Contract Documents and as specified herein.

The synthetic surfacing contractor shall coordinate the work specified with an authorized and appointed representative of the Owner so as to perform the work during a period and in a manner acceptable to the Owner.

CODES AND STANDARDS

Codes and standards follow the current guidelines set forth by the National Federation of State High School (NFHS) along with the current material testing guidelines as published by the American Society of Testing and Materials (ASTM).

PERFORMANCE STANDARDS

The new synthetic track surfacing system shall exhibit the following minimum performance standards:

- | | |
|-----------------------------------|--|
| A. Thickness | Average - $\geq 10\text{mm}$ Minimum - 10mm |
| B. Force Reduction | 35 to 50 |
| C. Modified Vertical Deformation | 0.6 to 1.8 |
| D. Friction: TRRL Skid Resistance | ≥ 47 |
| E. Tensile Strength | ≥ 0.5 |
| F. Elongation at break | ≥ 40 |

QUALITY ASSURANCE

Contractor Qualifications:

- A. The CONTRACTOR must have a minimum of 5 years of experience in the installation of full depth poured-in-place two component elastomeric polyurethane synthetic track surfacing.
- B. The CONTRACTOR and MANUFACTURER shall be the same and must have a minimum of 10 years of experience with the compounding of two-part polyurethane for athletic surfaces.
- C. The CONTRACTOR shall have 10 years experience with the aliphatic coating.
- D. The INSTALLATION SUPERVISOR must have installed a minimum of 5 full depth two component polyurethane tracks with encapsulated texture in the last 3 years. A reference list must be submitted.
- E. The MANUFACTURER must offer a minimum of four (4) IAAF Certified Track Systems.

SUBMITTALS

The following submittals must be received with bid submittal:

- A. Standard printed specifications of the synthetic track surfacing system to be installed on this project.
- B. An affidavit attesting that the synthetic track surfacing material to be installed meets the requirements defined by the manufacturers currently published specifications and any modifications outlined in those technical specifications.
- C. A synthetic track surfacing system sample, 12" x 12" in size, of the same synthetic track surfacing system to be installed on this project.
- D. A list of completed facilities, including the installing supervisor, of the exact Dual Durometer synthetic track surfacing system.
- E. Contractor is responsible for providing a preliminary track striping diagram showing proposed track striping, including but not limited to lane lines, track markings, numbers, dimensions, etc. Contractor shall be responsible for providing an As-Built Survey of newly constructed track for use in preparing and submitting the aforementioned preliminary track striping diagram. Preliminary track striping diagram shall be approved by owner prior to installation.

MATERIALS

Elastomeric Polyurethane:

- A. BEYPUR, the two-component U.V. stabilized elastomeric polyurethane compounded from polyol and isocyanate components, based on one hundred percent Methylene Diphenyl Isocyanate (MDI). No Toluene Diisocyanate Isocyanate (TDI) will be allowed.
- B. The elastomeric polyurethane shall be red in color.

EPDM Granulate:

- A. The EPDM granulates shall be .5 to 1.5mm in size and peroxide cured.
- B. The EPDM granulates and the U.V. stabilized elastomeric polyurethane shall be color matched.

Rubber Granulate:

- A. Fine mesh Styrene Butadiene Rubber (SBR) processed ground to a graded size not to exceed 20 mesh in size.

- B. A maximum of twenty percent, by weight of the SBR will be allowed in the force reduction layer.

Aliphatic Coating:

- A. Single Component moisture cured aliphatic coating
- B. Aliphatic Coating shall be read in color matching the UV stabilized elastomeric polyurethane.
- C. No clear or two component coatings will be allowed.

Line Marking Paint:

All line and event markings shall be applied by experienced personnel utilizing a single component, moisture cured, aliphatic polyurethane paint compatible with the BSS 1000 (10mm Encapsulated) Track Surfacing material.

Stripe all lines, start-finish lines, event markings and runway borders according to NFHS standards per the listing hereafter and any other details outlined by the Owner. All events to be confirmed with the Owner prior to installation.

A. Official NFHS Events:

- 1. Pole vault, long jump, triple jump - paint runway lines

B. Paint:

- 1. All lane lines, start and finish lines to receive 2 coats

INSTALLATION

Subbase:

The synthetic track surfacing system shall be laid on an approved dense graded aggregate subbase. The General Contractor shall provide compaction test results of 95% or greater for the installed subbase and asphalt surface.

For certification the following criteria must be followed: The track surface, i.e. asphalt substrate (as shown in the details), shall not vary from planned cross slope by more than + 0.2%, with a maximum lateral slope outside to inside of 1%, and a maximum slope of 0.1% in any running direction. The finished asphalt shall not vary under a 10' straight edge more than 1/8".

It should be the responsibility of the asphalt paving contractor to flood the surface immediately after the asphalt is capable of handling traffic, but within 24 hours. If, after 20 minutes of drying time, there are birdbaths evident, it shall be the responsibility of the architect, in conjunction with the surfacing contractor, to determine the method of correction. No cold tar patching, skin patching or sand mix patching will be acceptable.

Any oil spills (hydraulic, diesel, motor oil, etc.) must be completely removed and replaced with either polyurethane or new, keyed in asphalt. The minimum curing time for the asphalt base is 28 days. It shall be the responsibility of the surfacing contractor to determine if the asphalt substrate has cured sufficiently prior to the application of the polyurethane surfacing system.

It shall be the responsibility of the general contractor to determine if the asphalt substrate meets all design specifications, i.e. cross slopes, planarity and specific project criteria. After all the above conditions are met, the synthetic surfacing contractor must, in writing, accept the planarity of the asphalt receiving base, before work can commence.

Thickness:

Total thickness of the BSS 1000 Dual Durometer Encapsulated or Approved Equal synthetic track surfacing system shall average 10mm.

Equipment:

The BSS 1000 Dual Durometer Encapsulated or Approved Equal synthetic track surfacing system components shall be processed and installed by specially designed machinery with automatic electronic portioning, which provides continuous mixing, feeding and finishing for accurate quality controlled installation.

No hand mixing will be allowed.

Materials:

A. Force Reduction Layer

The fine mesh SBR granules and UV stabilized elastomeric polyurethane shall be metered and mixed together on site to regulate the ratio/quantity of SBR, not to exceed fourteen percent in the system and to insure an even distribution of the granules throughout the 5mm force reduction layer. No multi-layered system allowed.

B. Resilient Wearing Layer

The .5 to 1.5 millimeter EPDM granules shall be mechanically integrated with an UV stabilized elastomeric polyurethane to the full depth of the 5mm wearing layer. The resilient textured finish shall be a dense matrix of encapsulated EPDM granules.

C. Protective Coating

The initial red pigmented aliphatic polyurethane coating shall be spray applied over the entire synthetic surfaced area at a rate of 125 square feet per gallon. The second red pigmented aliphatic polyurethane coating shall be spray applied over the initial application at a rate of 125 square feet per gallon in the opposite direction.

Site Conditions:

- A. Installation shall not take place if adjacent or concurrent construction generates excessive dust, abrasives or any other byproduct that, in the opinion of the installer, would be harmful to the track material, until completion of such works.
- B. If, in the opinion of the installer of the synthetic material, the weather and/or climatic conditions are detrimental to the proper installation of the surfacing materials, work shall be delayed until conditions are acceptable. Preferred installed temperature is 50 degrees Fahrenheit and rising. Installation shall be executed only in dry conditions.

LINE STRIPING AND EVENT MARKINGS

Layout:

Line striping and event markings shall be laid out in accordance with current IAAF and NFHS rules.

Certification:

Upon completion of the installation, the owner shall be supplied with all necessary computations and drawings as well as a letter of certification attesting to the accuracy of the markings.

GUARANTEE

Synthetic track surfacing system shall be fully guaranteed against faulty workmanship and material failure for a period of seven (7) years from the date of acceptance.

Synthetic surfacing material found to be defective as a result of faulty workmanship and/or material failure shall be replaced or repaired at no charge, upon written notification within the guarantee period.

QUANTITY AND PAYMENT

Quantity and Payment for Beynon BSS-1000 10mm Encapsulated Synthetic Track Surfacing System will be made in accordance with the Contract Documents at the square yard price bid for the item **SYNTHETIC TRACK SYSTEM, COMPLETE W/CONCRETE SUB-BASE FOR FIELD EVENTS & STRIPING** and at the lump sum price bid for items **POLE VAULT BOX, LID & CONCRETE PAD** and **LONG JUMP/TRIPLE JUMP, COMPLETE W/ SAND PIT, COVER, TAKEOFF BOARD & CONCRETE PAD** in the Proposal, which shall cover the cost of all track event surfaces, perimeter track surfaces, subbase, runways, striping, excavation, backfill, concrete, concrete pads, asphalt, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

BLACK VINYL COATED CHAIN LINK FENCE

DESCRIPTION

Chain Link Fence shall include the furnishing of materials and the erection of Black Vinyl Coated Chain Link Fence, varying sized Swing Gates w/ Hardware in accordance with the Contract Plans, Specifications, and the direction of the Engineer.

MATERIALS

A. POSTS, RAILS, AND BRACES

All Structural and Roll-Formed shapes shall conform to provisions of ASTM A123 for galvanized coating. All tubular members shall comply with provisions of ASTM A120, Schedule 40, for weight and coating.

1. **END, CORNER AND PULL POST**

Fence - Up to and Including 12'-0" in Height: 3.00" O.D., Schedule 40 Pipe, with a minimum bending strength of 381 lbs.

2. **LINE POSTS (10'-0" MAXIMUM SPACING)**

Fabric - Up to 8'-0" in Height: "C" Section, Standard Roll-Formed, 2.50" O.D., Schedule 40 Pipe, with minimum bending strength of 117 lbs.

Fabric over 8'-0" in Height: "C" Section, Heavy Roll-form, 2.50" O.D., Schedule 40 Pipe, with minimum bending strength of 201 lbs.

3. **GATE POSTS**

Gate Leaves - Up to and Including 6'-0" Wide: Roll-Formed Section (2.50" O.D., Schedule 40 Pipe.)

Gate Leaves over 6'-0" and up to and Including 13'-0" wide: 2.50" O.D., Schedule 40 Pipe.

4. **TOP RAIL & BOTTOM RAIL**

1 5/8" O.D., Schedule 40 Pipe, with minimum bending strength of 202 lbs. Furnish in manufacturer's standard lengths of approximately 21'-0" with couplings approximately 6" long for each joint; one (1) coupling in each five (5) shall have expansion spring. Provide means for attaching top rail securely to each gate, corner, pull and end posts. Top rail shall form continuous brace from end-to-end to each run of fence.

5. **POST BRACING ASSEMBLY**

Shall match top rail. Brace rail assembly shall be complete with 3/8" diameter rod and adjustable take-up.

B. CHAIN-LINK FABRIC

One piece fabric widths for fences up to 12'-0"-2" mesh, #9 gauge, as indicated on contract drawings. Fence Fabric shall be coated with Black PVC or polyolefin elastomer coating, 7 mil thickness minimum, thermally used.

1. SELVAGE EDGES

Fabric in heights of 60" and under shall be knuckled at both selvages. Fabric 72" and over shall be knuckled at bottom selvage and twisted and barbed at top.

2. FINISHES

Black Vinyl Coated conforming to ASTM F 668 Class 2b fused and adhered.

C. ACCESSORIES

All accessories shall be black vinyl coated.

1. STRETCHER BARS

(For tubular end, corner, pull or gate posts only)

One piece lengths equal to full height of fabric with a minimum cross-section of 1" x 3/4". Provide one stretcher bar for each gate and end post, and two for each corner and pull post.

2. STRETCHER BAR BANDS

Heavy pressed steel, spaced not over 15" O.C. to secure stretcher bars to tubular end, corner pull and gate post.

D. GATES

Fabricate Gate Perimeter Frames of 2.50" O.D. tubular members, Vinyl Coated Galvanized ASTM A120. Provide additional horizontal and vertical members to insure proper gate operation and for attachment of fabric, hardware and accessories.

Assemble gate frames by welding or fittings and rivets for rigid connections. Use same fabric as for fence, unless otherwise indicated. Install fabric with stretcher bars at vertical edges, and tie at top and bottom edges. Attach stretcher bars to gate frame at not more than 15" O.C. Attach hardware with rivets or by other means which will provide security against removal or breakage.

Provide diagonal cross-bracing consisting of 3/8" diameter adjustable length truss rods on gates where necessary to provide frame rigidity without sag or twist.

1. GATE HARDWARE

Provide the following hardware and accessories for each gate; finish – black vinyl coated

Hinges - Pressed steel or malleable iron to suit gate size, non-lift-off-type, offset to permit 180" gate opening. Provide one (1) pair of hinges for each leaf.

Latch - Forked type or plunger bar type to permit operation from either side of gate. Provide padlock eye as integral part of latch. Height and operation of latch to conform with ADA standards.

Keeper - Provide keeper for all vehicle gates, which automatically engages the gate leaf and holds it in the open position until manually released.

Double Gates - Provide gate stops for all double gates, consisting of mushroom type or flush plate with anchors. Set in concrete to engage the center drop rod or plunger bar. Provide locking device and padlock eyes as an integral part of the latch, requiring one padlock for locking both gate leaves.

E. MISCELLANEOUS MATERIAL AND ACCESSORIES

1. WIRE TIES

For tying fabric to line posts use 6 gauge steel wire clips for "C" Section posts, and minimum 9 gauge aluminum wire ties for tubular posts, spaced 10" O.C. For tying fabric to rails and braces use 9 gauge aluminum wire ties spaced 24" O.C. For tying fabric to tension wire use 11 gauge hog rings spaced 24" O.C.

2. Finish: Black Vinyl Coated.

3. CONCRETE

Provide concrete consisting of portland cement complying with ASTM C150, aggregates complying with ASTM C33, and clean water. Mix materials to obtain concrete with a minimum 28 day compressive strength of 2500 psi, using at least four sacks of cement per cubic yard.

CONSTRUCTION

The Chain Link Fence shall be erected 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 Fence 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 specified in the contract documents or 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 501 - Concrete Structures of the NJDOT Standard Specifications, except as follows:

- A. Forms will not be required and the entire excavation shall be filled with concrete.
- B. 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.

Fence fabric shall face away from the roadway except where otherwise directed by the Engineer.

All carriage bolts shall be installed so as to be non-removable from outside of fence.

Gates shall be single or double gates and of the width as shown on the Contract Plans, and shall be installed to open through a minimum arc of 180 Degrees.

All exposed fence appurtenances (e.g. bolts, screws, nuts) shall be finished with safety guards.

QUANTITY AND PAYMENT

The quantities of Chain Link Fence, 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 Chain Link Fence of the types and sizes specified will be made for the length actually constructed, measured in linear feet, at the prices per linear foot bid for the items **BLACK VINYL COATED CHAIN LINK FENCE 3' HIGH** and **BLACK VINYL COATED CHAIN LINK FENCE 4' HIGH** in the Proposal, which shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

The quantities of Chain Link Gate, for which payment will be made, will be the actual units constructed in accordance with the Contract Plans, or as directed by the Engineer

Payment for Chain Link Gates of the types and sizes specified will be made for the units actually constructed, measured at the unit prices bid for the items **BLACK VINYL COATED CHAIN LINK DOUBLE LEAF SWING GATE, 16' WIDE x 4' HIGH** and **BLACK VINYL COATED CHAIN LINK SINGLE LEAF SWING GATE, 4' WIDE X 4' HIGH** in the Proposal, which shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

--END OF SECTION--

SECTION 16526 – SPORTS FIELD LIGHTING

PART 1 – GENERAL

1.1 SUMMARY

- A. Work covered by this section of the specifications shall conform to the contract documents, engineering plans as well as state and local codes.
- B. The purpose of these specifications is to define the performance and design standards for Rahway River Park Multipurpose Field. The manufacturer / contractor shall supply lighting equipment to meet or exceed the standards set forth by the criteria set forth in these specifications.
- C. The primary goals of this sports lighting project are:
 - 1. **Guaranteed Light Levels:** Selection of appropriate light levels impact the safety of the players and the enjoyment of spectators. Therefore the lighting system shall be designed such that the light levels are guaranteed for a period of twenty-five (25) years.
 - 2. **Environmental Light Control:** It is the primary goal of this project to minimize spill light and glare.
 - 3. **Life Cycle Cost:** In order to reduce the operating budget, the preferred lighting system shall be energy efficient and cost effective to operate. All maintenance costs shall be eliminated, and the field should be proactively monitored to detect fixture outages over a twenty-five (25) year life cycle. To allow for optimized use of labor resources and avoid unneeded operation of the facility, customer requires a remote on/off control system for the lighting system

1.2 LIGHTING PERFORMANCE

- A. **Performance Requirements:** Playing surfaces shall be lit to an average constant light level and uniformity as specified in the chart below. Light levels shall be held constant for twenty-five (25) years. Lighting calculations shall be developed and field measurements taken on the grid spacing with the minimum number of grid points specified below. Measured average illumination level shall be +/- 10% of predicted mean in accordance with IESNA RP-6-01, and measured at the first 100 hours of operation.

| Area of Lighting | Average Constant Light Levels | Maximum to Minimum Uniformity Ratio | Grid Points | Grid Spacing |
|------------------|-------------------------------|-------------------------------------|-------------|--------------|
| Soccer | 50 footcandles | 2.0:1.0 | 66 | 30' x 30' |
| Track | 20 footcandles | 10.0:1.0 | 52 | 30' x 30' |
| High Jump | 25 footcandles | 2.0:1.0 | 50 | 10' x 10' |
| Long Jump | 25 footcandles | 3.0:1.0 | 68 | 10' x 10' |

1. Lumen maintenance control strategy: A constant light system shall use automatic power adjustments to achieve a lumen maintenance control strategy as described in the IESNA Lighting Handbook 9th Edition Lighting Controls Section pages 27-2 and 27-3: “Lumen maintenance control strategy calls for reducing the initial illumination of a new system to the designed minimum level. As lumen depreciation occurs, more power is applied to the lamps in order to maintain constant output.”
2. Independent Test Report: Manufacturers bidding any form of a constant light system must provide an independent test report certifying the system meets the lumen maintenance control strategy above and verifying the field performance of the system for the duration of the useful life of the lamp based on lamp replacement hours. Report shall be signed by a licensed professional engineer with outdoor lighting experience. If report is not provided at least 10 days prior to bid opening, the manufacturer shall provide the initial and maintained designs called for in this specification under Substitution System Requirements, section 4.2.
3. Project References: Manufacturers bidding any form of a constant light system must provide a minimum of five (5) project references within the state of New Jersey that have been completed within the last calendar year utilizing this exact technology. Manufacturer will include project name, project city, and if requested, contact name and contact phone number for each reference.

B. Mounting Heights: To ensure proper aiming angles for reduced glare and to provide better playability, the pole mounting heights from the playing field surface shall be 70’.

1.3 LIFE CYCLE COSTS

- A. Energy Consumption: The average kWh consumption for the field lighting system shall be 93.84 or less.
- B. Complete Lamp Replacement: Manufacturer shall include all group lamp replacements required to provide twenty-five (25) years of operation based upon 300 usage hours per year.
- C. Preventative and Spot Maintenance: Manufacturer shall provide all preventative and spot maintenance, including parts and labor for twenty-five (25) years from the date of equipment shipment. Individual lamp outages shall be repaired when the usage of any field is materially impacted. Owner agrees to check fuses in the event of a luminaire outage.
- D. Remote Monitoring System: System shall monitor lighting performance and notify manufacturer if individual luminaire outage is detected so that appropriate maintenance can be scheduled. The manufacturer shall notify the owner of outages within 24 hours, or the next business day. The controller shall determine switch position (Manual or Auto) and contactor status (open or closed).
- E. Remote Lighting Control System: System shall allow owner and users with a security code to schedule on/off system operation via a web site, phone, fax or email up to ten (10) years in advance. Manufacturer shall provide and maintain a two-way TCP/IP communication link. Trained staff shall be available 24/7 to provide scheduling support and assist with reporting needs.

The owner may assign various security levels to schedulers by function and/or fields. This function must be flexible to allow a range of privileges such as full scheduling capabilities for all fields, to only having permission to execute “early off” commands by phone.

Controller shall accept and store 7-day schedules, be protected against memory loss during power outages, and shall reboot once power is regained and execute any commands that would have occurred during outage.

- F. Management Tools: Manufacturer shall provide a web-based database of actual field usage and provide reports by facility and user group.

Hours of Usage: Manufacturer shall provide a means of tracking actual hours of usage for the field lighting system that is readily accessible to the owner.

1. Cumulative hours shall be tracked to show the total hours used by the facility
2. Current lamp hours shall be tracked separately to reflect the amount of hours on the current set of lamps being used, so relamping can be scheduled accurately

- G. Communication Costs: Manufacturer shall include communication costs for operating the controls and monitoring system for a period of twenty-five (25) years.

- H. 25-Year Life Cycle Cost: Manufacturer shall submit 25-year life cycle cost calculations as follows. Equipment price and total life cycle cost shall be entered separately on bid form.

| | | | |
|----|---|---|--|
| a. | Luminaire energy consumption # luminaires x __kW demand per luminaire x .14 kWh rate x 300 annual usage hours x 25 years | | |
| b. | Cost for spot relamping and maintenance over 25 years Assume 7.5 repairs at \$500 each if not included with the bid | + | |
| c. | Cost to relamp all luminaires during 25 years 300 annual usage hours x 25 years / 2100 hours x \$125 lamp & labor x # fixtures if not included with the bid | + | |
| d. | Extra energy used without base bid automated control system \$ Energy consumption in item a. x 15% if control system not included with the bid | + | |
| | TOTAL 25-Year Life Cycle Operating Cost | = | |

1.4 WARRANTY AND GUARANTEE

25-Year Warranty: Each manufacturer shall supply a signed warranty covering the entire system for twenty-five (25) years. Warranty shall guarantee light levels; lamp replacements; system energy consumption; monitoring, maintenance and control services, spill light control, and structural integrity. Manufacturer shall maintain specifically-funded financial reserves to assure fulfillment of the warranty for the full term. Warranty may exclude fuses, storm damage, vandalism, abuse and unauthorized repairs or alterations. Group lamp replacements for constant light systems must occur in accordance with the independent test report provided by the manufacturer; alternate systems must relamp every 2100 hours.

1.5 DELIVERY TIMING

Equipment On-Site: The equipment must be on-site 4-6 weeks from receipt of approved submittals and receipt of complete order information.

PART 2 – PRODUCT

2.1 LIGHTING SYSTEM CONSTRUCTION

A. System Description: Lighting system shall consist of the following:

1. Galvanized steel poles and crossarm assembly.
2. Pre-stressed concrete base embedded in concrete backfill allowed to cure for 12-24 hours before pole stress is applied. Alternate may be an anchor bolt foundation designed such that the steel pole and any exposed steel portion of the foundation is located a minimum of 18 inches above final grade. The concrete for anchor bolt foundations shall be allowed to cure for a minimum of 28 days before the pole stress is applied. To alleviate concerns of corrosion at or near grade level and to curtail the need for corrosion inspections and maintenance in the same area, direct burial steel poles will not be permissible.
3. All luminaires shall be constructed with a die-cast aluminum housing or external hail shroud to protect the luminaire reflector system.
4. Manufacturer will remote all ballasts and supporting electrical equipment in aluminum enclosures mounted approximately 10' above grade. The enclosures shall include ballast, capacitor and fusing for each luminaire. Safety disconnect per circuit for each pole structure will be located in the enclosure.
5. Wire harness complete with an abrasion protection sleeve, strain relief and plug-in connections for fast, trouble-free installation.
6. Controls and Monitoring Cabinet to provide on-off control and monitoring of the lighting system, constructed of NEMA Type 4 aluminum. Communication method shall be provided by manufacturer. Cabinet shall contain custom configured contactor modules for 30, 60, and 100 amps, labeled to match field diagrams and electrical design. Manual Off-On-Auto selector switches shall be provided.

B. Manufacturing Requirements: All components shall be designed and manufactured as a system. All luminaires, wire harnesses, ballast and other enclosures shall be factory assembled, aimed, wired and tested.

- C. Durability: All exposed components shall be constructed of corrosion resistant material and/or coated to help prevent corrosion. All exposed carbon steel shall be hot dip galvanized per ASTM A123. All exposed aluminum shall be powder coated with high performance polyester or anodized. All exterior reflective inserts shall be anodized, coated, and protected from direct environmental exposure to prevent reflective degradation or corrosion. All exposed hardware and fasteners shall be stainless steel of 18-8 grade or better, passivated and coated for protection against corrosion and stress corrosion cracking. All wiring shall be enclosed within the crossarms, pole, or electrical components enclosure.
- D. Lightning Protection: All structures shall be equipped with lightning protection meeting NFPA 780 standards. Contractor shall supply and install a ground rod of not less than 5/8" in diameter and 8' in length, with a minimum of 10' embedment. Ground rod should be connected to the structure by a copper main down conductor with a minimum size of #2 for poles with less than 75' mounting height and 2/0 for poles with more than 75' mounting height.
- E. Safety: All system components shall be UL Listed for the appropriate application.
- F. Electric Power Requirements for the Sports Lighting Equipment:
 1. Electric power: Voltage/phasing per site requirements
 2. Maximum total voltage drop: Voltage drop to the disconnect switch located on the poles shall not exceed three (3) percent of the rated voltage.

2.2 STRUCTURAL PARAMETERS

- A. Foundation design will be based on IBC 2009, 100 mph, exposure C.
- B. Structural Design: The stress analysis and safety factor of the poles shall conform to AASHTO 2001 (LTS-4) Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.
- C. Soil Conditions: The design criteria for these specifications are based on soil design parameters as outlined in the geotechnical report. If a geotechnical report is not provided by the owner, the foundation design shall be based on soils that meet or exceed those of a Class 5 material as defined by 2006 IBC, Table 1804.

It shall be the contractor's responsibility to notify the owner if soil conditions exist other than those on which the foundation design is based, or if the soil cannot be readily excavated. Contractor may issue a change order request / estimate for the owner's approval / payment for additional costs associated with:

1. Providing engineered foundation embedment design by a registered engineer in the State of New Jersey.
 2. Additional materials required to achieve alternate foundation.
 3. Excavation and removal of materials other than normal soils, such as rock, caliche, etc.
- D. Foundation Drawings: Project specific foundation drawings stamped by a registered engineer in the state where the project is located are required. The foundation drawings

must list the moment, shear (horizontal) force, and axial (vertical) force at ground level for each pole.

PART 3 – EXECUTION

3.1 FIELD QUALITY CONTROL

- A. Illumination Measurements: Upon substantial completion of the project and in the presence of the Contractor, Project Engineer, Owner's Representative, and Manufacturer's Representative, illumination measurements shall be taken and verified. The illumination measurements shall be conducted in accordance with IESNA RP-6-01, Appendix B.
- B. Correcting Non-Conformance: If, in the opinion of the Owner or his appointed Representative, the actual performance levels including footcandles, uniformity ratios, and maximum kilowatt consumptions are not in conformance with the requirements of the performance specifications and submitted information, the Manufacturer shall be liable to any or all of the following:
 - 1. Manufacturer shall at his expense provide and install any necessary additional fixtures to meet the minimum lighting standards. The Manufacturer shall also either replace the existing poles to meet the new wind load (EPA) requirements or verify by certification by a licensed structural engineer that the existing poles will withstand the additional wind load.
 - 2. Manufacturer shall minimize the Owner's additional long term fixture maintenance and energy consumption costs created by the additional fixtures by reimbursing the Owner the amount of \$1,000.00 (one thousand dollars) for each additional fixture required.
 - 3. Manufacturer shall remove the entire unacceptable lighting system and install a new lighting system to meet the specifications.

PART 4 – COMPLIANCE TO SPECIFICATIONS

4.1 SUBSTITUTION SUBMITTAL REQUIREMENTS

- A. Approved Product: Musco's Light-Structure Green™ System is the approved product. All substitutions must provide a complete submittal package for approval as outlined in Submittal Information at the end of this section at least 10 days prior to bid. Special manufacturing to meet the standards of this specification may be required. An addendum will be issued prior to bid listing any other approved lighting manufacturers and designs.
- B. Design Approval: The owner / engineer will review pre-bid shop drawings from the manufacturers to ensure compliance to the specification. If the design meets the design requirements of the specifications, a letter will be issued to the manufacturer indicating approval for the specific design submitted.

4.2 SUBSTITUTION SYSTEM REQUIREMENTS

- A. Compliance to Specifications: Acceptance of a bid alternate does not negate the contractor and lighting manufacturer's responsibility to comply fully with the requirements of these specifications. Any exceptions to the specifications must be clearly stated in the prior approval submittal documents.

B. Light Level Requirements: Manufacturer shall provide computer models guaranteeing light levels on the field over twenty-five (25) years. If a constant light level cannot be provided, the specified maximum Recoverable Light Loss Factor and maintenance/group relamping schedule shall be provided in accordance with recommendations in the Pennsylvania State University report “Empirical Light Loss Factors for Sports Lighting”, presented at the 2009 IESNA Annual Conference.

| Lamp Replacement Interval (hours) | Recoverable Light Loss Factor (RLLF) |
|-----------------------------------|--------------------------------------|
| 2100 | 0.69 |

For alternate systems, scans for both initial and maintained light levels shall be submitted.

| Area of Lighting | Average Initial Light Levels | Average Target/Maintained Light Levels | Maximum to Minimum Uniformity Ratio | Grid Points | Grid Spacing |
|------------------|------------------------------|--|-------------------------------------|-------------|--------------|
| Soccer | 72.5 footcandles | 50 footcandles | 2.0:1.0 | 66 | 30' x 30' |
| Track | 29 footcandles | 20 footcandles | 10.0:1.0 | 52 | 30' x 30' |
| High Jump | 36.2 footcandles | 25 footcandles | 2.0:1.0 | 50 | 10' x 10' |
| Long Jump | 36.2 footcandles | 25 footcandles | 3.0:1.0 | 68 | 10' x 10' |

C. Revised Electrical Distribution: Manufacturer shall provide revised electrical distribution plans to include changes to service entrance, panel, and wire sizing.

PART 5 - ELECTRICAL SECTION

5.1 CONTRACTOR RESPONSIBILITY

The Contractor shall be responsible for providing all labor, materials, and equipment necessary for the installation of a complete and operational sports lighting system. It is the intent of these specifications to be performance oriented with respect to the design of the electrical service and distribution. All items necessary and incidental to complete the work and provide an operational sports lighting system are to be included and shall be considered as part of this Contract and Base Bid.

Prior to bidding, Contractor shall visit the site to become familiar with the existing conditions. The Contractor shall be familiar with all issues relating to the provision of electric service to the lighting system.

The Contractor shall coordinate the locations of the service, transformer and switchgear, as well as identifying the voltage and phase of the service, with the local power company and the Owner’s representative before any equipment is installed.

The Contractor shall provide all materials, labor, backfilling, excavation, debris removal, and pavement, curb, concrete, and landscaping repairs necessary for the installation of the complete electrical system both on-site and off-site when construction the main electrical supply to the main distribution electrical panel in coordination with the local Utility Company, Owner and Owner's Representatives.

5.2 SYSTEM DESIGN

A. The electrical system equipment shall consist of the following:

1. Electrical Service and Transformer from existing facilities to the site (approx. 1,000 feet). Coordinate this work with the local Utility Company.
2. New Meter Housing, if required by Code or the Utility.
3. Conductors and conduit from the main service transformer to the service entrance panel board.
4. The Service Entrance Panel Board with appropriate individual circuit over-current protection. The panel board shall meet local and National Electrical Code (NEC) requirements for the size of the service, AIC rating, and the type of the environment to which it will be exposed. All feeder breakers shall be bolt on type.
5. Conductors and conduit for the feeder and control circuits from the service entrance panel board to the lighting control contactors and wireless control system. Lighting control contactors and wireless control system, supplied by the sports lighting manufacturer, shall be sized per local codes and the NEC according to the circuit amperage. Provide 120V either via step down transformer or from service to power the Lighting control contactors and wireless control system. The contactors shall be rated for lighting applications and shall be housed in a NEMA 4 enclosure.
6. The panel board, lighting control contactors and wireless control system shall be mounted in a Main Electrical Cabinet. Cabinet shall be a two (2) door, rated for outdoor use, NEMA 4 Enclosure, 12 guage steel, with drip shield and provision for locking. Cabinet shall sit on floor stand above grade, and assembly shall be mounted on 12" thick concrete block as shown on the Contract Plans.
7. Conductors and conduit for the feeder circuit from the service entrance panel board and from the contactor panel to the safety disconnect mounted in the electrical enclosure on each lighting pole 10' above grade.

8. Grounding conductors and grounding methods for the following:
 - a. The main service entrance panel board. (per NEC or local codes)
 - b. The lighting contactor enclosure and wireless control box. (per NEC or local codes)
 - c. Each electrical component enclosure mounted on the lighting poles. (Equipment Grounding System) (per NEC or local codes)
 - d. Lightning Protection for individual poles as follows (per NFPA 780):
 - i. A 5/8" x 8' copper grounding rod buried vertically in undisturbed earth. The bottom tip of the grounding rod should reach a minimum of 10' above grade.
 - ii. A copper grounding conductor shall be connected to the top of the copper grounding rod and extend and connect to the grounding lug located inside the handhole of the pole approximately 10' above grade. The size of this conductor shall be #2 if the pole is less than 75' in height and #2/0 if the pole is 75' in height or greater.
- B. Underground wiring shall be all copper wire and shall be installed in PVC Schedule 40 conduit and shall be buried to a depth meeting the NEC and local electrical codes. Acceptable copper wire types need to comply with any local requirements, but will be labeled either THHN or THWN. If above ground conduit must be used, it shall be rigid galvanized steel. Conduit elbows located at the electrical panel should be rigid conduit, as opposed to PVC.

5.3 TRENCHING OR DIRECTIONAL BORING

- A. The installing contractor shall be responsible for locating all underground utilities including, but not limited to, natural gas, electric, water, sewer, cable TV and telephone.
- B. The owner shall be responsible for locating and staking any underground facilities that are not utility related. Owner accepts responsibility for damage to such facilities that are not properly located or staked.
- C. Trenching depth and width shall be adequate to install appropriately sized conduit and to meet local and National Electrical Codes.
- D. Trenches shall be back-filled with excavated soil and compacted to approximately the same density of the surrounding soil to minimize settlement.
- E. No trench line or feeder circuit shall cross the playing area.

5.4 DESIGN STANDARDS

- A. All circuits shall be designed so as not to exceed a 3% voltage drop at the safety disconnect in the electrical enclosure near the base of each pole.

- B. All work shall meet local and National Electrical Codes. It shall be the installing contractors' responsibility to correct any work deemed unacceptable by local electrical inspectors.
- C. Each pole shall be on a dedicated circuit. If common poles are to be used, or a pole is to have fixtures on a separate circuit, another dedicated circuit shall be ran to that pole. Consult lighting equipment specifications and lighting manufacturer for special circuitry information.

5.5 SUBMITTAL INFORMATION

The successful contractor shall provide an electrical plan/schematic, detailing all of the equipment described above, to the owner prior to commencing work. This electrical plan/schematic shall bear the stamp of an Electrical Engineer with P.E. status within the State of New Jersey.

QUANTITY AND PAYMENT

The quantity of Sports Field Lighting, for which payment will be made, will be the actual number of Sports Field Lighting supplied and installed at the site, as shown on the Plans.

Payment for Sports Field Lighting will be made for quantity as above determined, at the price bid per Sports Field Lighting for the item FIELD LIGHTING POLES & FIXTURES, COMPLETE WITH FOUNDATIONS, CONDUIT & ELECTRICAL COMPONENTS, , in the Proposal, which price shall include the cost of the Sports Field Lighting, excavation, backfilling, installation, footing, setting, erection, all labor, material and all else necessary therefore and incidental thereto.

It will be the responsibility of the contractor to coordinate all construction, electrical service connection and installation of lighting and conduits with PSE&G. Contractor shall provide all as-built information to the Engineer upon completion of all work for review.

SUBSTITUTION SUBMITTAL INFORMATION

Design Submittal Data Checklist and Certification

All items listed below are mandatory, shall comply with the specification and be submitted according to pre-bid submittal requirements

| Included | Tab | Item | Description |
|-----------------|------------|--------------------------|---|
| | A | Letter/ Checklist | Listing of all information being submitted must be included on the table of contents. List the name of the manufacturer's local representative and his/her phone number. Signed submittal checklist to be included. |
| | B | On Field Lighting Design | Lighting design drawing(s) showing: a. Field Name, date, file number, prepared by, and other pertinent data b. Outline of field(s) being lighted, as well as pole locations referenced to the center of the field (x & y), Illuminance levels at grid spacing specified |

| | | | |
|--|----------|-------------------------------|--|
| | | | <p>c. Pole height, number of fixtures per pole, as well as luminaire information including wattage, lumens and optics</p> <p>d. Height of light test meter above field surface</p> <p>e. Summary table showing the number and spacing of grid points; average, minimum and maximum illuminance levels in foot candles (fc); uniformity including maximum to minimum ratio, coefficient of variance and uniformity gradient; number of luminaires, total kilowatts, average tilt factor; light loss factor.</p> <p>f. Alternate manufacturers shall provide both initial and maintained light scans using a maximum Recoverable Light Loss Factor (RLLF) as specified in section 4.2.</p> |
| | C | Off Field Lighting Design | Lighting design drawing showing initial vertical spill light levels along the boundary line (defined on bid drawings) in footcandles. Vertical levels shall be at 30-foot intervals along the boundary line. Readings shall be taken with the meter orientation at both horizontal and aimed towards the most intense bank lights. |
| | D | Life Cycle Cost Calculation | Document life cycle cost calculations as defined in the specification. Identify energy costs for operating the luminaires, maintenance cost for the system including spot lamp replacement, and group relamping costs. All costs should be based on 25 Years. |
| | E | Luminaire Aiming Summary | Document showing each luminaire's aiming angle and the poles on which the luminaires are mounted. Each aiming point shall identify the type of luminaire. |
| | F | Structural Calculations | Pole structural calculations and foundation design showing foundation shape, depth backfill requirements, rebar and anchor bolts (if required). Pole base reaction forces shall be shown on the foundation drawing along with soil bearing pressures. Design must be stamped by a structural engineer in the state of New Jersey. |
| | G | Control and Monitoring | Manufacturer shall provide written definition and schematics for automated control system to include monitoring. They will also provide examples of system reporting and access for numbers for personal contact to operate the system. |
| | H | Electrical Distribution Plans | If bidding an alternate system, manufacturer must include a revised electrical distribution plan including changes to service entrance, panels and wire sizing, signed by a licensed Electrical Engineer in the state of New Jersey. |
| | I | Performance Guarantee | Provide performance guarantee including a written commitment to undertake all corrections required to meet the performance requirements noted in these specifications at no expense to the owner. Light levels must be guaranteed per specification for 25 years. |
| | J | Warranty | Provide written warranty information including all terms and conditions. |
| | K | Independent Testing Report | Manufacturer bidding any form of a constant light system is to provide an independent test report certifying the system meets the lumen maintenance control strategy defined in Section 1.2.A.1, verifying the field performance of the system for the duration of the useful life of the lamp based on lamp replacement hours. Report shall be signed by a licensed professional engineer with outdoor lighting experience. |
| | L | Project References | Manufacturer to provide a list of projects where the technology proposed for this project has been installed in the state of New Jersey. If any form of a constant light system is bid, a minimum of 5 project references completed within the last |

| | | | |
|--|----------|---------------------|--|
| | | | calendar year is required. For a depreciating light system a full list of projects completed within the past 3 years is required. Reference list will include project name, project city, and if requested, contact name and contact phone number. |
| | M | Product Information | Complete set of product brochures for all components, including a complete parts list and UL Listings. |
| | N | Non-Compliance | Manufacturer shall list all items that do not comply with the specifications. |
| | O | Compliance | Manufacturer shall sign off that all requirements of the specifications have been met at that the manufacturer will be responsible for any future costs incurred to bring their equipment into compliance for all items not meeting specifications and not listed in item N – Non-Compliance |

--END OF SECTION--

FLAG POLE, 35' TO 40' HIGH

DESCRIPTION

Under this item the Contractor shall furnish and erect, where shown on the Contract Drawings, cone tapered aluminum flag pole, complete with all standard fittings, uprights and appurtenances, manufactured by Baartol Company Inc., Kenton, Ohio, **or Approved Equal**. Three (3) Flag Poles shall be ground set thirty-five (35') to forty (40') total feet above ground. Outside butt diameter shall be eight (8") inches. Outside top diameter shall be three and a half (3.5") inches, and Ground tube length shall be four feet (4') min. Contractor shall design-build the electrical system feeding this item and shall provide a working system in accordance with local codes and the National Electric Code (NEC).

MATERIALS

Materials:

- A. Aluminum – 6063T6 alloy, seamless.

Type of Taper:

- A. Cone tapered.

Classifications:

- A. Ground set pole, embedded.

- B. Cone Tapered aluminum tube flagpole.

Dimensions:

- A. Overall Length: 44'-0" & 39'-0" (as shown on Contract Drawings)
- B. Butt Diameter: 8"
- C. Top Diameter: 3 ½"
- D. Wall Thickness: 0.188"

Finish:

- A. Aluminum flagpole shall have a mechanical satin finish. (same as Baartol's "Lustratex" finish, **or approved equal**).

Fittings:

- A. Finial ball shall be Gold Anodized. Size to match pole butt diameter.
- B. Truck-cast aluminum internal halyard system.

Halyards:

- A. Stainless steel cable with vinyl or neoprene covered weight.
- B. Internally mounted direct drive winch with control stops to hold flag in any position on the pole.

- C. Removable winch crank.
- D. Flush mounted winch access door with cylinder lock.

Foundation:

- A. Concrete foundation diameter shall be at least thirty (30") inches at the top and twenty-four (24") inches at the bottom. Pole shall be set in foundation at least four (4') feet deep.
- B. 16 gauge corrugated galvanized steel tube.
- C. Foundation Sleeve Plate – Square steel plate. 3/16" min. thickness, welded to bottom of foundation sleeve.
- D. Centering Wedges – Internal steel wedges, 1/8" min. thickness, welded to support plate for centering of flagpole.
- E. Ground Spike – 3/4" steel spike, welded to bottom of foundation sleeve plate. Minimum length below concrete foundation to be twice the footing thickness below foundation sleeve plate.
- F. Foundation Support Plate – Steel plate, 6" square by 3/16" min. thickness, welded to ground spike at base of concrete foundation.
- G. Contractor shall provide signed and sealed drawings of each foundation and submit to the Engineer for review prior to installation.

Flash Collar:

- A. Metal – Same as pole shaft.
- B. Design flash collar spun as supplied by Baartol Co., Inc. (or approved equal)

Light Fixtures:

- A. Provide three (3) 6" Diameter x 18", 150 watt "Tunnel" Up-Lights mounted in the ground with rock guard. Finish to match flagpole. Model No. 01500620, **or Equal.**
- B. Provide 3" x 4" hand hole under flash collar for electrical access.
- C. Installation by electrical contractor.
- D. Contractor to provide two (2) spare bulbs.
- E. Fixtures shall be factory installed.
- F. Contractor to provide dusk/dawn controls for flag light.

EXECUTION

Shipping:

- A. Packaging – Flagpole to be packed in recommended fashion to assure protection during transit.
- B. Number of sections – Poles up to 38’-6” can be shipped in one piece by motor carrier.

Handling & Storage:

- A. Aluminum flagpoles, if stored in original packaging for extended periods can become stained due to adverse chemical reactions between aluminum and packaging materials. When poles are to be stored on site for extended periods, all wrapping materials should be removed and the pole stored bare in a dry place off the ground.

Installation:

- A. Flagpole to be installed by an experienced erection crew.

QUANTITY AND PAYMENT

Quantity and Payment for Flag Pole, 35’ to 40’ High will be made in accordance with the Contract Documents at the lump sum price bid for the item **FLAGPOLE SYSTEM, COMPLETE WITH UP-LIGHTS (INCLUDING ELECTRIC)** in the Proposal, which shall cover the cost of footing, foundation, concrete, excavation, backfill, grading, seeding, electrification design, electric installation, conduit, wiring, and terminations, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

It will be the responsibility of the contractor to coordinate all construction, electrical service connection and installation of lighting and conduits with PSE&G. Contractor shall provide all as-built information to the Engineer upon completion of all work for review.

-- END OF SECTION --

BICYCLE RACKS, AND TRASH RECEPTACLES

PART ONE - GENERAL

1.1 DESCRIPTION

Bicycle Racks, and Trash Receptacles shall include all materials and labor necessary for the furnishing and permanent installation of the above noted site furnishings consisting of ornamental trash receptacles and decorative embedded foundation bicycle racks including stainless steel bolts and concrete anchors, permanent anchoring and fastening to concrete base, and the installation of concrete pads as shown on the Plans or as directed by the Engineer. The Trash Receptacles shall include placement in a location shall include one labeled for garbage and one labeled for recycle; however each can shall be considered a unit.

PART TWO - MATERIALS

2.1 PRODUCTS

Bicycle Racks:

188-09, by DuMor, Inc. or approved equal.

Owner/Engineer to select color from standard colors.

Trash Receptacles:

CFTR-011-02 Streetscape Receptacle, 44 gallon letter receptacle by Custom Fabrication Incorporated or approved equal.

Owner/Engineer to select color from standard colors.

PART THREE – EXECUTION

3.1 METHODS OF CONSTRUCTION

Permanent installation and assembly shall be according to manufacturer's specifications, the plans and as directed by the Engineer. Bicycle Stand shall be embedded with footing per construction details. Site amenities shall be tamper resistant.

QUANTITY AND PAYMENT

Quantity and Payment for Trash Receptacles, and Bicycle Rack will be made for the actual site furnishings actually constructed in accordance with the Contract Documents at the unit price bid for the items **“TRASH RECEPTACLES W/CONCRETE PAD,”** and **“BICYCLE RACK,”** in the Proposal, which shall cover the cost of all concrete pads, excavation, backfill, grading, seeding, furnishing and installing the above referenced site furnishing,, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

--END OF SECTION--

16' PORTABLE PLAYER SHELTER AND BENCH

PART ONE - GENERAL

1.2 DESCRIPTION

16' Portable Player Shelter and Bench shall include all materials and labor necessary for the furnishing and installation of the above noted portable player shelter and bench as shown on the Plans or as directed by the Engineer.

PART TWO - MATERIALS

2.1 PRODUCTS

16' Portable Player Shelter and Bench:
Heavy Duty, Standard, 16' Portable Player Shelter with Attached Bench, shaded Lexan and Black Powder Coated, or approved equal, as Manufactured by Keeper Goals, 12400 Spring Drive, Butler, Wisconsin, (800-594-5126) or approved equal, to be approved by Union County and Engineer prior to ordering.

Benches shall be aluminum.
Shelter to include all required anchoring.

PART THREE – EXECUTION

3.1 METHODS OF CONSTRUCTION

Installation and assembly shall be according to manufacturer's specifications, the plans and as directed by the Engineer.

QUANTITY AND PAYMENT

Quantity and Payment for 16' Portable Player Shelter and Bench will be made for the actual portable shelter and bench units actually constructed in accordance with the Contract Documents at the unit price bid for the items "**16' PORTABLE PLAYER SHELTER AND BENCH,**" 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--

EXTERIOR ELECTRONIC MULTISPORT SCOREBOARD

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes: Exterior, electronic scoreboard[s] including control center and other accessories for complete functional installation.
 - 1. Section 03 30 00 Cast-in-Place Concrete: Concrete footings for posts supporting scoreboards.
 - 2. Section 05 12 00 Structural Steel: Steel posts and other structural framing to support scoreboards.
 - 3. Section 26 05 26 Grounding and Bonding: Grounding of scoreboard and support structure.
 - 4. Section 26 20 00 Low Voltage Electrical Distribution
 - 5. Section 27 41 16 Integrated Audio-Video Systems
 - 6. Section 10 14 63 Electronic Message Signage

1.2 REFERENCES

- B. American Society for Testing and Materials (ASTM) Publications:
 - 5. ASTM B221 - Aluminum-Alloy Extruded Bar, Rod, Wire, Shape, and Tube.
- B. National Electrical Code.
- C. Federal Communications Commission, Part 15 Rules & Regulations.
- D. UL and C-UL Standard for Electric Signs

1.3 SUBMITTALS

- A. Submittal Procedures:
 - 1. To minimize the environmental impact of multiple paper copies, product installation prints, instructions and diagrams of manufacturer will be submitted in a paperless fashion. The end user shall receive all pertinent hard-copy documentation at delivery.
 - 2. Product data for scoreboards, controls, and accessories shall include descriptions of control functions etc.
 - 3. Installation drawings, face layout, dimensions, construction, electrical wiring diagrams, and method of anchorage. (Paperless when applicable).
 - 4. Scoreboard to be mounted in the air at a height acceptable for the scoreboard to be viewed by the spectators. All steel posts and footing designs to properly support the structure shall be submitted.
 - 5. Copy of guarantee required by Paragraph 1.5 for review by Architect. (Paperless when applicable).
 - 6. Manufacturer's installation instructions. (Paperless when applicable).
 - 7. Finish Samples.

1.4 QUALITY ASSURANCE

- C. Source limitation: All components including scoreboard, control center, control cable, and other accessories and installation hardware shall be products of a single manufacturer.
- D. Manufacturer qualifications: Company specializing in manufacturing electronic scoreboards with 10 years experience.
- E. Scoreboards shall be designed for exterior installation with weatherproof housing and optical isolation interface to reduce potential damage from electrical storms.
- D. Should service be necessary, specialized personnel shall not be required. Modular “plug and play” components will be housed in an internal protective enclosure.
- E. Scoreboards and other electrical components shall be certified for use in United States and Canada by Underwriter Laboratories, (UL) Inc. and shall bear either UL or C-UL label only.
- F. Scoreboards and other electrical components shall be electrically grounded in accordance with National Electrical Code (NEC), Article 600.

1.5 GUARANTEE

- F. Closeout Submittals: Guarantee to cover defects in materials and workmanship.
 - 6. 5 years parts and factory labor guarantee for scoreboards, [wired controls,] and accessories from invoice date.
 - 7. 2 years part and factory labor guarantee for wireless controls and receivers from invoice date.
 - 3. Lifetime telephone support.

PART 2 - PRODUCTS

2.6 ACCEPTABLE MANUFACTURERS

- G. Nevco, Inc., 301 East Harris Avenue, Greenville, Illinois 62246; 800-851-4040; www.nevco.com or approved equal.
- H. Requests to use equivalent products of other manufacturers may be made after award of the project.

2.7 MATERIALS

- I. Aluminum faces and perimeter frame: Fabricated from .050 minimum thickness, ASTM B221 aluminum sheet with reinforcement and slotted mounting brackets top and bottom.
- J. Finish: Acrylic polyurethane paint. Color as selected by Owner from manufacturer's standard range. [Color to be [No. 70 - Desert Tan] [No. 72 - Electronic Blue] [No. 73 - Maroon] [No. 74 - Forest Green] [No. 76 - Print Black] [No. 95 - Silver Gray] [No. 99 - Golden Yellow] [No. 102 - Team Orange] [No. 103 - Cardinal Red] [No. 104 - Medium Purple] [No. 120 - Teal Blue] [No. 121 - Midnight Blue] [No. 140 - Royal Blue] [No. 141 - Navy Blue] [No. 142 - Kelly Green] as provided by Nevco, Inc..] [PMS Color No._____]
 - 8. Provide [white] [specify alternate color] striping to separate scoreboard features.

- K. Brackets: Integrated universal bracket system.
- L. Fasteners, anchors, and other exposed hardware: Corrosion resistant.
- M. Electronics: Low voltage, solid state, 2-wire cable, multiplex system, quartz crystal controlled.
- F. Provide gold plated electrical contacts on interconnecting wiring to reduce corrosion and improve reliability.
- G. Provide optical communication interface to reduce threat of damage from electrical storms and ESD.
- H. LED (light emitting diode) units: Seven-bar, segmented digits with protective aluminum cover, rated typical life 100,000 hours and be designed to provide excellent visibility from all angles and sides.
- I. Junction boxes where required: Sheet metal box and cover, [4-1/2 x 2-1/8 x 2-1/8 inches] [114 x 54 x 54 mm] min. complying with NEMA standards.
- J. Control cable: UL listed, 2-wire, RG-58/U, coaxial cable, [1/4 inch] [6 mm] diameter.
- K. Steel beam for mounting shall be suitable in size and strength to properly support the weight of the scoreboard, its components and other miscellaneous items.

2.8 SCOREBOARD

- A. Type: Exterior, large-numbered, electronic Intelligent Caption – Multi-sport scoreboard with integral horn and LED displays for 1/1000 sec. timing, scores and four digit pairs for per team features listed below. Model 7680 as manufactured by Nevco, Inc.
 - 9. Size: [18 feet long x 10'6" feet high x 8 inches deep.] 5.49 m long x 3.20 m high x .20 mm deep.]
 - 10. Approximate weight: [555 pounds] [251 kg].
 - 11. All electronic Caption Plates: two ea. 8x48, four ea. 8x32, and two ea. 8x16 – 16mm matrix red or amber LED displays.
 - a. Displaying per sport: "HOME", "GUESTS", "BALL ON" "DOWN" "YTG" "QTR" "SAVES", "SHOTS", "CK", "H/G", "PEN", "AT BAT", "BALL", "STRIKE", "OUT"
 - 4. High intensity red or amber LED displays:
 - a. [24 inches] [609.6 mm] high digits: All digits except:
 - b. [18 inches] [457 mm] high digits: "TOL, PRD or HLF"
 - 5. Power requirement: 120/240 volts, 7.0/3.5 amps, with All options included.

2.4 ACCESSORIES

- N. Provide each scoreboard or accessory with control cable of length required. Electrical junction boxes, conduits, mounting hardware, and other accessories as required for installation are to be provided by
- B. Delay of game timer set: Pair of electronic units displaying delay of game time with one unit installed at each end of field; Model DGT-6 as manufactured by Nevco, Inc.
 - 12. Unit size: [4 feet x 4 feet x 8 inches] [1.2 m x 1.2 m x 203 mm].
 - 13. Approximate hanging weight: [40 pounds] [18 kg].
 - 14. LED displays: High intensity red or amber [30 inches] [762 mm] high digits

capable of being set at 69 seconds or less and operated from hand-held switch connected to control center.

15. Power requirement: Each display, 120/240 volts, 0.6/0.3 amps.
- C. Additional available accessories include but are not limited to; please specify if required.
 1. Protective Nets.
 2. Team Name caption plate to replace "Home"
 3. Decorative Truss and Lettering
 4. Nevco, Inc. "A", "AD", or "ADL" signs including Artwork.
 5. Nevco, Inc. 9605 Time display.
 6. Nevco, Inc. Locker Room Clocks.
 7. Nevco, Inc. Full Color, Red or Amber Message Centers.
 8. Nevco, Inc. Video Displays.

2.5 CONTROL CENTER

- A. **Type: Wired or Wireless**, microprocessor based operator's control center designed to operate different models of scoreboard by interchange of keyboard overlay; Model MPC as manufactured by Nevco Inc. Console will operate earlier scoreboards from Nevco Inc.
 1. Console: High impact, break-resistant black plastic with improved UV resistance. [11 x 9-1/2 x 4-1/8 inches] [279 x 241 x 105 mm].
 2. Features:
 - b. Provide with LED displays, lithium cell battery backup to maintain scoreboard memory and time of day, self test mode, power on-off switch, alternate time control, and multiple scoreboard operation.
 - c. Split and raised 40 key soft touch keyboard.
 - c. Keyboard shall be spill resistant.
 - d. Internal beeper acknowledging each entry
 - e. System Profiles feature set all parameters of operation including choice of controlled accessories and scoreboards.
 - f. Colorful graphic rich keyboard overlays for scoreboard or accessory.
 - g. Remote hand-held main time switch with programmable integral horn button.
 - h. [25 feet] [7.6 m] control cable with connectors.
 - i. Timer features: Time of day display, multiple time out timers with warning, interval horn, up-count auto stop with horn, 1/10th second display during last minute, changeable horn tone on scoreboards with the feature.
 - j. Segment timing for practice and workout.
 - k. Dimmer control for scoreboard.
 - l. MPC features shall be accessed through yes/no abbreviated questions in a drop down menu format.
 - m. Multiple receiver management shall be accomplished through direct keyboard input.
 - n. Electronic Team Names and automatic Electronic Caption Plates shall be controlled from MPC control without need to change overlays.
 3. Power requirements: 120 volts, 12 watts, 50/60 Hz.
 4. Provide option of battery supply for control operation if utility power not available.

5. Provide carrying case for control center, cable, and hand-held switch; Model CC-3 as manufactured by Nevco Inc.
 - d. Size: [18-1/2 x 14-1/2 x 6 inches] [470 x 368 x 152 mm].
 - e. Construction: Double wall, high density black polyethylene with padded interior, mechanical latches, and hinges.
 6. Receiver WHEN ORDERED SEPARATELY;
 - a. Sturdy impact resistant construction, [6 x 4 x 1.5 inches] [152 x 102 x 38 mm]
 - b. Integrated antenna, mounted flush in scoreboard face. Protruding antennas shall not be used.
 7. Maximum range: [1,000 feet] [305 m] from control center to receiver.
 8. Receiver shall require no additional source of power or separate control cable.
- B. **Type: Handheld** wireless, basic, AA battery operated, sport specific, control center with receiver unit mounted at scoreboard; Model MPCX as manufactured by Nevco. Control will have operability with earlier scoreboards from Nevco.
16. Unit shall comply with Part 15 of FCC Rules and Regulations.
 17. Control unit: High impact, break-resistant black ABS plastic Size: 3-1/4" x 5-1/2" x 7/8" [80 x 140 x 20 mm].
 18. Features:
 - f. Wireless operation within [1000 feet] [305 m].
 - g. Operate multiple scoreboards simultaneously.
 - h. System allows multiple controllers to link to individual scoreboards.
 - i. High visibility LCD display with a sealed keyboard.
 - j. Long battery life with indicator; include two AA batteries.
 - k. Single hand operation with a no slip grip.
 - l. Built-in belt clip.
 - m. Wireless signal strength meter and internal antenna.
 19. Receiver: Injection molded case, [5-1/2 by 3-3/4 by 2 inches] [140 by 95 by 51 mm] mounted at scoreboard in accordance with instructions.
 20. Maximum range: [1,000 feet] [305 m] from control center to receiver.
 21. Power adapters: Provide for each scoreboard receiver.
 - n. Input: 120 volts, 0.4 amps, 50/60 Hz.
 - o. Output: 9 volts, 1.67 amps, 15 watts.
 22. Provide carrying case for up to two control centers, Model CC-4 as manufactured by Nevco.
 - p. Size: [18-1/2 x 14-1/2 x 6 inches] [470 x 368 x 152 mm].
 - q. Construction: Double wall, high density black polyethylene with padded interior, mechanical latches, and hinges.
 8. Provide suitable, RF transparent, NEMA 4 enclosure for receiver, to be located upon scoreboard supporting structure per installation diagrams.

PART 3 - EXECUTION

3.9 PREPARATION

- O. Verify exact scoreboard and control center quantities and junction box locations with Architect.

- P. Coordinate requirements for electrical power, concrete, steel erection, auxiliary framing and supports, suspension cables, and other components to be provided to ensure adequate provisions are made for complete, functional installation of scoreboards.
- Q. Coordinate scoreboard electrical requirements to ensure proper power source, conduit, wiring, and boxes are provided. Prior to installation, verify type and location of power supply.
- D. Prepare engineering calculations for submittal for the steel erection, framing and support for an aerial mounting of the scoreboard. Signed and sealed calculations and drawings shall be prepared by a Licensed Professional Engineer in the State of New Jersey.

3.10 INSTALLATION

- R. Install scoreboards and accessories in accordance with manufacturer's instructions and approved installation drawings.
- S. Before installation, field test scoreboards and accessories for operating functions. Ensure that scoreboards accurately perform all operations. Correct deficiencies.
- T. Rigidly mount scoreboards and accessories level and plumb with brackets and fasteners.
- U. Clean exposed surfaces.
- V. Protect scoreboards and finishes from other construction operations.

3.11 DEMONSTRATING AND TRAINING

- W. Starting, Adjusting, and Demonstrating, provide demonstration and training session for Owner's representative covering operation and maintenance of electronic scoreboard.

QUANTITY AND PAYMENT

Quantity and Payment for Outdoor Electronic Scoreboard, Complete will be made in accordance with the Contract Documents at the lump sum price bid for the item **OUTDOOR MULTI-SPORT LED SCOREBOARD, COMPLETE WITH CONCRETE FOOTINGS AND POST (INCLUDING ELECTRIC)** in the Proposal, which shall cover the cost of footing, foundation, concrete, excavation, backfill, grading, seeding, electrification design, electric installation, conduit, wiring, and terminations, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

It will be the responsibility of the contractor to coordinate all construction, electrical service connection and installation of lighting and conduits with PSE&G. Contractor shall provide all as-built information to the Engineer upon completion of all work for review.

--END OF SECTION--

BLEACHERS

(Non-Elevated Aluminum Angle Frame Bleachers)

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Design and fabrication of Non-Elevated aluminum angle frame bleachers.

1.02 QUALITY ASSURANCE

A. Manufacturer: National Recreation Systems, Inc.

P.O. Box 11487 Fort Wayne, In 46858-1487; **or approved equal.**

B. Manufacturer Qualifications: Manufacturer must have a minimum of ten years experience in the design and manufacture of bleachers.

C. Welders must conform to AWS standards.

D. Source Quality Control: Mill Test Certification.

E. Codes and Standards: 2009 International Building Code / ICC 300 2007.

1.03 WARRANTY

A. Warranty shall guarantee bleachers to be free from defect in materials and workmanship for a period of 1 year under normal use. Warranty period shall begin on date of completion for projects installed by manufacturer, or its subcontractors, OR warranty period shall begin on date of final delivery on projects installed by others.

B. Anodized finish of plank extrusions shall be covered by a 5 year warranty against loss of structural strength or finish deterioration due to exposure to weather conditions or UV rays. Discoloration of mill finish aluminum due to galvanic reaction not covered.

1.04 PRODUCT LIABILITY INSURANCE

A. Product liability insurance is carried for the life of the product in the amount of \$ 2,000,000.

1.05 ENGINEERING

A. Engineering certifications and calculations by a Registered Professional Engineer will be provided upon request.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURER

A. National Recreation Systems, Inc.

2.02 DESIGN

A. Applicable Codes: INTERNATIONAL BUILDING CODE (IBC), 2009 EDITION / ICC 300 2007

B. Design Loads:

1. Live Loads: Uniform loading - Structure = 100 psf
Uniform loading - Seat and Foot plank = 120 plf
2. Sway Loads: Perpendicular to seats = 10 plf
Parallel to seats = 24 plf
3. Guardrail Loads: Uniform vertical load = 100 plf
Uniform horizontal load = 50 plf
Concentrated horizontal load = 200 pounds
4. *Wind Loads: Basic design wind speed = 150 mph (exposure "B")

*Note: Bleacher must be anchored to reinforced concrete pad to meet wind loads above.

2.03 NON-ELEVATED ANGLE FRAME BLEACHERS

A. Quantity and Size: Shall consist of

- 1 unit 10 rows high x 79'-6" long. Net seating capacity per unit 417 + 6 HC (excluding aisles, based on 18" per seat).
- 1 unit 10 rows high x 145'-6" long. Net seating capacity per unit 795 + 8 HC (excluding aisles, based on 18" per seat).

B. Framework: Prefabricated aluminum angle spaced at 6' - 0" intervals joined by means of aluminum angle cross bracing.

C. Shop connections: Welded to meet AWS standards and local code requirement.

D. Joint Sleeve Assembly: Internal splices, where required shall be two per joint, and shall penetrate the joint a minimum of 8" in each direction and be riveted at one end only to allow for contraction and expansion.

E. Rise and Depth Dimensions: 8" vertical rise and 24" tread depth, Seat height is 17" above its respective tread.

F. Seats: Nominal 2" x 10" anodized aluminum with anodized end caps.

G. Treads: Nominal two (2) 2" x 10" mill finish aluminum with anodized end caps on rows 2 & up.

H. Risers: Nominal two (2) 1" x 6" mill finish aluminum with mill finish end caps on top row.

Nominal 1" x 6" mill finish aluminum with end caps on all other rows.

- I. Aisles: Aisle footboards shall be of aluminum alloy 6063-T6 and be of mill finish with contrasting aisle markings. Three aisle stiffener angles shall be used to strengthen the aisle step. There shall be 1 aisle(s) 54" wide.
- J. Aisle Handrail: Anodized aluminum pipe with intermediate rail.
- K. Guardrail: Rails shall be anodized aluminum tube with end plugs and elbows where required. All Rails shall be secured to angle supports with galvanized fasteners. Top rails at sides, rear and front shall be 42" above the leading edge of seat or walking surfaces. Rear rail support members shall be aluminum channel, side and front rail support s shall be aluminum angle.
 - 1. Chainlink System: Fencing shall consist of 9 gauge, 2" mesh galvanized chainlink fabric, heavy duty tension bands, tension bars, brace bands, combo rail endcaps, and wire ties.
- L. Handicapped Accessibility: Shall be provided as required by the code listed above.

2.04 MATERIALS / FINISHES

A. Framework:

- 1. Aluminum: Structural fabrication with aluminum alloy 6061-T6 mill finish. Each frame shall be unit-welded, using metal inert gas method, under guidelines by the American Welding Society. After fabrication all steel is hot dipped galvanized to ASTM A-123 specifications. All crossbracing and horizontal bracing shall be aluminum angle 6061-T6 mill finish.

B. Extruded Aluminum:

- 1. Seat planks: Aluminum alloy 6063-T6, clear anodized 204R1, AA-M10C22A31, Class II With a wall thickness nominally .078" for impact and deformation resistance.
- 2. Tread and Riser Planks: Aluminum alloy 6063-T6, mill finish. With a wall thickness nominally .078" for impact and deformation resistance.
- 3. Guardrail Pipe: 1-5/8 OD schedule 40 aluminum alloy 6105-T5, clear anodized 204R1, AA-M10C22A31, Class II.

C. Accessories:

- 1. Channel End Caps: Aluminum alloy 6063-T6, clear anodized 204R1, AA-M10C22A31, Class II.
- 2. Hardware: Bolts and Nuts shall be hot dipped galvanized.

3. Hold Down Clip Assembly: Aluminum alloy 6063-T6 mill finish.

4. Joint Sleeve Assembly: Aluminum alloy 6061-T6, mill finish.

D. Concrete Pad (Reinforced):

1. Concrete Pad: Shall be 6-inch thick reinforced concrete (4,000 PSI). The Contractor shall place concrete pad as shown on the Contract Drawings. The concrete pad shall meet and match the grade and alignment of the concrete walkway at two sides of the concrete pad, the other sides shall meet the elevation of the grass landscape area.
2. Reinforcement: Shall be 6x6 (#8/8 (W2.9/W2.9) wire mesh Reinforcement. Contractor shall position reinforcement at a clear distance of 2.5-inches from the surface (top) of the concrete pad. Contractor shall anchor each bleacher to the concrete pad as per the manufacturer's anchoring requirements.
3. Base: Shall be 6-inch thick dense graded aggregate (DGA), which all methods of construction shall be in accordance with Division 300 – Subbase and Base Courses, of the 2007 New Jersey Department of Transportation Standard Specifications for Road and Bridge Construction, latest revised. Base material shall be compacted to
4. Subgrade: Shall be of suitable subgrade material compacted to 95% maximum density .

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Install bleacher unit in accordance with manufacturer written instructions and shop drawings.

PART 4 - QUANTITY AND PAYMENT

- A. Quantity and Payment for Bleachers will be made in accordance with the Contract Documents at the per unit price bid for the item **BLEACHER, 10 ROW, 79'-6" LONG W/ CONCRETE PAD** and **BLEACHER, 10 ROW, 145'-6" LONG W/ CONCRETE PAD** in the Proposal, which shall cover the cost of excavation, backfill, grading, seeding, concrete, reinforcement, formwork, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

Note: Building codes may vary from site to site. The Contractor shall be responsible for verification of local code requirements.

-- END OF SECTION --

MODULAR COACH' BOX (PRESS BOX)

GENERAL

This work consists of furnishing and installing a 8'x24', Type 1 Wood Framed Press Box. The press box has Use Group A-5, Construction Type V-B UNPROTECTED WOOD-FRAMED. The contractor shall furnish all materials to provide a press box that is mounted at a height above the 10 row bleacher with access from the bleachers. Manufacturer of press box should have a working relationship with bleacher manufacturer to have an understanding of the requirements to incorporate

MATERIALS-METHOD OF CONSTRUCTION

Manufacturer: National Recreation Systems, Inc.

P.O. Box 11487

Fort Wayne, In 46858-1487; **or approved equal.**

a) FLOOR CONSTRUCTION

- 1) Bottom Board: 1/2" CCX foundation grade treated plywood. Industrial grade asphalt-based black paint. Continuous aluminum vents on 8' centers. (min. of 2)
- 2) Insulation: 6" R-19 fiberglass batts, with vapor barrier.
- 3) Joists: 2" x 6" #1 SYP, on 16" centers, longitudinal framing.
- 4) Decking: 3/4" Sturdifloor, underlayment grade, tongue and groove fir plywood, (Index 24" O.C.).
- 5) Covering: 1/8" Armstrong Excelon vinyl composition tile, Cottage Tan.
- 6) Molding: 4" SBR rubber base molding by Roppe.

b) WALL CONSTRUCTION

- 1) Studs: 2" x 4", #2 or better SPF, on 16" centers, BOCA framing.
- 2) Bottom Plate: 2" x 4" #2 or better SPF.
- 3) Top Plates: (2) 2" x 4" #2 or better SPF.
- 4) Headers: As span and design load requires
- 5) Ceiling Height: 8'-0" x 7'10", front to back.
- 6) Covering: 5/8" vinyl-faced gypsum panels, Class A, F.S.R.
- 7) Insulation: 3-1/2" R-11 fiberglass batts with vapor barrier.

8) Sheathing: 1/2" CDX plywood.

9) Siding: Mastic .048 vertical board and batten premium vinyl siding panels.

c) ROOF CONSTRUCTION

1) Joists: 2" x 8", #1 SYP, 16" O.C. spacing.

2) Overhang: 15-1/2" over front wall; 6" over rear wall. .019 aluminum fascia with perforated aluminum soffit panels.

3) Ceiling: 5/8" type-x fire-rated gypsum board, taped and bedded with spray textured finish, Class A F.S.R.

4) Insulation: 6" R-19 fiberglass batts with vapor barrier.

5) Decking: 3/4" tongue & groove oriented strand board (Index 24" O.C.).

6) Covering: .060 single-ply EPDM rubber membrane, fully adhered.

d) WINDOWS Lindsay #3300 Earthwise horizontal sliders with extruded vinyl frames with 3/4" clear insulated, Argon filled, low-E, tempered glass and removable insect screens.

e) DOORS Masonite insulated fiberglass door with solid vinyl jambs; 16" insulated/tempered lite, aluminum threshold, vinyl weather stops and heavy-duty retention chains. Doors equipped with commercial leverhandled keyed locksets.

f) ELECTRICAL

1) Service Entrance Panel: Square D QO112M100 with Main Disconnect; rated at 120/240v, single phase, 100 amp capacity.

2) Receptacles: Pass & Seymour 125 volt/15 amp duplex, spec-grade, along the rear wall. Wiremold 5400 Series two-piece multi-channel, dual voltage, non-metallic surface raceway along front wall below scorer's counter, outlets on 48" centers.

3) Lighting: Lithonia M232PC1S 4-ft. 2-tube fluorescent strips with low-glare parabolic diffusers.

4) Circuits: All branch circuit wiring is minimum #12 THHN encased in EMT thin wall conduit.

g) SCORER'S COUNTER: 18" deep x 3/4" lauan grade plywood with 1-1/2" x 2" edge, surfaced with .060 plastic laminate, Nevamar Neutra Matrix.

h) CAMERA DECKS

- 1) Hatch: Bilco Model NB50 2'6" x 4'6" aluminum roof hatch.
- 2) Ladder (Aluminum): Alaco Model 370 70-degree ships ladder. Alaco Model 330 60-degree ships ladder where required.
- 3) Roof Surface: .060 polyester reinforced skid and spike resistant PVC membrane, fully adhered.
- 4) Railing mounts: 1/2" galvanized threaded bolts & nuts through roof fascia on 48" centers along perimeter edge of roof.

QUANTITY AND PAYMENT

Quantity and Payment for Coach's Box will be made in accordance with the Contract Documents at the per unit price bid for the item **COACH'S BOX, COMPLETE** in the Proposal, which shall cover the cost of excavation, backfill, grading, seeding, concrete, reinforcement, formwork, electric and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

Note: Building codes may vary from site to site. The Contractor shall be responsible for verification of local code requirements.

-- END OF SECTION --

OUTDOOR, WEATHERPROOF PUBLIC ADDRESS SYSTEM

DESCRIPTION

Outdoor, Weatherproof Public Address (PA) System shall include all materials and labor necessary for the furnishing and installation of the above noted PA system including, but not limited to, loudspeakers, amplifier, mixer, microphone, wall mounts, cords, cables and all incidental work necessary to the satisfaction of the Engineer.

MATERIALS

1. The PA System shall be Technomad Turnkey IPA2 System, or Approved Equal. PA system shall include the following components:

1.1 LOUDSPEAKER

- A. The loudspeaker system shall be of two-way type consisting of one 12" low frequency cone type transducer in a vented direct radiating enclosure and a coaxially mounted 1" compression driver
- B. The system shall meet the following performance criteria:
 - Frequency Response: 60 Hz – 17.5 kHz.
 - Power Handling 430W
 - Rated Impedance shall be 8 Ohms
 - High Frequency Dispersion: 120° V x 120° H
 - The system shall include an internal passive crossover network, provided full range operation via two Neutrik 4MP connectors
- C. The cabinet shall be molded from mid-density, (100% recycled if black) polyethylene. All cabinet dyes shall be non-heavy metal based. The cabinet shall meet Mil-Spec 810E and be ATA-III compliant. The cabinet shall have a 10 year warranty.
- D. The system shall include 1.5" stand mount sockets on four sides. The system shall have two handles. The system shall have eight 10-1 rated ¼-20 threaded inserts for hanging. The system shall have four 10-1 rater 5/16-18 inserts on the rear of the cabinet, in a pattern compatible with the OmniMount 100 and Allen Products MM-022 brackets. The system shall have a lid. All drivers shall be protected by a three-layer chemically treated grill system. All hardware shall be stainless steel.
- E. The loudspeaker system shall be the Technomad NoHo C, or Approved Equal

1.2 AMPLIFIER

- A. Technomad P-1 Amplifier, or Approved Equal

1.3 MIXER

- A. Technomad M1 6-Channel Mixer with 2 Microphone Inputs, or Approved Equal
 - Input Front: 3.5mm Line Level Jack & XLR Microphone Jack

- Input Rear: 4 Stereo Line Level Inputs & 2 XLR Microphone Inputs

1.4 MICROPHONE

- A. One (1) Hand-Held Dynamic Microphone – with Cable
- B. One (1) Hand-Held Wireless Microphone

1.5 RACK

- A. Technomad 6-Space Rack, or Approved Equal

1.6 WALLMOUNTS

- A. Two (2) Technomad 512 Wall Mounts, or Approved Equal

1.7 WIRING

- A. Two (2) 50 ft., 12-Gauge Outdoor Speaker Cables, or Approved Equal
- B. All necessary wiring and patch cords

METHODS OF CONSTRUCTION

Installation and assembly shall be according to manufacturer's specifications, the plans and as directed by the Engineer.

QUANTITY AND PAYMENT

Quantity and Payment for Outdoor, Weatherproof Public Address System will be made in accordance with the Contract Documents at the lump sum price bid for the item **OUTDOOR, WEATHERPROOF PUBLIC ADDRESS SYSTEM** in the Proposal, which shall cover the cost of all necessary components, installation, wiring, and all labor, tools equipment and materials necessary therefore and incidental hereto or as directed by the Engineer.

--END OF SECTION--

FOOTBALL GOAL

SECTION 11 6600

PART 1 - GENERAL

1.01 RELATED WORK

- A. Review Contract Documents for requirements that affect work of this section. Specification sections that directly relate to work of this section include, but are not limited to:

Section 11 6601 – Athletic Equipment - Goal Post Pads

1.02 SUBMITTALS

- A. Product Data: Submit manufacturer's product literature, technical specifications, and other data required to demonstrate compliance with specified requirements for all athletic equipment.

1.03 QUALITY ASSURANCE

- A. Fabrication and installation of site improvements by experienced craftsmen with excellent record of performance on completed projects of comparable size, scope, and quality.
- B. All materials, hardware and furnishings shall be new, first quality

1.04 FIELD MEASUREMENTS

- A. Contractor shall verify position and layout of all athletic field equipment. Verify dimensions by field measurements.

1.05 SYSTEM DESCRIPTION

- A. Football goals manufactured of All Aluminum with an 8' minimum offset, and 20' minimum length uprights. Assembly number SEF305.

PART 2 - PRODUCTS

2.01 FOOTBALL GOAL POST

- A. Base: Model #SEF305 as manufactured by:

SportsEdge®
P.O. Box 837, 259 Murdock Rd.
Troutman, NC 28166
PH: 800-334-6057

info@sportsedge.com
www.sportsedge.com

Or Equal;

B. COMPONENTS

SUMMARY: Football goals shall be manufactured of all aluminum with an 8' (96") offset, and must meet the following criteria as a minimum.

1. Gooseneck support: fabricated of .25" thickness 6" SCH40 aluminum pipe, 6.625" OD minimum, 8' offset.
2. Crossbar: fabricated of .25" thickness 6" SCH40 aluminum pipe, (6.625 in) OD minimum.
 - a. Length: High School: 23'-4" between uprights.
3. Uprights: fabricated of aluminum tube, 4.0" OD minimum, Length: 20'-0"
4. Installation package consisting of the following components:
 - a. Ground Sleeve: Part # SEF30005, 8" SCH40 steel pipe, 5' long, 10"x10"x0.125" Steel Plate.
 - b. Access frame: fabricated of aluminum. Include cut-outs: fabricated of pressure treated plywood and artificial turf for grass field. Synthetic turf fields to have plywood cutouts wrapped on the job to match carpet.
5. Accessories:
 - a. 4 ea. - Directional wind flags.
 - b. Assembly bolts, nuts and spring (set) pins.

PART 3 - EXECUTION

3.01 INSTALLATION OF EQUIPMENT

- A. All athletic equipment shall be installed as recommended by manufacturer, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

- A. Quantity and Payment for Football Goal will be made in accordance with the Contract Documents at the per unit price bid for the item **FOOTBALL GOALS, COMPLETE W/ TURF COVER AND PADS** in the Proposal, which shall cover the cost of excavation, backfill, foundations, sleeves, caps, concrete, appurtenances, and all labor, equipment, and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

ATHLETIC EQUIPMENT – GOAL POST PADS

SECTION 11 6601

PART 1 - GENERAL

1.01 RELATED WORK

- B. Review Contract Documents for requirements that affect work of this section. Specification sections that directly relate to work of this section include, but are not limited to:

Section 11 6600 – Football Goal

1.02 SUBMITTALS

- A. Product Data: Submit manufacturer’s product literature, technical specifications, and other data required to demonstrate compliance with specified requirements for all athletic equipment.

1.03 QUALITY ASSURANCE

- A. Fabrication and installation of site improvements by experienced craftsmen with excellent record of performance on completed projects of comparable size, scope, and quality.
- B. All materials, hardware and furnishings shall be new, first quality.

1.04 FIELD MEASUREMENTS

- A. Contractor shall verify position and layout of all athletic field equipment. Verify dimensions by field measurements.

1.05 DESCRIPTION

- A. Goal post pads, 6.0’ height, Velcro closure.

PART 2 - PRODUCTS

2.01 GOAL POST PADS

- A. Base: Shall be Model #SEF302 by:

SportsEdge®
P.O. Box 837, 259 Murdock Road
Troutman, NC 28166
PH: 800-334-6057
info@sportsedge.com

www.sportsedge.com

or Equal;

B. COMPONENTS

1. 18” thickness split cylindrical urethane foam core
2. Vinyl laminated polyester fabric, 18 oz. / square yard minimum weight.
3. Height of six feet (6.0’) 72”.
4. Full length Velcro closure strip.

C. ACCESSORIES:

1. Custom colors, logo, and lettering are optional.

PART 3 - EXECUTION

3.01 INSTALLATION OF EQUIPMENT

- A. All athletic equipment shall be installed as recommended with manufacturer's written directions, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

- A. Athletic Equipment – Goal Post Pads will not be measured as a separate item. Quantity and Payment for this item, and all costs related thereto, shall be included in the lump sum price bid for the item **FOOTBALL GOALS, COMPLETE W/ TURF COVER AND PADS** in the Proposal.

-- END OF SECTION --

SOCCER GOAL

SECTION 02820

PART 1 - GENERAL

1.06 RELATED WORK

A. Review Contract Documents for requirements that affect work of this section. Other specification sections that directly relate to the work of this section include, but are not limited to:

1. Section 02825 – 6B504 Official Corner Flag

1.07 SUBMITTALS

A. Product Data: Submit manufacturer's product literature, technical specifications, and other data required to demonstrate compliance with specified requirements for all athletic equipment.

1.08 QUALITY ASSURANCE

A. Fabrication and installation of site improvements by experienced craftsmen with excellent record of performance on completed projects of comparable size, scope, and quality.

B. All materials, hardware and furnishings shall be new, first quality.

1.09 FIELD MEASUREMENTS

A. Contractor shall verify position and layout of all athletic field equipment. Verify dimensions by field measurements.

1.10 SYSTEM DESCRIPTION

A. Soccer Goals, all aluminum construction, meeting NCAA and NFSHSA specifications.

PART 2 - PRODUCTS

2.01 SOCCER GOALS

A. BASE: Shall be Model #SE700 as supplied by:

SportsEdge
P.O. Box 837
Troutman, NC 28166
P: 800-334-6057

info@sportsedge.com
www.sportsedge.com

Or Equal;

B. COMPONENTS

SUMMARY: Model #SE700R Soccer Goals meeting NCAA and NFHS specifications; shall be all aluminum construction with White powder coated finish and must meet the following criteria as a minimum standard:

1. Frame: 8'H x 24'W x 4'B x 10'D.
 - a. SPECIFIER SELECT:
 - i. 4" Round aluminum tubing #SE700R
 - b. White powder coated finish
2. Backstays:
 - a. 2" O.D. Aluminum Backstays, 0.125" Wall thickness
 - b. White powder coated finish
3. Ground Bar:
 - a. 2" O.D. Aluminum, 0.125" Wall thickness
 - b. White powder coated finish
 - c. Must be adjustable & moveable
4. Net Attachments:
 - a. Crossbar & Uprights: Twist in nylon net clips
 - b. Backstays & Ground bar" Hoop & Loop strap
5. Nets: #SE755 3mm HTTP Nets, 4.0" square mesh.
6. Ground Anchors:
 - a. Natural Grass Field Applications: #SE752 16" Steel Spiral Anchor w/ Lanyards & quick clip attachment (Set of 4)
 - b. Synthetic Turf Field Applications: #SE753 (Set of 4) Heavy Duty Nylon Sand Bags (Holds 40 lbs.)
7. Wheel Kit: #SE751 rear mounted backstay wheel attachment (set of 4), 10" flat free polyurethane Marathon® tire with nylon bearing.

PART 3 - EXECUTION

3.01 INSTALLATION OF EQUIPMENT

- A. All athletic equipment shall be installed as recommended by manufacturer, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

- A. Quantity and Payment will be made for Soccer Goal in accordance with the Contract Documents at the per unit price for the item **PORTABLE SOCCER GOALS, COMPLETE W/ NETTING** in the Proposal, which shall cover the cost of wheel kits, corner flags, anchors, and all labor, tools, equipment, and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

6B504 Official Corner Flag

SECTION 02825

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Provide all equipment and materials, and do all work necessary to furnish and install the athletic equipment, as indicated on the drawings and as specified herein. Athletic equipment shall include, but not be limited to:
 - 1. 6B504 Official Corner Flag

1.2 RELATED WORK

- B. Examine contract documents for requirements that affect work of this section.
- C. Other specification sections that directly relate to the work of this section include, but are not limited to:
 - 2. Section 02820 – Soccer Goal

1.3 REFERENCES

- A. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive shall govern.
 - 1. National Federation of State High School Associations (NFSHSA)

1.4 SUBMITTALS

- A. Manufacturer's Product Data
 - 1. Provide manufacturer's product literature, technical specifications and other data prior to actual field installation work for architect or owner's representative review.
- B. Shop Drawings
 - 1. Provide drawings of manufacturer's recommended installation and foundation requirements prior to actual field installation work for architect or owner's representative review.

1.5 QUALITY ASSURANCE

- A. Manufacturer's warranties shall pass to the owner and certification made that the product materials meet all applicable grade trademarks or conform to industry standards and inspection requirements.

1.6

PRODUCT DELIVERY, STORAGE AND HANDLING

- B. Material delivered to the site shall be examined immediately for concealed damage or defects and noted on the carriers deliver receipt. If any damage is discovered after the initial delivery, you have 15 calendar days to notify Kwik Goal, Ltd. If the damage is reported within 15 days, Kwik Goal, Ltd. Will replace any damaged parts at no charge. If damage is discovered after 15 calendar days, the parts will need to be purchased in full from Kwik Goal, Ltd.
- C. Replacements, if necessary, shall be immediately re-ordered, so as to minimize any conflict with the construction schedule.
- D. Sound materials shall be stored above the ground under protective cover or indoors so as to provide proper protection.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers and product selections named are provided to establish the minimum standard.
- B. BASE: 6B504 Official Corner Flag as manufactured by:

Kwik Goal Ltd.
140 Pacific Drive
Quakertown, PA 18951
P: 800-531-4252
F: 800-778-8869
www.kwikgoalspecs.com

Or Equal;

C. COMPONENTS:

- 1. 6B504 Official Corner Flag
 - i. 6B504 – pole fabricated of PVC, 1.05” outside diameter, having the following attributes:
 - a. Length: 60.00”

- b. Round
 - c. 0.060" wall
 - d. White

- ii. 6B504 – flag fabricated of nylon, having the following attributes:
 - a. Height: 12.25"
 - b. Width: 19.5625"
 - c. 1.3125" pocket open at bottom end only
 - d. Red with white trim

- iii. 6B504 – ground peg, having the following attributes:
 - a. Base
 - 1) Steel
 - 2) 3.00" diameter
 - 3) 0.109" wall steel
 - 4) MIG weld to cup and peg
 - b. Cup
 - 1) Steel
 - 2) Height: 1.50"
 - 3) 1.06" inside diameter
 - 4) Riveted to PVC
 - c. Peg
 - 1) Steel
 - 2) Height: 5.75"
 - 3) 0.375" outside diameter

PART 3 - EXECUTION

3.1 INSTALLATION OF ATHLETIC FIELD EQUIPMENT

- A. All athletic field equipment shall be installed as recommended with manufacturer's written directions, included with product or found at www.kwikgoalspecs.com, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

- A. 6B504 Official Corner Flag will not be measured as a separate item. Quantity and Payment for this item, and all costs related thereto, shall be included in the bid item **PORTABLE SOCCER GOALS, COMPLETE W/ NETTING** in the Proposal.

-- END OF SECTION --

LACROSSE GOAL

PART 1 - GENERAL

1.5 WORK INCLUDED

- B. Provide all equipment and materials, and do all work necessary to furnish and install the athletic equipment, as indicated on the drawings and as specified herein.

1.6 RELATED WORK

- A. Examine contract documents for requirements that affect work of this section.

1.7 REFERENCES

- A. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive shall govern.
 - 2. National Collegiate Athletic Association (NCAA)
 - 3. National Federation of State High School Associations (NFSHSA)
 - 4. International Amateur Athletic Foundation (IAAF)

1.8 SUBMITTALS

C. Manufacturer's Product Data

- 2. Provide manufacturer's product literature, technical specifications and other data prior to actual field installation work for architect or owner's representative review.

D. Shop Drawings

- 1. Provide drawings of manufacturer's recommended installation and foundation requirements prior to actual field installation work for architect or owner's representative review.

2.5 QUALITY ASSURANCE

- A. Manufacturer's warranties shall pass to the owner and certification made that the product materials meet all applicable grade trademarks or conform to industry standards and inspection requirements.

2.6

PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Material delivered to the site shall be examined immediately for concealed damage or defects and noted on the carriers deliver receipt. If any damage is discovered after the initial delivery, you have 15 calendar days to notify Kwik Goal, Ltd. If the damage is reported within 15 days, Kwik Goal, Ltd. Will replace any damaged parts at no charge. If damage is discovered after 15 calendar days, the parts will need to be purchased in full from Kwik Goal, Ltd.
- B. Replacements, if necessary, shall be immediately re-ordered, so as to minimize any conflict with the construction schedule.
- C. Sound materials shall be stored above the ground under protective cover or indoors so as to provide proper protection.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- D. Manufacturers and product selections named are provided to establish the minimum standard.
- E. BASE: 2E201 Official Lacrosse Goal as manufactured by:

Kwik Goal Ltd.
140 Pacific Drive
Quakertown, PA 18951
P: 800-531-4252
F: 800-778-8869
www.kwikgoalspecs.com

Or Equal;

F. COMPONENTS:

- 1. 2E201 Official Lacrosse Goal
 - iv. 2E201 – crossbar and front posts fabricated of Schedule 10 Steel pipe, 1.90” outside diameter, having the following attributes:
 - a. Height: 72.40”
 - b. Width: 75.80”

- c. Net rail MIG welded
 - d. Round
 - e. 0.109" wall steel
 - f. DuPont powder coated orange
- v. 2E201 – base fabricated of HR Steel, 0.5" x 3" x 91", having the following attributes:
 - a. Length: 91.00"
 - b. Width: 3.00"
 - c. Thickness: 0.5"
 - d. Flat
 - e. DuPont powder coated orange
- vi. 2E201 – connector plate fabricated of 6005 T5 extruded aluminum tube, 0.25" x 4.00".
- vii. Accessories:
 - a. White HTPP Soccer Net
 - 1) 3mm rope thickness
 - 2) 1.5" mesh
 - b. Hardware
 - 1) Zinc Plated Steel

PART 3 - EXECUTION

3.1 INSTALLATION OF ATHLETIC FIELD EQUIPMENT

- A. All athletic field equipment shall be installed as recommended with manufacturer's written directions, included with product or found at www.kwikgoalspecs.com, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

- B. Quantity and Payment will be made for Lacrosse Goal in accordance with the Contract Documents at the per unit price bid for the item **PORTABLE LACROSSE GOALS, COMPLETE W/ NETTING** in the Proposal, which shall cover the cost of sleeves, appurtenances, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

POLE VAULT BOX AND LID

SECTION 02891

PART 1 - GENERAL

1.01 SUMMARY

- A. This section may include, but is not limited to the following track & field equipment:
 - 1. Pole Vault Box and Lid with Concrete Pad.
- B. Related Sections: Review Contract Documents for requirements that affect work of this section. Specification that directly relate to work of this section include, but are not limited to:

Section 02880 – Beynon BSS-1000 10mm Encapsulated Synthetic Track Surfacing System

1.02 SUBMITTALS

- A. Product Data: Submit manufacturer's product literature, technical specifications, and other data required to demonstrate compliance with specified requirements for all athletic equipment.

1.03 QUALITY ASSURANCE

- A. Fabrication and installation of site improvements by experienced craftsmen with excellent record of performance on completed projects of comparable size, scope, and quality.
- B. All materials, hardware and furnishings shall be new, first quality.

1.04 FIELD MEASUREMENTS

- A. Contractor shall verify position and layout of track and field equipment. Verify dimensions by field measurements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers and product selections named are provided to establish the minimum standard and shall comply with NFHS requirements.

Equipment shall be as supplied by:
SportsEdge, P.O. Box 837, 259 Murdock Rd. Troutman, NC 28166
Telephone: 800-334-6057, Fax: 704-528-0179, Email: info@sportsedge.com

Or Equal;

2.02 TRACK AND FIELD EQUIPMENT

A. General: Provide equipment complying with NFHS requirements.

B. Pole Vault Box with Cover, **or equal**:

1. Vault Box Model SE502, fabricated from 6061 structural aluminum tempered to a T6 condition, (1/8") .125" thick, folded to eliminate sharp edges. The box backstop is formed from (1/4") .25" Aluminum plate welded to the sides and bottom with one continuous weld along the outside edge. Outer side wings to anchor into the encasement concrete.
2. Vault Box Lid Model SE50201, manufactured from (1/4") .25" thick 6061-T6 aluminum plate, with two welded angle vertical supports to stiffen and support the lid the box.

PART 3 - EXECUTION

3.01 INSTALLATION

A. All athletic equipment shall be installed as recommended by manufacturer's written directions, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

A. Quantity and Payment for Pole Vault Box & Lid will be made in accordance with the Contract Documents at the lump sum price bid for the item **POLE VAULT BOX, LID & CONCRETE PAD** in the Proposal, which shall cover the cost of excavation, backfill, grading, concrete, reinforcement, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

LONG JUMP / TRIPLE JUMP SAND PIT WITH SAND CATCHERS

SECTION 02881

PART 1 - GENERAL

1.01 SUMMARY

- A. This section may include, but is not limited to the following track & field equipment:
 - 1. Long/ Triple Jump Sand Pit Forms System with Side Sand Catchers and Pit Cover Set
- B. Related Sections: Review Contract Documents for requirements that affect work of this section. Specification sections that directly relate to work of this section include, but are not limited to:

- Section 02880 – Beynon BSS-1000 10mm Encapsulated Synthetic Track Surfacing System
 - Section 02882 – Long Jump Pit cover
 - Section 02883 – Take Off Board System
 - Section 02995 – Track Equipment (items 7 & 8 under Part 1, 1.01, A)

1.02 SUBMITTALS

- A. Product Data: Submit manufacturer’s product literature, technical specifications, and other data required to demonstrate compliance with specified requirements for all athletic equipment.

1.03 QUALITY ASSURANCE

- A. Fabrication and installation of site improvements by experienced craftsmen with excellent record of performance on completed projects of comparable size, scope, and quality.
- B. All materials, hardware and furnishings shall be new, first quality.

1.04 FIELD MEASUREMENTS

- A. Contractor shall verify position and layout of track and field equipment. Verify dimensions by field measurements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers and product selections named are provided to establish the minimum standard and shall comply with NFHS requirements. Equipment shall be as supplied by:

SportsEdge®
P.O. Box 837, 259 Murdock Rd.
Troutman, NC 28166
P: 800-334-6057
www.sportsedge.com
info@sportsedge.com

Or Equal;

- B. Substitutions: Substitutions will be considered in accordance with Section 01630 (01 2513).

2.02 TRACK AND FIELD EQUIPMENT

- A. Long / Triple Jump Pit Form: Model #SEF44124 - Sand Pit Form, **or equal:**
Constructed of aluminum in modular sections. The forms shall have a built in ledge to receive a sand pit cover system and a built in sand catcher. The sand catcher shall run the entire length of the sand pit form on the two sides as well as along the back of the pit. Inside dimensions of sand pit shall be 24' x 9'-8" minimum. Pit form system to include aluminum pit cover set.
1. Base form: Fabricated of 0.125in thick aluminum, having the following attributes:
 2. Cover ledge units: Aluminum.
 3. Sand catcher components:
 - a. Bar grating, galvanized steel, 1" x 18" x 36"
 - b. Mat support: perforated rubber overlay
 4. End plates: Aluminum end plates for all open end components.
 5. Pit Cover Set: Aluminum, 13mm (0.5in) recessed top surface.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. All athletic equipment shall be installed as recommended by manufacturer's written directions, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

- A. Quantity and Payment for Long Jump / Triple Jump Sand Pit with Sand Catchers will be made in accordance with the Contract Documents at the lump sum price bid for the item **LONG JUMP/TRIPLE JUMP, COMPLETE W/ SAND PIT, COVER, TAKEOFF BOARD & CONCRETE PAD** in the Proposal, which shall cover the

cost of excavation, backfill, grading, concrete, reinforcement, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

LONG JUMP PIT COVER

SECTION 02882

PART 1 - GENERAL

1.01 SUMMARY

- A. This section may include, but is not limited to the following track & field equipment:
 - 1. Long Jump Pit Covers
- B. Related Sections: Review Contract Documents for requirements that affect work of this section. Specification sections that directly relate to work of this section include, but are not limited to:

Section 02880 – Beynon BSS-1000 10mm Encapsulated Synthetic Track Surfacing System

Section 02881 – Long Jump / Triple Jump Sand Pit With Sand Catchers

Section 02883 – Take Off Board System

Section 02995 – Track Equipment (items 7 & 8 under Part 1, 1.01, A)

1.02 SUBMITTALS

- A. Product Data: Submit manufacturer's product literature, technical specifications, and other data required to demonstrate compliance with specified requirements for all athletic equipment.

1.03 QUALITY ASSURANCE

- A. Fabrication and installation of site improvements by experienced craftsmen with excellent record of performance on completed projects of comparable size, scope, and quality.
- B. All materials, hardware and furnishings shall be new, first quality.

1.04 FIELD MEASUREMENTS

- A. Contractor shall verify position and layout of track and field equipment. Verify dimensions by field measurements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers and product selections named are provided to establish the minimum standard and shall comply with the requirements in NFHS rule book.

Equipment shall be as supplied by:

SportsEdge, P.O. Box 837 259 Murdock Rd. Troutman, NC 28166
Telephone: 800-334-6057 Fax: 704-528-0179 Email: info@sportsedge.com

Or Equal;

2.02 TRACK AND FIELD EQUIPMENT

- A. General: Provide equipment complying with requirements in NFHS rule book.
- B. Pit Cover Set for Long / Triple Jump Sand Pit, **or equal**:
 - 1. Model # SE730148
 - a. Recessed top surface: 0.5" (13mm)
 - b. Retractable handles, (4) per cover.
 - c. Frame: 2.375" x 1.5" x 0.1875" aluminum angle.
 - d. Panel Width: 29.125" finish cover width as required.
 - e. Panel Length: 9' - 7.875" (115.875")

PART 3 - EXECUTION

3.01 INSTALLATION

- A. All athletic equipment shall be installed as recommended by manufacturer's written directions, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

- A. Long Jump Pit Cover will not be measured as a separate item. Quantity and Payment for this item, and all work related thereto, shall be included in the bid item **LONG JUMP/TRIPLE JUMP, COMPLETE W/ SAND PIT, COVER, TAKEOFF BOARD & CONCRETE PAD** in the Proposal.

-- END OF SECTION --

TAKE OFF BOARD SYSTEM

SECTION 02883

PART 1 - GENERAL

1.01 SUMMARY

- A. This section may include, but is not limited to the following track & field equipment:
 - 1. Take Off Board System; Long Jump / Triple Jump.
- B. Related Sections: Review Contract Documents for requirements that affect work of this section. Specification sections that directly relate to work of this section include, but are not limited to:

Section 02880 – Beynon BSS-1000 10mm Encapsulated Synthetic Track
Surfacing System

Section 02881 – Long Jump / Triple Jump Sand Pit With Sand Catchers & Pit
Cover

Section 02882 – Long Jump Pit cover

Section 02995 – Track Equipment (items 7 & 8 under Part 1, 1.01, A)

1.02 SUBMITTALS

- A. Product Data: Submit manufacturer's product literature, technical specifications, and other data required to demonstrate compliance with specified requirements for all athletic equipment.

1.03 QUALITY ASSURANCE

- A. Fabrication and installation of site improvements by experienced craftsmen with excellent record of performance on completed projects of comparable size, scope, and quality.
- B. All materials, hardware and furnishings shall be new, first quality.

1.04 FIELD MEASUREMENTS

- A. Contractor shall verify position and layout of track and field equipment. Verify dimensions by field measurements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers and product selections named are provided to establish the minimum standard and shall comply with NFHS requirements.

Equipment shall be as supplied by:
SportsEdge, P.O. Box 837, 259 Murdock Rd. Troutman, NC 28166
Telephone: 800-334-6057, Fax: 704-528-0179, Email: info@sportsedge.com

Or Approved Equal;

2.02 TRACK AND FIELD EQUIPMENT

- A. General: Provide equipment complying with NFHS and NCAA requirements.
- B. Long Jump Take-Off Boards, **or approved equal:**
 - 1. Model # SE441, Wood, Long Jump Take-Off Board consisting of a replaceable 48" long x 19 ½" wide x 2 ¼" thick wood board sealed and finished in white outdoor enamel and mounted to aluminum planking to resist warping or swelling from water.
 - 2. Model # SE442, Aluminum, Tray is fabricated from 3/16" thick 6061-T6 aluminum sheet and angle which is formed and securely welded together and protects take-off area and facilitates easy replacement of the takeoff board.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. All athletic equipment shall be installed as recommended by manufacturer's written directions, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

- A. Take Off Board System will not be measured as a separate item. Quantity and Payment for this item, and all work related thereto, shall be included in the bid item **LONG JUMP/TRIPLE JUMP, COMPLETE W/ SAND PIT, COVER, TAKEOFF BOARD & CONCRETE PAD** in the Proposal.

-- END OF SECTION --

STEEL DISCUS CIRCLE

SECTION 02910

PART 1 - GENERAL

1.01 SUMMARY

- A. This section may include, but is not limited to the following track & field equipment:
 - 1. Discus Circle, Steel.
- B. Related Sections: Review Contract Documents for requirements that affect work of this section. Specification sections that directly relate to work of this section include, but are not limited to:
 - Section 02920 – PVC Hammer Conversion Circle
 - Section 02930 – Aluminum Discus and Hammer Cage
 - Section 02995 – Track Equipment (items 4 & 5 under Part 1, 1.01, A)

1.02 SUBMITTALS

- A. Product Data: Submit manufacturer's product literature, technical specifications, and other data required to demonstrate compliance with specified requirements for all athletic equipment.

1.03 QUALITY ASSURANCE

- A. Fabrication and installation of site improvements by experienced craftsmen with excellent record of performance on completed projects of comparable size, scope, and quality.
- B. All materials, hardware and furnishings shall be new, first quality.

1.04 FIELD MEASUREMENTS

- A. Contractor shall verify position and layout of track and field equipment. Verify dimensions by field measurements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers and product selections named are provided to establish the minimum standard and shall comply with the requirements in NFHS rule book.
 - Equipment shall be as supplied by:
SportsEdge, P.O. Box 837 259 Murdock Rd. Troutman, NC 28166
Telephone: 800-334-6057 Fax: 704-528-0179 Email: info@sportsedge.com

Or Approved Equal;

2.02 TRACK AND FIELD EQUIPMENT

- A. General: Provide equipment complying with NFSHSA specifications for high schools.
- B. Discus Circle, **or approved equal**:
 - 1. Model # SE371, Discus Circle; surface mounted, consists of three flat segments that are installed end to end to form an 8' 2 7/16" circle. Each segment is roll bent out of 1/4" x 1 1/2" steel strip to a radius of 49 7/32".

2.03 CONCRETE PAD (REINFORCED)

- 5. Concrete Pad: Shall be 6-inch thick reinforced concrete (4,000 PSI). The Contractor shall place concrete pad as shown on the Contract Drawings. The concrete pad shall meet and match the grade and alignment of the surrounding synthetic turf area.
- 6. Reinforcement: Shall be 6x6 (#8/8 (W2.9/W2.9) wire mesh Reinforcement. Contractor shall position reinforcement at a clear distance of 2.5-inches from the surface (top) of the concrete pad. Contractor shall anchor materials to the concrete pad as per the manufacturer's anchoring requirements.
- 7. Base: Shall be 6-inch thick dense graded aggregate (DGA), which all methods of construction shall be in accordance with Division 300 – Subbase and Base Courses, of the 2007 New Jersey Department of Transportation Standard Specifications for Road and Bridge Construction, latest revised. Base material shall be compacted to 95% maximum density.
- 8. Subgrade: Shall be of suitable subgrade material compacted to 95% maximum density .

PART 3 - EXECUTION

3.01 INSTALLATION

- A. All athletic equipment shall be installed as recommended by manufacturer's written directions, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

- A. Quantity and Payment for item Steel Discus Circle will be made in accordance with the Contract Documents at the lump sum price bid for the item **DISCUS & HAMMER CIRCLES, COMPLETE W/ RING, ENCLOSURE & CONCRETE PAD** in the Proposal, which shall cover the cost of excavation, backfill, grading, concrete pad, permanent discus and hammer cage, netting and footings, striping, and all labor, tools, equipment, and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

PVC HAMMER CONVERSION CIRCLE

SECTION 02920

PART 1 - GENERAL

1.01 SUMMARY

- A. This section may include, but is not limited to the following track & field equipment:
 - 1. Hammer Conversion Circle, PVC.
- B. Related Sections: Review Contract Documents for requirements that affect work of this section. Specification sections that directly relate to work of this section include, but are not limited to:

Section 02910 – Steel Discus Circle

Section 02930 – Aluminum Discus and Hammer Cage

Section 02995 – Track Equipment (items 4 & 5 under Part 1, 1.01, A)

1.02 SUBMITTALS

- A. Product Data: Submit manufacturer's product literature, technical specifications, and other data required to demonstrate compliance with specified requirements for all athletic equipment.

1.03 QUALITY ASSURANCE

- A. Fabrication and installation of site improvements by experienced craftsmen with excellent record of performance on completed projects of comparable size, scope, and quality.
- B. All materials, hardware and furnishings shall be new, first quality.

1.04 FIELD MEASUREMENTS

- A. Contractor shall verify position and layout of track and field equipment. Verify dimensions by field measurements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers and product selections named are provided to establish the minimum standard and shall comply with the requirements of the NCAA and NFHS.

Equipment shall be as supplied by:

SportsEdge, P.O. Box 837 259 Murdock Rd. Troutman, NC 28166

Or Approved Equal;

2.02 TRACK AND FIELD EQUIPMENT

A. General: Provide equipment complying with IAAF, NCAA, NFHS requirements.

B. Hammer Conversion Circle, **or approved equal:**

1. Model # SE362; Unit: 4 interlocking sections. Pliable PVC, .75" x 14.375" converts discus ring into NCAA/IAAF compliant hammer ring.

PART 3 - EXECUTION

3.03 INSTALLATION

A. All athletic equipment shall be installed as recommended by manufacturer's written directions, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

A. Quantity and Payment for item PVC Hammer Conversion Circle will be made in accordance with the Contract Documents at the lump sum price bid for the item **DISCUS & HAMMER CIRCLES, COMPLETE W/ RING, ENCLOSURE & CONCRETE PAD** in the Proposal, which shall cover the cost of excavation, backfill, grading, concrete pad, permanent discus and hammer cage, netting and footings, striping, and all labor, tools, equipment, and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

ALUMINUM DISCUS AND HAMMER CAGE

SECTION 02930

PART 1 - GENERAL

1.01 SUMMARY

- A. This section may include, but is not limited to the following track & field equipment:
 - 1. Discus and Hammer Cage, Aluminum
- B. Related Sections: Review Contract Documents for requirements that affect work of this section. Specification sections that directly relate to work of this section include, but are not limited to:

Section 02910 – Steel Discus Circle

Section 02920 – PVC Hammer Conversion Circle

Section 02995 – Track Equipment (items 4 & 5 under Part 1, 1.01, A)

1.02 SUBMITTALS

- A. Product Data: Submit manufacturer's product literature, technical specifications, and other data required to demonstrate compliance with specified requirements for all athletic equipment.

1.03 QUALITY ASSURANCE

- A. Fabrication and installation of site improvements by experienced craftsmen with excellent record of performance on completed projects of comparable size, scope, and quality.
- B. All materials, hardware and furnishings shall be new, first quality.

1.04 FIELD MEASUREMENTS

- A. Contractor shall verify position and layout of track and field equipment. Verify dimensions by field measurements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers and product selections named are provided to establish the minimum standard and shall comply with the requirements in NFHS rule book.

Equipment shall be as supplied by:
SportsEdge®
259 Murdock Rd.

Troutman, NC 28166
Telephone: 800-334-6057
Fax: 704-528-0179
info@sportsedge.com
www.sportsedge.com

Or Approved Equal;

2.02 TRACK AND FIELD EQUIPMENT

A. General: Provide equipment complying with requirements in NFHS rule book.

B. Discus Cage, **or approved equal:**

1. Model # SE8020, High School, main upright poles (7) to be 3” round .25” thick wall 6061-T6 aluminum tube, #42 knotless treated nylon netting 180 lb test, vinyl coated net support cable running throughout the top to reduce sag. The main net is to be 180# test nylon and secured at ground level with stakes, include ground sleeves.

- a. Optional: #SE80202A, 8’-3” tall barrier net.

PART 3 - EXECUTION

3.01 INSTALLATION

A. All athletic equipment shall be installed as recommended by manufacturer's written directions, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

A. Quantity and Payment for item Aluminum Discus and Hammer Cage will be made in accordance with the Contract Documents at the lump sum price bid for the item **DISCUS & HAMMER CIRCLES, COMPLETE W/ RING, ENCLOSURE & CONCRETE PAD** in the Proposal, which shall cover the cost of excavation, backfill, grading, concrete pad, permanent discus and hammer cage, netting and footings, striping, and all labor, tools, equipment, and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

SHOT CIRCLE

SECTION 02950

PART 1 – GENERAL

1.01 SUMMARY

- A. This section may include, but is not limited to the following track & field equipment:
 - 1. Shot Circle, Steel, surface mounted
- B. Related Sections: Review Contract Documents for requirements that affect work of this section. Specification sections that directly relate to work of this section include, but are not limited to:

Section 02960 – Shot Circle Cage

Section 02970 – Shot Put Toeboard

Section 02995 – Track Equipment (items 1 - 3 under Part 1, 1.01, A)

1.02 SUBMITTALS

- A. Product Data: Submit manufacturer's product literature, technical specifications, and other data required to demonstrate compliance with specified requirements for all athletic equipment.

1.03 QUALITY ASSURANCE

- A. Fabrication and installation of site improvements by experienced craftsmen with excellent record of performance on completed projects of comparable size, scope, and quality.
- B. All materials, hardware and furnishings shall be new, first quality.

1.04 FIELD MEASUREMENTS

- A. Contractor shall verify position and layout of track and field equipment. Verify dimensions by field measurements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers and product selections named are provided to establish the minimum standard and shall comply with the requirements in NFHS rule book.

Equipment shall be as supplied by:

SportsEdge, P.O. Box 837 259 Murdock Rd. Troutman, NC 28166

Telephone: 800-334-6057 Fax: 704-528-0179 Email: info@sportsedge.com

Or Approved Equal;

2.02 TRACK AND FIELD EQUIPMENT

A. General: Provide equipment complying with requirements in NFHS rule book.

B. Shot Circle, **or approved equal:**

1. Model # SE373, powder coated steel shot circle consisting of two flat segments that are installed end to end to form a 7 ft. (84") circle. Each segment is roll bent out of 1/4" x 1 1/2" steel strip to a radius of 42". Circle to be bolted to the surface of a new or existing level pad. Mounting holes located at the ends and center of each segment for 1/4" anchors. Use with #SE364 cast aluminum shot toeboard for a level pad.

2.04 CONCRETE PAD (REINFORCED)

9. Concrete Pad: Shall be 6-inch thick reinforced concrete (4,000 PSI). The Contractor shall place concrete pad as shown on the Contract Drawings. The concrete pad shall meet and match the grade and alignment of the surrounding landscaped area.
10. Reinforcement: Shall be 6x6 (#8/8 (W2.9/W2.9) wire mesh Reinforcement. Contractor shall position reinforcement at a clear distance of 2.5-inches from the surface (top) of the concrete pad. Contractor shall anchor materials to the concrete pad as per the manufacturer's anchoring requirements.
11. Base: Shall be 6-inch thick dense graded aggregate (DGA), which all methods of construction shall be in accordance with Division 300 – Subbase and Base Courses, of the 2007 New Jersey Department of Transportation Standard Specifications for Road and Bridge Construction, latest revised. Base material shall be compacted to 95% maximum density.
12. Subgrade: Shall be of suitable subgrade material compacted to 95% maximum density .

PART 3 - EXECUTION

3.01 INSTALLATION

- A. All athletic equipment shall be installed as recommended by manufacturer's written directions, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

- A. Quantity and Payment for item Shot Circle will be made in accordance with the Contract Documents at the lump sum price bid for the item **SHOT CIRCLE, COMPLETE W/ RING, ENCLOSURE, TOEBOARD & CONCRETE PAD** in

the Proposal, which shall cover the cost of excavation, backfill, grading, concrete pad, reinforcement, permanent shot cage, netting and footings, striping, and all labor, tools, equipment, and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

SHOT CIRCLE CAGE

SECTION 02960

PART 1 - GENERAL

1.01 SUMMARY

A. This section may include, but is not limited to the following track & field equipment:
1. Shot Circle Cage

B. Related Sections: Review Contract Documents for requirements that affect work of this section. Specification sections that directly relate to work of this section include, but are not limited to:

Section 02950 – Shot Circle

Section 02970 – Shot Put Toeboard

Section 02995 – Track Equipment (items 1 - 3 under Part 1, 1.01, A)

1.02 SUBMITTALS

A. Product Data: Submit manufacturer's product literature, technical specifications, and other data required to demonstrate compliance with specified requirements for all athletic equipment.

1.03 QUALITY ASSURANCE

A. Fabrication and installation of site improvements by experienced craftsmen with excellent record of performance on completed projects of comparable size, scope, and quality.

B. All materials, hardware and furnishings shall be new, first quality.

1.04 FIELD MEASUREMENTS

A. Contractor shall verify position and layout of track and field equipment. Verify dimensions by field measurements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Manufacturers and product selections named are provided to establish the minimum standard and shall comply with the requirements in NFHS rule book. Shot cage shall be by as supplied by:

SportsEdge®
259 Murdock Rd.

Troutman, NC 28166
Telephone: 800-334-6057
Fax: 704-528-0179
info@sportsedge.com
www.sportsedge.com

Or Approved Equal;

2.02 TRACK AND FIELD EQUIPMENT

A. General: Provide equipment complying with requirements in NFHS rule book.

B. Shot Put Cage, **or approved equal:**

1. Model # SE805, High School, 4 main upright poles to be 2.5” Square 14ga. Steel powder coated White, 180 lb. test nylon weather treated netting, vinyl coated steel cable running throughout the top to reduce sag, net secured at ground level with (4) stakes, include 20” deep ground sleeves.

PART 3 - EXECUTION

3.01 INSTALLATION

A. All athletic equipment shall be installed as recommended by manufacturer's written directions, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

A. Quantity and Payment for item Shot Circle Cage will be made in accordance with the Contract Documents at the lump sum price bid or the item **SHOT CIRCLE, COMPLETE W/ RING, ENCLOSURE, TOEBOARD & CONCRETE PAD** in the Proposal, which shall cover the cost of excavation, backfill, grading, concrete pad, permanent shot cage, netting and footings, striping, and all labor, tools, equipment, and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

SHOT PUT TOEBOARD

SECTION 02970

PART 1 - GENERAL

1.01 SUMMARY

- A. This section may include, but is not limited to the following track & field equipment:
 - 1. Shot Put Toeboard; wood, level concrete pad
- B. Related Sections: Review Contract Documents for requirements that affect work of this section. Specification sections that directly relate to work of this section include, but are not limited to:

Section 02950 – Shot Circle

Section 02960 – Shot Circle Cage

Section 02995 – Track Equipment (items 1 - 3 under Part 1, 1.01, A)

1.02 SUBMITTALS

- A. Product Data: Submit manufacturer's product literature, technical specifications, and other data required to demonstrate compliance with specified requirements for all athletic equipment.

1.03 QUALITY ASSURANCE

- A. Fabrication and installation of site improvements by experienced craftsmen with excellent record of performance on completed projects of comparable size, scope, and quality.
- B. All materials, hardware and furnishings shall be new, first quality.

1.04 FIELD MEASUREMENTS

- A. Contractor shall verify position and layout of track and field equipment. Verify dimensions by field measurements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers and product selections named are provided to establish the minimum standard and shall meet all NFHS requirements for high school use.

Equipment shall be as supplied by:

SportsEdge, P.O. Box 837 259 Murdock Rd. Troutman, NC 28166

Or Approved Equal;

2.02 TRACK AND FIELD EQUIPMENT

- A. General: Provide equipment complying with requirements in NFHS rule book.
- B. Shot Put Toeboard, **or approved equal:**
 - 1. Model # SE360, Wood Toeboard, fabricated from select yellow pine and sealed with two coats of white enamel paint, designed to be used on a level throwing surface with Model #SE373 Powder Coated Steel Shot Circle

PART 3 - EXECUTION

3.01 INSTALLATION

- A. All athletic equipment shall be installed as recommended by manufacturer's written directions, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

- A. Quantity and Payment for item Shot Put Toeboard will be made in accordance with the Contract Documents at the lump sum price bid for the item **SHOT CIRCLE, COMPLETE W/ RING, ENCLOSURE, TOEBOARD & CONCRETE PAD** in the Proposal, which shall cover the cost of excavation, backfill, grading, concrete pad, permanent shot cage, netting and footings, striping, and all labor, tools, equipment, and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

TRACK EQUIPMENT

SECTION 02995

PART 1 - GENERAL

1.01 SUMMARY

A. This section may include, but is not limited to the following track & field equipment:

1. Shot Circle
2. Shot Circle Toe Board
3. Shot Circle Cage
4. Discus Circle / Hammer Circle
5. Discus and Hammer Circle Cage
6. Pole Vault Box / Cover
7. Long Jump Pits / Covers
8. Long Jump Take-Off Board & Tray
9. High Jump Pad
10. Pole Vault Pad
11. Lane Gates

B. Related Sections: Review Contract Documents for requirements that affect work of this section. Specification sections that directly relate to work of this section include, but are not limited to:

Section 02880 – Beynon BSS-1000 10mm Encapsulated Synthetic Track Surfacing System

Section 02881 – Long Jump / Triple Jump Sand Pit With Sand Catchers

Section 02882 – Long Jump Pit cover

Section 02883 – Take Off Board System

Section 02910 – Steel Discus Circle

Section 02920 – PVC Hammer Conversion Circle

Section 02930 – Aluminum Discus and Hammer Cage

Section 02950 – Shot Circle

Section 02960 – Shot Circle Cage

Section 02970 – Shot Put Toeboard

1.02 SUBMITTALS

A. Product Data: Submit manufacturer's product literature, technical specifications, and other data required to demonstrate compliance with specified requirements for all athletic equipment.

1.03 QUALITY ASSURANCE

- A. Fabrication and installation of site improvements by experienced craftsmen with excellent record of performance on completed projects of comparable size, scope, and quality.
- B. All materials, hardware and furnishings shall be new, first quality.

1.04 FIELD MEASUREMENTS

- A. Contractor shall verify position and layout of track and field equipment. Verify dimensions by field measurements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers and product selections named are provided to establish the minimum standard and shall comply with NFHS requirements.

Equipment shall be as supplied by:

SportsEdge®

P.O. Box 837, 259 Murdock Rd.

Troutman, NC 28166

PH: 800-334-6057

info@sportsedge.com

www.sportsedge.com

Or Approved Equal;

2.02 TRACK AND FIELD EQUIPMENT

- A. General: Provide equipment complying with requirements in NFHS rule book.
- B. Shot Circle, **or approved equal:**
 - 1. Model # SE373, Steel, Shot Circle consisting of two flat segments that are installed end to end to form a 7-ft dia. circle. Each segment is roll bent out of 1/4" x 1-1/2" steel strip to a radius of 42".
- C. Shot Circle Toe Board, **or approved equal:**
 - 1. Model # SE360, Wood, Shot Circle Toe Board level concrete pad throwing surface.
- D. Shot Circle Cage, **or approved equal:**
 - 1. Model # SE805, Steel, Shot Circle Cage consisting of four (4) painted steel net poles with ground sleeves, a vinyl coated net support cable to reduce net sag, and a 320 lb. test weather treated nylon net secured at the ground level with four (4) net stakes and net retainer ropes. Steel poles are 14 gauge, 2-1/2" square steel tube finished with white powder coat paint, which each pole stands in a 20" deep ground sleeve.

E. Discus Circle / Hammer Circle, **or approved equal:**

1. Model # SE371, Steel, Discus Circle consists of three flat segments that are installed end to end to form an 8' 2-7/16" circle. Each segment is roll bend out of 1/4" x 1-1/2" steel strip to a radius of 49-7/32".

Model # SE362, PVC, Hammer Circle shall be installed in an existing discus circle to convert it to the hammer throw. Consists of four (4) interlocking sections that form a solid, rattle free ring molded out of stiff but pliable PVC plastic.

F. Discus and Hammer Circle Cage, **or approved equal:**

1. Model # SE8020, Aluminum, Discus and Hammer Circle Cage consisting of seven (7) main upright poles to be 3" round .25" thick wall 6061-T6 aluminum tube, #42 knotless treated nylon netting 180 lb test, vinyl coated net support cable running throughout the top to reduce sag. The main net is to be 180# test nylon and secured at ground level with stakes, include ground sleeves.

G. Pole Vault Box with Cover, **or approved equal:**

3. Model # SE502, Aluminum, Pole Vault Box fabricated from 6061 structural aluminum tempered to a T6 condition, (1/8") .125" thick, folded to eliminate sharp edges. The box backstop is formed from (1/4") .25" Aluminum plate welded to the sides and bottom with one continuous weld along the outside edge. Outer side wings to anchor into the encasement concrete.
4. Model SE50201, Aluminum, Cover manufactured from (1/4") .25" thick 6061-T6 aluminum plate, with two welded angle vertical supports to stiffen and support the lid the box

H. Long Jump Pit Forming System and Cover Set, **or approved equal:**

1. Model # SEF44124, Aluminum, Long Jump Forming System constructed of aluminum in modular sections. The forms shall have a built in ledge to receive a sand pit cover system and a built in sand catcher. The sand catcher shall run the entire length of the sand pit form on the two sides as well as along the back of the pit. Inside dimensions of sand pit shall be 24' x 9'-8" minimum. Pit form system to include aluminum pit cover set.
2. Model # SE730148, Aluminum, Cover fabricated from 1/4" thick 6061-T6 aluminum. Two triangular plates are welded to the bottom for stiffening and support of cover. This cover fits recessed with top edge of the specified vault box.

I. Long Jump Take-Off Board & Tray, **or approved equal:**

1. Model # SE441, Wood, Long Jump Take-Off Board consisting of a replaceable 48" long x 19 1/2" wide x 2 1/4" thick wood board sealed and finished in white outdoor enamel and mounted to aluminum planking to resist warping or swelling from water.
2. Model # SE442, Aluminum, Tray is fabricated from 3/16" thick 6061-T6 aluminum sheet and angle which is formed and securely welded together and protects take-off area and facilitates easy replacement of the takeoff board.

J. High Jump Pad, **or approved equal:**

1. Model # SE640A, ESSENTIALS® with #SE640A02 Vinyl Weather Cover, meets high school specifications, to have the following attributes:
 - a. Skirted mesh top to hold the units together for a snug fit.
 - b. Royal Blue.
 - c. Specification Compliance: NFHS
 - d. Overall size: 16' x 8' x 24" (Overall size metric: 4.88m x 2.44m x .61m), Base Units (2): 8' x 8' x 24"

K. Pole Vault Pit Pad, **or approved equal:**

1. Model # SE653, ESSENTIALS® with #SE65302 Vinyl Weather Cover, #SE717 Planting Box Safety Collar and having the following attributes:
 - a. Skirted mesh top to hold the units together for a snug fit. Includes recommended preferred landing zone.
 - b. Royal Blue.
 - c. Specification Compliance: NFHS
 - d. Overall size: 19'9" x 20'2" x 26" (Overall size metric: 6.02m x 6.15m x .66m)
 - (1) Base Units: 6'7" x 12'9" x 26"
 - (2) Front Slant Units: 8'3" x 7'5" x 26"

L. Lane Gates, **or approved equal:**

1. Model # SE854, shall be aluminum, lift & rotate, locks in place, includes ground sleeves and quantity as per Contract Drawings.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. All athletic equipment shall be installed as recommended by manufacturer's written directions, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

- A. Track Equipment will not be measured as a separate item. Quantity and Payment for this item, and all costs related thereto, shall be included in the price bid for items **SYNTHETIC TRACK SYSTEM, COMPLETE W/ CONCRETE SUB-BASE FOR FIELD EVENTS & STRIPING, LONG JUMP/TRIPLE JUMP, COMPLETE W/ SAND PIT, COVER, TAKEOFF BOARD & CONCRETE PAD, DISCUS & HAMMER CIRCLES, COMPLETE W/ RING, ENCLOSURE & CONCRETE PAD, and SHOT CIRCLE, COMPLETE W/ RING, ENCLOSURE, TOEBOARD & CONCRETE PAD** in the Proposal or as directed by the Engineer..

-- END OF SECTION --

LANDSCAPING

DESCRIPTION

Landscaping shall consist of the furnishing and planting of all plants, as directed by the Municipality and all incidental work related thereto. It shall consist of the furnishing and planting of up to twelve (12) Acer Saccharum 'Fall Fiesta' Sugar Maple, 3-1/2" to 4" Caliper, as shade trees at the locations as directed by the County and/or Engineer. It shall also consist of the furnishing of one (1) 20-Gallon Tree Watering Bag per tree that require refilling once or twice a week; the bags shall be suitable for the specified tree.

The plants shall be guaranteed in accordance with the construction drawings.

MATERIALS

N. J. Department of Transportation Standard Specifications.

Tree watering bags shall be made from heavy-duty, green coated polypropylene that is UV stabilized to last after long hours in the sun.

METHODS OF CONSTRUCTION

N. J. Department of Transportation Standard Specifications.

QUANTITY AND PAYMENT

The quantity of Landscaping for which payment will be made will be all of the various kinds of plant materials listed and planted in accordance with the Plans and Specifications or as directed by the Engineer.

Payment for Landscaping will be made per unit of trees planted at the price bid for the item **SHADE TREE, 3-1/2" TO 4" CALIPER** in the Proposal, which price shall include the cost of furnishing the plants and protection thereof before planting, excavation of holes, planting, mixing and placing backfill material, fertilizing, pruning tops and roots, supporting trees, wrapping, wood chip mulch, furnishing and applying anti-desiccant or fungicide, repairing ground surface, disposal of excess excavated and waste materials, one (1) 20-Gallon Tree Watering Bags per tree, maintenance, replacements, and all else necessary therefore and incidental thereto.

TOPSOILING & HYDROSEEDING

DESCRIPTION

Topsoil obtained from stripping within limits of the project, or furnished from outside the project, shall contain no stones, lumps, roots, or similar objects larger than 2 inches in any dimension, and shall have a pH value of not less than 5.8. When the pH value of the topsoil is less than 5.8, it shall be increased by applying ground limestone at a rate necessary to attain a pH value of 6.5.

Material from the following sources shall not be considered suitable for use as topsoil.

- A. Soils having a pH value less than 4.1
- B. Chemically contaminated soils.
- C. 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.
- D. Wet excavation.
- E. Manufactured topsoil.

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 used for planting 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 has been established.

Provide topsoil and hydroseed as shown on the Contract Drawings and as directed by the Engineer.

MATERIALS

The materials to be used for topsoiling shall conform to the appropriate sections as follows:

FertilizerSec. 917.03 and further clarified

| | | | |
|-------------------------|--|-----------|-----|
| | within | “Planting | Bed |
| Preparation” | | | |
| Ground Limestone | Sec. 917.04 and further clarified | | |
| | within | “Planting | Bed |
| Preparation” | | | |
| Mulch, Straw | Sec. 917.06 | | |
| Topsoil | Sec. 917.01 and further clarified herein | | |
| Grass Seed Mixture..... | Hydroseed Lesco 3 Rye | | |

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. When required, ground limestone which has been protected from moisture and is dry and free flowing, shall be evenly spread over the area to be seeded at a rate that will produce a pH value of the soil of 6.5. The area shall then be raked, disked or otherwise worked to incorporate the limestone into the upper 3 to 4 inches of soil to remove stones, roots, debris and other unsuitable material and to form an even surface. Fertilizer shall be applied at the rate of 1200 pounds per acre. The soil shall be in a pliable condition at the time of seeding.

If the quantity of topsoil obtained from stripping, or from storage piles when prescribed, or both, is insufficient for the requirements of the project, the Contractor shall furnish the required additional topsoil from other sources.

The contractor shall hydro-seed 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 Neglia Engineering Associates for approval prior to the work. Hydroseeding shall be done within ten 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 1500 lbs. per acre.

ECT tackifier shall be applied at a rate of 5 lbs. per acre.

Hydroseed mix shall be Lesco 3 Rye.

QUANTITY AND PAYMENT

Quantity and Payment for Topsoiling & Hydroseeding will be made in accordance with the Contract Documents at the square yard price bid for the item **TOPSOIL AND HYDROSEED** in the Proposal, which shall cover the cost of planting, landscaping, trees, shrubs, excavating, backfilling, top-dressing, stabilization, seeding, spreading, watering, irrigating, fertilizer, raking, rolling, re-fertilizing, reseeding, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

PLANTING SOIL PREPARATION

DESCRIPTION

Work under this specification shall consist of furnishing the materials identified herein and mixing and installing the completed planting soil mix as specified within specification item Topsoiling and per recommendations of soil laboratory test reports for topsoil and planting soil mix.

DEFINITIONS

- A. Finished Grade: Elevation of finished surface of planting soil.
- B. Planting Soil: Native or imported topsoil, manufactured topsoil, or surface soil modified to become topsoil; mixed with soil amendments.
- C. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill immediately beneath planting soil.

SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Product Certificates: For soil amendments and fertilizers, signed by product manufacturer.
- C. Material Test Reports: For existing surface soil and imported topsoil.

QUALITY ASSURANCE

- A. Soil-Testing Laboratory Qualifications: An independent laboratory recognized by the NJ State Department of Agriculture or as approved by the Landscape Architect, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.
- B. Topsoil Analysis: Furnish soil analysis by a qualified soil-testing laboratory stating percentages of organic matter; gradation of sand, silt, and clay content; cation exchange capacity; deleterious material; pH; and mineral and plant-nutrient content of topsoil.
 - 1. Report suitability of topsoil for lawn and plant growth. State recommended quantities of nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory topsoil.

MATERIALS

Topsoil

A. Topsoil: Topsoil shall meet ASTM D 5268, pH range of 5.5 to 7.0, a minimum of 6 percent organic material content; free of stones 1 inch (25 mm) or larger in any dimension and other extraneous materials harmful to plant growth.

1. Topsoil Source:

- a. Reuse surface soil stockpiled on-site. Verify suitability of stockpiled surface soil to produce topsoil. Clean surface soil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth.
- b. Supplement with imported topsoil from off-site sources when quantities are insufficient. Obtain topsoil displaced from naturally well-drained construction or mining sites where topsoil occurs at least 4 inches (100 mm) deep; do not obtain from agricultural land, bogs or marshes.

Inorganic Soil Amendments

A. Lime: ASTM C 602, agricultural limestone containing a minimum 80 percent calcium carbonate equivalent and as follows:

1. Provide lime in form of dolomitic limestone.

B. Sulfur: Granular, biodegradable, containing a minimum of 90 percent sulfur, with a minimum 99 percent passing through No. 6 (3.35-mm) sieve and a maximum 10 percent passing through No. 40 (0.425-mm) sieve.

C. Iron Sulfate: Granulated ferrous sulfate containing a minimum of 20 percent iron and 10 percent sulfur.

D. Aluminum Sulfate: Commercial grade, unadulterated.

E. Agricultural Gypsum: Finely ground, containing a minimum of 90 percent calcium sulfate.

F. Sand: Clean, washed, natural or manufactured, free of toxic materials.

G. Water absorbing polymer, or approved equivalent.

Organic Soil Amendments

A. Transplant Inoculant (for all non-ericaceous trees and shrubs):

1. Mycorrhizal fungi transplant inoculate,
 - a. Form: pre-measured, 3 oz. Packets.

- b. Rate of Application: one (1) packet for each caliper-inch for trees, in accordance with manufacturer's recommendations for shrubs and planting beds.

B. Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8.0; moisture content 35 to 55 percent by weight; 100 percent passing through 1/2-inch (12.5-mm) sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:

1. Organic Matter Content: 50-60 percent of dry weight.
2. Feedstock: Agricultural, food, or industrial residuals; biosolids; yard trimmings; or source-separated or compostable mixed solid waste.

C. Wood Derivatives: Decomposed, nitrogen-treated sawdust, ground bark, or wood waste; of uniform texture, free of chips, stones, sticks, soil, or toxic materials.

1. In lieu of decomposed wood derivatives, mix partially decomposed wood derivatives with at least 0.15 lb. (2.4 kg) of ammonium nitrate or 0.25 lb. (4 kg) of ammonium sulfate per cubic foot (cubic meter) of loose sawdust or ground bark.

D. Manure: Well-rotted, unleached, stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, and material harmful to plant growth.

Planting Soil Mix

A. Planting Soil Mix:

1. Planting Soil Mix: Shrub and groundcover areas (Type 1) and tree planting (Type 2).
 - a. Two parts native soil to one part organic matter and one part topsoil. (2:1:1 ratio)
 - b. Mix in fertilizers in amounts recommended in soil reports from a qualified soil-testing agency.
 - c. Water absorbing polymer and transplant innoculants.

Fertilizer

A. Bonemeal: Commercial, raw or steamed, finely ground; a minimum of 1 percent nitrogen and 10 percent phosphoric acid.

B. Superphosphate: Commercial, phosphate mixture, soluble; a minimum of 20 percent available phosphoric acid.

C. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:

1. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing agency.
- D. Slow-Release Fertilizer: Granular or pelletized fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:
 1. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing agency.

METHODS OF CONSTRUCTION

Examination

- A. Ensure that grading and subbase will provide adequate subsurface drainage prior to placing planting soil mix.
- B. Installation constitutes the Contractor's acceptance of existing conditions. If existing conditions are found to be unsatisfactory, contact Landscape Architect for resolution prior to installation.

General Preparation

- A. Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by soil preparation operations.
- B. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

Planting Bed Establishment

- A. Loosen subgrade of planting beds to a minimum depth of 8 inches for perennial areas and 18 inches for shrub areas or as indicated on drawings. Remove stones larger than 1 inch (25 mm) in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
 1. Apply fertilizer directly to subgrade before loosening.
 2. Spread topsoil, apply soil amendments and fertilizer on surface, and thoroughly blend planting soil mix to the depth indicated on the plans.
 3. Delay mixing fertilizer with planting soil if planting will not proceed within a few days.
 4. Mix lime with dry soil before mixing fertilizer.
 5. Add water absorbing polymer to entire planting area for soil mix types 1, 2 & 3 and thoroughly mix into planting soil per manufacturer's written instructions, at the rate recommended by the manufacturer for this climatic zone and the soil types present on site.
 6. Add transplant inoculants to soil mix by either

- a. Mixing into entire planting area per manufacturer's written instructions, at the manufacturer's recommended rate for planting areas, or
 - b. Adding to each shrub, groundcover, and perennial planting pit per the manufacturer's written instructions, at the manufacturer's recommended rate for individual planting pits.
7. Add transplant inoculants to soil mix type 2 by adding to each tree planting pit per the manufacturer's written instructions, at the manufacturer's recommended rate for individual planting pits.
- B. Finish Grading: Grade planting beds to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.
- C. Restore planting beds if eroded or otherwise disturbed after finish grading and before planting.

Clean-up and Protection

- A. Promptly remove soil and debris created by soil preparation work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.

QUANTITY AND PAYMENT

- A. Planting Soil Preparation will not be measured as a separate item. Quantity and Payment for this item, and all costs related thereto, shall be included in the square yard price bid for the item TOPSOIL AND HYDROSEED in the Proposal.

-- END OF SECTION --

SEEDING

DESCRIPTION

Seeding shall include furnishing and placing of turf grass seed all newly graded areas on the Contract Drawings or as directed by the Engineer.

SUBMITTALS

Product Data: For each type of product indicated.

Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture stating the botanical and common name and percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.

Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of lawns during a calendar year. Submit before expiration of required maintenance periods.

MATERIALS

Seed

Deliver seed in original sealed, labeled, and undamaged containers. Seed shall be fresh, clean, dry, new-crop seed complying with AOSA's "Journal of Seed Technology; Rules for Testing Seeds" for purity and germination tolerances

Seed Species: Seed of grass species as follows, with not less than 95 percent germination, not less than 85 percent pure seed, and not more than 0.5 percent weed seed. Seed variety shall have endophytes.

Sun and Partial Shade: Proportioned by weight as follows:

- A. 80 percent Turf-type tall fescue (Three (3) varieties of Festuca sp. Such as Pennfine, Falcon, or Rebel).
- B. 10 percent Kentucky bluegrass (*Poa pratensis*).
- C. 10 percent perennial ryegrass (*Lolium perenne*).

Topsoil

Topsoil: Shall comply with the topsoil specified in item TOPSOILING

Inorganic Soil Amendments

Inorganic Soil Amendments: Shall comply with the inorganic soil amendments specified in item PLANTING SOIL PREPARATION

Organic Soil Amendments

Organic Soil Amendments: Shall comply with the organic soil amendments specified in item PLANTING SOIL PREPARATION

Fertilizer

Fertilizer: Shall comply with the fertilizer specified in item PLANTING SOIL PREPARATION.

Mulch

Straw Mulch: Provide air-dry, clean, mildew- and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.

Planting Soil Mix

Planting Soil Mix: Planting soil mix shall conform to item PLANTING SOIL PREPARATION.

CONSTRUCITON METHODS

Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with maintenance periods to provide required maintenance from date of Substantial Completion.

A. Spring Planting: March 15 – June 15

B. Fall Planting: August 15 to October 5

Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit.

Examine areas to receive lawns and grass for compliance with requirements and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by planting operations.

Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

Lawn Preparation

Limit lawn subgrade preparation to areas to be planted.

Newly Graded Subgrades: Loosen subgrade to a minimum depth of **6 inches (150 mm)** Remove stones larger than **1 inch (25 mm)** in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.

A. Apply fertilizer directly to subgrade before loosening.

B. Thoroughly blend planting soil mix off-site before spreading or spread topsoil, apply soil amendments and fertilizer on surface, and thoroughly blend planting soil mix. Delay mixing fertilizer with planting soil if planting will not proceed within a few days.

Mix lime with dry soil before mixing fertilizer.

Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus **1/2 inch (13 mm)** of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit fine grading to areas that can be planted in the immediate future.

Moisten prepared lawn areas before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

Restore areas if eroded or otherwise disturbed after finish grading and before planting.

Seeding

Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds **5 mph (8 km/h)**. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other. Do not use wet seed or seed that is moldy or otherwise damaged.

Sow seed at the rate recommended by the supplier.

Rake seed lightly into top **1/8 inch (3 mm)** of planting soil mix, roll lightly, and water with fine spray.

Protect seeded areas by spreading straw mulch. Spread uniformly at a minimum rate of **90 lbs. per 1000 square feet** to form a continuous blanket **3/8" depth** over seeded areas. Spread by hand, blower, or other suitable equipment. Anchor straw mulch by crimping into topsoil with suitable mechanical equipment.

Lawn Maintenance

Begin maintenance immediately after each area is planted and continue until acceptable lawn is established, but for not less than 60 days from date of Substantial Completion. When full maintenance period has not elapsed before end of planting season, or if lawn is not fully established, continue maintenance during next planting season.

Maintain and establish lawn by watering, fertilizing, weeding, mowing, trimming, replanting, and other operations. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth lawn. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch. Anchor as required to prevent displacement.

Watering: Schedule watering by hand to prevent wilting, puddling, erosion, and displacement of seed or mulch. Water lawn evenly at a minimum rate of **1 inch (25 mm)** per week.

Mow lawn as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than 40 percent of grass height. Remove no more than 40 percent of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain the following grass height: Mow grass **2 to 3 inches (50 to 75 mm)** high.

Lawn Postfertilization: Apply fertilizer after initial mowing and when grass is dry. Use fertilizer that will provide actual nitrogen of at least **1 lb/1000 sq. ft. (0.45 kg/92.9 sq. m)** to lawn area. Adjust if necessary depending upon amount of fertilizer applied at initial planting.

Satisfactory Lawns

Satisfactory Seeded Lawn: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 95 percent over any 10 sq. ft. (0.92 sq. m) and bare spots not exceeding 2 by 2 inches (25 by 25 mm)]. Reestablish lawns that do not comply with requirements and continue maintenance until lawns are satisfactory.

Cleanup and Protection

Promptly remove soil and debris created by lawn work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.

Erect barricades and warning signs as required to protect newly planted areas from traffic. Maintain barricades throughout maintenance period and remove after lawn is established.

Remove erosion-control measures after grass establishment period.

QUANTITY AND PAYMENT

Seeding will not be measured. Quantity and Payment for this item, and all work related thereto, shall be included in the square yard price bid for the item TOPSOIL AND HYDROSEED in the Proposal.

-- 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 signage, existing monuments, fences, hedges, re-grading, seeding, landscape areas, trees, drainage structures and castings, repair of driveways, (both bituminous and concrete) sidewalks, roadways, curbs, cleaning and removal of stockpiles and equipment, any underground electrical conduit servicing lighting and all else not specifically covered elsewhere in these specifications.

MATERIALS

2007 NJDOT Standard Specifications for Road and Bridge Construction, latest revised.

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 the holes filled to meet finished grade and match the existing/ proposed surface material(s). 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

Payment for Final Cleanup/Site Restoration will be made at the lump sum price bid for the item **FINAL CLEANUP/SITE RESTORATION** in the Proposal, which shall cover the cost of sweeping, washing, loading, hauling, removal, disposal, storage, landscaping, seeding, topsoiling, mulch, asphalt, concrete, striping, signage, structures, lighting and appurtenances, utilities and appurtenances, bleachers, drainage, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

PRE-ENGINEERED RESTROOM BUILDING

PART 1: GENERAL

1.1 SUMMARY

- A. The work shall include furnishing the sealed architectural, structural, mechanical, and electrical plan sets as well as the structural, mechanical, and electrical building components as a complete, pre-designed packaged restroom building as shown on drawings and as specified herein.

1.2 SCOPE

- A. Packaged restroom building and all associated design and engineering, with all listed components supplied by Romtec, Inc. or Approved Equal pre-engineered building manufacturer. The building shall be a single source design, engineering, and manufacturer who shall supply the packaged restroom building and meet all the following scope requirements.
- B. The contractor is responsible for building installation, which work will generally include: site preparation and grading, excavations for structures, backfill and/or structural backfill, foundation and pad construction, and building construction.
- C. The packaged restroom building should be the latest standard product from a manufacturer regularly engaged and having at least ten (10) years of experience in packaged restroom building engineering, design, supply, and construction.
- D. The Contractor is responsible to provide site specific drawing and calculations for the building and its concrete footings, foundation, and slab. They shall meet site specific conditions including wind and snow loading, local frost depth, and ground conditions.
- E. Footings are to be dug by the Contractor and poured on site to meet local code for permanent structures. A prefabricated, modular mat placed on compacted base is not an accepted equal to a site specific, site poured, engineered foundation.
- F. Building is to be designed and constructed on site to meet local codes and approvals for permanent structures. Any building that is temporary, permanently relocatable, prefabricated modular, an offsite constructed product, or pre-cast is not an accepted equal to permanent, on site, conventional construction.
- G. No outside entity approval will override the local building authority's codes and inspections. Seals meant for modular homes and production plant certifications will not be allowed in lieu of sealed plans from a licensed engineer and conventional inspection during construction.

- H. Building sidings, treatments, and roofing are to be as specified. Precast buildings with painted textures are not to be considered architecturally equivalent.
- I. Within three (3) weeks of contract award, the Contractor shall submit the packaged restroom building preliminary Scope of Supply and Design Submittal (SSDS), including the plan set drawings with all footings, foundations, slab, and structural details.
- J. The Contractor shall submit complete, code compliant building plans including plans, elevations, sections, and details, under seal of a National Kitchen and Bathroom Association (NKBA) certified technical designer.
- K. The Contractor shall submit complete structural calculations meeting code loads, design loads, and seismic design under seal of a professional Engineer with current license in the state of New Jersey.
- L. Once submittal approval is received, the Contractor is responsible to furnish adequate number of signed and sealed plans for obtaining the necessary building permits.
- M. The reviewing authority reserves the right to review or reject all submittals at their sole discretion.
- N. All work and materials shall comply with the latest industry building codes and regulations for the state of New Jersey.
- O. Americans with Disabilities Act Accessibility Guidelines (ADAAG) must be followed in design, manufacture, and construction.
- P. The Contractor is responsible to provide a final completed structure meeting the specification.

1.3 SUBMITTAL DOCUMENTATION

The following sections shall be included in the Scope of Supply and Design Submittal.

Incomplete submittals will be rejected and returned.

- A. INTRODUCTION
- B. BUILDING SUPPLIER PRODUCTS & SERVICES
- C. PRODUCTS & SERVICES NOT SUPPLIED BY BUILDING SUPPLIER
- D. WARRANTY & LIMITATIONS
- E. PROJECT DESIGN

1.4 WARRANTY

- A. The building and all its associated components shall be warranted against defects in materials and workmanship for a period of not less than one (1) year from date of final acceptance.

PART 2: PRODUCTS

2.1 MANUFACTURERS

- A. Romtec, Inc.,
18240 North Bank Rd. Roseburg, OR. 97470
Tel: 541-496-3541; Fax: 541-496-0803; Email: romtec1@romtec.com
Web: www.Romtec.com

Or Approved Equal

- B. Substitutions for an approved equal will be reviewed during the shop drawing review phase.

2.2 BUILDING DESCRIPTION

- A. Refer to plans for quantities, dimensions, locations, and installation methods for the materials and items described in this section.
- B. Building dimensions shall match what is indicated on drawings.

2.3 CAST IN-PLACE CONCRETE

- A. All equipment, labor, trades and materials shall be supplied by the Contractor.
 - 1. Includes all materials and labor for foundations/footings, interior slabs, exterior/entry slabs, and sidewalks.
- B. Engineered fill shall be ¾” clean stone around footings, foundations, and slabs as required.
- C. Slab vapor barrier shall be 6-mil continuous plastic under the concrete slab.
- D. The foundation shall be installed as designed with all cast in-place concrete poured to dimensions specified in final plans.
 - 1. Footings will be built to min. 36” depth with size and depth to be determined.
 - 2. Minimum compressive strength of 3000 psi at 28 days, 4+/-1” slump, with max ¾” aggregate, cured in accordance with ACI 308.
 - 3. Slabs shall have a fine broom finish with joints required in flat work as shown on plans.
 - 4. Steel rebar shall be installed as specified in final plans.
- E. Concrete slab sealer shall be a water-based transparent curing, sealing and dust proofing compound with two (2) coats to be applied per manufacturer’s instructions.
- F. Refer to drawings for sidewalks and entry slabs.
 - 1. Minimum concrete compressive strength of 2500 psi at 28 days.
 - 2. Remesh or rebar reinforcement shall be used in sidewalks.
 - 3. All sidewalks shall be finished with a fine broom with control joints installed per local code.

2.4 WALLS

A. Concrete Masonry Units (CMU).

1. Walls shall be constructed of 8"W x 16"L x 8"H smooth-face mortar joint concrete masonry units (concrete blocks).
2. Blocks shall be manufactured to ASTM C90 designation for load bearing concrete masonry units.

Note: Contractor may be required to notch CMU block for bond beams and/or cut blocks to make the required shapes.

3. Block color shall be Gray.

Note: Any change to block color will result in a price increase.

4. Interior wall finish shall be insulation covered with white FRP.

B. Masonry (concrete) grout.

1. Grout shall have a minimum compressive strength of 2500 psi at 28 days, 9+/-1" slump, with max 1/2" aggregate.
2. Fine or coarse grout may be used in accordance with 2009 UBC.
3. All CMU must be fully grouted and may not be wetted.

C. Rebar in walls.

1. All walls have # 4 and # 5 rebar, see plans for spacing.
2. All rebar used in building must meet ASTM A615 manufacturing standards and is to be placed per plans.

D. Hardi board and batten siding.

1. Siding shall be painted on site.

E. Stone veneer accent siding.

F. Door system components.

1. Door shall be Steelcraft® SZ-18 door with polystyrene core, 18-gauge galvanized A-60 steel, and primed finish.
2. Door frame shall be pre-welded Steelcraft® 3-Sided flush frame, 16-gauge galvanized A-60 steel, and primed finish.
3. Doors and frames shall be painted on-site.
4. Masonry door clips (3/16" dia.) for door frame shall be fitted between the doorframe and concrete blocks to bond frame to wall. Door clips allow full internal grouting of the frame during installation.

5. Door locks shall be SCLAGE AD-200 Standalone Electronic Lock with Multi-Technology smart card reader or approved equal. ADA compliant, cylinder deadbolt with stainless steel pull plate and handle.
 6. Hinges shall be ANSI A5112 with non-removable pin and two ball bearings.
 7. Door closer shall have double heat treated steel tempered springs, and a triple heat treated steel spindle.
 8. Doors shall have 18" x 18" door louvers.
- G. Roll-up doors.
1. 10'-0" x 6'-8" white roll-up utility door
 2. 6'-8" x 4'-0" aluminum roll-up concession window with stainless steel counter.

2.5 ROOFING

- A. Roof system shall be trusses.
 1. Insulation R-value should be per local code.
 2. Interior ceiling finish shall be sheet rock.
- B. Architectural Composition roofing shall have a 5-5/8 in. exposure and a nominal size of 13-1/4 in. x 39-3/8 in.
 1. Roofing color shall be selected by the owner and/or engineer. It is anticipated that it will be Estate Gray.
- C. Roof termination kit for exhaust fans
- D. Roof extension materials,
 1. Wood truss and columns
 2. Truss plates shall be powder coated black.
- E. Roof Gutters and Downspouts. Material shall match the color of the structure and all downspouts shall be piped underground and connected to the proposed drainage system.
- F. Sealant for all exposed wood shall be applied.

2.6 PLUMBING

- A. Plumbing rough-in, installation and trim.
 1. All underground water service and sewer drain(s) from building to be as specified in final site plan.
 2. All floor drains shall be as shown on final building plans.
 3. Building water shutoff valve, drain, and all rough piping shall be as shown on final building plans. Final location to be set onsite.

4. Minimum water pressure at toilet and urinal flush valves shall be 50 psi. with minimum pipe sizing as per 2009 Uniform Plumbing Code Section 610.
 5. Install the supplied fixtures and all other plumbing supplies as specified in final plans.
- B. Floor drain shall be installed.
 - C. Water line drain valve shall be installed as pursuant to code.
 - D. Sewer line backflow check valve shall be installed.
 - E. Concrete non-refrigerated drinking fountain.
 1. Wall mounted drinking fountain constructed of 18-gauge, type 304, stainless steel polished to a satin finish mounted in brown concrete aggregate with vandal resistant push-button, non-squirt bubbler, flow regulator that provides constant stream from 20 to 105 psi water pressure.

2.7 RESTROOM FIXTURES

- A. Toilets shall be floor mount and white vitreous china.
 1. Flush valve shall be a chrome manual lever with ADA compliant metal oscillating non-hold-open handle.
- B. Urinals shall be top supply, bottom discharge, and white vitreous china.
 1. Flush valve shall be a chrome manual lever with ADA compliant metal oscillating non-hold-open handle.
- C. Lavatory shall be 19 in. x 17 in. white vitreous china, wall hung with anti-splash rim and concealed front overflow.
 1. Faucet shall have a pivot action lever style handle, temperature control through 180 degree arc, and third party certification to meet ASME A112.18.1M.
- D. Grab bars shall be stainless steel.
- E. Toilet paper dispenser shall be white steel, wall mount with two roll capacity.
- F. Soap dispenser shall be 20-gauge stainless steel, with 40 oz. soap capacity, and soap valve that has chrome plated brass housing with ABS plastic mechanism.
- G. Paper towel dispenser shall include touchless, smooth, one at a time towel presentation with capacity of 400 multi-fold towels.
- H. Restroom partitions shall be solid phenolic core high pressure decorative laminate constructed of melamine face sheets bonded under heat and high pressure phenolic resin.
 1. Partition color shall be selected by the owner and/or engineer. It is anticipated that the color shall be Black.

2.8 CONCESSION ROOM FIXTURES

- A. Hand wash sink in concession.
 - 1. Lavatory shall be 20 in. x 18 in. white vitreous china, wall hung with anti-splash rim and concealed front overflow.
 - 2. Faucet shall be a water saving two handle laundry faucet and third party certification to meet ASME A112.18.1-2011.

2.9 ELECTRICAL

- A. Electrical rough-in, installation and trim.
 - 1. All underground and/or overhead service to building shall be as specified in the final site plan.
 - 2. Electric meter base and all rough wiring, switches, plugs and circuit breakers shall be as shown on final plans.
 - 3. The Contractor is responsible for all necessary wire, connectors, grounding, conduit etc. to install the components and meet national and local code. The installation of these components shall comply with all state and/or local codes.
- B. Light fixtures.
 - 1. Wall mounted fluorescent light fixtures shall have a durable polycarbonate housing and high-impact polycarbonate refractor.
 - 2. Ceiling mounted light fixtures shall be 48" fluorescent.
- C. Water heaters.
 - 1. Instant water heater for concession room sink
 - 2. 20 gallon water heater for restroom sinks
- D. Wall heaters.
 - 1. Surface mounted, 240V, 2250-4500 WATT
- E. Nu-Tone 210CFM exhaust fans shall be installed or approved equal.
- F. Main breaker panel.
 - 1. Breaker Panel shall be 200 Amp, single-phase.
Note: This panel has been sized to accept only the loads of the multipurpose building and pavilion electrical fixture package. The panel may be resized to accommodate the uses for other site amenities.

2.10 OTHER MATERIALS & EQUIPMENT

- 1. The Contractor is responsible to supply any and all necessary materials and equipment to provide a complete multipurpose building.

PART 3: EXECUTION

3.1 INSTALLATION

- A. All components to be installed according to the plan sets and/or manufacturer's instructions.

3.2 OPERATION & MAINTENANCE MANUALS

- A. Furnish the owner with one complete set of O&M Manuals.

PART 4: PAYMENT AND QUANTITY

Quantity and payment for a pre-engineered pavilion will be made in accordance with the Contract Documents at the Unit price bid for the Item **MULTIPURPOSE BUILDING, COMPLETE** in the proposal, which shall cover the cost of foundations, footings, slabs, roofing, finishes, utilities and connections, delivery, installation, design and drawings for permits, permit application preparation and submission, all appurtenances, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

--END OF SECTION--

PRE-ENGINEERED PAVILION

PART 1: GENERAL

1.5 SUMMARY

- A. The work shall include furnishing the sealed architectural, structural, mechanical, and electrical plan sets as well as the structural, mechanical, and electrical building components as a complete, pre-designed packaged pavilion as shown on drawings and as specified herein.

1.6 SCOPE

- A. Packaged pavilion and all associated design and engineering, with all listed components shall be supplied by Romtec, Inc. or Approved Equal pre-engineered pavilion manufacturer. The pavilion shall be a single source design, engineering, and manufacturer who shall supply the packaged pavilion and meet all the following scope requirements.
- B. The contractor is responsible for building installation, which work will generally include: site preparation and grading, excavations for structures, backfill and/or structural backfill, foundation and pad construction, and building construction.
- C. The packaged pavilion should be the latest standard product from a manufacturer regularly engaged and having at least ten (10) years of experience in packaged pavilion engineering, design, supply, and construction.
- D. The Contractor is responsible to provide site specific drawing and calculations for the building and its concrete footings, foundation, and slab. They shall meet site specific conditions including wind and snow loading, local frost depth, and ground conditions.
- E. Footings are to be dug by the Contractor and poured on site to meet local code for permanent structures. A prefabricated, modular mat placed on compacted base is not an accepted equal to a site specific, site poured, engineered foundation.
- F. Building is to be designed and constructed on site to meet local codes and approvals for permanent structures. Any building that is temporary, permanently relocatable, prefabricated modular, an offsite constructed product, or pre-cast is not an accepted equal to permanent, on site, conventional construction.
- G. No outside entity approval will override the local building authority's codes and inspections. Seals meant for modular homes and production plant certifications will not be allowed in lieu of sealed plans from a licensed engineer and conventional inspection during construction.
- H. Building sidings, treatments, and roofing are to be as specified. Precast buildings with painted textures are not to be considered architecturally equivalent.

- I. Within three (3) weeks of contract award, the Contractor shall submit the packaged pavilion preliminary Scope of Supply and Design Submittal (SSDS), including the plan set drawings with all footings, foundations, slab, and structural details to the Engineer for review.
- J. The Contractor shall submit complete, code compliant building plans including plans, elevations, sections, and details, under seal of a National Kitchen and Bathroom Association (NKBA) certified technical designer.
- K. The Contractor shall submit complete structural calculations meeting code loads, design loads, and seismic design under seal of a professional Engineer with current license in the state of New Jersey.
- L. Once submittal approval is received, the Contractor is responsible to furnish adequate number of signed and sealed plans for obtaining the necessary building permits.
- M. The reviewing authority reserves the right to review or reject all submittals at their sole discretion.
- N. All work and materials shall comply with the latest industry building codes and regulations for the state of New Jersey.
- O. Americans with Disabilities Act Accessibility Guidelines (ADAAG) must be followed in design, manufacture, and construction.
- P. The Contractor is responsible to provide a final completed structure meeting the specification.

1.7 SUBMITTAL DOCUMENTATION

The following sections shall be included in the Scope of Supply and Design Submittal. Incomplete submittals will be rejected and returned.

- A. INTRODUCTION
- B. BUILDING SUPPLIER PRODUCTS & SERVICES
- C. PRODUCTS & SERVICES NOT SUPPLIED BY BUILDING SUPPLIER
- D. WARRANTY & LIMITATIONS
- E. PROJECT DESIGN

1.8 WARRANTY

- A. The building and all its associated components shall be warranted against defects in materials and workmanship for a period of not less than one (1) year from date of final acceptance.

PART 2: PRODUCTS

2.11 MANUFACTURERS

- A. Romtec, Inc.,
18240 North Bank Rd. Roseburg, OR. 97470
Tel: 541-496-3541; Fax: 541-496-0803; Email: romtec1@romtec.com
Web: www.Romtec.com
Or Approved Equal
- B. Substitutions for an approved equal will be reviewed during the shop drawing review phase.

2.12 BUILDING DESCRIPTION

- A. Refer to plans for quantities, dimensions, locations, and installation methods for the materials and items described in this section.
- B. Building dimensions shall match what is indicated on drawings.

2.13 CAST IN-PLACE CONCRETE

- A. All equipment, labor, trades and materials shall be supplied by the Contractor.
 - 1. Includes all materials and labor for foundations/footings, interior slabs, exterior/entry slabs, and sidewalks.
- B. Engineered fill shall be ¾" clean stone around footings, foundations, and slabs as required.
- C. Slab vapor barrier shall be 6-mil continuous plastic under the concrete slab.
- D. The foundation shall be installed as designed with all cast in-place concrete poured to dimensions specified in final plans.
 - 1. Footing size and depth is to be determined.**
 - 2. Minimum compressive strength of 3000 psi at 28 days, 4+/-1" slump, with max ¾" aggregate, cured in accordance with ACI 308.
 - 3. Slabs shall have a fine broom finish with joints required in flat work as shown on plans.
 - 4. Steel rebar shall be installed as specified in final plans.
- E. Concrete slab sealer shall be a water-based transparent curing, sealing and dust proofing compound with two (2) coats to be applied per manufacturer's instructions.
- F. Refer to drawings for sidewalks and entry slabs.
 - 1. Minimum concrete compressive strength of 2500 psi at 28 days.
 - 2. Remesh or rebar reinforcement shall be used in sidewalks.
 - 3. All sidewalks shall be finished with a fine broom with control joints installed per local code.

2.14 STRUCTURE

- A. Wood trusses, columns and knee braces with full sawn members shall be supplied.
 - 1. Truss plates shall be powder coated black.
 - 2. All exposed wood members shall receive a sealant as approved by manufacturer.
- B. Concrete Masonry Units (CMU) for the column bases shall be supplied.
 - 1. Bases shall be constructed of 8"W x 16"L x 8"H smooth-face mortar joint concrete masonry units (concrete blocks).
 - 2. Blocks shall be manufactured to ASTM C90 designation for load bearing concrete masonry units.

Note: Contractor may be required to notch CMU block for bond beams and/or cut blocks to make the required shapes.
 - 3. Block color shall be Gray.
- C. Masonry (concrete) grout.
 - 1. Grout shall have a minimum compressive strength of 2500 psi at 28 days, 9+/-1" slump, with max ½" aggregate.
 - 2. Fine or coarse grout may be used in accordance with 2009 UBC.
 - 3. All CMU must be fully grouted and may not be wetted.
- D. Rebar in walls.
 - 1. All walls have # 4 and # 5 rebar, see plans for spacing.
 - 2. All rebar used in building must meet ASTM A615 manufacturing standards and is to be placed per plans.
- E. Stone veneer accent over smooth-face CMU shall be utilized.

2.15 ROOFING

- G. Tongue and groove decking shall be 2x6 V-edge deck boards, select Douglas fir.
 - 1. Sealant shall be applied by Contractor.
- H. Architectural Composition roofing shall have a 5-5/8 in. exposure and a nominal size of 13-1/4 in. x 39-3/8 in.
 - 1. Roofing color shall be selected by the owner and/or engineer. It is anticipated that it will be Estate Gray.

2.16 ELECTRICAL

- G. Electrical rough-in, installation and trim shall be performed by the Contractor.

1. All underground and/or overhead service to building shall be as specified in the final site plan.
 2. Electric meter base and all rough wiring, switches, plugs and circuit breakers shall be as shown on final plans.
 3. The Contractor is responsible for all necessary wire, connectors, grounding, conduit etc. to install the components and meet national and local code. The installation of these components shall comply with all state and/or local codes.
- H. Light fixtures.
1. Ceiling mounted light fixtures shall be 48" LED.
- I. Electrical Outlets.
1. Two GFCI double outlets suitable for outdoor use.
- J. Main breaker panel.
1. Electric to be run from the multipurpose building and shall be on a separate breaker.

2.17 OTHER MATERIALS & EQUIPMENT

1. The Contractor is responsible to supply any and all necessary materials and equipment to provide a complete Open Air Pavilion System.

PART 3: EXECUTION

3.3 INSTALLATION

- A. All components to be installed according to the plan sets and/or manufacturer's instructions.

3.4 OPERATION & MAINTENANCE MANUALS

- A. Furnish the owner with one complete set of O&M Manuals.

PART 4: PAYMENT AND QUANTITY

Quantity and payment for a pre-engineered pavilion will be made in accordance with the Contract Documents at the Unit price bid for the Item OPEN AIR PAVILION, COMPLETE in the proposal, which shall cover the cost of foundations, footings, slabs, roofing, finishes, utilities and connections, delivery, installation, design and drawings for permits, permit application preparation and submission, all appurtenances, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

--END OF SECTION--

APPENDIX A – GEOTECHNICAL REPORT



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Glen Rock, NJ 07452
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March 2, 2015

Neglia Engineering Associates
34 Park Avenue
PO Box 426
Lyndhurst, NJ 07071

Re: Geotechnical Engineering Report
Park Improvements
Rahway River Park
Rahway, NJ

JSC Project No. 15-033-Rahway

This report is submitted to 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 bathrooms, field houses and scoreboard.

The site is located in Rahway, New Jersey. The existing and proposed features are shown on the plan entitled "Boring Location Plan", which was provided by **Neglia Engineering Associates**.

INVESTIGATIONS

Two (2) Borings were located in the field area were drilled on November 18, 2011. 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 ($1\frac{3}{4}$) 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 at five (5) feet intervals to refusal depth.

The boring location plan and record sheet for the boring is attached to this report.

JSC Project No. 15-033-Rahway

FINDINGS

Surface Features: The area is an existing park and existing track.

Subsurface Conditions: The explorations for this study indicate that the site is underlain by uniform subsurface conditions. The strata are listed below in order of increasing depth. Detailed descriptions of the subsurface conditions are shown on the individual log of Boring, Plate 3A & 3D.

1. Fill: A layer of Fill was encountered in Borings 2, 3 & 4 from the surface to depths ranging from one foot six inches to three feet (1'6"-3') inches below the existing surface grade.

2. Silty Sand (SM): A layer of Silty Sand was encountered from the surface in Boring 1 and below the Fill in borings 2, 3 & 4 to depths ranging from four to twenty three (4-23) feet below the existing surface grade.

3. Well Graded Sand (SW): A layer of Well graded Sand was encountered below the Silty Sand in borings 2 & 3 to a depth of twenty three (23) feet below the existing surface grade.

4. Silty Sand (SM): A layer of Silty Sand was encountered below the Well Graded Sand in boring 2 to a depth of twenty three (23) feet below the existing surface grade.

5. Decomposed Shale: A layer of Decomposed Shale was encountered below the Silty Sand to depths ranging from twenty three feet nine inches to twenty five feet (23'9"-25') below the existing grade.

Ground water was encountered between twenty one to twenty three (21-23) feet below the existing grade 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.

JSC Project No. 15-033-Rahway

COMMENTS AND CONCLUSIONS

The Fill located above the natural dense Silty Sand is unsuitable bearing material. The natural dense Silty Sand should provide a suitable bearing material. All Footings should be excavated as per the specific recommendations below.

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. Use the following design parameters:

- a. **Bathrooms:**

- i. Excavate down to the dense Silty Sand.
 - ii. Proof roll bottom of footing excavation with a plate tamper or approved equivalent
 1. Crushed stone can be placed to prevent remolding of soils
 - iii. Use an allowable bearing capacity of four thousand (4,000) pounds per square foot (PSF) on compacted broom swept Siltstone.
 - iv. Estimated Maximum settlement is less than 1 in.
 - v. Estimated differential settlement is less than 0.5 in.

- b. **Scoreboard:**

- i. Excavate down to the dense Silty Sand below all Misc. Fill.
 - ii. Proof roll bottom of footing excavation with a plate tamper or approved equivalent
 1. Crushed stone can be placed to prevent remolding of soils
 - iii. Use an allowable bearing capacity of three thousand (3,000) pounds per square foot (PSF) on compacted broom swept Siltstone.
 - iv. Estimated Maximum settlement is less than 1 in.
 - v. Estimated differential settlement is less than 0.5 in.

JSC Project No. 15-033-Rahway

c. East Fieldhouse:

- i. Excavate down to the medium dense Silty Sand.
- ii. Proof roll bottom of footing excavation with a plate tamper or approved equivalent
 1. Crushed stone can be placed to prevent remolding of soils
- iii. Use an allowable bearing capacity of two thousand (2,000) pounds per square foot (PSF) on compacted broom swept Siltstone.
- iv. Estimated Maximum settlement is less than 1 in.
- v. Estimated differential settlement is less than 0.5 in.

d. West Fieldhouse:

- i. Excavate down to the dense Silty Sand.
 - ii. Proof roll bottom of footing excavation with a plate tamper or approved equivalent
 1. Crushed stone can be placed to prevent remolding of soils
 - iii. Use an allowable bearing capacity of two thousand five hundred (2,500) pounds per square foot (PSF) on compacted broom swept Siltstone.
 - iv. Estimated Maximum settlement is less than 1 in.
 - v. 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^o F, —to prevent the concrete from freezing.

2. Slab Subgrade Design:

- a. Remove all Fill/Topsoil.
- b. 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
 - ii. Replace with compacted controlled fill in accordance with Recommendations # 7 & #8
- c. Where compaction is performed, use a Modulus of Subgrade Reaction (k) of one hundred twenty (125) pounds per cubic inch (pci) for slab design.

JSC Project No. 15-033-Rahway

- i. After removal of all Fill/Topsoil.
 - d. A minimum of six (6) inches of ¾" crushed stone should be placed under all slabs on grades.
 - e. JSC recommends that a 6 mil. Vapor barrier should be placed on the crushed stone.
3. The minimum footing depth is to be a minimum of three (3) feet below the existing grade for frost protection.
4. The Site Class is 'C' in terms of the International Building Code, New Jersey Edition, for seismic design considerations. Also the profile is considered **not** to be susceptible to liquefaction.
 - a. $S_s = 0.270$ g
 - b. $S_1 = 0.070$ g
 - c. $S_{MS} = 0.323$ g
 - d. $S_{M1} = 0.120$ g
 - e. $S_{DS} = 0.216$ g
 - f. $S_{D1} = 0.080$ g
5. 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.
6. 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. On site Silty Sand can be used as backfill or controlled when used within +/- 2% of optimum water content and approved by a geotechnical engineer at the time of use.
6. 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.

JSC Project No. 15-033-Rahway

- c. All misc. Fill and/or 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 3 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.

JSC Project No. 15-033-Rahway

7. The following construction tasks should be inspected by a geotechnical engineer using appropriate laboratory and field testing support:
 - a. Confirmation of broom swept Siltstone for footings
 - b. Compaction and proof rolling of soils at slab subgrade levels.
 - c. Approve all types of controlled fill soils to be used in slab subgrade area.
 - d. Compaction of all controlled fill slab subgrade areas

JSC Project No. 15-033-Rahway

The recommendations above are based on the data obtained from soil borings performed at the indicated specific location and from other identified information. This report does not reflect any variations which may occur 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.

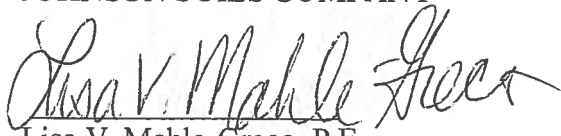
The information and opinions rendered in our report are exclusively for use by **Neglia Engineering Associates**. JSC will not distribute or publish this report without written consent except as required by law or court order. The information and opinions expressed in this report are given in response 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.

We trust these recommendations will allow you to complete your design and implement construction of the proposed structure at Rahway River Park.

The following Plates are attached to this report:

| | |
|-----------------|------------------------------------|
| Plate 1- | Site Location Map |
| Plate 2- | Boring Location Plan |
| Plate 3A to 3D- | 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 # 15-033

Rahway River Park.
Rahway, NJ

PLATE 1



LOG OF BORING

B-1

Sheet: 1 of 1
 Project Number : 15-033
 Date Started: 02/21/15
 Date Completed: 02/21/15
 Ground Surface El:
 Depth to Ground Water: 22'

| Depth (Feet) | Sample No. | Depth (Feet) | Sample/Spoon Blows/6" | Symbol USCS | Description |
|--------------|------------|--------------|-----------------------|-------------|--|
| 0 | S-1 | 0-2 | 13-11-7-5 | | 0"-10' Redbrown fine to coarse Sand, little Silt & Gravel, trace Clay. (moist, medium dense) -grading to loose@2' |
| - | S-2 | 2-4 | 3-3-3-4 | | |
| - | S-3 | 4-6 | 7-10-12-14 | | |
| 5 | S-4 | 6-8 | 10-10-12-10 | | |
| - | S-5 | 8-10 | 7-7-9-7 | | |
| - | | | | | |
| 10 | S-6 | 10-12 | 10-12-15-11 | SM | 10'-23' Redbrown fine to coarse Sand, some Gravel, little Silt. (moist, medium dense) -grading to dense@15' |
| - | | | | | |
| - | | | | | |
| 15 | S-7 | 15-17 | 17-16-20-25 | | |
| - | | | | | |
| 20 | S-8 | 20-22 | 26-20-20-26 | | |
| - | | | | | |
| - | S-9 | 23-25 | 35-41-67-101 | | 23'-25' Redbrown decomposed shale. |
| 25 | | | | | |
| - | | | | | |
| - | | | | | |
| - | | | | | |
| 30 | | | | | |
| - | | | | | |
| - | | | | | |
| - | | | | | |
| 35 | | | | | |
| - | | | | | |

Remarks: Boring 1 completed @ 25 on 02/21/2015

Client: **Neglia Engineering Associates**
 Project: **Rahway River Park**
 Location: **Rahway, 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 : 15-033
 Date Started: 02/21/15
 Date Completed: 02/21/15
 Ground Surface El:
 Depth to Ground Water: 20'

| Depth (Feet) | Sample No. | Depth (Feet) | Sample/Spoon Blows/6" | Symbol USCS | Description |
|--------------|------------|--------------|-----------------------|-------------|--|
| 0 | S-1 | 0-2 | 9-3-4-8 | | 0"-1'6" Misc. Fill. |
| - | S-2 | 2-4 | 7-6-5-5 | SM | 1'6"-4' Redbrown fine to coarse Sand, little Silt & Gravel. (moist, medium dense) 4'-8' Redbrown fine to coarse Sand, some Silt, little Gravel, trace Clay. (moist, medium dense) |
| - | S-3 | 4-6 | 5-7-8-8 | | |
| 5 | S-4 | 6-8 | 5-6-7-7 | | |
| - | S-5 | 8-10 | 9-10-10-14 | SW | 8'-10' Gray-brown fine to medium Sand, trace Silt. (moist, medium dense) |
| 10 | S-6 | 10-12 | 5-5-5-8 | SM | 10'-15' Redbrown fine to coarse Sand, some Silt, little Gravel, trace Clay. (moist, loose) 15'-23' Redbrown fine to coarse Sand, some Gravel, little Silt. (moist, medium dense) |
| - | | | | | |
| 15 | S-7 | 15-17 | 6-8-14-19 | | |
| - | | | | | |
| 20 | S-8 | 20-22 | 8-9-13-24 | | |
| - | | | | | |
| - | S-9 | 23-25 | 31-33-22-30 | | 23'-25' Redbrown decomposed shale. |
| 25 | | | | | |
| - | | | | | |
| - | | | | | |
| - | | | | | |
| 30 | | | | | |
| - | | | | | |
| - | | | | | |
| 35 | | | | | |
| - | | | | | |

Remarks: Boring 2 completed @ 25 on 02/21/2015

Client: **Neglia Engineering Associates**
 Project: **Rahway River Park**
 Location: **Rahway, 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 : 15-033
 Date Started: 02/21/15
 Date Completed: 02/21/15
 Ground Surface El:
 Depth to Ground Water: 21'

| Depth (Feet) | Sample No. | Depth (Feet) | Sample/Spoon Blows/6" | Symbol USCS | Description |
|--------------|------------|--------------|-----------------------|-------------|--|
| 0 | S-1 | 0-2 | 12-4-2-3 | | 0"-2' Misc. Fill. |
| - | S-2 | 2-4 | 3-8-12-12 | SM | 2'-13'6" Redbrown fine to coarse Sand, some Silt, trace Clay & Gravel. (moist, medium dense) |
| - | S-3 | 4-6 | 6-6-7-8 | | |
| 5 | S-4 | 6-8 | 8-9-10-11 | | |
| - | S-5 | 8-10 | 10-11-11-12 | | |
| - | S-6 | 10-12 | 5-5-9-10 | | |
| - | | | | | |
| - | | | | SW | 13'6"-23' Redbrown fine to coarse Sand, some Gravel, trace Silt. (moist, medium dense) |
| 15 | S-7 | 15-17 | 7-8-14-18 | | |
| - | | | | | |
| 20 | S-8 | 20-22 | 14-17-19-20 | | -grading to dense@20' |
| - | | | | | |
| - | S-9 | 23-25 | 27-31-44-100 | | 23'-25' Redbrown decomposed shale. |
| 25 | | | | | |
| - | | | | | |
| - | | | | | |
| - | | | | | |
| 30 | | | | | |
| - | | | | | |
| - | | | | | |
| - | | | | | |
| 35 | | | | | |
| - | | | | | |

Remarks: Boring 3 completed @ 25 on 02/21/2015

Client: **Neglia Engineering Associates**
 Project: **Rahway River Park**
 Location: **Rahway, 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 : 15-033
 Date Started: 02/21/15
 Date Completed: 02/21/15
 Ground Surface El:
 Depth to Ground Water: 23'

| Depth (Feet) | Sample No. | Depth (Feet) | Sample/Spoon Blows/6" | Symbol USCS | Description |
|--------------|------------|--------------|-----------------------|-----------------------|---|
| 0 | S-1 | 0-2 | 11-11-8-6 | SM | 0"-3' Misc. Fill. |
| - | S-2 | 2-4 | 7-8-5-7 | | |
| - | S-3 | 4-6 | 8-9-9-10 | | 3'-23'6" Redbrown fine to coarse Sand, some Silt, trace Clay & Gravel.(moist, medium dense) |
| - | S-4 | 6-8 | 10-9-12-17 | | |
| 5 | S-5 | 8-10 | 16-16-13-12 | | |
| - | S-6 | 10-12 | 7-7-8-10 | | |
| - | | | | | |
| - | | | | | |
| - | | | | | |
| 15 | S-7 | 15-17 | 15-16-15-25 | -grading to dense@15' | |
| - | | | | | |
| - | | | | | |
| 20 | S-8 | 20-22 | 17-18-18-20 | | |
| - | | | | | |
| - | S-9 | 23-25 | 49-100/3" | | 23'-23'9" Redbrown decomposed shale. |
| 25 | | | | | |
| - | | | | | |
| - | | | | | |
| - | | | | | |
| 30 | | | | | |
| - | | | | | |
| - | | | | | |
| 35 | | | | | |

Remarks: Boring 4 refusal @ 23'9" on 02/21/2015

Client: Neglia Engineering Associates
 Project: Rahway River Park
 Location: Rahway, 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 MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE | GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COURSE FRACTION RETAINED ON NO. 4 SIEVE | 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 |
| | | | GM | SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES |
| | | SAND AND SANDY SOILS MORE THAN 50% OF COURSE FRACTION PASSING NO.4 SIEVE | CLEAN SAND (LITTLE OR NO FINES) | GC |
| | SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES) | | SW | WELL-GRADED SANDS, GRAVELLY-SANDS LITTLE OR NO FINES |
| | | | SP | POORLY-GRADED SANDS, GRAVELLY SANDS LITTLE OR NO FINES |
| | SM | | SILTY SANDS, SAND-SILT MIXTURES | |
| | FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE | SILTS AND CLAYS LIQUID LIMIT LESS THAN 50 | 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 | |
| CL | | | INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDS CLAYS, SILTY CLAYS, LEAN CLAYS | |
| SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50 | | 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 | |
| HIGHLY ORGANIC SOILS | | | OH | ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS |
| | | | 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 |



**Neglia Engineering Associates
Rahway River Park
Rahway, NJ
JSC Job # 11-247**

Inspected by: LVMG

Date: 11/16/2011

Log of Test Pits

TP-1

| | |
|---------|--|
| 0-7" | Topsoil |
| 7"-2'4" | Yellow brown fine to medium Sand, some Silt, trace Clay. (SM) |
| 2'4"-6' | Red brown fine to coarse Sand, some Gravels, little Silt. (SM) |

No water was encountered (Dry)

The percolation rate at a depth of 6' is 13 in/hr.

TP-2

| | |
|---------|---|
| 0-7" | Topsoil |
| 7"-1'9" | Yellow brown fine to medium Sand, some Silt, trace Clay. (SM) |
| 1'9"-6' | Red brown fine to coarse Sand, some Gravels, trace Silt. (SW) |

No water was encountered (Dry)

The percolation rate at a depth of 6' is 21 in/hr.

APPENDIX B – October 19, 2015 Bid Clarification 1

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

MEMO TO: TO ALL POTENTIAL BIDDERS

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Clerk of the Board

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

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

DATE: October 19, 2015

RE: **CLARIFICATION NUMBER 1**
**CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS
LIGHTING AT RAHWAY RIVER PARK
CITY OF RAHWAY, COUNTY OF UNION, NEW JERSEY
BA#32-2015; UC ENGINEERING PROJECT #2011-019**

The following are responses to questions received for the above revered project:

Q.1: Are only the 1 x 12 flat drains included in bid item 25 (inclusive of underdrains)? (All 12" HDPE paid under item 17) please confirm.

R: ***The cost for the 1"x12" Perf. Cross Drains shall be included in Item No. 25 – "Synthetic Turf, Underdrains and Stone (Complete Cross Section)" while the 12" Perf. HDPE that the 1"x12" Perf. Cross Drains connects too shall be paid for under Item No. 17 – "12" Perf. HDPE Pipe".***

Q.2: Please clarify bid item #26, is this item to include concrete runways and haunches for events?

R: ***Item No. 26 – "Synthetic Track System, Complete with Concrete Sub-Base for Field Events & Striping" shall include but not limited to the preparation of subgrade and installation of the track cross section as shown on Sheet 7.02 which includes the various levels of base course, surface course, leveling as needed to correct ponding issues and the synthetic track surface. Also included in this item is the striping and associated certification of the track in accordance with NJSIAA/NFHS Standards. The concrete for the runways and various other track events shall be included in that specific pay item.***

Q.3: Is stone section for field to continue under paved areas such as HJ area and Event runways or are we to follow track asphalt section?

R: ***As per Sheet 5.00 – "Grading and Drainage" the pipe and associated stone shall be installed in the area inside of the track.***

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County Engineer,
Director, Division of
Engineering

Q.4: Are flush curbs to be added at the edge of HJ pavement? Is the edge of the track event runways/ PV slab, to have a curb or nailer as well? (to receive turf)?

R: ***The contractor is responsible to provide a nailer along the edges of all track and field events that are adjacent to the synthetic turf. Nailer to meet the approved turf manufacturer's requirements.***

Q.5: Do concrete bleacher pads need to be designed? (Alternate A)

R: ***It is anticipated that the concrete pad for the bleachers will be a 6" reinforced concrete pad, however the contractor is responsible to coordinate with the bleacher manufacturer to provide final engineering drawings that are specific to the model submitted and approved for use at the site as noted on Sheet 7.14 – "Construction Details" 10 Row Bleacher Detail Note 5.***

Q.6: Is the engineer going to provide a detail for the 30" HDPE infiltration pipe? Or are we to use the storm sewer trench detail?

R: ***On Page 40 of the Technical Specifications 3.3 states "Pipe bedding shall be 18" minimum thickness for 12", 24" and 30" dia. Perforated HDPE pipe." This 18" thickness shall be above, below and on both sides of the 24" and 30" perforated HDPE pipe. For the 12" perf. HDPE pipe it shall follow the detail as shown on Sheet 7.09. Also as listed on Page 40 of the Technical Specifications 1.1.B. there should be a geotextile fabric that encloses the stone trench.***

Q.7: Specification page 15, "Soil testing" It appears that you are requiring structural engineer designs, rather than soil testing? Please clarify if bidders are to include design costs.

R: ***A Geotechnical Report was included in Appendix A of the Technical Specifications. The contractor is responsible to submit signed and sealed structural calculations that are specific to the approved manufacturer of the various items. There is no separate payment for this work and the cost shall be included in the associated bid item.***

Q.8: "Soil testing" are we to include onsite testing as well?

R: ***A Geotechnical Report was provided in Appendix A of the Technical Specifications.***

DEPARTMENT OF ENGINEERING, PUBLIC WORKS & FACILITIES MANAGEMENT
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County Engineer,
Director, Division of
Engineering

Q.9: Export of Surplus soil- Is the contractor to perform NJDEP testing on exported soils? Are bidders to assume residential clean, ground water standards, for the purposes of Bidding?

R: ***It is not the intent of the project to export material off site. It is not anticipated that there will be excess topsoil; however in the event that there is, it will remain onsite and be utilized to restore existing grades within the park.***

Q.10: Are the 1 x 12 composite drains hooked directly to the perforated header pipes? Detail on the plan indicates both connected and not connected. Please clarify.

R: ***The 1"x12" Perforated Cross Drains shall be connected directly to the 12" Perforated HDPE pipe.***

Q.11: Are permits required? If so are the permit fees waived?

R: ***The Contractor is responsible for preparation and submission of all building permits. It is customary that the local municipalities waive the permit fees for the County. The Contractor should exclude permit application fees from their cost.***

Q.12: Soil report states to remove all fill and topsoil, fills are shown in the soils report to be up to 36" deep. Are we to over excavate to go below fill? This will greatly add to the export and the import. Please advise. If answer is yes to over excavation, are we to plot the soil borings on the grading plan and interpolate the over excavation?

R: ***The areas of over excavation shall be for the structures (i.e. multipurpose building, pavilion, scoreboard, etc.). The over excavation to remove fill material will not be within the proposed field.***

Q.13: Spec. page 23 , under 3.7 Placing of backfill: "scarify old pavements to a maximum of 2'" this seem to indicate we can fill over broke asphalt, Demo plan states to "Remove asphalt and subgrade and haul off site".. please clarify.

R: ***No fill should be placed over broken asphalt. In accordance with the note on the Demolition Plan the Asphalt shall be removed and properly disposed of.***

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County Counsel

JAMES E. PELLETTIERE
Clerk of the Board

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

Q.14: Spec for Earthwork provides several types of materials for import (select granular, select and subbase course type 2) soils report indicates Controlled fill and less than 20% on 200 sieve.

R: ***The appropriate import fill material shall be utilized pursuant to the requirements in the specification and construction detail for that particular construction item.***

Q.15: Will all imported materials have to be "certified clean" and what standard are we following with what specific testing protocols? (ground water standard, residential clean standard? SRP site testing frequency)?

R: ***The Contractor shall provide the Engineer with certification attesting that the said material is free of contaminants and suitable for the application. The material shall meet the residential clean standards.***

Q.16: Will the Owner have an onsite geotech engineer to determine fill layers or unsuitable soil? Are bidders to assume that all onsite soils are suitable for reuse in preparing their bids?

R: ***For bidding purposes it shall be assumed that all onsite soils are suitable for reuse.***

CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT RAHWAY RIVER PARK

COUNTY OF UNION PROJECT #2011-019
 BLOCK 201 ~ LOT 1
 CITY OF RAHWAY, NEW JERSEY
 ISSUED FOR BID OCTOBER ~ 2015

SUBMISSION DATE: OCTOBER 8, 2015

CONSTRUCTION NOTES:

- THE LOCATIONS OF UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL CONTACT THE RESPECTIVE UTILITY COMPANIES FOR THEIR EXACT LOCATIONS.
- TRENCHES OR AREAS EXCAVATED ARE TO BE BACK FILLED WITH DENSE GRADED AGGREGATE AT THE END OF EACH WORKING DAY AND PAVED AT THE END OF THE WORK WEEK. TRENCHES LEFT OPEN OVERNIGHT ARE NOT PERMITTED.
- THE 2007 NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AS AMENDED AND ADDED TO HEREIN, SHALL GOVERN IN THIS CONTRACT AND CONSTRUCTION, SHOULD THE SPECIFICATIONS NOT INCLUDE PARTICULAR CONSTRUCTION ITEMS.
- ANY MATERIAL THAT MAY BE DISTURBED DURING THE REMOVAL AND REPLACEMENT TO EXISTING CURBING AND SIDEWALKS, MUST BE RETURNED TO ITS ORIGINAL CONDITION. THE COST FOR THIS SHALL BE INCLUDED IN THE UNIT PRICE BID IN THE APPROPRIATE PAY ITEM.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAPERING PROPOSED WORK TO MEET EXISTING CONDITIONS IN A UNIFORM MANNER.
- THE CONTRACTOR SHALL RECEIVE ALL THE NECESSARY PERMITS & APPROVALS FROM ALL LOCAL, COUNTY, AND STATE GOVERNING AGENCIES, PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR ANY ASSOCIATED FEES AND SAME TO BE INCLUDED IN THE VARIOUS BID ITEMS.
- THE CONTRACTOR SHALL INSTALL PROTECTIVE BLOCKING, BRACING OR SHEETING TO SUPPORT ANY EXPOSED GAS OR WATER UTILITIES IN ACCORDANCE WITH PSE&G GAS AND UNITED WATER REGULATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE ONE CALL NUMBER (800) 272-1000 FOR MARK OUTS PRIOR TO START OF WORK. THE CONTRACTOR SHALL RECORD AND HAVE THE CONFIRMATION NUMBER ON SITE DURING CONSTRUCTION.
- THE CONTRACTOR SHALL VISIT THE SITE TO PERFORM HIS OWN DUE DILIGENCE, AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS PRIOR TO SUBMITTING HIS BID. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER.

GENERAL NOTES:

EXISTING CONDITIONS

- IT IS THE CONTRACTORS RESPONSIBILITY TO ASCERTAIN ALL UTILITY LOCATIONS PRIOR TO BIDDING.

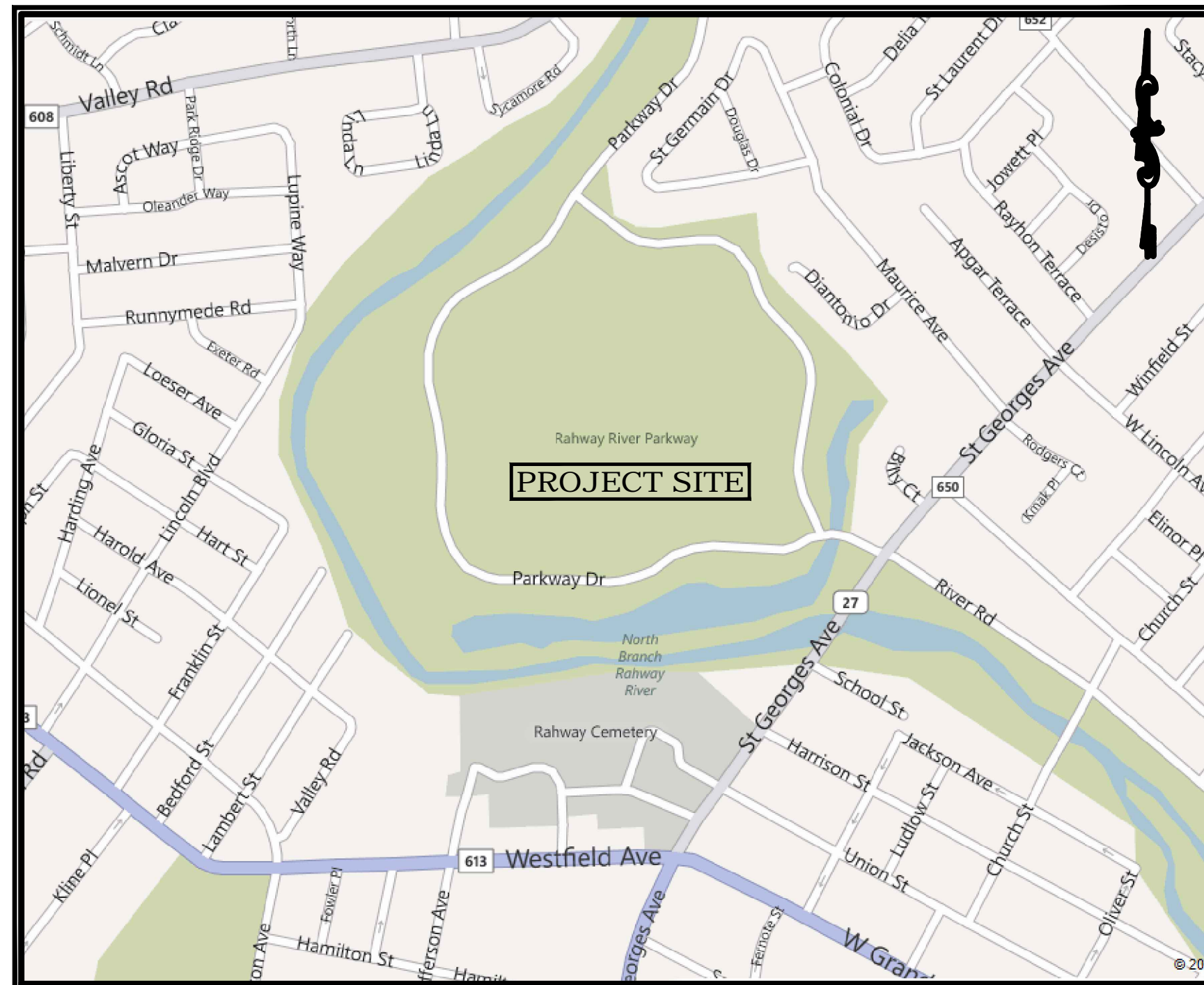
PROPOSED WORK

- MAINTENANCE AND PROTECTION OF PEDESTRIAN TRAFFIC CONTROL MUST CONFORM TO NJDOT AND MUTCD STANDARDS ALONG WITH THE REQUIREMENTS OF THE MUNICIPALITY. POLICE TRAFFIC DIRECTORS SHALL BE COORDINATED WITH THE MUNICIPALITY.
- ALL STORM DRAINS AND CATCH BASINS WILL BE PROTECTED AT ALL TIMES. ANY DAMAGE WILL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTORS EXPENSE.
- ALL FILL REMOVED FROM THE TRENCH IS TO BE DISCARDED BY THE CONTRACTOR IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS. THE TRENCH MUST BE OF SUITABLE WIDTH TO OBTAIN PROPER MECHANICAL COMPACTING, NOT TO EXCEED 4 FEET IN WIDTH. ALL BACKFILL IS TO BE DONE WITH QUARRY PROCESS STONE, TYPE 1.5 OR DGA FOR THE FULL DEPTH OF THE TRENCH. FIRST LIFT OF FILL, TWELVE (12) INCHES ABOVE THE PIPE, SHALL BE COMPACTED USING A JUMPING JACK TAMPER. SUCCESSIVE LIFTS SHALL BE COMPACTED BY MECHANICAL MEANS SUCH AS TAMPING, VIBRATING OR ROLLING. A VIBRA PLATE TAMPER IS NOT ACCEPTABLE.
- UPON COMPLETION OF THE PROPER BACKFILL COMPACTING, A SIX (6) INCH LAYER OF SUPERPAVE HOT MIX ASPHALT BASE COURSE, MIX 19M84, SHALL BE UTILIZED IN TWO LIFTS OF THREE (3) INCHES EACH COMPACTED IN ALL TRENCH AREAS. THE TOP SURFACE SHALL BE FLUSH WITH THE ADJACENT PAVEMENT AND BE UNIFORMLY CONTOURED TO CONFORM TO THE EXISTING SURROUNDING SURFACE. SEPARATE PAYMENT WILL NOT BE MADE FOR MIX 19M84 FOR TRENCH AREAS.
- THE CONTRACTOR SHALL KEEP THE TRENCH FILLED TO THE LEVEL OF THE SURROUNDING GRADES UNTIL SETTLEMENT HAS CEASED.
- TRAFFIC CONTROL DEVICES AS NECESSARY TO BE INCLUDED IN THE VARIOUS BID ITEMS.
- TRAFFIC CONTROL TO BE IN ACCORDANCE WITH MUNICIPAL, UNION COUNTY, AND MUTCD STANDARDS.

RESTRICTIONS AND REQUIREMENTS

- WORKING HOURS ON MUNICIPAL ROADS ARE BETWEEN THE HOURS OF 8:00 AM AND 5:00 PM. CONTRACTOR MUST CONFIRM HOURS PRIOR TO BIDDING AND CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY RESIDENTS AND OWNERS 24 HOURS PRIOR TO WORK BEGINNING ON THEIR STREET. NOTIFICATIONS SHALL BE IN THE FORM OF A HAND DELIVERED FLYER THAT WILL STATE: 1) THE DATES OF CONSTRUCTION; 2) HOURS OF CONSTRUCTION; 3) INSTRUCTION ON HOW AND WHERE TO PARK VEHICLES ON STREETS; 4) INSTRUCTION ON HOW TO ACCESS THEIR HOMES DURING HOURS OF CONSTRUCTION AND AFTER HOURS. FLYERS SHALL BE APPROVED BY THE MUNICIPALITY AND THE ENGINEER PRIOR TO DISTRIBUTION. A SAMPLE FLYER SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO THE START OF THE PROJECT. ALL COSTS SHALL BE INCLUDED IN THE VARIOUS BID ITEMS.
- THE CONTRACTOR SHALL FURNISH AN APPROVED CONSTRUCTION SCHEDULE PRIOR TO MOBILIZATION.
- THE CONTRACTOR SHALL MAINTAIN ACCESS FOR EMERGENCY VEHICLES.
- THE CONTRACTOR SHALL COORDINATE WITH LOCAL SCHOOLS TO DETERMINE BUS ROUTES AND SCHEDULES. THE CONTRACTOR SHALL ACCOMMODATE PASSAGE OF ALL SCHOOL BUSES.
- THE CONTRACTOR SHALL PROVIDE PRE-CONSTRUCTION PHOTOGRAPHS OR VIDEOTAPES OF THE PROJECT AREA. PHOTOGRAPHS SHALL BE LABELED WITH STREET NAME AND STATIONING AND MOUNTED INTO BINDERS. AUDIO SHALL BE USED ON VIDEOTAPES TO DESIGNATE STREET AND STATIONING. THE CONTRACTOR SHALL PROVIDE THE PHOTOGRAPHS OR VIDEOTAPES PRIOR TO MOBILIZATION.
- THE CONTRACTOR SHALL OBSERVE ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES ILLUSTRATED WITHIN THESE CONSTRUCTION PLANS. A STAGING AREA HAS NOT BEEN DETERMINED FOR USE BY THE CONTRACTOR AT THE TIME THESE CONTRACT DRAWINGS WERE DRAWN. WHEN A STAGING AREA IS DETERMINED, THE CONTRACTOR SHALL CALL THE UNION COUNTY SOIL CONSERVATION DISTRICT (908-231-7000) FOR INSPECTION OF THE STAGING AREA. THE CONTRACTOR IS RESPONSIBLE TO IMPLEMENT ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AT THE STAGING AREA PRIOR TO INSPECTION. ALL COSTS TO BE INCLUDED IN THE VARIOUS BID ITEMS.

ALL WORK STATED IN THESE NOTES, PLANS AND SPECIFICATIONS SHALL BE INCLUDED IN THE VARIOUS BID ITEMS UNLESS SPECIFICALLY ITEMIZED ON THE PROPOSAL SHEET. THE CONTRACTOR IS NOT LIMITED TO THE REQUIREMENTS WITHIN THESE NOTES AND IS STRONGLY ADVISED TO REVIEW THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.



PROJECT LOCATION MAP
(NOT TO SCALE)

THE UNION COUNTY BOARD OF CHOSEN FREEHOLDERS

MOHAMED S. JALLOH, CHAIRMAN **BRUCE H. BERGEN, VICE CHAIRMAN**

LINDA CARTER **ANGEL G. ESTRADA**

SERGIO GRANADOS **CHRISTOPHER HUDAK**

BETTE JANE KOWALSKI **ALEXANDER MIRABELLA**

VERNELL WRIGHT

COUNTY OF UNION MANAGER

ALFRED J. FAELLA

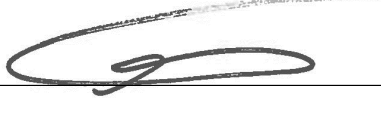

| LIST OF DRAWINGS | | |
|------------------|--------------------------------------|---------------|
| DRAWING NO. | DRAWING TITLE | DRAWING SCALE |
| 1.00 | COVER SHEET / KEY MAP | N.T.S. |
| 2.00 | DEMOLITION PLAN | 1" = 30' |
| 3.00 | SITE PLAN | 1" = 30' |
| 3.01 | DIMENSIONAL CONTROL & STRIPING PLAN | 1" = 30' |
| 4.00 | GRADING PLAN | 1" = 30' |
| 5.00 | DRAINAGE PLAN | 1" = 30' |
| 6.00 | SOIL EROSION & SEDIMENT CONTROL PLAN | 1" = 30' |
| 7.00 | CONSTRUCTION DETAILS | N.T.S. |
| 7.01 | CONSTRUCTION DETAILS | N.T.S. |
| 7.02 | CONSTRUCTION DETAILS | N.T.S. |
| 7.03 | CONSTRUCTION DETAILS | N.T.S. |
| 7.04 | CONSTRUCTION DETAILS | N.T.S. |
| 7.05 | CONSTRUCTION DETAILS | N.T.S. |
| 7.06 | CONSTRUCTION DETAILS | N.T.S. |
| 7.07 | CONSTRUCTION DETAILS | N.T.S. |
| 7.08 | CONSTRUCTION DETAILS | N.T.S. |
| 7.09 | CONSTRUCTION DETAILS | N.T.S. |
| 7.10 | CONSTRUCTION DETAILS | N.T.S. |
| 7.11 | CONSTRUCTION DETAILS | N.T.S. |
| 7.12 | CONSTRUCTION DETAILS | N.T.S. |
| 7.13 | CONSTRUCTION DETAILS | N.T.S. |
| 7.14 | CONSTRUCTION DETAILS | N.T.S. |
| 7.15 | CONSTRUCTION DETAILS | N.T.S. |
| 10.00 | TOPOGRAPHIC SURVEY | 1" = 30' |

| PROJECT CONTACTS | | |
|------------------|-------------------------------|---|
| DISCIPLINE | COMPANY | ADDRESS |
| OWNER/APPLICANT | COUNTY OF UNION | 10 ELIZABETHTOWN PLAZA ELIZABETH, NJ 07207 PH: (908) 527-4000 CONTACT: WALTER PATRYLO DIVISION OF ENGINEERING |
| ENGINEER | NEGLIA ENGINEERING ASSOCIATES | 1119 RARITAN ROAD CLARK, NJ 07066 PH: (732) 943-7067 CONTACT: TOM SOLFARO, P.E. |

| UTILITY CONTACTS | | |
|------------------|-----------------------------------|--|
| SERVICE | COMPANY | ADDRESS |
| ELECTRIC/GAS | PUBLIC SERVICE ELECTRIC & GAS CO. | PO BOX 800 NEWARK, NJ 07101 |
| WATER | UNITED WATER RAHWAY | PO BOX 1885 RAHWAY, NJ 07065 PHONE: (732) 827-2070 |
| SEWER | DPW, CITY OF RAHWAY | 1 CITY HALL PLAZA RAHWAY, NJ 07065 PHONE: (732) 827-2200 |
| TELEPHONE | VERIZON | 540 BROAD STREET NEWARK, NJ 07101 PHONE: (973) 649-9900 |

CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT RAHWAY RIVER PARK

| REVISIONS | | | |
|-----------|------|-------------|----------------------------|
| NO. | DATE | DESCRIPTION | DRAWN DESIGNED CHECKED |
| | | | |

| | |
|---|--|
| THOMAS R. SOLFARO, P.E., C.M.E. PROFESSIONAL ENGINEER N.J. LICENSE NO. 41635  | DAVID R. ATKINSON, P.E., C.M.E. PROFESSIONAL ENGINEER N.J. LICENSE NO. 45506  |
|---|--|



A PROJECT OF
NEGLIA ENGINEERING ASSOCIATES

34 PARK AVENUE LYNDHURST NEW JERSEY
 TEL: 201-939-8805 FAX: 201-939-0846 nea@negliaengineering.com

MICHAEL J. NEGLIA

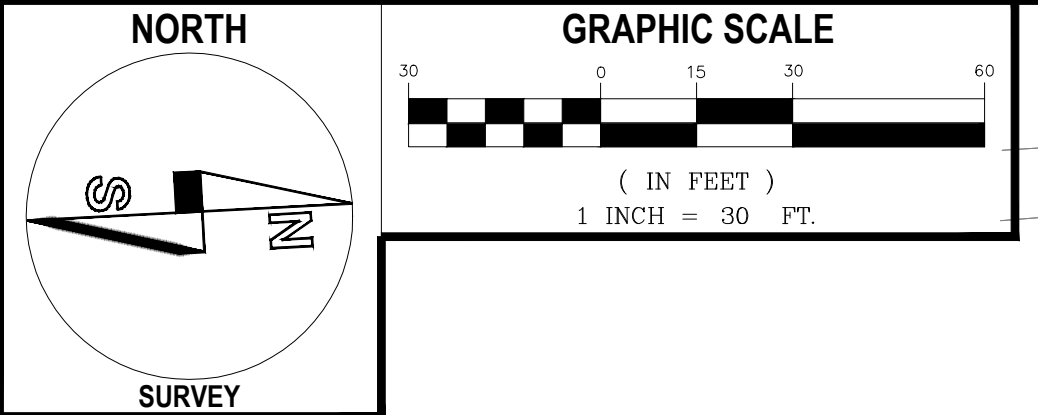
PROFESSIONAL ENGINEER PROFESSIONAL LAND SURVEYOR PROFESSIONAL PLANNER
 N.J. LICENSE NO. 38664 N.J. LICENSE NO. 38664 N.J. LICENSE NO. 5686

COVER SHEET / KEY MAP

CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT RAHWAY RIVER PARK
 COUNTY OF UNION ~ PROJECT # 2011-019
 BLOCK 201 ~ LOT 1
 CITY OF RAHWAY, NEW JERSEY

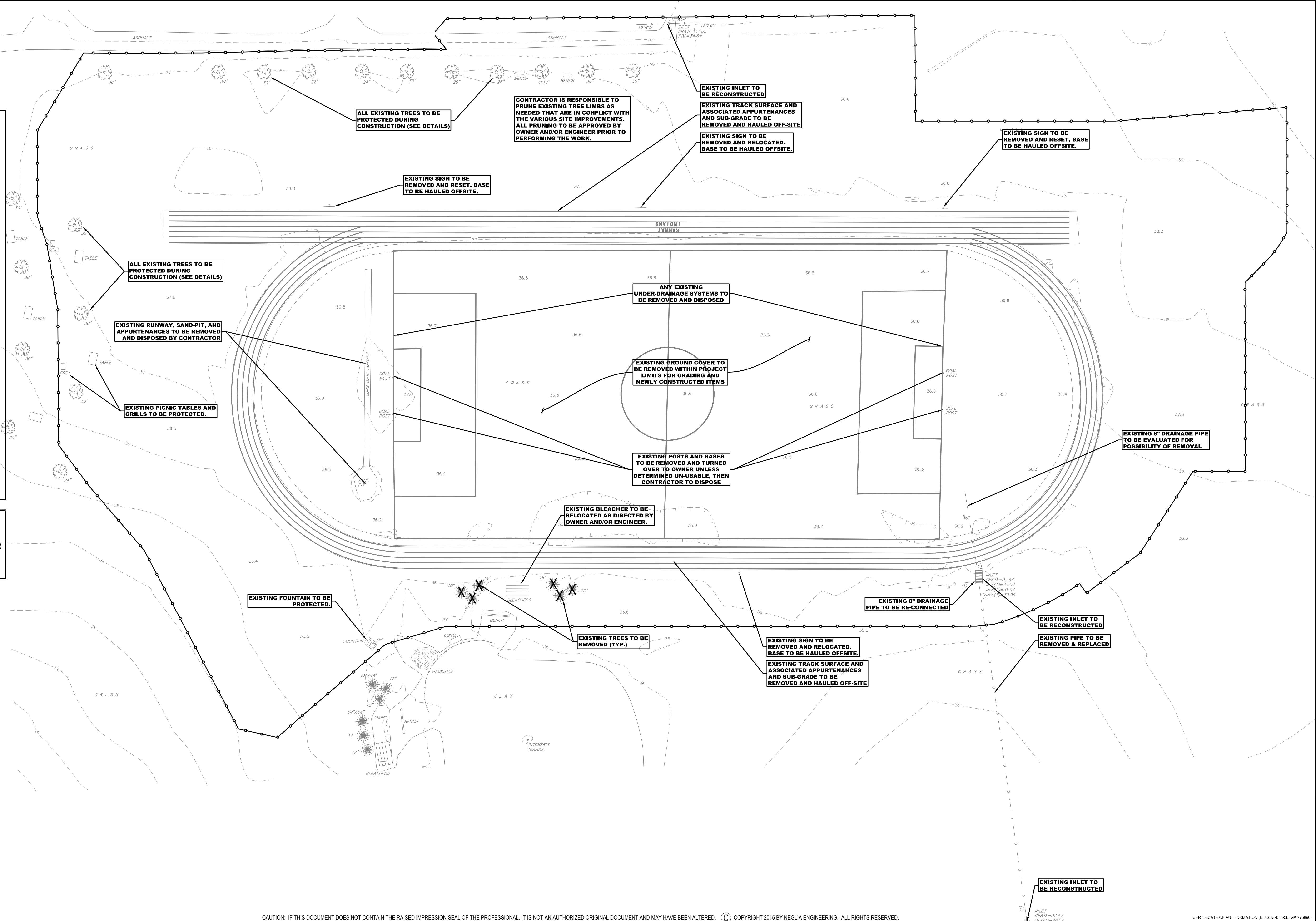
UNION COUNTY **NEW JERSEY**

PROJECT NO.: **UNIOCTY11.012** SHEET NO.: **1.00**



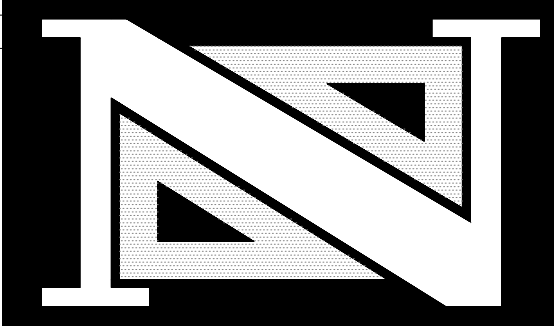
- Demolition Plan Notes**
- Burning debris is prohibited.
 - The use of explosives is prohibited.
 - Protect utilities during the Work of this Section.
 - Contractor shall verify the location and status of all utilities within and surrounding the demolition limits.
 - Disconnection of all utility services, including sewer, water, gas, and electric lines, and plugging and capping of services shall be in accordance with the requirements of all Municipal and Public Services Corporations.
 - Fill Within Building Foundation shall consist of clean earth, sand, gravel, broken brick and masonry with a maximum size of one cubic foot as approved by the engineer. Combustible materials, metal glass or other debris shall not be permitted as fill.
 - Remove and dispose of concrete and bituminous pavement and sidewalk, trees, shrubs, hedges, brush, stumps, roots, dirt, stone, debris, surplus materials and rubbish, as shown or otherwise directed.
 - Remove curbs, slabs on grade, and fences as shown or directed otherwise.
 - Repair any and all damages or injury to the adjoining properties caused by the work and leave the properties in as good condition as before work was started. The Contractor shall relieve the Owner of all responsibility for any claims due to such injury and shall defend any action brought by reason thereof.
 - If so directed, the Contractor shall thoroughly wet the work to prevent dust.
 - Protect trees not designated for removal as shown on the Plans.
 - Remove demolition debris and excess fill from the project site as soon as practicable.
 - Transport demolition debris and excess fill to designated disposal area as soon as practicable. Grade disposal areas to adjacent contours and slope to drain.
 - Do not store, sell, or burn materials on Town property.
 - The removal and disposal of materials and debris accumulated by clearing site is regulated under the Solid Waste Management Act (N.J.S.A. 13:1 E-1) and is governed by NJAC 7:26 *et seq.* The Contractor shall dispose of the material and debris according to the solid waste management plan developed by the solid waste management district of origin. Proper documentation from the disposal facility shall be submitted to the Engineer.
 - All demolition work shall be in accordance with local, county, state and federal regulations.
 - The contractor is specifically cautioned that the location and/or records of the various utilities shown on these plans is based on records of the various utility companies and where possible field measurements. The information is not to be relied on as being complete or exact. The contractor must contact all the appropriate utility companies at least 48 hours before any work or excavation to request a field mark out of existing utilities. The contractor must call 1800-242-1000 before commencement of work. It shall be the contractor's responsibility to locate all on site utilities prior to start of demolition work.
 - Contractor shall prepare and submit for approval by the owners engineer a plan detailing the locations of the temporary fencing, gates, barricades and other items required to secure the demolition work area and to protect the public.

NOTES:
 1. TOPOGRAPHIC DATA PER MAP ENTITLED " TOPOGRAPHIC SURVEY, UNION COUNTY DEPARTMENT OF PARKS, RAHWAY RIVER PARK, CITY OF RAHWAY, UNION COUNTY, NJ" DATED AUGUST 15, 2011 AS PREPARED BY NEGLIA ENGINEERING ASSOCIATES.



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| NO. | DATE | DESCRIPTION | DRAWN | CHECKED |
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THOMAS R. SOLFARO, P.E., C.M.E.
 PROFESSIONAL ENGINEER
 N.J. LICENSE NO. 41635

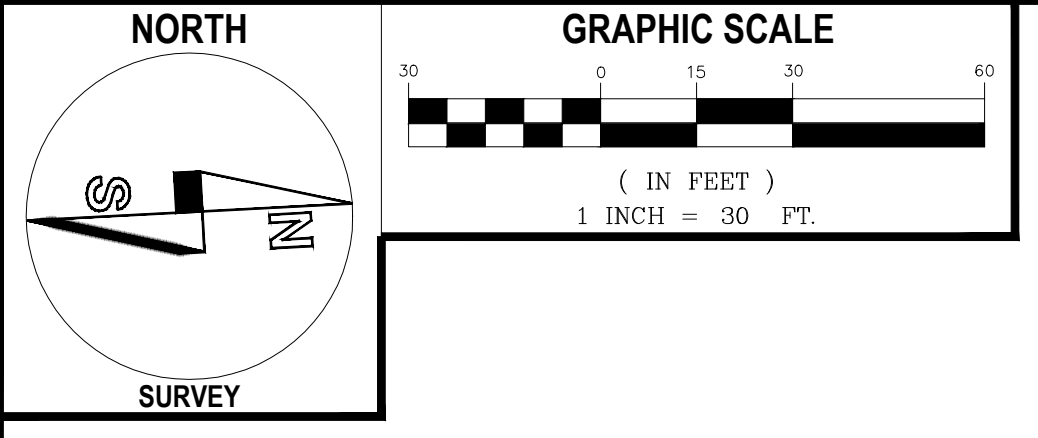
DAVID R. ATKINSON, P.E., C.M.E.
 PROFESSIONAL ENGINEER
 N.J. LICENSE NO. 45506

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 LYNDHURST
 FAX: 201-939-0846
 NEW JERSEY
 E-MAIL: NEA@NEGLIAENGINEERING.COM
MICHAEL J. NEGLIA, P.E., P.L.S., P.P.
 PROFESSIONAL ENGINEER
 N.J. LICENSE NO. 38694
 PROFESSIONAL LAND SURVEYOR
 N.J. LICENSE NO. 38694
 PROFESSIONAL PLANNER
 N.J. LICENSE NO. 38696

DEMOLITION PLAN
 CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT RAHWAY RIVER PARK
 COUNTY OF UNION ~ PROJECT # 2011-019
 BLOCK 201 ~ LOT 1
 CITY OF RAHWAY, NEW JERSEY

UNION COUNTY **NEW JERSEY**

DRAWN BY: D.J.D.R.A. CHECKED BY: T.S. PROJECT NO.: UNIOCTY11.012 SHEET NO.: 2.00
 DESIGNED BY: D.J.D.R.A. SCALE: 1" = 30' FIELD BOOK NO.: PAGE: DATE: OCTOBER 2, 2015



CONSTRUCTION NOTES:

- CONTRACTOR SHALL PROVIDE SOIL EROSION CONTROL MEASURES AS PER NJAC 7-22-10.11 INCLUDING SILT FENCE, INLET FILTER, ETC. THE CONTRACTOR SHALL OBSERVE ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES.
- WORKING HOURS MUST BE KEPT BETWEEN THE HOURS OF 8:00 AM AND 4:00 PM. ALL WORKING HOURS TO BE CONFIRMED PRIOR TO BIDDING AND AT PRE-CONSTRUCTION MEETING.
- THE CONTRACTOR SHALL FURNISH AN APPROVED CONSTRUCTION SCHEDULE PRIOR TO MOBILIZATION. THE CONTRACTOR SHALL FURNISH A CONSTRUCTION SCHEDULE AND TRAFFIC CONTROL PLAN PRIOR TO WORKING. WORK WILL NOT BEGIN UNTIL THE SCHEDULE AND THE TRAFFIC CONTROL PLAN ARE APPROVED BY ALL PARTIES.
- THE CONTRACTOR SHALL PROVIDE DIGITAL PHOTOGRAPHS OF THE PROJECT AREAS. IMAGES SHALL BE TAKEN AT ALL PROPERTY FRONTAGES. THE CONTRACTOR SHALL PROVIDE THE PHOTOGRAPHS TO UNION COUNTY PRIOR TO MOBILIZATION.
- ALL WORK STATED IN THESE NOTES, PLANS, AND SPECIFICATION SHALL BE INCLUDED IN THE VARIOUS BID ITEMS UNLESS SPECIFICALLY ITEMIZED ON THE PROPOSAL SHEET. THE CONTRACTOR IS NOT LIMITED TO THE REQUIREMENTS WITHIN THESE NOTES AND IS STRONGLY ADVISED TO REVIEW THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL EXCESS EXCAVATED MATERIAL TO AN OFF-SITE LOCATION AT NO ADDITIONAL COST TO OWNER OR OWNER'S REPRESENTATIVES.

GRADING, DRAINAGE & UTILITY NOTES:

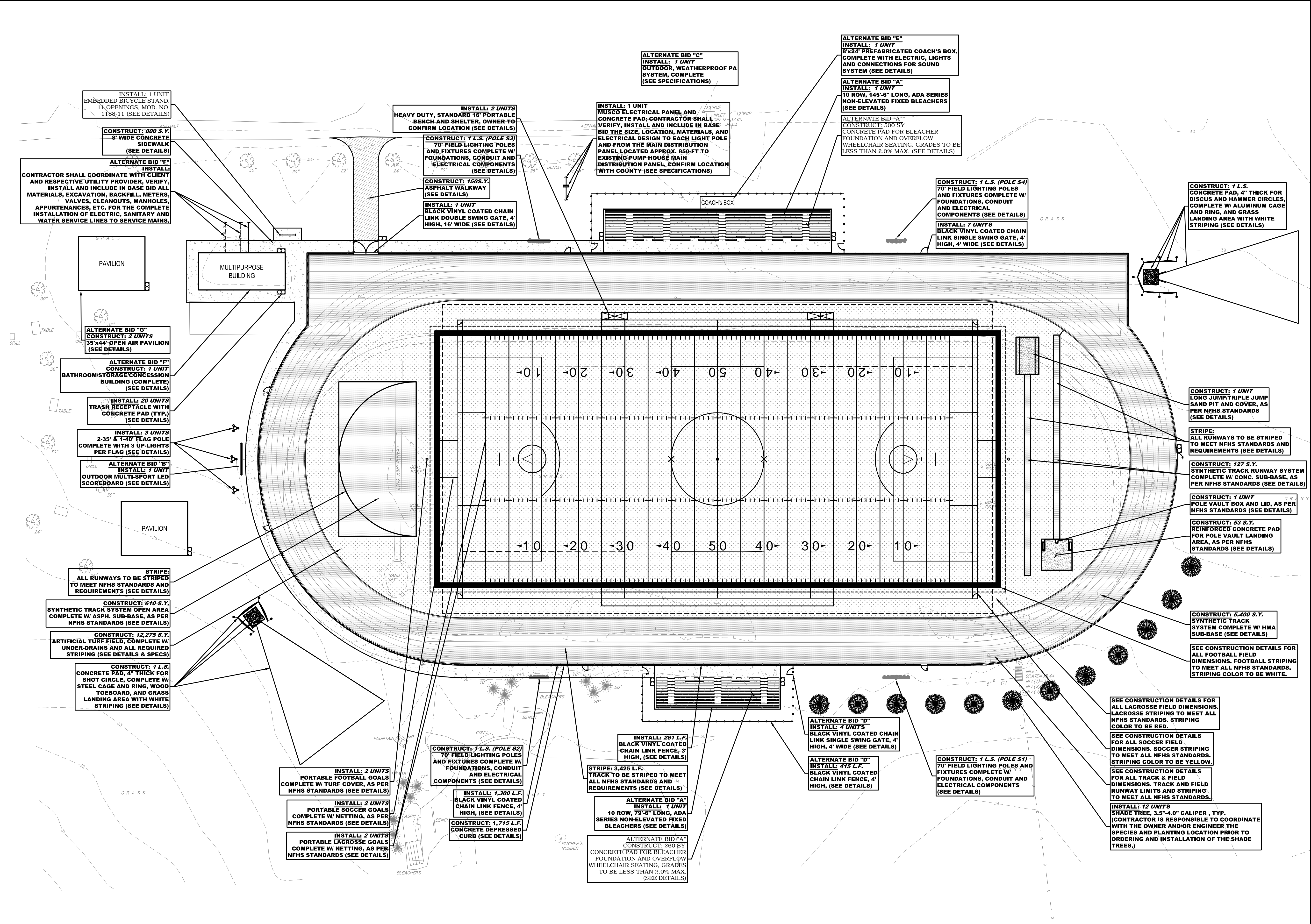
- THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR MAINTAINING A POSITIVE DRAINAGE PATTERN ACROSS ALL FIELDS OF PLAY AND ADJACENT LAWN AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE AND RE-CONSTRUCT ANY AREA THAT HAS BEEN CONSTRUCTED IN A MANNER WHICH NEGATIVELY IMPACTS THE EXISTING DRAINAGE PATTERN.

ADA NOTES:

- THE CONTRACTOR SHALL NOTE THAT ACCESS TO THE TRACK AND FIELD SHALL FULLY COMPLY WITH ALL GUIDELINES AND REQUIREMENTS OUTLINED IN THE AMERICANS WITH DISABILITIES ACT (ADA).

NOTES:

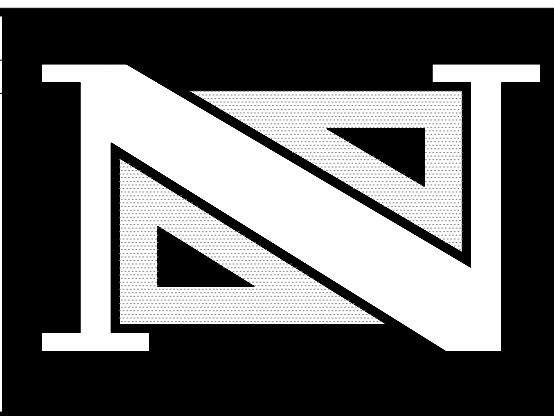
- TOPOGRAPHIC DATA PER MAP ENTITLED " TOPOGRAPHIC SURVEY, UNION COUNTY DEPARTMENT OF PARKS, RAHWAY RIVER PARK, CITY OF RAHWAY, UNION COUNTY, NJ" DATED AUGUST 15, 2011 AS PREPARED BY NEGLIA ENGINEERING ASSOCIATES.



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CERTIFICATE OF AUTHORIZATION (N.J.S.A. 45:8-56) GA 278890

| REVISIONS | | | | |
|-----------|------|-------------|-------|---------|
| NO. | DATE | DESCRIPTION | DRAWN | CHECKED |
| | | | | |



THOMAS R. SOLFARO, P.E., C.M.E.
PROFESSIONAL ENGINEER
N.J. LICENSE NO. 41633

DAVID R. ATKINSON, P.E., C.M.E.
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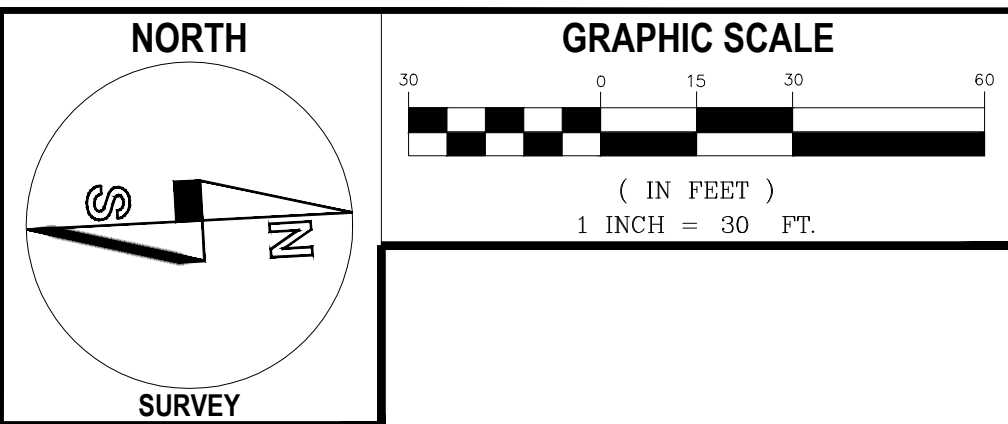
PROFESSIONAL LAND SURVEYOR
N.J. LICENSE NO. 38694

PROFESSIONAL PLANNER
N.J. LICENSE NO. 3809699

SITE PLAN
CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT RAHWAY RIVER PARK
COUNTY OF UNION - PROJECT # 2011-019
BLOCK 201 - LOT 1
CITY OF RAHWAY, NEW JERSEY

UNION COUNTY

DESIGNED BY: D.J.D.R.A. CHECKED BY: T.S. PROJECT NO.: UNIOCTY11.012 SHEET NO.: 3.00
SCALE: 1" = 30' DATE: OCTOBER 2, 2015



CONSTRUCTION NOTES:

1. CONTRACTOR SHALL PROVIDE SOIL EROSION CONTROL MEASURES AS PER NJAC 7:22-10.11 INCLUDING SILT FENCE, INLET FILTER, ETC. THE CONTRACTOR SHALL OBSERVE ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES.
2. WORKING HOURS MUST BE KEPT BETWEEN THE HOURS OF 8:00 AM AND 4:00 PM. ALL WORKING HOURS TO BE CONFIRMED PRIOR TO BIDDING AND AT PRE-CONSTRUCTION MEETING.
3. THE CONTRACTOR SHALL FURNISH AN APPROVED CONSTRUCTION SCHEDULE PRIOR TO MOBILIZATION. THE CONTRACTOR SHALL FURNISH A CONSTRUCTION SCHEDULE AND TRAFFIC CONTROL PLAN PRIOR TO WORKING. WORK WILL NOT BEGIN UNTIL THE SCHEDULE AND THE TRAFFIC CONTROL PLAN ARE APPROVED BY ALL PARTIES.
4. THE CONTRACTOR SHALL PROVIDE DIGITAL PHOTOGRAPHS OF THE PROJECT AREAS. IMAGES SHALL BE TAKEN AT ALL PROPERTY FRONTAGES. THE CONTRACTOR SHALL PROVIDE THE PHOTOGRAPHS TO UNION COUNTY PRIOR TO MOBILIZATION.
5. ALL WORK STATED IN THESE NOTES, PLANS, AND SPECIFICATION SHALL BE INCLUDED IN THE VARIOUS BID ITEMS UNLESS SPECIFICALLY ITEMIZED ON THE PROPOSAL SHEET. THE CONTRACTOR IS NOT LIMITED TO THE REQUIREMENTS WITHIN THESE NOTES AND IS STRONGLY ADVISED TO REVIEW THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
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GRADING, DRAINAGE & UTILITY NOTES:

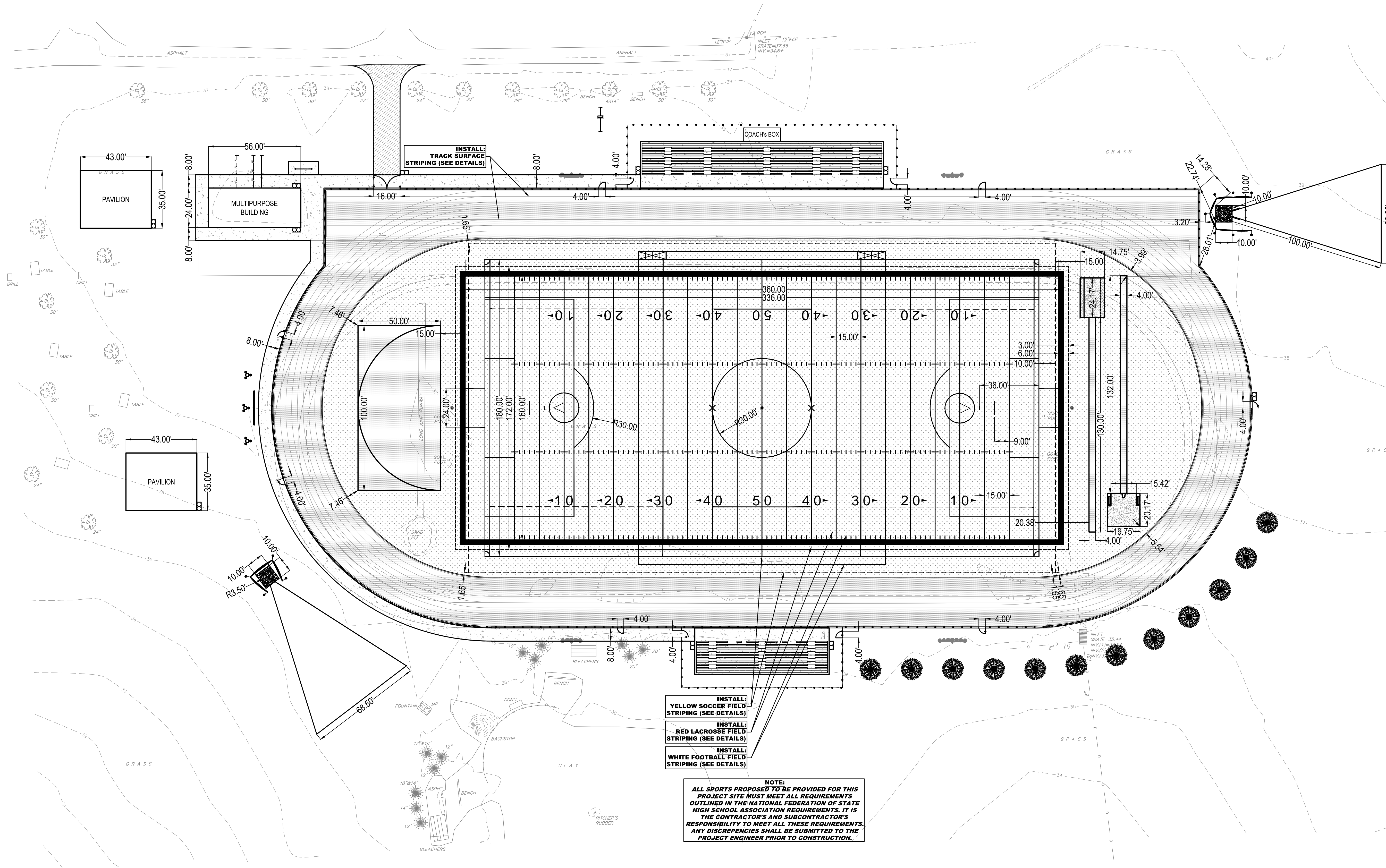
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ADA NOTES:

1. THE CONTRACTOR SHALL NOTE THAT ACCESS TO THE TRACK AND FIELD SHALL FULLY COMPLY WITH ALL GUIDELINES AND REQUIREMENTS OUTLINED IN THE AMERICANS WITH DISABILITIES ACT (ADA).

NOTES:

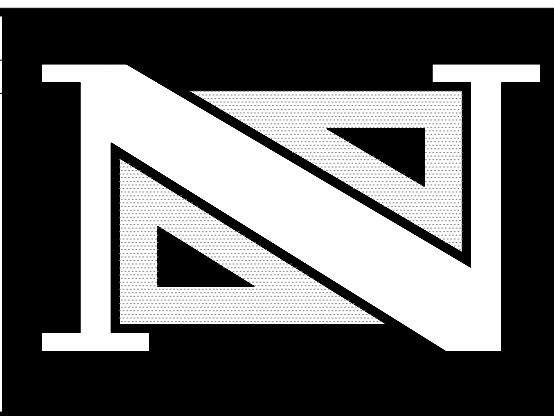
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 N.J. LICENSE NO. 41635

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DIMENSIONAL CONTROL & STRIPING PLAN
 CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT RAHWAY RIVER PARK
 COUNTY OF UNION - PROJECT # 2011-019
 BLOCK 201 - LOT 1
 CITY OF RAHWAY, NEW JERSEY
UNION COUNTY NEW JERSEY
 DRAWN BY: D.J.D.R.A. CHECKED BY: T.S. PROJECT NO: UNIOCTY11.012 SHEET NO: 3.01
 DESIGNED BY: D.J.D.R.A. SCALE: 1" = 30' FIELD BOOK NO: PAGE DATE: OCTOBER 2, 2015

NORTH

GRAPHIC SCALE

(IN FEET)
1 INCH = 30 FT.

SURVEY

CONSTRUCTION NOTES:

1. CONTRACTOR SHALL PROVIDE SOIL EROSION CONTROL MEASURES AS PER NJAC 7:22-10.11 INCLUDING SILT FENCE, INLET FILTER, ETC. THE CONTRACTOR SHALL OBSERVE ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES.
2. WORKING HOURS MUST BE KEPT BETWEEN THE HOURS OF 8:00 AM AND 4:00 PM. ALL WORKING HOURS TO BE CONFIRMED PRIOR TO BIDDING AND AT PRE-CONSTRUCTION MEETING.
3. THE CONTRACTOR SHALL FURNISH AN APPROVED CONSTRUCTION SCHEDULE PRIOR TO MOBILIZATION. THE CONTRACTOR SHALL FURNISH A CONSTRUCTION SCHEDULE AND TRAFFIC CONTROL PLAN PRIOR TO WORKING. WORK WILL NOT BEGIN UNTIL THE SCHEDULE AND THE TRAFFIC CONTROL PLAN ARE APPROVED BY ALL PARTIES.
4. THE CONTRACTOR SHALL DIGITAL COPIES OF PHOTOGRAPHS OF THE PROJECT AREAS. IMAGES SHALL BE TAKEN AT ALL PROPERTY FRONTAGES. THE CONTRACTOR SHALL PROVIDE THE PHOTOGRAPHS TO UNION COUNTY PRIOR TO MOBILIZATION.
5. ALL WORK STATED IN THESE NOTES, PLANS, AND SPECIFICATION SHALL BE INCLUDED IN THE VARIOUS BID ITEMS UNLESS SPECIFICALLY ITEMIZED ON THE PROPOSAL SHEET. THE CONTRACTOR IS NOT LIMITED TO THE REQUIREMENTS WITHIN THESE NOTES AND IS STRONGLY ADVISED TO REVIEW THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL EXCESS EXCAVATED MATERIAL TO AN OFF-SITE LOCATION AT NO ADDITIONAL COST TO OWNER OR OWNER'S REPRESENTATIVES.

GRADING, DRAINAGE & UTILITY NOTES:

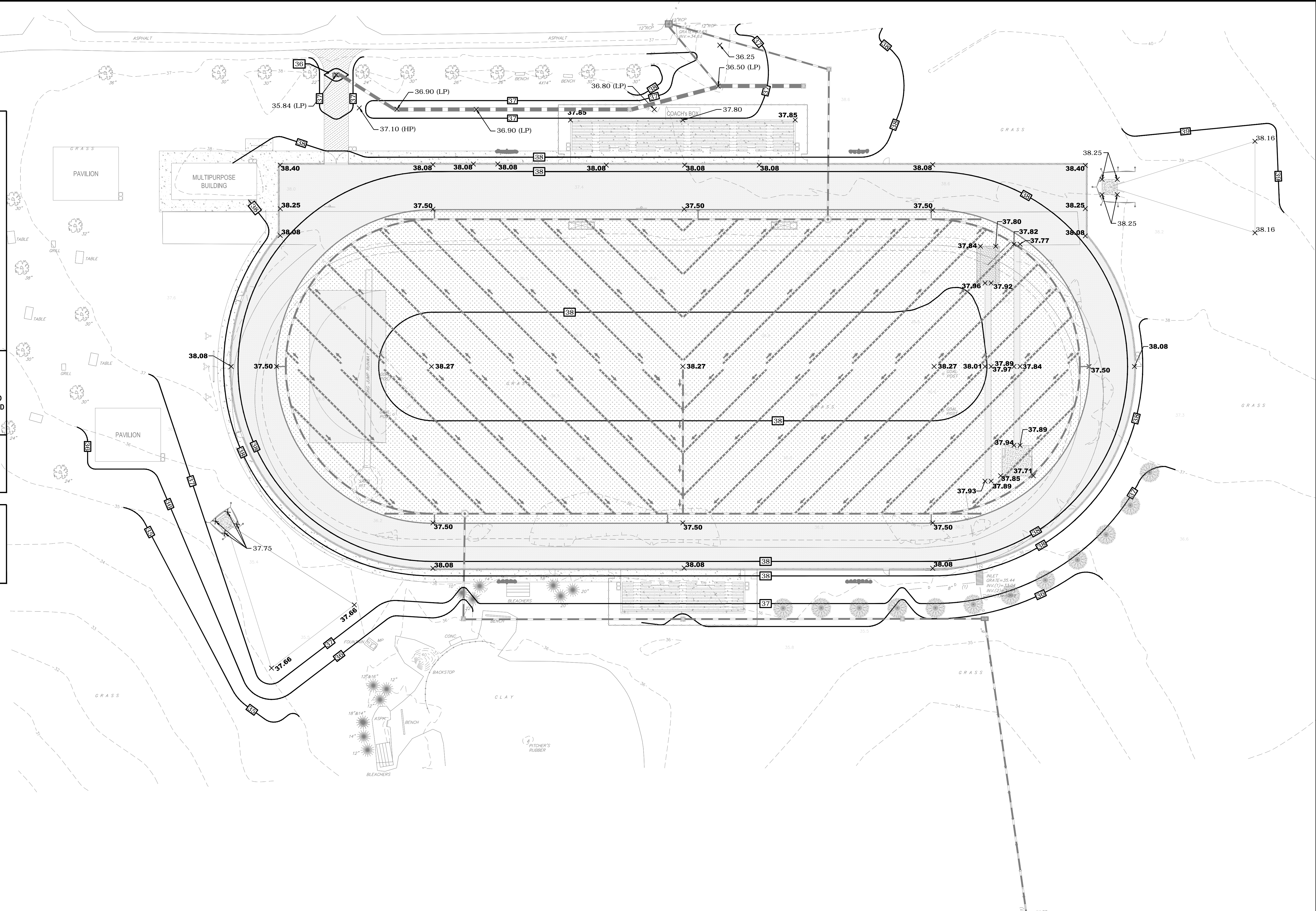
1. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR MAINTAINING A POSITIVE DRAINAGE PATTERN ACROSS ALL FIELDS OF PLAY AND ADJACENT LAWN AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE AND RE-CONSTRUCT ANY AREA THAT HAS BEEN CONSTRUCTED IN A MANNER WHICH NEGATIVELY IMPACTS THE EXISTING DRAINAGE PATTERN.

ADA NOTES:

1. THE CONTRACTOR SHALL NOTE THAT ACCESS TO THE TRACK AND FIELD SHALL FULLY COMPLY WITH ALL GUIDELINES AND REQUIREMENTS OUTLINED IN THE AMERICANS WITH DISABILITIES ACT (ADA).

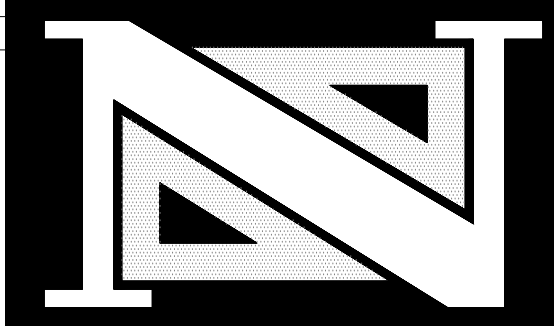
NOTES:

1. TOPOGRAPHIC DATA PER MAP ENTITLED " TOPOGRAPHIC SURVEY, UNION COUNTY DEPARTMENT OF PARKS, RAHWAY RIVER PARK, CITY OF RAHWAY, UNION COUNTY, NJ" DATED AUGUST 15, 2011 AS PREPARED BY NEGLIA ENGINEERING ASSOCIATES.



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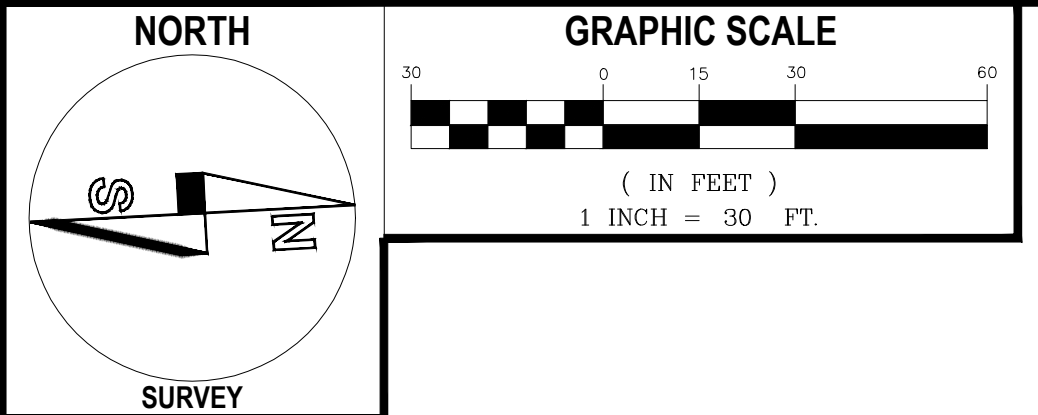
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N.J. LICENSE NO. 38054
N.J. LICENSE NO. 38056/660

GRADING PLAN
CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT RAHWAY RIVER PARK
COUNTY OF UNION - PROJECT # 2011-019
BLOCK 201 - LOT 1
CITY OF RAHWAY, NEW JERSEY

UNION COUNTY **NEW JERSEY**

DRAWN BY: D.J.D.R.A. CHECKED BY: T.S. PROJECT NO: UNIOCTY11.012 SHEET NO: 4.00
DESIGNED BY: D.J.D.R.A. SCALE: 1" = 30' FIELD BOOK NO: DATE: OCTOBER 2, 2015



CONSTRUCTION NOTES:

1. THE CONTRACTOR IS TO PROVIDE SOIL EROSION CONTROL MEASURES AS PER NJAC 7:22-10.11 INCLUDING SILT FENCE, INLET FILTERS, ETC. THE CONTRACTOR SHALL OBSERVE ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES.
2. WORKING HOURS MUST BE KEPT BETWEEN THE HOURS OF 8:00 AM AND 4:00 PM. ALL WORKING HOURS TO BE CONFIRMED PRIOR TO BIDDING AND AT PRE-CONSTRUCTION MEETING.
3. THE CONTRACTOR SHALL FURNISH AN APPROVED CONSTRUCTION SCHEDULE PRIOR TO MOBILIZATION. THE CONTRACTOR SHALL FURNISH A CONSTRUCTION SCHEDULE AND TRAFFIC CONTROL PLAN PRIOR TO WORKING. WORK WILL NOT BEGIN UNTIL THE SCHEDULE AND TRAFFIC CONTROL PLAN ARE APPROVED BY ALL PARTIES.
4. THE CONTRACTOR SHALL FURNISH DIGITAL COPIES OF PHOTOGRAPHS OF THE PROJECT AREAS. IMAGES SHALL BE TAKEN AT ALL PROPERTY OR PROJECT SITE FRONTAGES. THE CONTRACTOR SHALL PROVIDE THE PHOTOGRAPHS TO UNION COUNTY PRIOR TO MOBILIZATION.
5. ALL WORK STATED IN THESE NOTES, PLANS, AND SPECIFICATIONS SHALL BE INCLUDED IN THE VARIOUS BID ITEMS UNLESS SPECIFICALLY ITEMIZED ON THE PROPOSAL SHEET. THE CONTRACTOR IS NOT LIMITED TO THE REQUIREMENTS WITHIN THESE NOTES AND IS STRONGLY ADVISED TO REVIEW THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL EXCESS EXCAVATED MATERIAL TO AN OFF-SITE LOCATION AT NO ADDITIONAL COST TO THE OWNER.

GRADING, DRAINAGE & UTILITY NOTES:

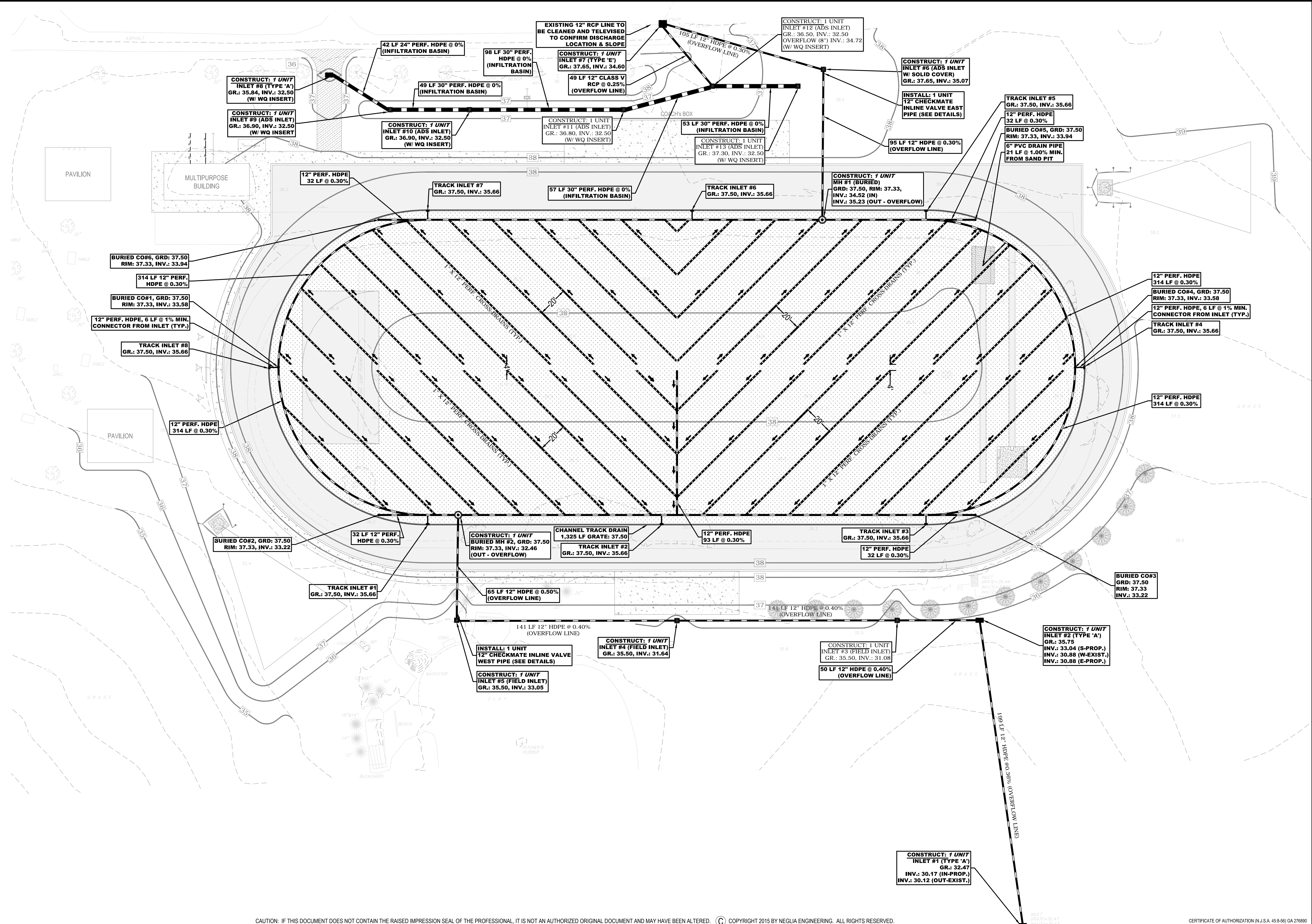
1. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR MAINTAINING A POSITIVE DRAINAGE PATTERN ACROSS ALL FIELDS OF PLAY AND ADJACENT LAWN AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE AND RE-CONSTRUCT ANY AREA THAT HAS BEEN CONSTRUCTED IN A MANNER WHICH NEGATIVELY IMPACTS THE EXISTING DRAINAGE PATTERN.
2. PROPOSED CATCH BASINS CONSTRUCTED AS PART OF THE SUBSURFACE INFILTRATION BASIN SHALL BE EQUIPPED WITH WATER QUALITY CATCH BASIN INSERTS FOR STORMWATER RUNOFF PRE-TREATMENT PRIOR TO BEING INFILTRATED INTO THE SITE SUB-SOILS (REFER TO DETAILS).

ADA NOTE:

1. THE CONTRACTOR SHALL NOTE THAT ACCESS TO THE TRACK AND FIELD SHALL FULLY COMPLY WITH ALL GUIDELINES AND REQUIREMENTS OUTLINES IN THE AMERICANS WITH DISABILITIES ACT (ADA).

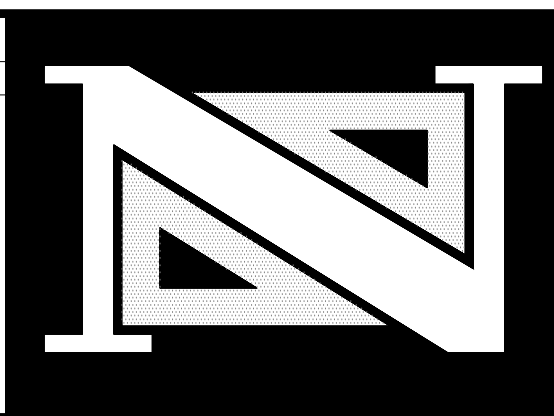
REFERENCE NOTE:

1. TOPOGRAPHIC DATA OBTAINED FROM A MAP ENTITLED "TOPOGRAPHIC SURVEY, UNION COUNTY DEPARTMENT OF PARKS, RAHWAY RIVER PARK, CITY OF RAHWAY, UNION COUNTY, NEW JERSEY," PREPARED BY NEGLIA ENGINEERING ASSOCIATES, DATED AUGUST 15, 2011.



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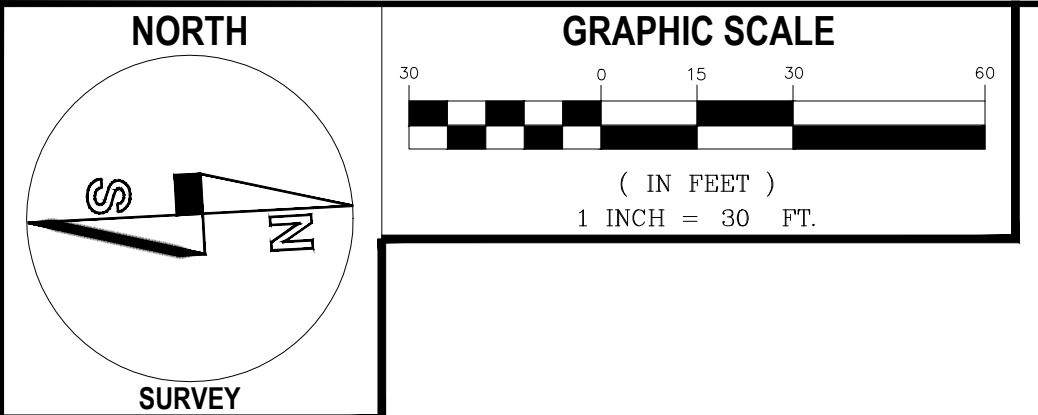
PROFESSIONAL LAND SURVEYOR
N.J. LICENSE NO. 3894

PROFESSIONAL PLANNER
N.J. LICENSE NO. 3896989

DRAINAGE PLAN
CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT RAHWAY RIVER PARK
COUNTY OF UNION - PROJECT # 2011-019
BLOCK 201 - LOT 1
CITY OF RAHWAY, NEW JERSEY

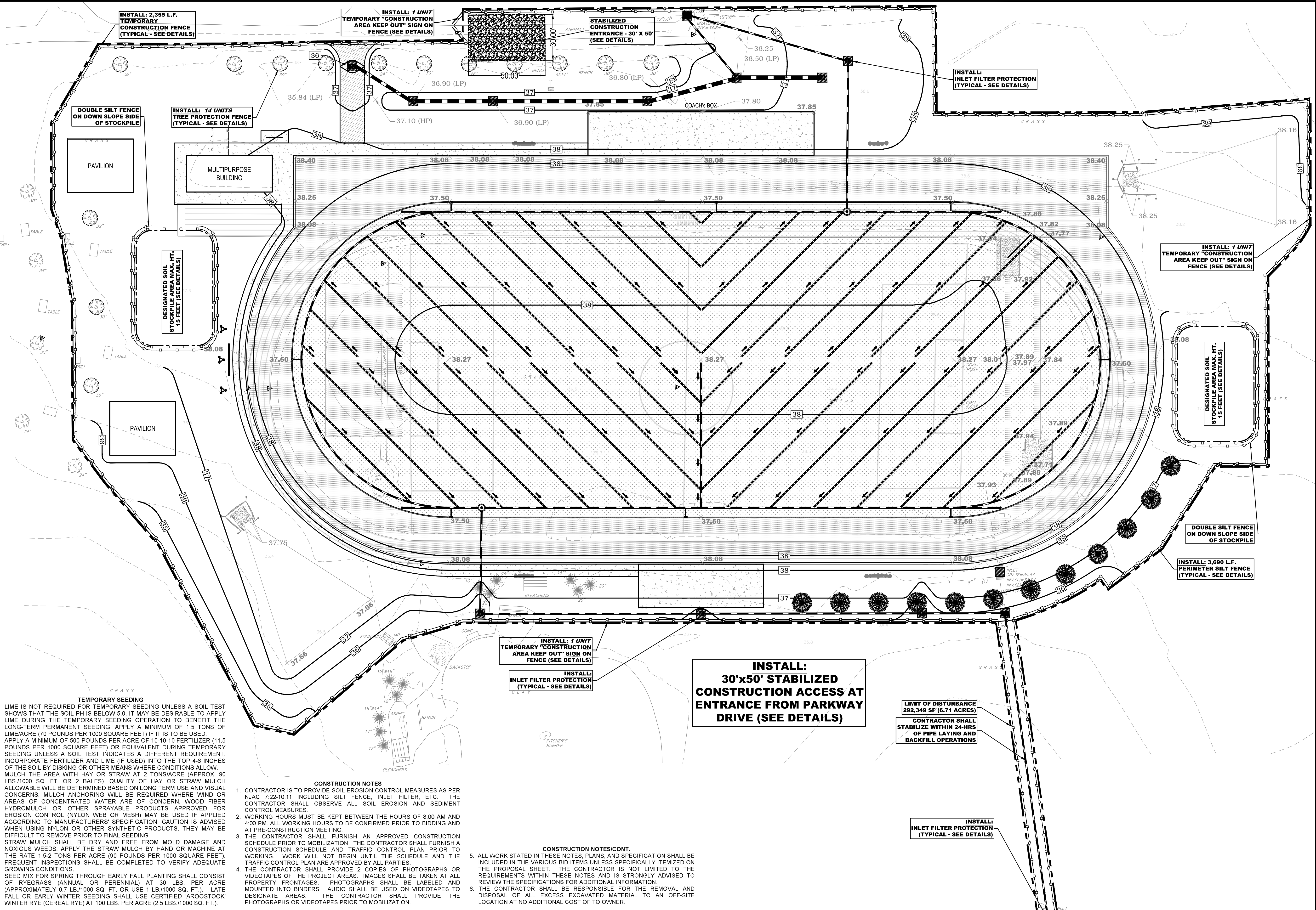
UNION COUNTY
NEW JERSEY

DESIGNED BY: D.J.D.R.A. CHECKED BY: T.S. PROJECT NO: UNIOCTY11.012 SHEET NO: 5.00
SCALE: 1" = 30' DATE: OCTOBER 2, 2015



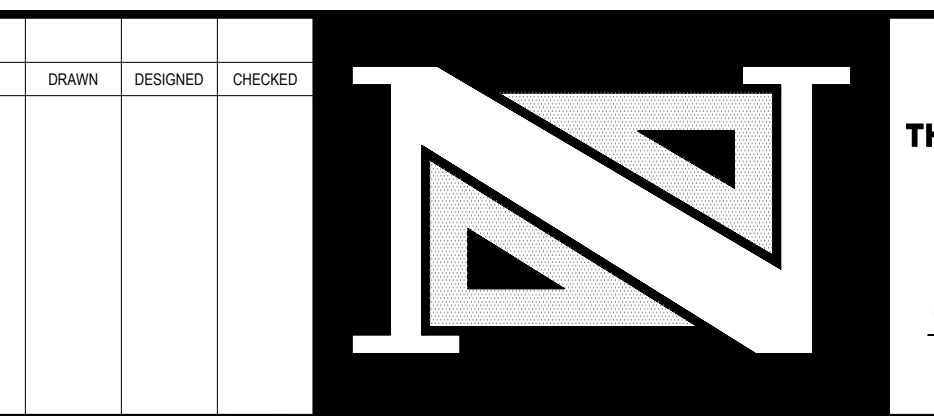
- SOMERSET-UNION COUNTY SOIL CONSERVATION DISTRICT SOIL EROSION AND SEDIMENT CONTROL NOTES:**
1. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
 2. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN 30 DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF A TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW OR EQUIVALENT MATERIAL, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS.
 3. PERMANENT VEGETATION SHALL BE SEEDS OR SODED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING. MULCH WILL BE USED FOR PROTECTION UNTIL SEEDING IS ESTABLISHED.
 4. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STATE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.
 5. A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS IN ORDER TO STABILIZE STREETS, ROADS, DRIVEWAYS AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN 15 DAYS OF PRELIMINARY GRADING.
 6. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES, ROADWAY EMBANKMENTS) WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO THE STATE STANDARDS.
 7. ANY STEEP SLOPES RECEIVING PIPELINE INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION PROCEEDS (I.E. SLOPES GREATER THAN 3:1).
 8. TRAFFIC CONTROL STANDARDS REQUIRE THE INSTALLATION OF A 50'X30'X1" PAD OF 1 1/2" OR 2" STONE, AT ALL CONSTRUCTION DRIVEWAYS, IMMEDIATELY AFTER INITIAL SITE DISTURBANCE.
 9. THE SOMERSET-UNION COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED IN WRITING 48 HOURS IN ADVANCE OF ANY LAND DISTURBING ACTIVITY.
 10. AT THE TIME WHEN THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OR PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
 11. IN THAT N.J.S.A. 4:24-39 ET SEQ., REQUIRES THAT NO CERTIFICATE OF OCCUPANCY BE ISSUED BEFORE THE PROVISIONS OF THE CERTIFIED PLAN FOR SOIL EROSION AND SEDIMENT CONTROL HAVE BEEN COMPLIED WITH FOR PERMANENT MEASURES. ALL SITE WORK FOR SITE PLANS AND ALL WORK AROUND INDIVIDUAL LOTS IN SUBDIVISIONS, WILL HAVE TO BE COMPLETED PRIOR TO THE DISTRICT ISSUING A REPORT OF COMPLIANCE FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE MUNICIPALITY.
 12. CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
 13. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RECERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
 14. THE SOMERSET-UNION COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED OF ANY CHANGES IN OWNERSHIP.
 15. MULCHING IN THE STANDARDS IS REQUIRED FOR OBTAINING A CONDITIONAL REPORT OF COMPLIANCE. CONDITIONS ARE ONLY ISSUED WHEN THE SEASON PROHIBITS SEEDING.
 16. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL ADJACENT ROADS CLEAN DURING THE LIFE OF THE CONSTRUCTION PROJECT.
 17. THE DEVELOPER SHALL BE RESPONSIBLE FOR REMEDIATING ANY EROSION OR SEDIMENT PROBLEMS THAT ARISE AS A RESULT OF ONGOING CONSTRUCTION AT THE REQUEST OF THE SOMERSET-UNION COUNTY SOIL CONSERVATION DISTRICT.
 18. HYDROSEEDING IS A TWO-STEP PROCESS. THE FIRST STEP INCLUDES SEED, FERTILIZER, LIME, ETC., ALONG WITH MINIMAL AMOUNTS OF MULCH TO PROMOTE CONSISTENCY, GOOD SEED TO SOIL CONTACT, AND GIVE A VISUAL INDICATION OF COVERAGE. UPON COMPLETION OF THE SEEDING OPERATION, HYDRO-MULCH SHOULD BE APPLIED AT A RATE OF 1500 LBS. PER ACRE IN THE SECOND STEP. THE USE OF HYDRO-MULCH AS OPPOSED TO STRAW, IS LIMITED TO OPTIMUM SEEDING DATES AS LISTED IN THE STANDARDS.

- PERMANENT SEEDING**
1. TEST THE SOIL TO DETERMINE THE AMOUNTS OF AMENDMENTS NEEDED. SOIL AMENDMENTS SHALL BE INCORPORATED INTO THE UPPER 2 INCHES OF SOIL. APPLY GROUND AGRICULTURAL LIMESTONE TO ATTAIN A PH OF 6.0 IN THE UPPER 2 INCHES OF SOIL. IF SOIL MUST BE FERTILIZED BEFORE RESULTS OF A SOIL TEST CAN BE OBTAINED TO DETERMINE FERTILIZER NEEDS, APPLY COMMERCIAL FERTILIZER AT 600 LBS. PER ACRE OF 5-10-10 OR EQUIVALENT. FERTILIZER SHALL BE A COMMERCIAL-GRADE COMPLETE FERTILIZER OF NEUTRAL CHARACTER, CONSISTING OF FAST- AND SLOW-RELEASE NITROGEN, 50 PERCENT DERIVED FROM NATURAL ORGANIC SOURCES OF UREA FORMALDEHYDE, PHOSPHOROUS, AND POTASSIUM. NITROGEN, PHOSPHOROUS, AND POTASSIUM SHALL BE IN AMOUNTS RECOMMENDED IN SOIL REPORTS FROM A QUALIFIED SOIL-TESTING AGENCY.
 2. MULCH THE AREA WITH HAY OR STRAW AT 2 TONS/ACRE (APPROX. 90 LBS./1000 SQ. FT. OR 2 BALES). QUALITY OF HAY OR STRAW MULCH ALLOWABLE WILL BE DETERMINED BASED ON LONG TERM USE AND VISUAL CONCERNS. MULCH ANCHORING WILL BE REQUIRED WHERE WIND OR AREAS OF CONCENTRATED WATER ARE OF CONCERN. WOOD FIBER HYDROMULCH OR OTHER SPRAYABLE PRODUCTS APPROVED FOR EROSION CONTROL (NYLON WEB OR MESH) MAY BE USED IF APPLIED ACCORDING TO MANUFACTURERS' SPECIFICATION. CAUTION IS ADVISED WHEN USING NYLON OR OTHER SYNTHETIC PRODUCTS. THEY MAY BE DIFFICULT TO REMOVE PRIOR TO FINAL SEEDING.
 3. STRAW MULCH SHALL BE DRY AND FREE FROM MOLD DAMAGE AND NOXIOUS WEEDS. APPLY THE STRAW MULCH BY HAND OR MACHINE AT THE RATE 1.5-2 TONS PER ACRE (90 POUNDS PER 1000 SQUARE FEET). FREQUENT INSPECTIONS SHALL BE COMPLETED TO VERIFY ADEQUATE GROWING CONDITIONS.
 4. SEED MIX FOR SUN AND PARTIAL SHADE, PROPORTIONED BY WEIGHT, SHALL BE 80 PERCENT TURF-TYPE TALL FESCUE CONSISTING OF THREE (3) VARIETIES AT 6-8 POUNDS PER 1000 SQUARE FEET, 10 PERCENT KENTUCKY BLUEGRASS, 10 PERCENT PERENNIAL RYEGRASS AT 3-4 POUNDS PER 1000 SQUARE FEET. SEED MIX SHALL HAVE NOT LESS THAN 95 PERCENT GERMINATION, NOT LESS THAN 85 PERCENT PURE SEED, AND NOT MORE THAN 0.5 PERCENT WEED SEED. SEED VARIETY SHALL HAVE ENDOPHYTES.
- TEMPORARY SEEDING**
1. LIME IS NOT REQUIRED FOR TEMPORARY SEEDING UNLESS A SOIL TEST SHOWS THAT THE SOIL PH IS BELOW 5.0. IT MAY BE DESIRABLE TO APPLY LIME DURING THE TEMPORARY SEEDING OPERATION TO BENEFIT THE LONG-TERM PERMANENT SEEDING. APPLY A MINIMUM OF 1.5 TONS OF LIME/ACRE (70 POUNDS PER 1000 SQUARE FEET) IF IT IS TO BE USED.
 2. APPLY A MINIMUM OF 500 POUNDS PER ACRE OF 10-10-10 FERTILIZER (11.5 POUNDS PER 1000 SQUARE FEET) OR EQUIVALENT DURING TEMPORARY SEEDING UNLESS A SOIL TEST INDICATES A DIFFERENT REQUIREMENT. INCORPORATE FERTILIZER AND LIME (IF USED) INTO THE TOP 4-6 INCHES OF THE SOIL BY DISKING OR OTHER MEANS WHERE CONDITIONS ALLOW.
 3. MULCH THE AREA WITH HAY OR STRAW AT 2 TONS/ACRE (APPROX. 90 LBS./1000 SQ. FT. OR 2 BALES). QUALITY OF HAY OR STRAW MULCH ALLOWABLE WILL BE DETERMINED BASED ON LONG TERM USE AND VISUAL CONCERNS. MULCH ANCHORING WILL BE REQUIRED WHERE WIND OR AREAS OF CONCENTRATED WATER ARE OF CONCERN. WOOD FIBER HYDROMULCH OR OTHER SPRAYABLE PRODUCTS APPROVED FOR EROSION CONTROL (NYLON WEB OR MESH) MAY BE USED IF APPLIED ACCORDING TO MANUFACTURERS' SPECIFICATION. CAUTION IS ADVISED WHEN USING NYLON OR OTHER SYNTHETIC PRODUCTS. THEY MAY BE DIFFICULT TO REMOVE PRIOR TO FINAL SEEDING.
 4. STRAW MULCH SHALL BE DRY AND FREE FROM MOLD DAMAGE AND NOXIOUS WEEDS. APPLY THE STRAW MULCH BY HAND OR MACHINE AT THE RATE 1.5-2 TONS PER ACRE (90 POUNDS PER 1000 SQUARE FEET). FREQUENT INSPECTIONS SHALL BE COMPLETED TO VERIFY ADEQUATE GROWING CONDITIONS.
 5. SEED MIX FOR SPRING THROUGH EARLY FALL PLANTING SHALL CONSIST OF RYEGRASS (ANNUAL OR PERENNIAL) AT 30 LBS. PER ACRE (APPROXIMATELY 0.7 LB./1000 SQ. FT. OR USE 1 LB./1000 SQ. FT.). LATE FALL OR EARLY WINTER SEEDING SHALL USE CERTIFIED 'AROOSTOCK' WINTER RYE (CEREAL RYE) AT 100 LBS. PER ACRE (2.5 LBS./1000 SQ. FT.).



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N.J. LICENSE NO. 38954

PROFESSIONAL PLANNER
N.J. LICENSE NO. 38959

SOIL EROSION & SEDIMENT CONTROL PLAN
CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT RAHWAY RIVER PARK
COUNTY OF UNION - PROJECT # 2011-019
BLOCK 201 - LOT 1
CITY OF RAHWAY, NEW JERSEY

UNION COUNTY

UNIOCTY11.012
SHEET NO. 6.00
DATE: OCTOBER 2, 2015

SOMERSET-UNION COUNTY SOIL CONSERVATION DISTRICT

- ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
- ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN 30 DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF A TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW OR EQUIVALENT MATERIAL, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS.
- PERMANENT VEGETATION SHALL BE SEEDING OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING. MULCH WILL BE USED FOR PROTECTION UNTIL SEEDING IS ESTABLISHED.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STATE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.
- A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS IN ORDER TO STABILIZE STREETS, ROADS, DRIVEWAYS AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN 15 DAYS OF PRELIMINARY GRADING.
- IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES, EMBANKMENTS) WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO THE STATE STANDARDS.
- ANY STEEP SLOPES RECEIVING PIPELINE INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION PROCEEDS (I.E. SLOPES GREATER THAN 3:1).
- TRAFFIC CONTROL STANDARDS REQUIRE THE INSTALLATION OF A 50'X30'X1" PAD OF 1 1/2" OR 2" STONE, AT ALL CONSTRUCTION DRIVEWAYS, IMMEDIATELY AFTER INITIAL SITE DISTURBANCE.
- THE SOMERSET-UNION SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED IN WRITING 48 HOURS IN ADVANCE OF ANY LAND DISTURBING ACTIVITY.
- AT THE TIME WHEN THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER, SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OR PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
- IN THAT N.J.S.A. 4-24-39 ET SEQ. REQUIRES THAT NO CERTIFICATE OF OCCUPANCY BE ISSUED BEFORE THE PROVISIONS OF THE CERTIFIED PLAN FOR SOIL EROSION AND SEDIMENT CONTROL HAVE BEEN COMPLIED WITH FOR PERMANENT MEASURES, ALL SITE WORK FOR SITE PLANS AND ALL WORK AROUND INDIVIDUAL LOTS IN SUBDIVISIONS, WILL HAVE TO BE COMPLETED PRIOR TO THE DISTRICT ISSUING A REPORT OF COMPLIANCE FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE MUNICIPALITY.
- CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
- ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RECERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
- THE SOMERSET-UNION SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED OF ANY CHANGES IN OWNERSHIP.
- MULCHING IN THE STANDARDS IS REQUIRED FOR OBTAINING A CONDITIONAL REPORT OF COMPLIANCE. CONDITIONS ARE ONLY ISSUED WHEN THE SEASON PROHIBITS SEEDING.
- THE CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL ADJACENT ROADS CLEAN DURING THE LIFE OF THE CONSTRUCTION PROJECT.
- THE DEVELOPER SHALL BE RESPONSIBLE FOR REMEDIATING ANY EROSION OR SEDIMENT PROBLEMS THAT ARISE AS A RESULT OF ONGOING CONSTRUCTION AT THE REQUEST OF THE SOMERSET-UNION SOIL CONSERVATION DISTRICT.
- HYDROSEEDING IS A TWO-STEP PROCESS. THE FIRST STEP INCLUDES SEED, FERTILIZER, LIME, ETC., ALONG WITH MINIMAL AMOUNTS OF MULCH TO PROMOTE CONSISTENCY, GOOD SEED TO SOIL CONTACT, AND GIVE A VISUAL INDICATION OF COVERAGE. UPON COMPLETION OF THE SEEDING OPERATION, HYDRO-MULCH SHOULD BE APPLIED AT A RATE OF 1500 LBS. PER ACRE IN THE SECOND STEP. THE USE OF HYDRO-MULCH AS OPPOSED TO STRAW, IS LIMITED TO OPTIMUM SEEDING DATES AS LISTED IN THE STANDARDS.

SEQUENCE OF CONSTRUCTION

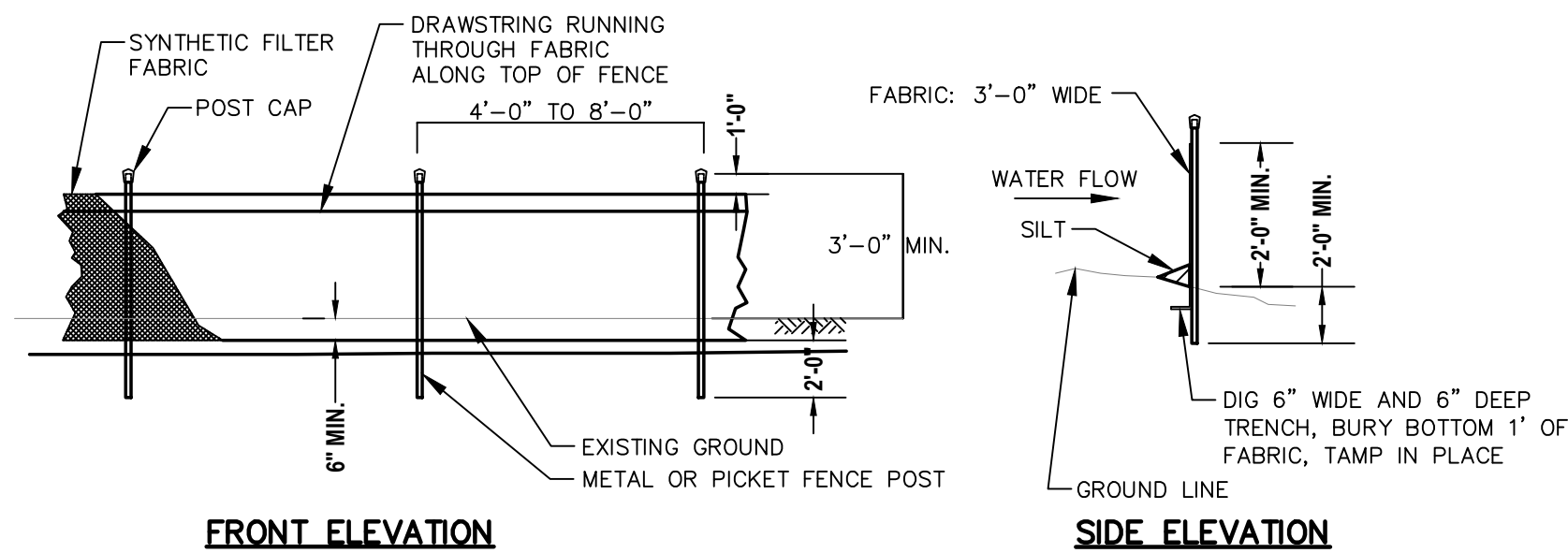
- INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE & INLET FILTERS 1 WEEK
- DEMOLITION & SITE CLEARING 2 WEEKS
- SITE GRADING AND SOIL COMPACTION 3 WEEKS
- INSTALL UNDERDRAINAGE & CONVEYANCE SYSTEMS 5 WEEKS
- CONSTRUCT TRACK AND EVENT SUB-BASES 4 WEEKS
- INSTALL FENCING 1 WEEK
- INSTALL SYNTHETIC TURF FIELD 2 WEEKS
- INSTALL ALL-WEATHER TRACK SURFACES 2 WEEKS
- INSTALL AMENITIES, FLAGS, BENCHES, BLEACHERS, ETC. 1 WEEK
- TOPSOIL & SEED DISTURBED AREAS 2 WEEKS
- REMOVE SOIL EROSION AND SEDIMENT CONTROL DEVICES, FINAL SITE CLEANUP 2 WEEKS

TOTAL = 25 WEEKS*

* SOME ITEMS MAY OCCUR SIMULTANEOUSLY DURING CONSTRUCTION

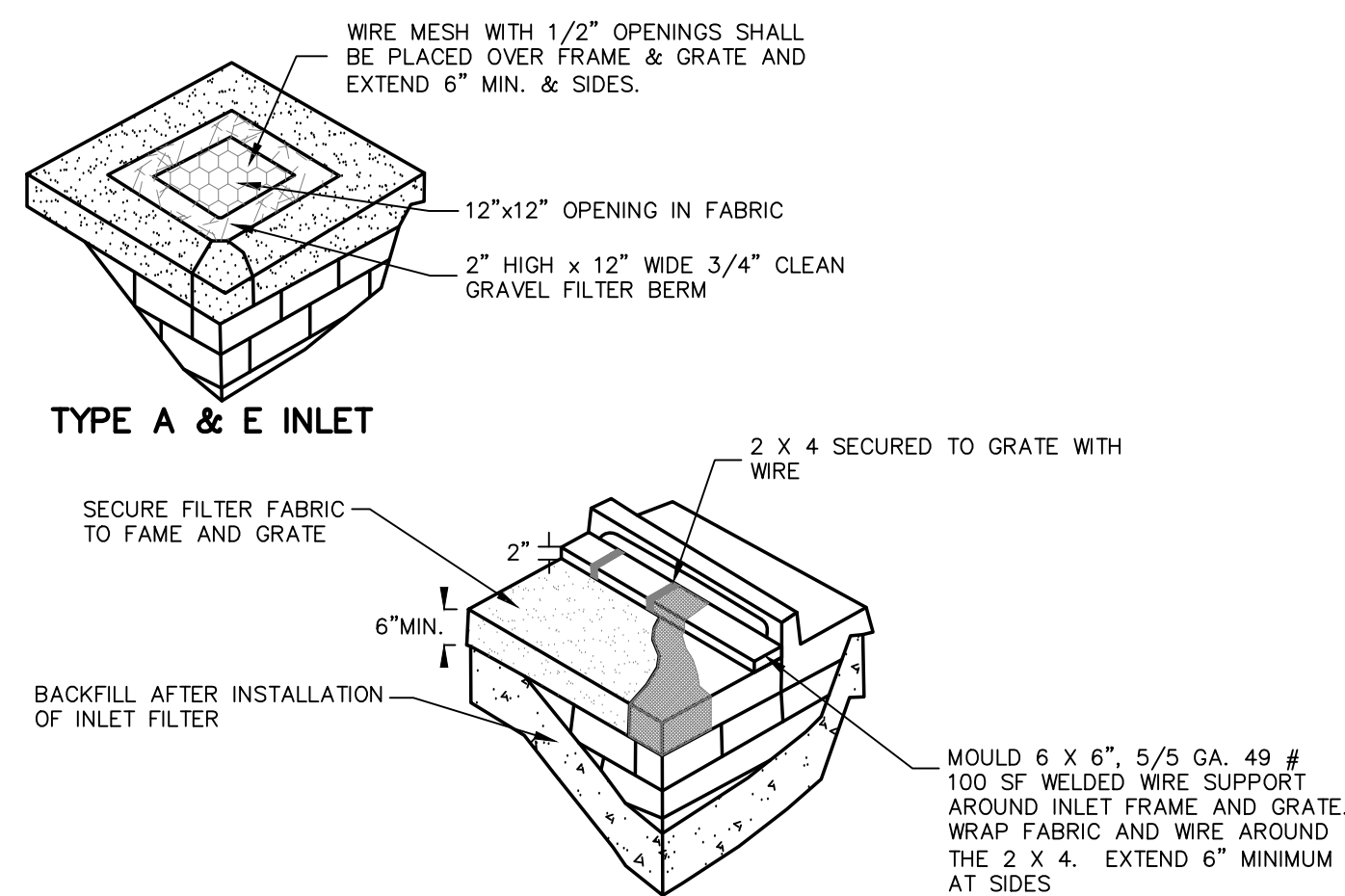
LIMIT OF DISTURBANCE = 292,349 SF (6.71 AC)

- NOTES:
- CONTRACTOR SHALL MAINTAIN AND REMOVE SILT COLLECTED ON UP-SLOPE SIDE OF SILT FENCE AFTER EACH STORM EVENT.
 - CONTRACTOR SHALL PROVIDE CONTRASTING SAFETY CAPS AT TOP OF EACH FENCE POST.



SEDIMENT SILT FENCE

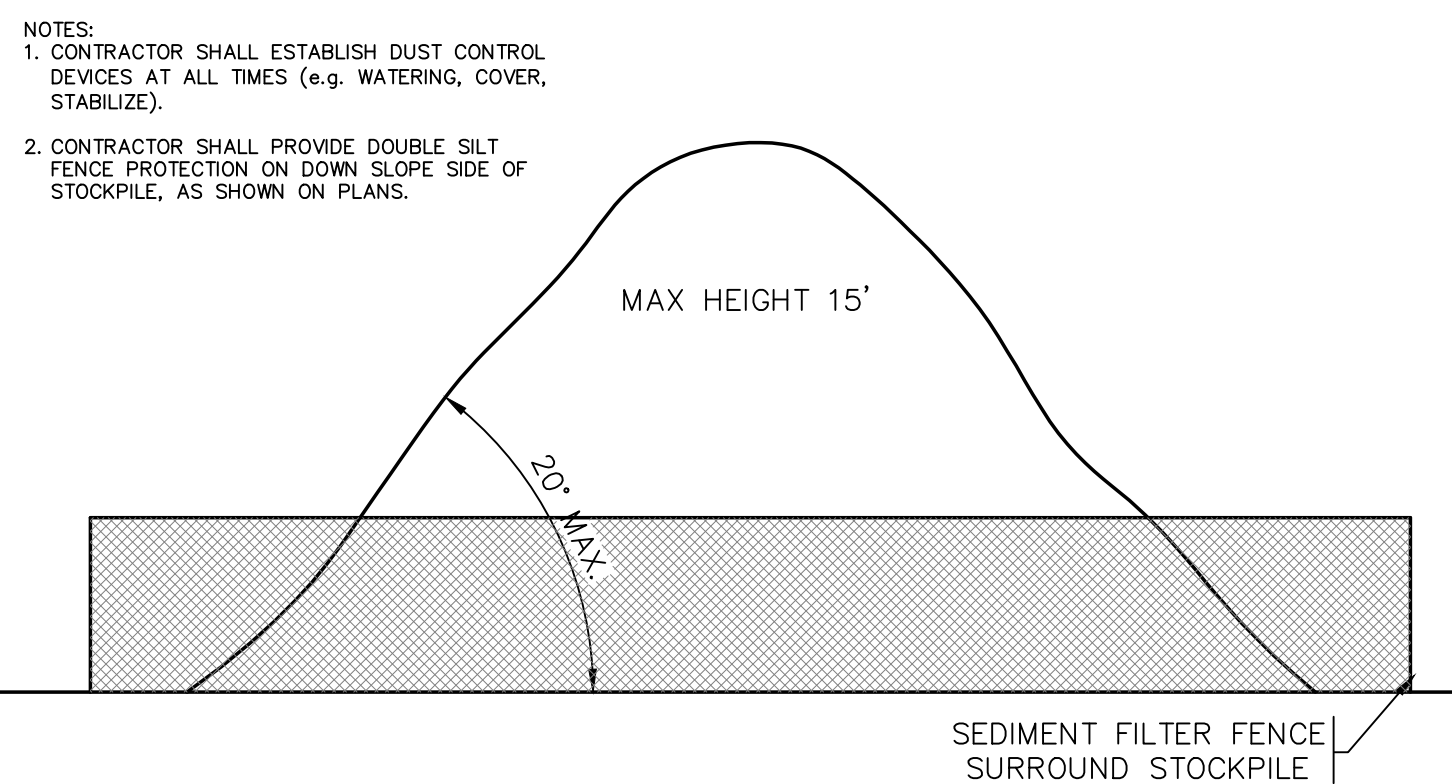
NOT TO SCALE



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

INLET FILTER PROTECTION

NOT TO SCALE



SOIL STOCKPILE

NOT TO SCALE

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A PROJECT OF

NEGLIA ENGINEERING ASSOCIATES

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TEL: 201-939-8905

LYNDHURST
NJ, 201-939-0846

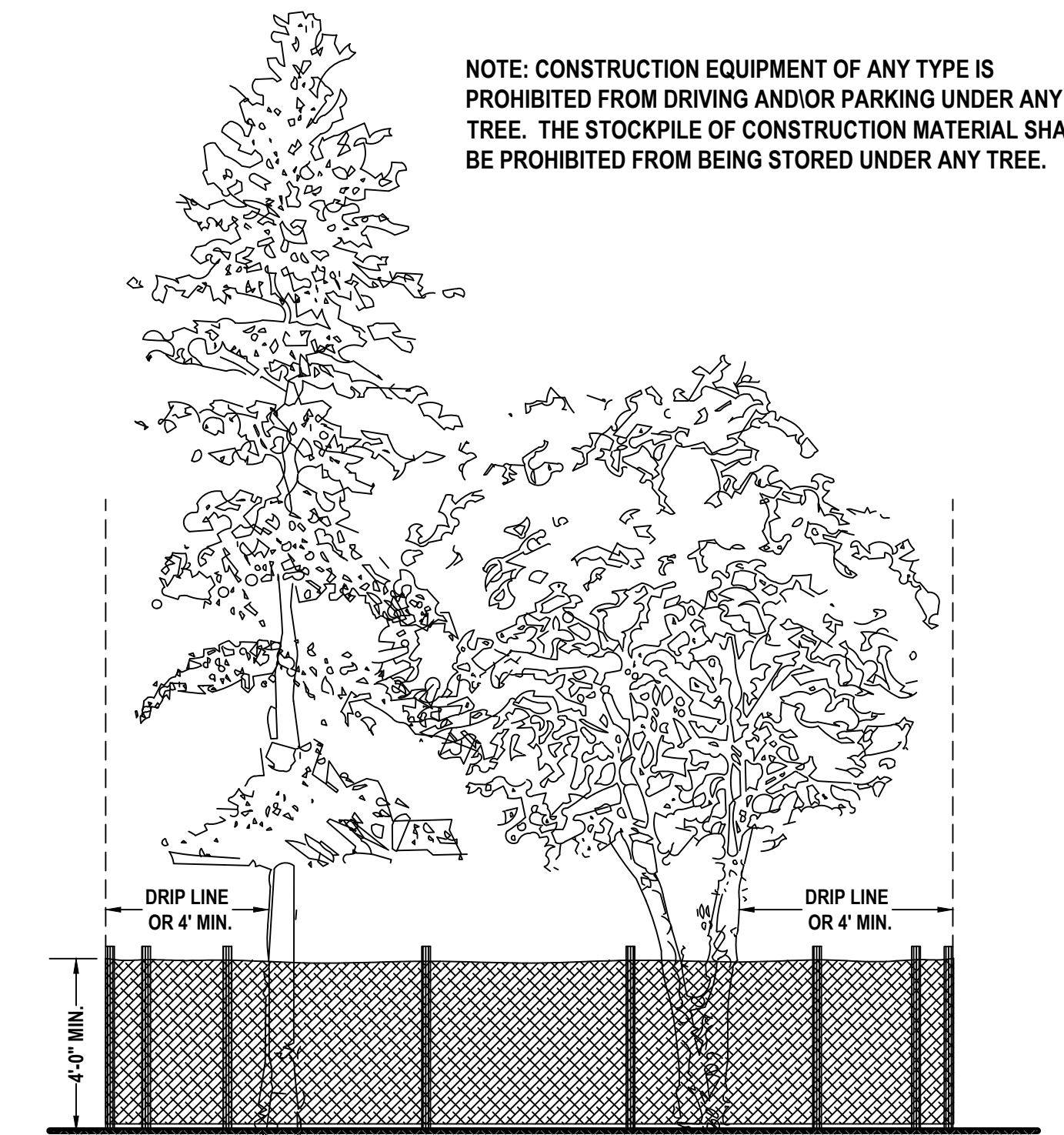
NEW JERSEY
E-MAIL: NE@NEGLIAENGINEERING.COM

MICHAEL J. NEGLIA, P.E., P.L.S., P.P.

PROFESSIONAL ENGINEER
N.J. LICENSE NO. 38064

PROFESSIONAL LAND SURVEYOR
N.J. LICENSE NO. 38064

PROFESSIONAL PLANNER
N.J. LICENSE NO. 38069

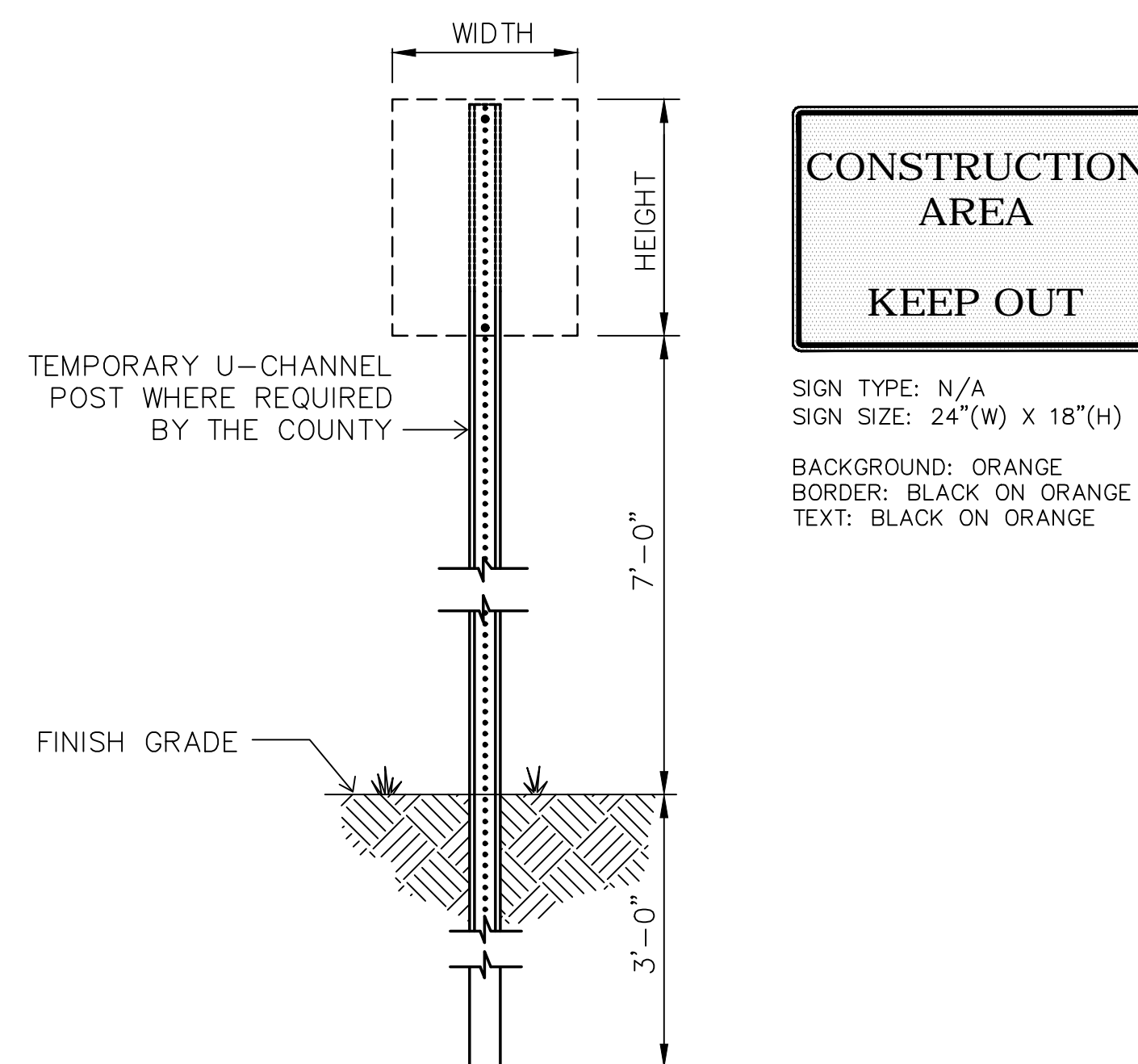


NOTE: CONSTRUCTION EQUIPMENT OF ANY TYPE IS PROHIBITED FROM DRIVING AND/OR PARKING UNDER ANY TREE. THE STOCKPILE OF CONSTRUCTION MATERIAL SHALL BE PROHIBITED FROM BEING STORED UNDER ANY TREE.

4' WOOD SNOW FENCE OR PLASTIC CONSTRUCTION FENCE SECURED TO METAL POSTS SPACED MAXIMUM 8' ON CENTER. FENCE TO BE PLACED AT THE TREE DRIP LINE FOR ALL TREES LOCATED WITHIN LIMIT OF DISTURBANCE AREA.

TREE PROTECTION FENCE

NOT TO SCALE



CONSTRUCTION AREA

KEEP OUT

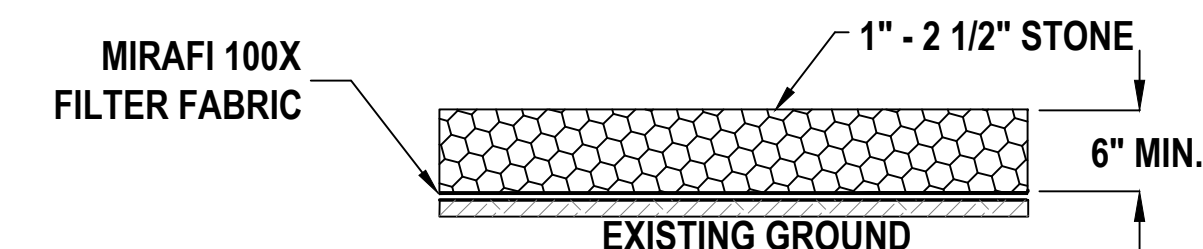
SIGN TYPE: N/A
SIGN SIZE: 24"(W) X 18"(H)

BACKGROUND: ORANGE
BORDER: BLACK ON ORANGE
TEXT: BLACK ON ORANGE

- NOTES:
- ALL TEMPORARY TRAFFIC CONTROL CONSTRUCTION SIGNS MUST CONFORM IN FACE DESIGN (TYPE VI, REFLECTIVE SHEETING) AND CONSTRUCTION TO SPECIFICATIONS FOUND IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND COUNTY REQUIREMENTS, AS REVISED.
 - CONTRACTOR SHALL INSTALL TEMPORARY SIGN POST AND SIGN WHERE REQUIRED BY THE COUNTY. SEE PLANS FOR TEMPORARY SIGN LOCATION MOUNTED TO TEMPORARY CONSTRUCTION FENCE.

TEMPORARY CONSTRUCTION SIGN

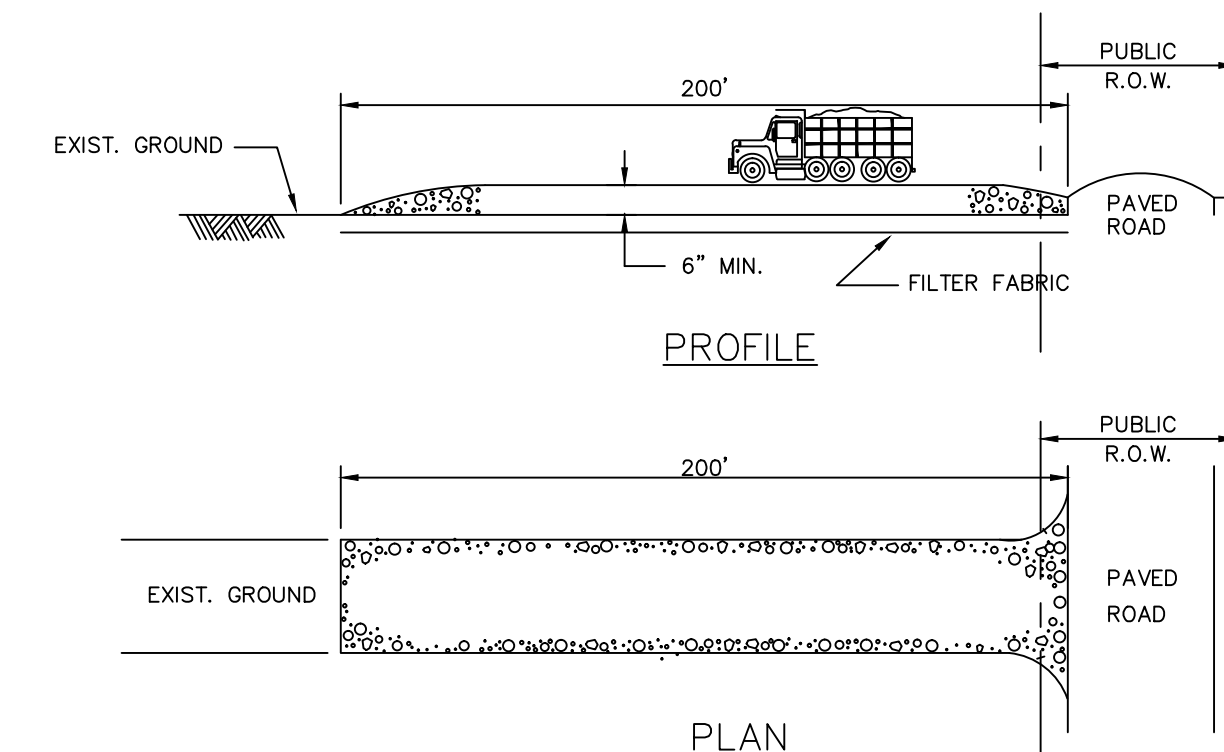
NOT TO SCALE



NOTE: APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND PUBLIC R.O.W. MUST BE PROVIDED.

STABILIZED CONSTRUCTION PAD

NOT TO SCALE



NOTES:

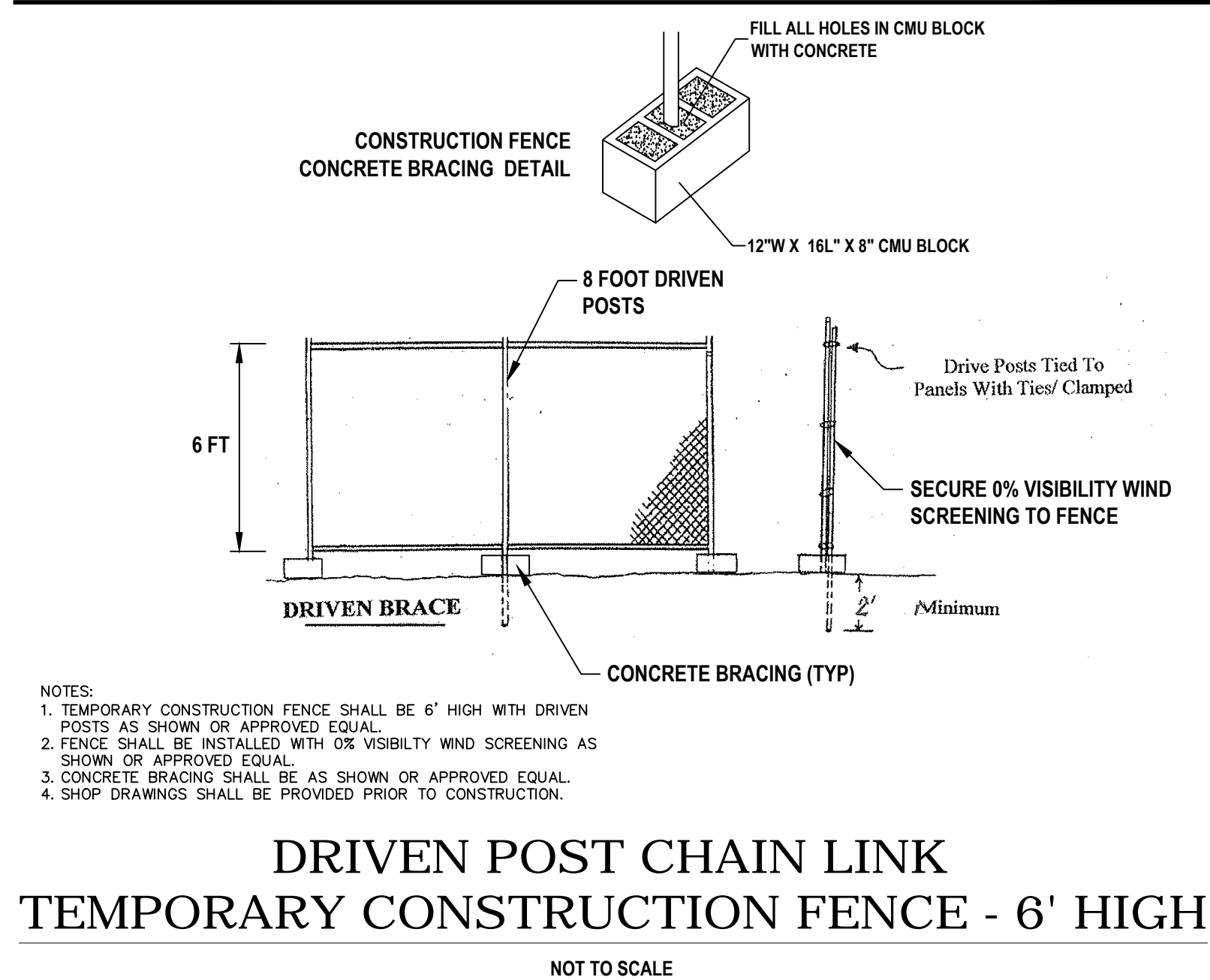
- STONE SIZE 1 1/2" - 2 1/2" CRUSHED STONE
- WIDTH NOT LESS THAN FULL WIDTH AT POINTS OF EGRESS AND INGRESS.
- WASHING: WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC R.O.W. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT BASIN.
- MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC R.O.W. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRAPPED ONTO PUBLIC R.O.W. MUST BE REMOVED IMMEDIATELY.
- WHEN THE CONSTRUCTION ACCESS EXITS ONTO A MAJOR ROADWAY, A PAVED TRANSITION AREA MAY BE INSTALLED BETWEEN THE MAJOR ROADWAY AND THE STONED ENTRANCE TO PREVENT LOOSE STONES FROM BEING TRANSPORTED OUT ONTO THE ROADWAY BY HEAVY EQUIPMENT ENTERING OR LEAVING THE SITE.

| PERCENT SLOPE OF ROADWAY | LENGTH OF STONE REQUIRED | |
|--------------------------|--|--------------------|
| | COARSE GRAINED SOILS | FINE GRAINED SOILS |
| 0 TO 2% | 50 ft. | 100ft. |
| 2 TO 5% | 100ft. | 200ft. |
| >5% | ENTIRE SURFACE STABILIZED WITH FABC BASE COURSE ¹ | |

1. AS PRESCRIBED BY LOCAL ORDINANCE OR OTHER GOVERNING AUTHORITY

STABILIZED CONSTRUCTION DRIVEWAY

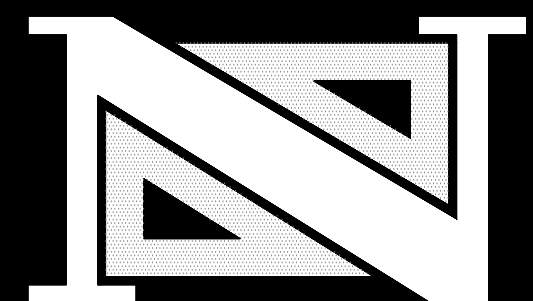
NOT TO SCALE



**DRIVEN POST CHAIN LINK
TEMPORARY CONSTRUCTION FENCE - 6' HIGH**

NOT TO SCALE

| REVISIONS | | | | | |
|-----------|------|-------------|-------|----------|---------|
| NO. | DATE | DESCRIPTION | DRAWN | DESIGNED | CHECKED |
| | | | | | |



THOMAS R. SOLFARO, P.E., C.M.E.
PROFESSIONAL ENGINEER
N.J. LICENSE NO. 41633

DAVID R. ATKINSON, P.E., C.M.E.
PROFESSIONAL ENGINEER
N.J. LICENSE NO. 45306

CONSTRUCTION DETAILS

CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT RAHWAY RIVER PARK

COUNTY OF UNION - PROJECT # 2011-019

BLOCK 201 - LOT 1

CITY OF RAHWAY, NEW JERSEY

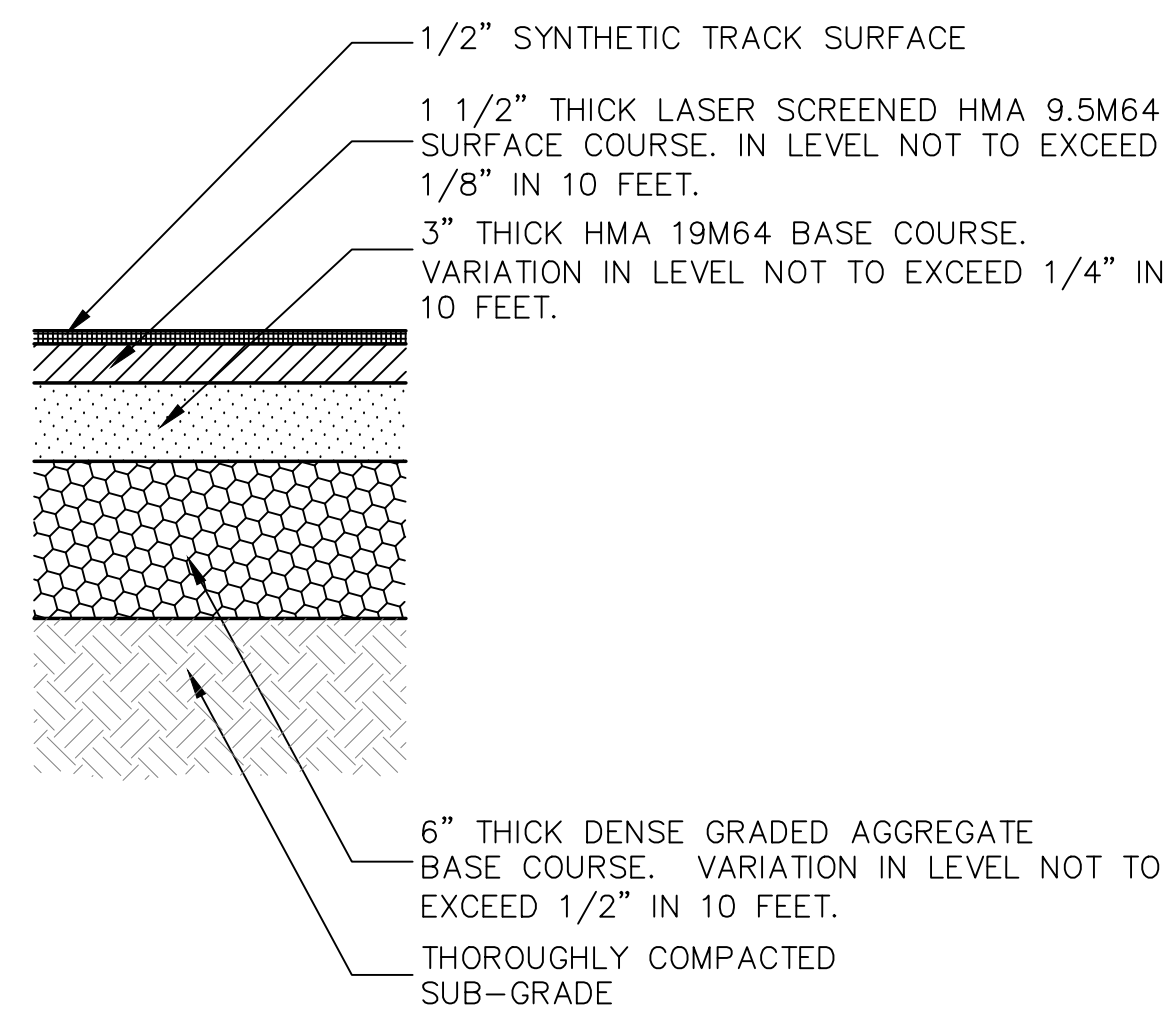
UNION COUNTY

NEW JERSEY

DRAWN BY: D.J.D.R.A. CHECKED BY: T.S. PROJECT NO: UNIOCTY11.012 SHEET NO: 7.00

DESIGNED BY: D.J.D.R.A. SCALE: N.T.S. DATE: OCTOBER 2, 2015

NOTES:
 1. Unit price bid on all track surface shall include the cost of excavation, disposal of excess soil, compaction of natural soil, 6" thick DGA bedding, 3" base course of 19M64, 1.5" surface course of 9.5M64, 1/2" thick track surface, any laser leveling methods and all else necessary and incidental thereto.

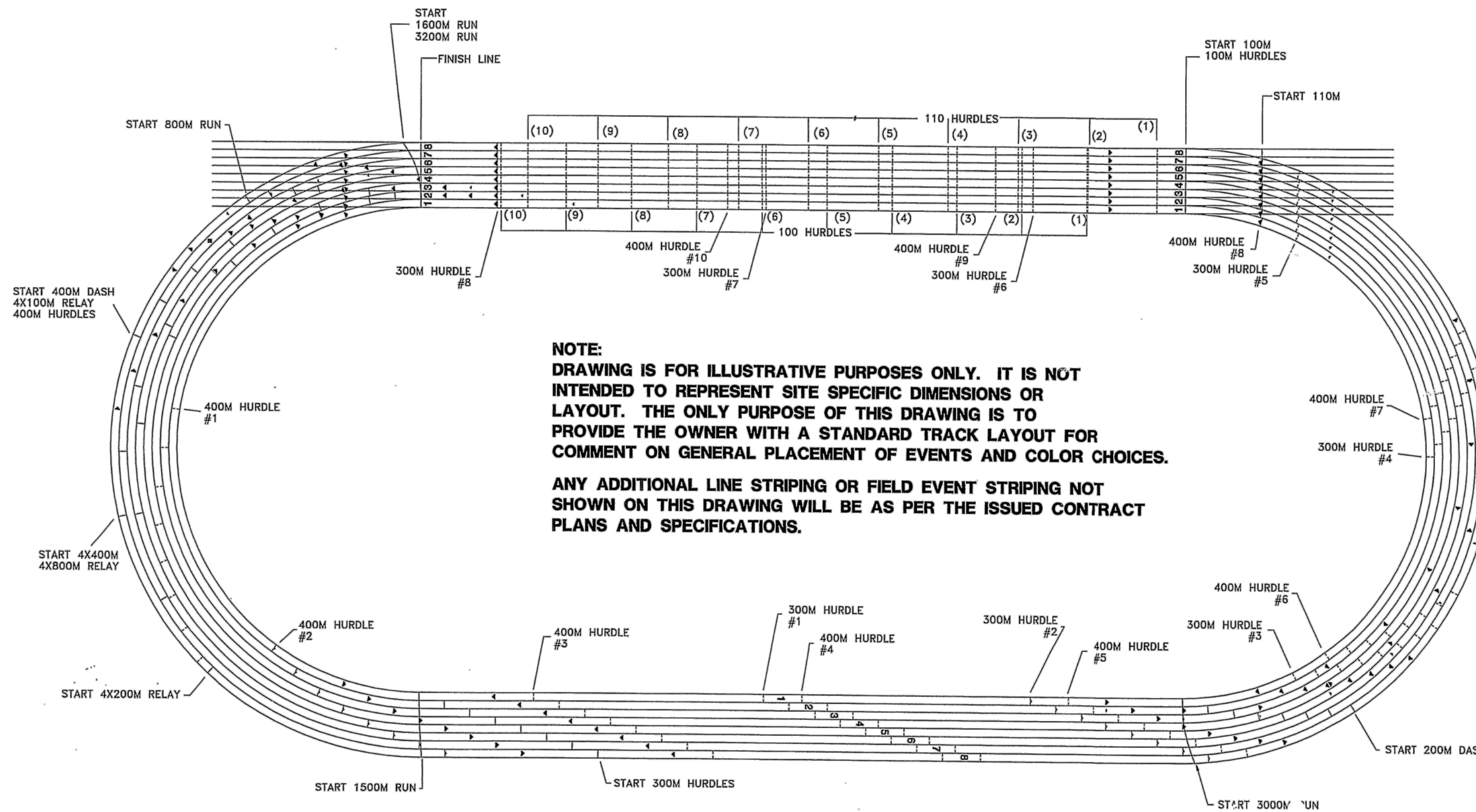


- NOTES:
 DRAINAGE:
 1. INSURE THAT WATER WILL DRAIN FROM TRACK TO INFIELD DRAINAGE SYSTEM.
- LEVEL:
 1. VARIATION NOT TO EXCEED 1/8" IN 10 FEET FOR BITUMINOUS CONCRETE SURFACE COURSE, MIX 1-5.
 2. VARIATION NOT TO EXCEED 1/4" IN 10 FEET FOR BITUMINOUS STABILIZED BASE COURSE, MIX 1-2.
 3. VARIATION NOT TO EXCEED 1/2" IN 10 FEET FOR DENSE GRADED AGGREGATE.
- ASPHALT:
 1. 3/8" MINUS AGGREGATE IN TOP 1.5" LIFT.
 2. STABILOMETER VALUE 32 MINIMUM (>35 RECOMMENDED).
 3. SAND EQUIVALENT 30 MINIMUM
 4. OIL 6.3 ± 0.5% ON DRY AGGREGATE.

- INSPECTION AT HOT PLANT
 1. NO OVERSIZE AGGREGATE, PROPER GRADATION, ADEQUATE FINES.
- INSPECTION AT JOB SITE:
 1. SUBGRADE LEVEL AND COMPACTED TO SPEC.
 2. TEMPERATURE 290 - 325 DEGREES F.
 3. NUCLEAR COMPACTION TEST MINIMUM 90% (95% RECOMMENDED)

ALL WEATHER SYNTHETIC TRACK SURFACING DETAIL

NOT TO SCALE



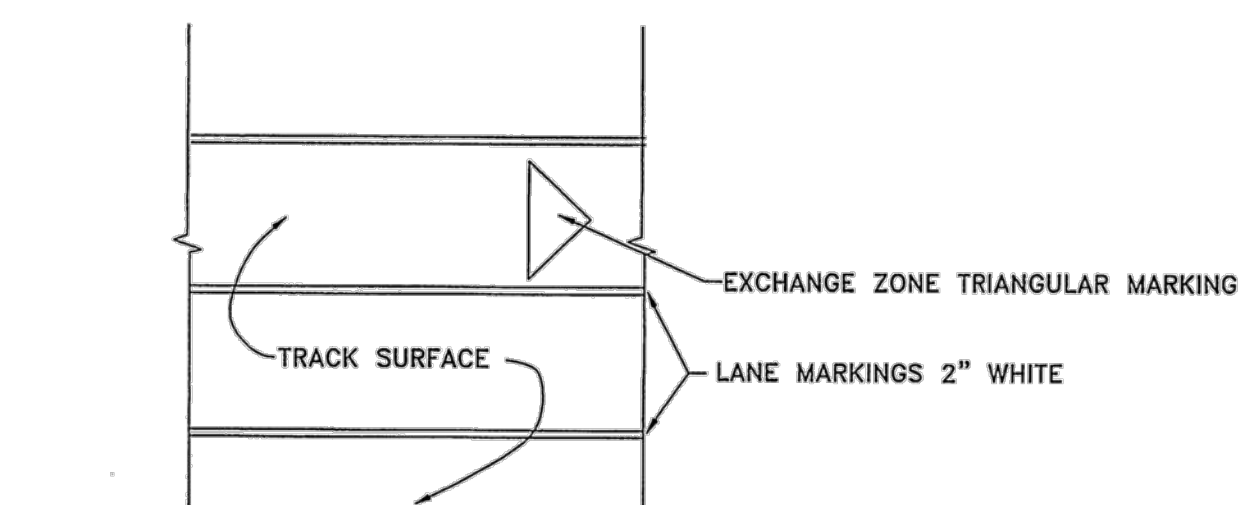
NOTE:
 DRAWING IS FOR ILLUSTRATIVE PURPOSES ONLY. IT IS NOT INTENDED TO REPRESENT SITE SPECIFIC DIMENSIONS OR LAYOUT. THE ONLY PURPOSE OF THIS DRAWING IS TO PROVIDE THE OWNER WITH A STANDARD TRACK LAYOUT FOR COMMENT ON GENERAL PLACEMENT OF EVENTS AND COLOR CHOICES.

ANY ADDITIONAL LINE STRIPING OR FIELD EVENT STRIPING NOT SHOWN ON THIS DRAWING WILL BE AS PER THE ISSUED CONTRACT PLANS AND SPECIFICATIONS.

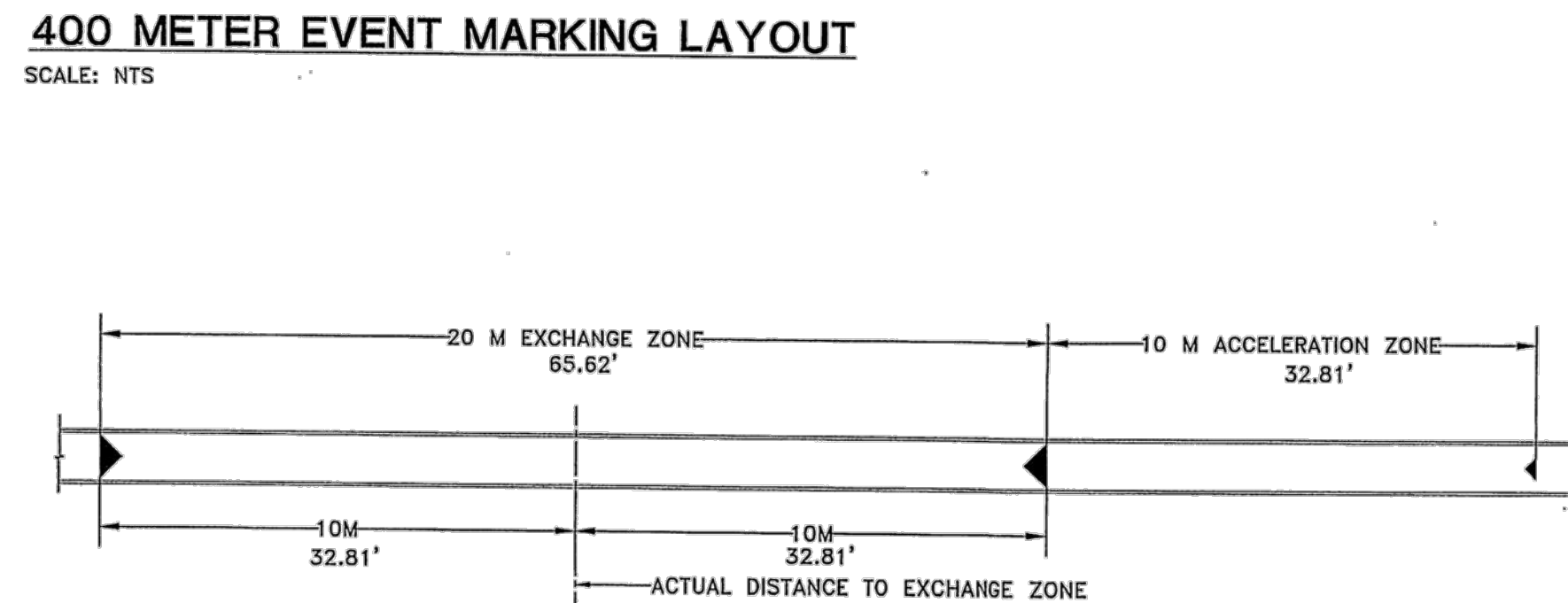
| TRACK EVENT COLOR CODE | | | |
|-----------------------------|---------------|----------------|--------------|
| EVENT | STARTING LINE | EXCHANGE ZONES | HURDLE MARKS |
| 100 METER DASH | WHITE | | |
| 200 METER DASH | WHITE | | |
| 400 METER DASH | WHITE | | |
| 800 METER RUN | GREEN | | |
| 1500 METER RUN | WHITE | | |
| 1600 METER RUN | WHITE | | |
| 3000 METER RUN | WHITE | | |
| 3200 METER RUN | WHITE | | |
| 4 X 100 METER RELAY | WHITE | YELLOW | |
| 4 X 400 METER RELAY | BLUE | BLUE | |
| 4 X 800 METER RELAY | GREEN | GREEN | |
| 100 METER LOW HURDLES | WHITE | | YELLOW |
| 110 METER HIGH HURDLES | WHITE | | BLUE |
| 400 METER INT. HURDLES | WHITE | | GREEN |
| FINISH LINE FOR ALL EVENTS: | | WHITE | |

| STAGGERED STARTS | | | |
|---------------------|-----|--------|--------|
| EVENT | NO. | METERS | FEET |
| 200 METERS | 1 | 3.352 | 10.996 |
| 800 METERS | 1 | 3.352 | 10.996 |
| 300 HURDLES | 1 | 3.352 | 10.996 |
| 400 METERS | 2 | 6.703 | 21.99 |
| 4 X 100 METER RELAY | 2 | 6.703 | 21.99 |
| 400 HURDLES | 2 | 6.703 | 21.99 |
| 4 X 400 METER RELAY | 3 | 10.054 | 32.99 |
| 4 X 800 METER RELAY | 3 | 10.054 | 32.99 |
| 4 X 200 METER RELAY | 4 | 13.406 | 43.98 |

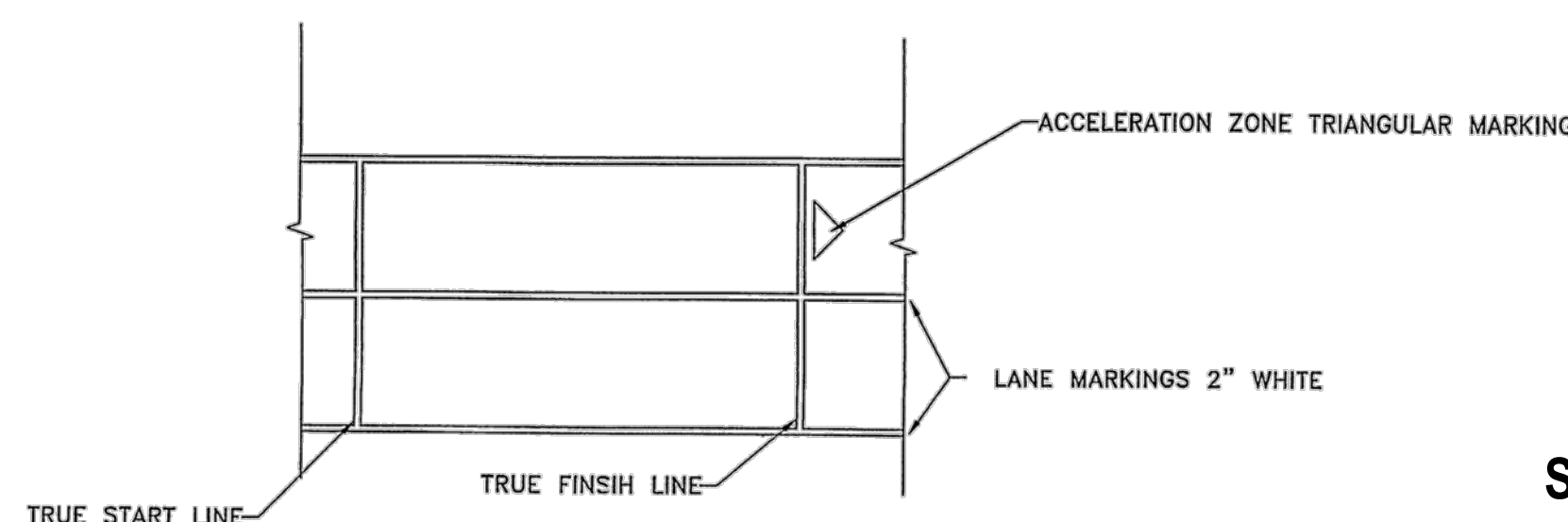
| HURDLE LAYOUT | | | | |
|---------------|----------------|---------------------|-------------------|-----------------------|
| EVENT | NO. OF HURDLES | START TO 1ST HURDLE | BETWEEN HURDLES | LAST HURDLE TO FINISH |
| 100 METER | 10 | 13.0M (42'-8") | 8.5M (27'-10.75") | 10.5M (34'-5.5") |
| 110 METER | 10 | 13.72M (45') | 9.14M (30') | 14.02M (45'-10.625") |
| 300 METER | 8 | 45M (147'-7.5") | 35M (114'-10") | 10M (32'-9.75") |
| 400 METER | 10 | 45M (147'-7.5") | 35M (114'-10") | 40M |



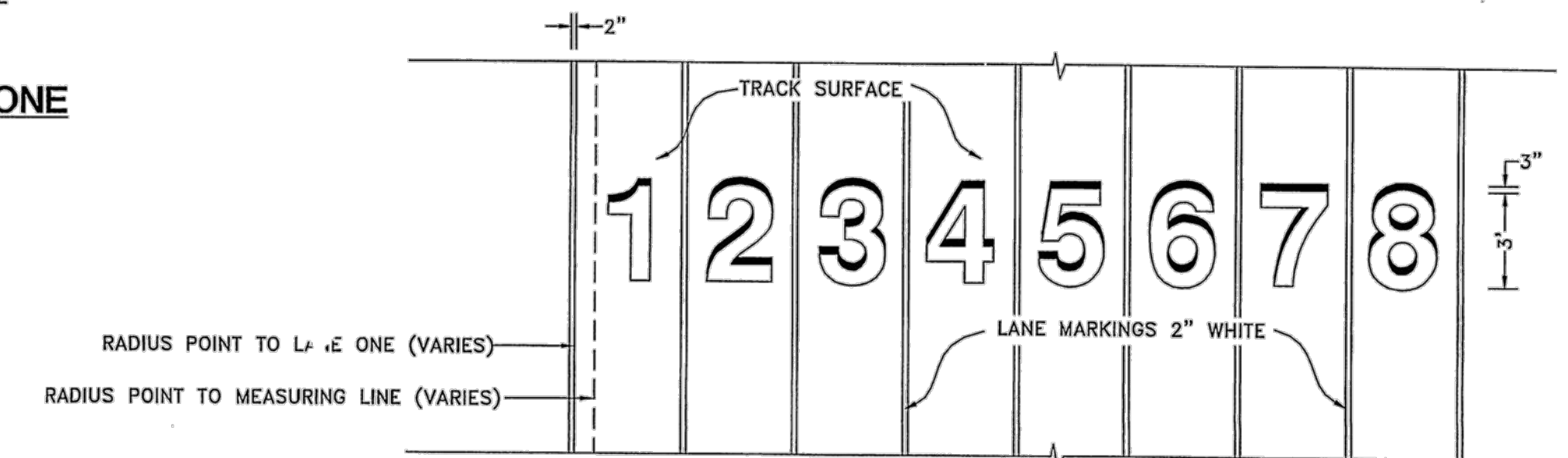
EXCHANGE ZONE MARKING DETAIL
 SCALE: NTS



TYPICAL RELAY EXCHANGE ZONE
 SCALE: NTS



TRACK MARKING DETAIL
 SCALE: NTS



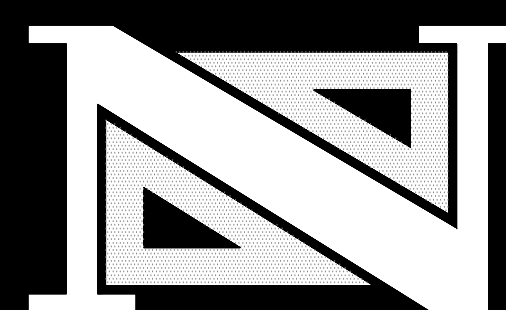
8-LANE TRACK DETAIL
 SCALE: NTS

STRIPING FOR INFORMATIONAL PURPOSES ONLY. INSTALLED STRIPING TO MEET ALL NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATIONS.

TRACK STRIPING DETAILS
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THOMAS R. SOLFARO, P.E., C.M.E.
 PROFESSIONAL ENGINEER
 N.J. LICENSE NO. 41635

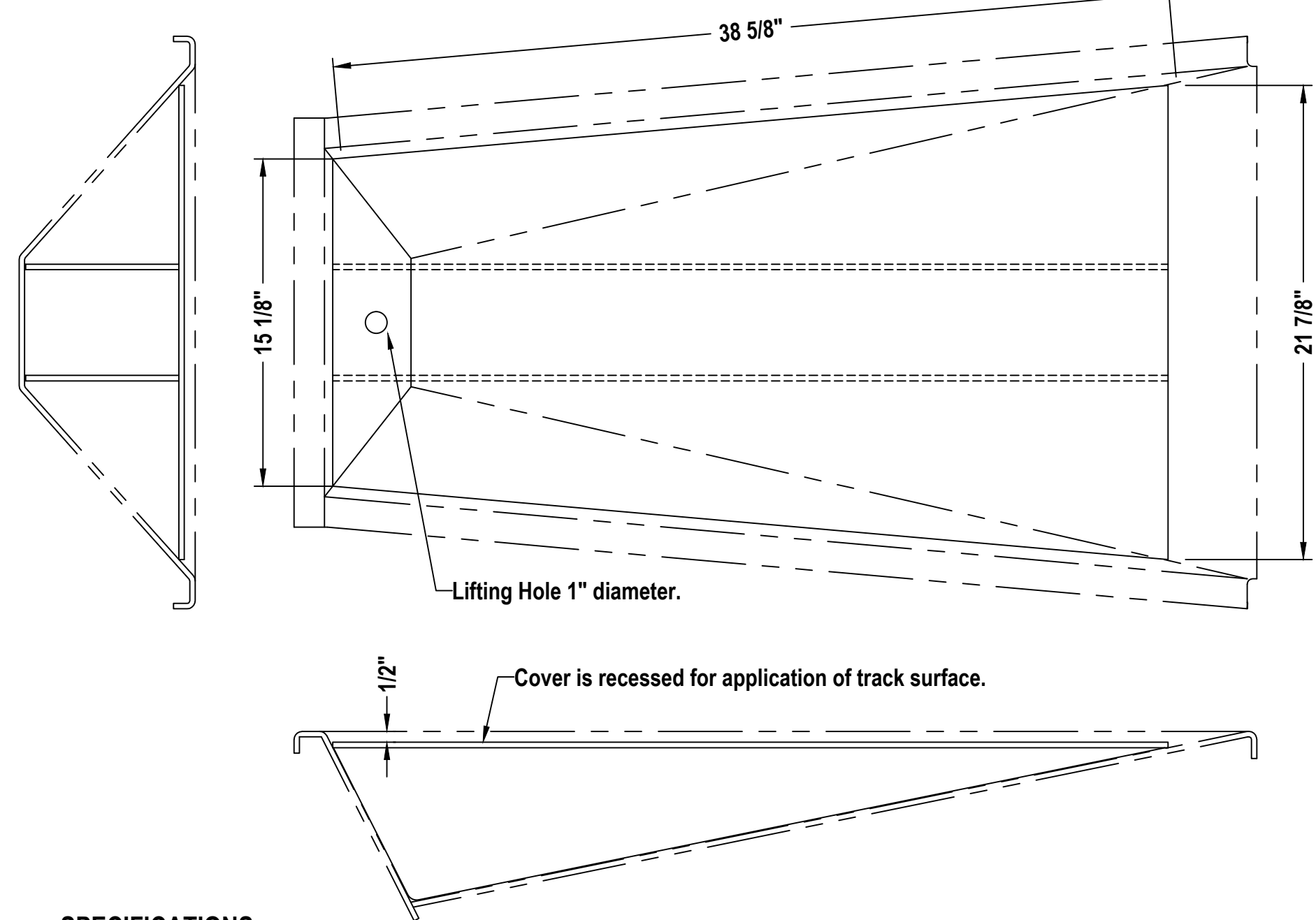
DAVID R. ATKINSON, P.E., C.M.E.
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 N.J. LICENSE NO. 45506

A PROJECT OF
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 PROFESSIONAL LAND SURVEYOR
 N.J. LICENSE NO. 38854
 PROFESSIONAL PLANNER
 N.J. LICENSE NO. 38854

CONSTRUCTION DETAILS
 CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT RAHWAY RIVER PARK
 COUNTY OF UNION - PROJECT # 2011-019
 BLOCK 201 - LOT 1
 CITY OF RAHWAY, NEW JERSEY
UNION COUNTY
 DRAWN BY: D.J.D.R.A. CHECKED BY: T.S. PROJECT NO: UNIOCTY11.012 SHEET NO: 7.02
 DESIGNED BY: D.J.D.R.A. SCALE: N.T.S. DATE: OCTOBER 2, 2015

NOTES:

- To be manufactured by SportsEdge of Provincetown, MA or approved equal.
- The price bid on the Vault Box Cover/Lid shall include a complete installation in accordance with the manufacture's instructions.
- Contractor shall review technical specifications for more information.
- The provided vault shall be water-tight when closed with lid to prevent and standing water from rainwater.
- Vault Box Cover/Lid shall meet NFHS specifications.

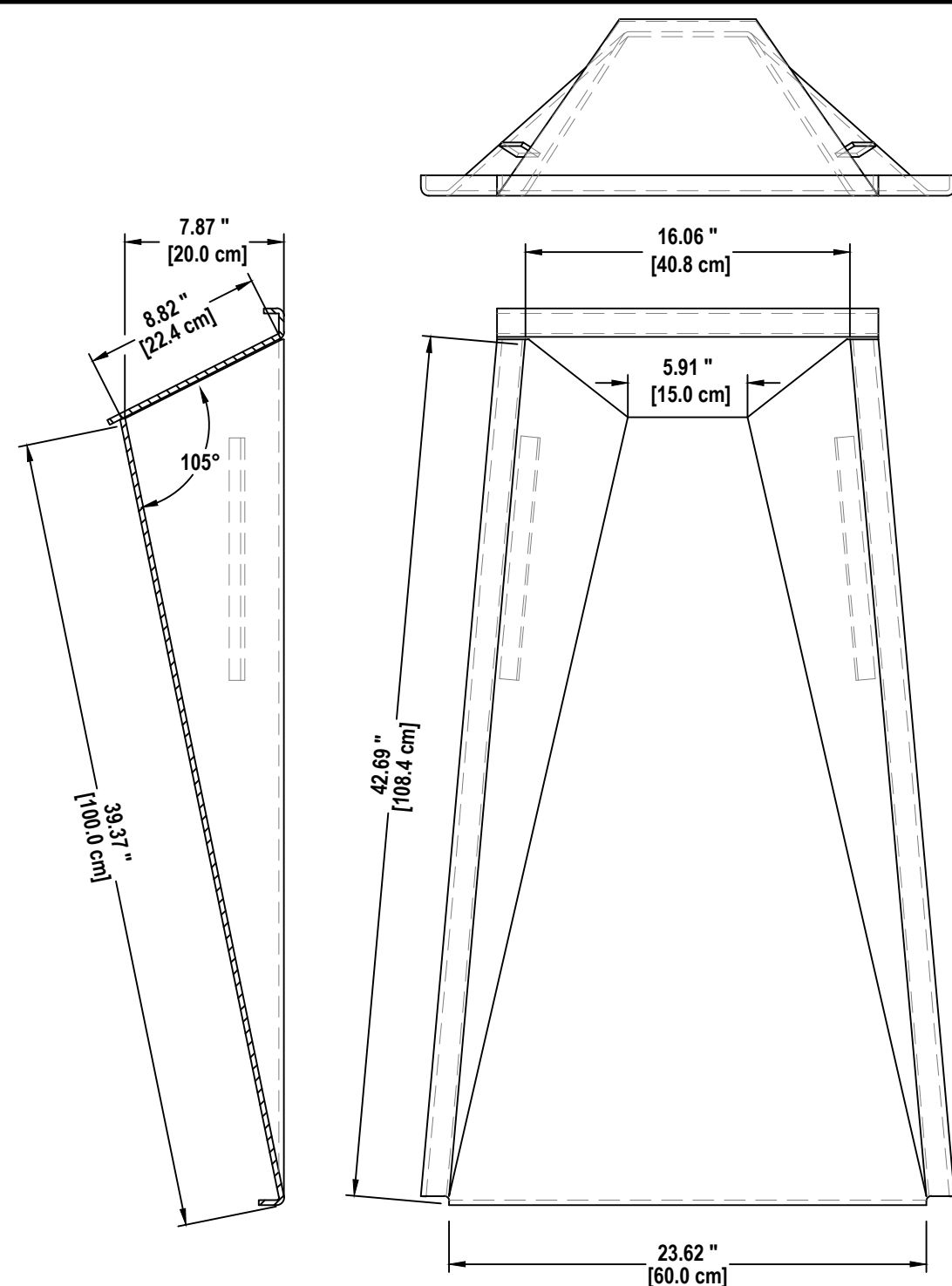


SPECIFICATIONS:

Model No. SE-50201 Vault Box Cover as manufactured by SportsEdge of Provincetown, MA or (approved equal) is fabricated from 1/4" thick 6061-T6 aluminum. Two triangular plates are welded to the bottom for stiffening and support of cover. This cover fits recessed with top edge of the vault boxes. Exterior surfaces are uncoated. Cover weight is 25 pounds.

RECESSED ALUMINUM VAULT BOX COVER DETAIL

NOT TO SCALE

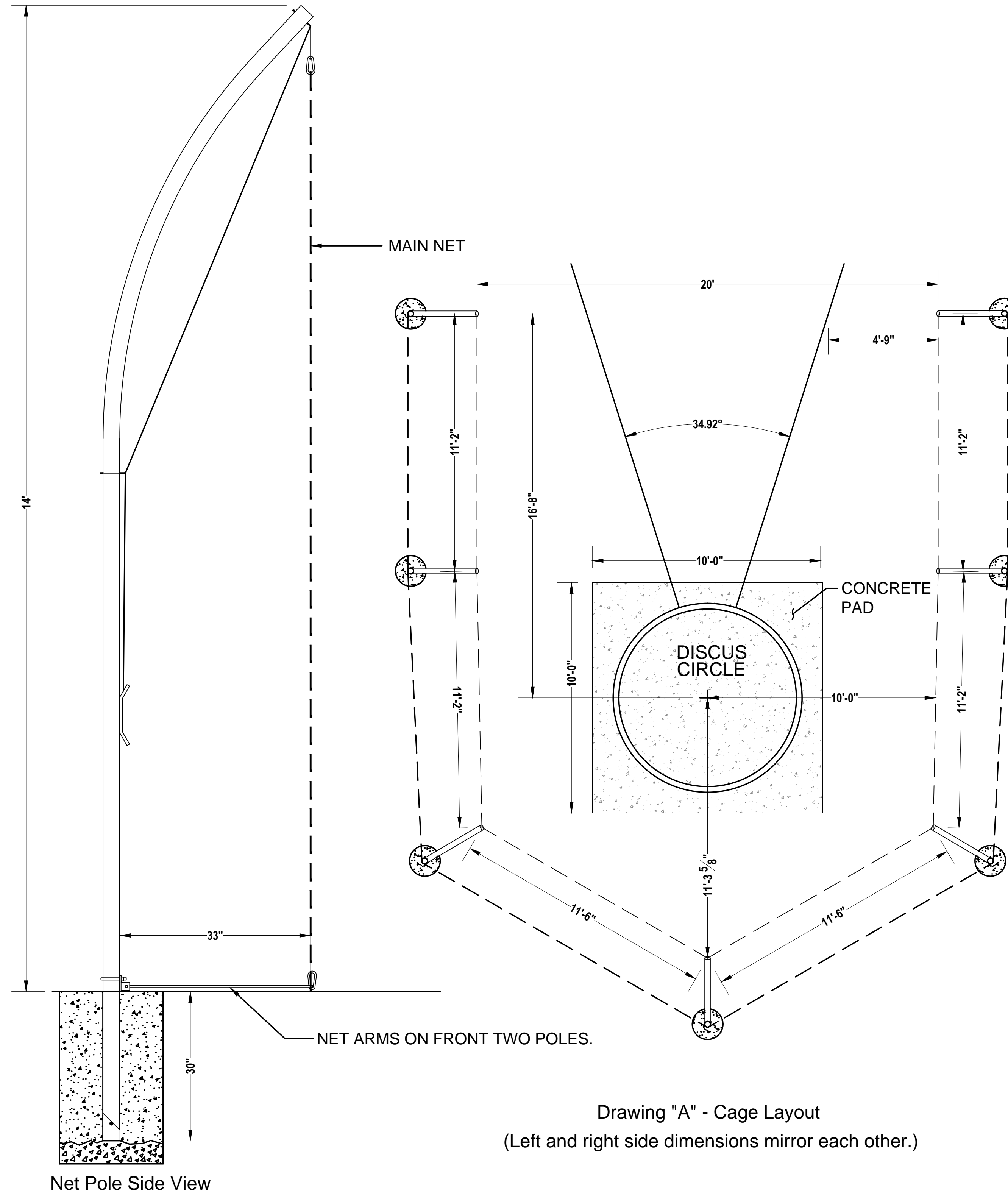


NOTES:

- To be Model SE-502 Vault Box as manufactured by SportsEdge of Provincetown, MA or approved equal is fabricated from 1/4" thick 5052-H32 grade aluminum. The sides and bottom of box are formed from one piece of aluminum. The back wall is a separate piece of aluminum continuous welded to the channel. Outside edges are folded down to minimize sharp edges. Side of Vault Box has wings on each side to lock it in the concrete. Exterior surfaces are uncoated. This vault box shall meet NFHS specifications.
- The price bid on the Vault Box shall include a complete installation in accordance with the manufacture's instructions.
- Contractor shall review technical specifications for more information.
- The provided vault shall be water-tight when closed with lid to prevent and standing water from rainwater.

ALUMINUM VAULT BOX DETAIL

NOT TO SCALE



Drawing "A" - Cage Layout
(Left and right side dimensions mirror each other.)

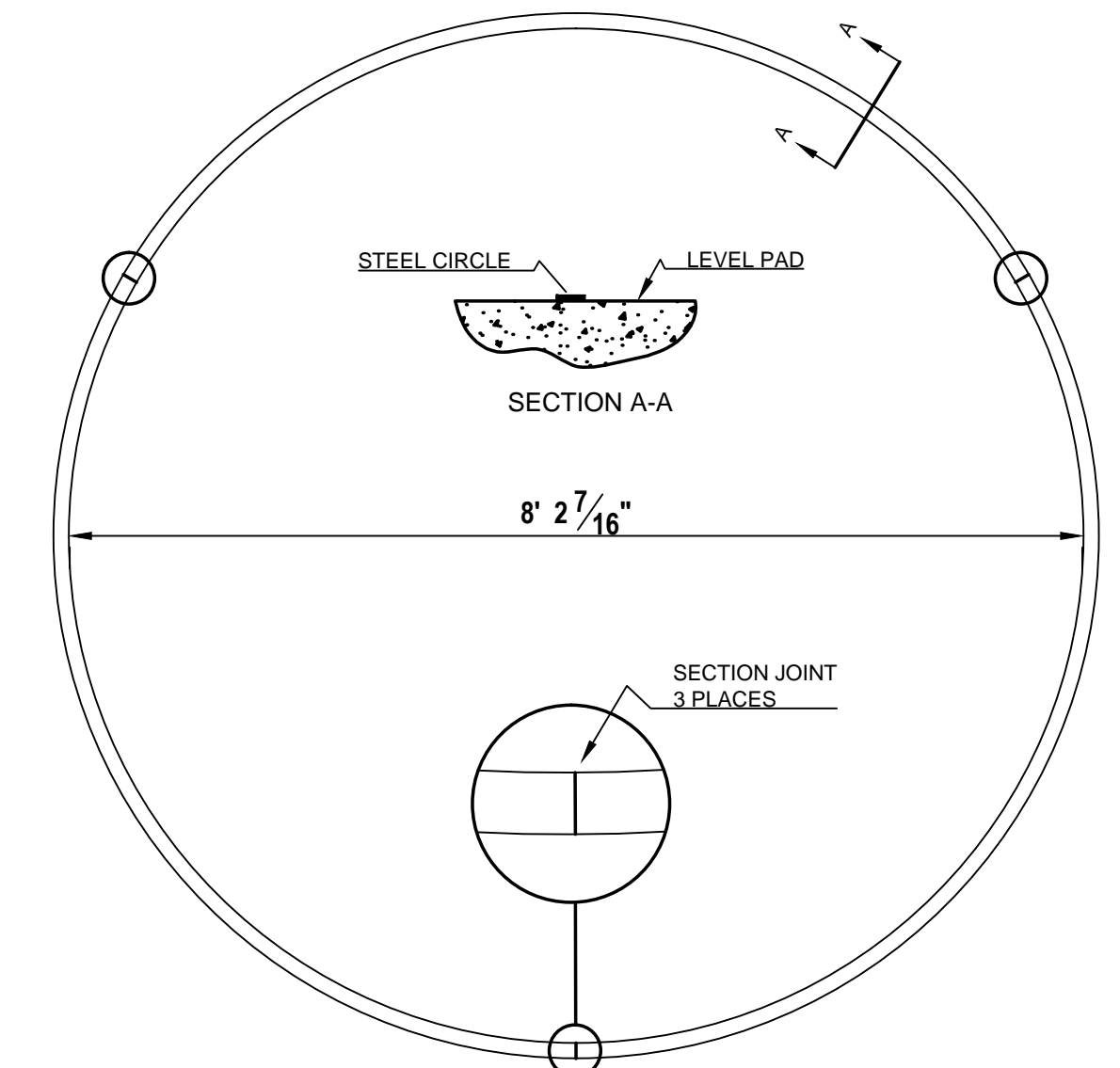
Net Pole Side View

PERMANENT DISCUS AND HAMMER CAGE DETAIL

NOT TO SCALE

The Permanent Discus and Hammer Cage and Fence shall be Model No. SE8020 - HS Extended Aluminum Discus Cage as manufactured by SportsEdge, Provincetown, MA (OR APPROVED EQUAL). The cage poles shall stand 14' tall. The net shall be #504 knotless, nylon netting with a breaking strength of over 200lbs. The Cage shall meet all NFHS requirements.

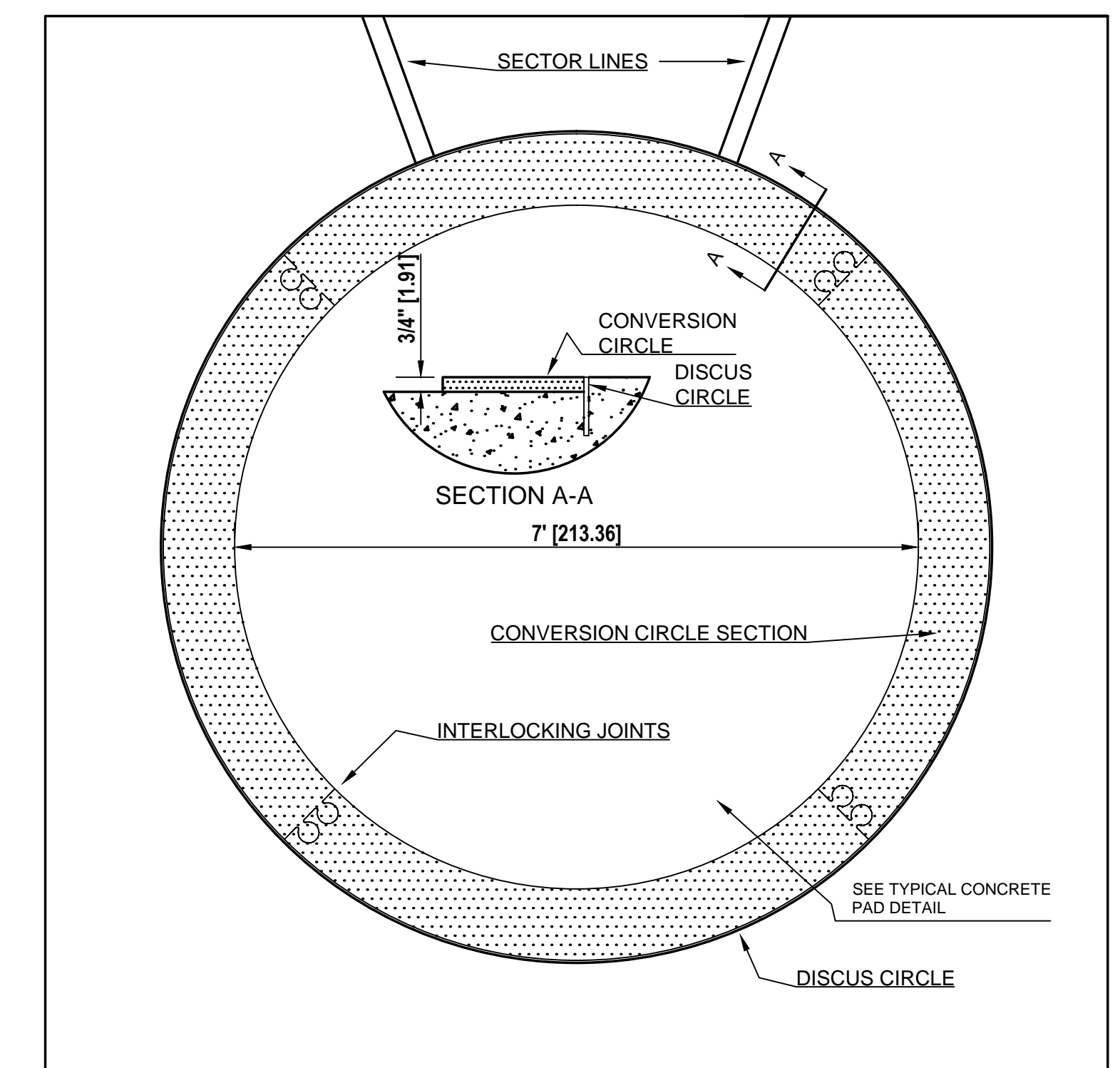
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The Model SE371 Steel Circle as manufactured by SportsEdge, Provincetown, MA (or approved equal) consists of three flat segments that are installed end to end to form an 8' 2-7/16" circle. Each segment is roll bent out of 1/4" x 1-1/2" steel strip to a radius of 49-7/32". This product is designed to be bolted to the surface of a new or existing level pad. Mounting holes are to be drilled by the installer to match new or existing anchor holes. This circle is compliant with NFHS specifications for high schools.

STEEL DISCUS CIRCLE DETAIL

NOT TO SCALE



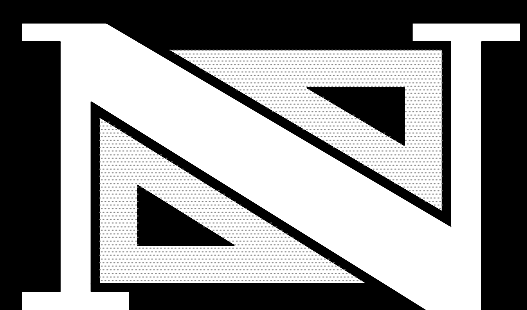
The Model SE362 PVC Hammer Conversion Circle as manufactured by SportsEdge, Provincetown, MA (or approved equal) is designed to be installed in an existing discus circle to convert it for the hammer throw. This allows single circle hammer cages to be used for both hammer and discus competition. The circle is molded out of a stiff but pliable PVC plastic. Dropped hammers will not bounce off or damage it. The circle consists of four interlocking sections that form a solid, rattle free ring which is easily installed and removed. This circle shall meet NFHS specifications for conversion circles. Dimensions in brackets are in centimeters.

PVC HAMMER CONVERSION CIRCLE DETAIL

NOT TO SCALE

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

| REVISIONS | | | | |
|-----------|------|-------------|-------|---------|
| NO. | DATE | DESCRIPTION | DRAWN | CHECKED |
| | | | | |



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PROFESSIONAL LAND SURVEYOR
N.J. LICENSE NO. 38954

PROFESSIONAL PLANNER
N.J. LICENSE NO. 331099699

CONSTRUCTION DETAILS

CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT RAHWAY RIVER PARK

COUNTY OF UNION - PROJECT # 2011-019

BLACK 201 - LOT 1

CITY OF RAHWAY, NEW JERSEY

NEW JERSEY

UNION COUNTY

DRAWN BY: D.J.D.R.A. CHECKED BY: T.S.

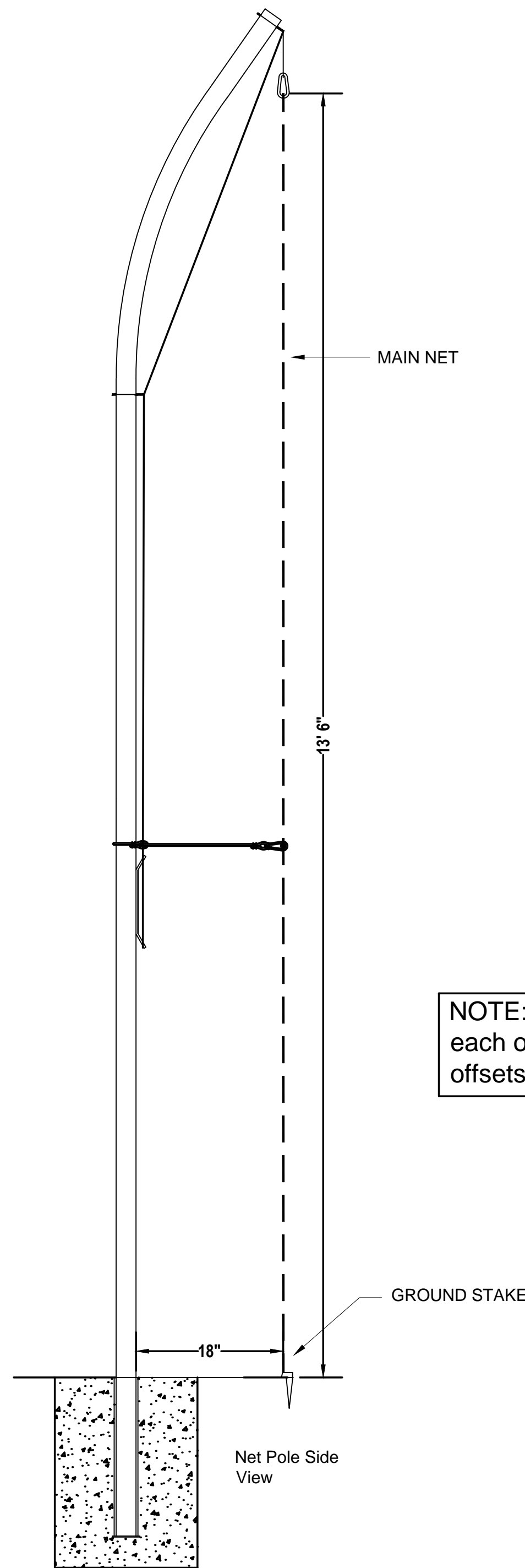
DESIGNED BY: D.J.D.R.A. SCALE: N.T.S.

FIELD BOOK NO: PAGE

PROJECT NO: UNIOCTY11.012

SHEET NO: 7.03

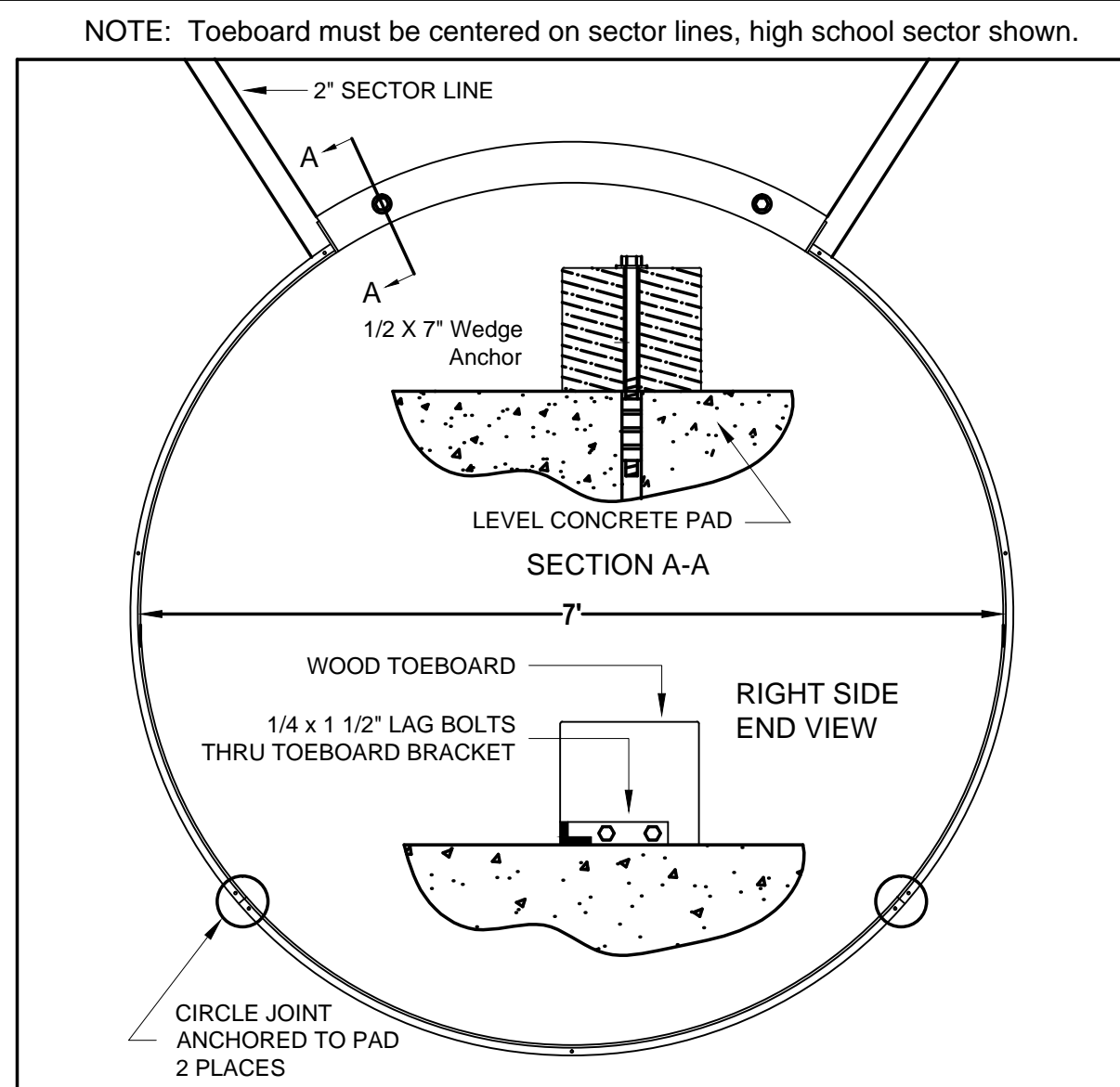
DATE: OCTOBER 2, 2015



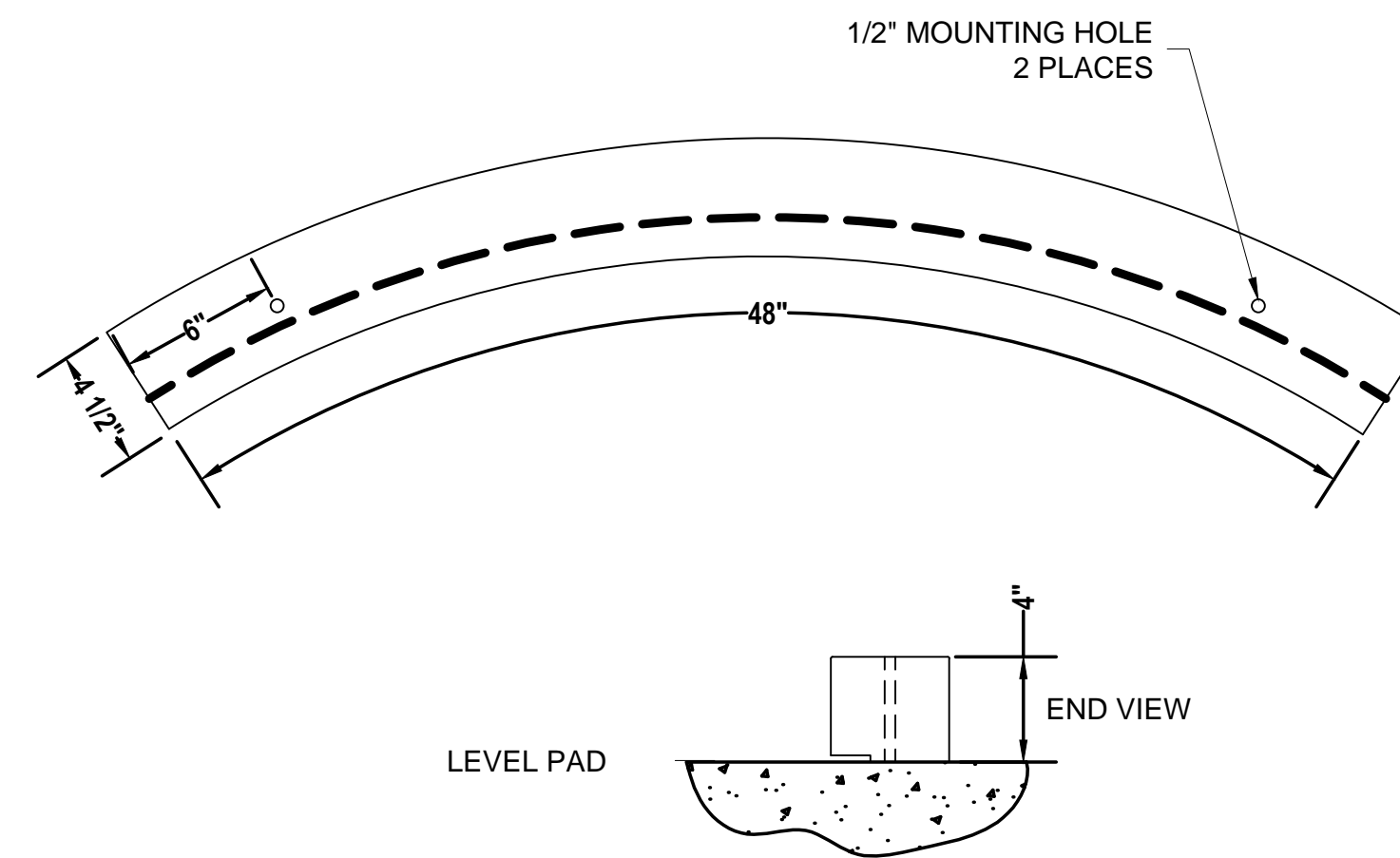
NOTE: Front pole offsets face each other while the back pole offsets face the circle center.

- NOTES:**
1. The Model SE805 Steel Shot Cage as manufactured by SportsEdge, Provincetown, MA (or approved equal) consists of four painted steel net poles with ground sleeves, a vinyl coated net support cable to reduce net sag, and a weather treated nylon net. Also included are four net ground stakes to position the net at the base of the pole and net retainer ropes. The poles are 14 gauge, 2-1/2" square steel tube finished with white powder coat paint. Each pole stands in a 20" deep ground sleeve. The net is 320 lb. test nylon which has been weather treated. The SE805 Steel Shot Cage shall meet all NFHS requirements.

STEEL SHOT CIRCLE CAGE
NOT TO SCALE

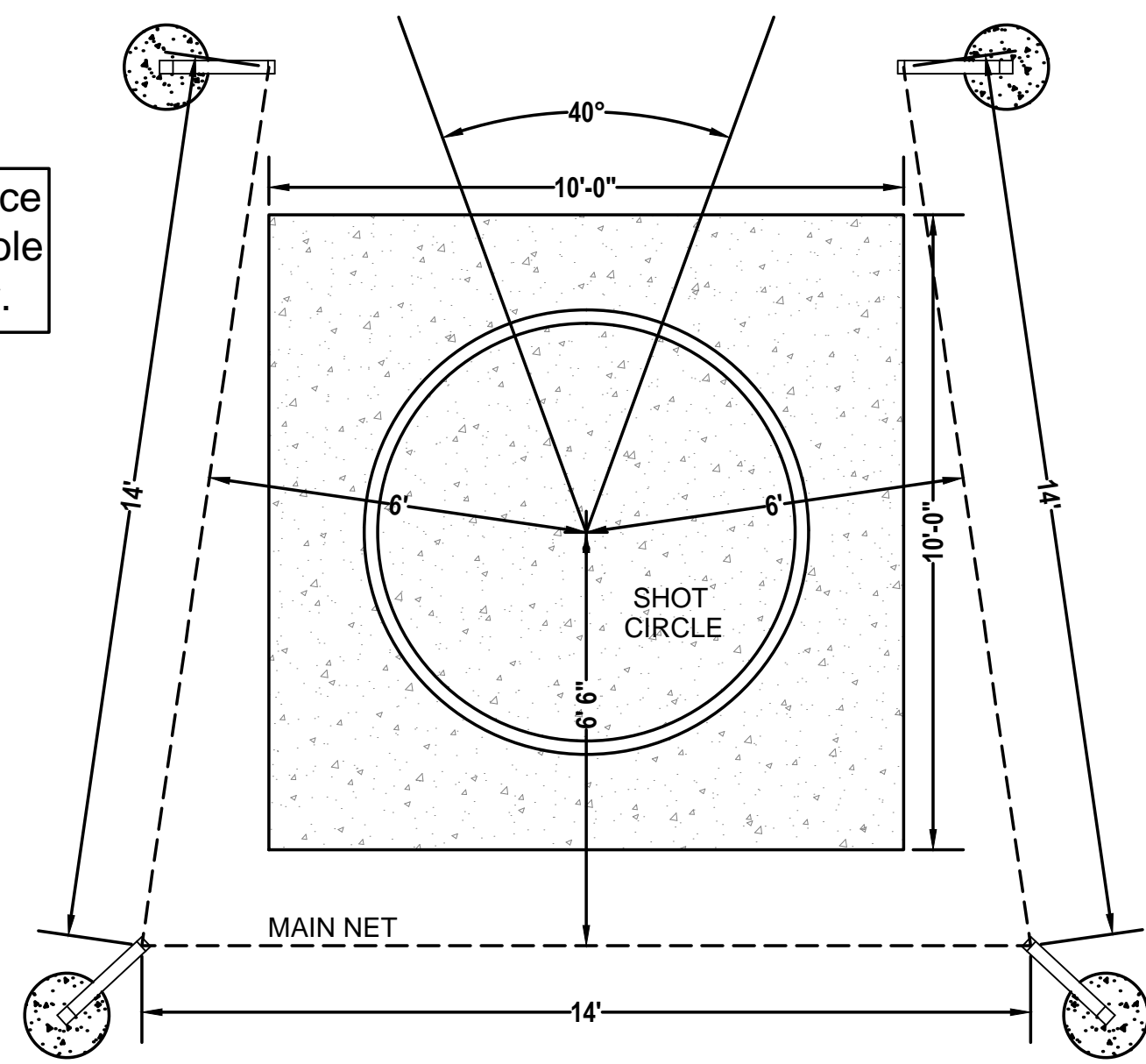


- NOTES:**
1. The Model SE360 toeboard as manufactured by SportsEdge, Provincetown, MA (or approved equal) is mounted to a flat throwing surface (pad) with a SE373 circle (see details) to designate the throwing circle.
 2. Circumscribe a 7 foot diameter circle on the pad to designate the inside edge of the aluminum shot circle. The circle should be centered on the pad.
 3. Using the toeboard as a template, mark the center of the holes to be drilled for the 1/2" wedge anchors. Be sure the toeboard is properly positioned with the inside curved edge even with the inner edge of the scribed line. The toeboard must also be centered on the sector lines.
 4. Drill the holes for the bolt anchors and LOOSELY mount the toeboard in position. Lay out the aluminum circle sections so the inside edge corresponds with the 7 foot circle on the pad and the toeboard brackets are even with the inner edge of the toeboard. Mark the ends of the toeboard and the pad where the lag screws and anchors for the circle will go. The circle will require nine 1/4" concrete anchor screws.
 5. Remove the circle sections and toeboard. Drill two 5/32" pilot holes in each end of the toeboard at the marked locations. Drill nine holes in the pad for the circle concrete anchors, hole size will depend on the type of anchor you use.
 6. Install two 1/2" anchors through the toeboard, and secure it in place. Use flat washers between the toeboard and the heads of the anchor bolts. Secure the circle toeboard brackets to the ends of the toeboard with the 1/4" lag screws provided. Secure the circle sections to the pad with the anchor screws. The SE360 toeboard shall meet all NFHS requirements for high school use.

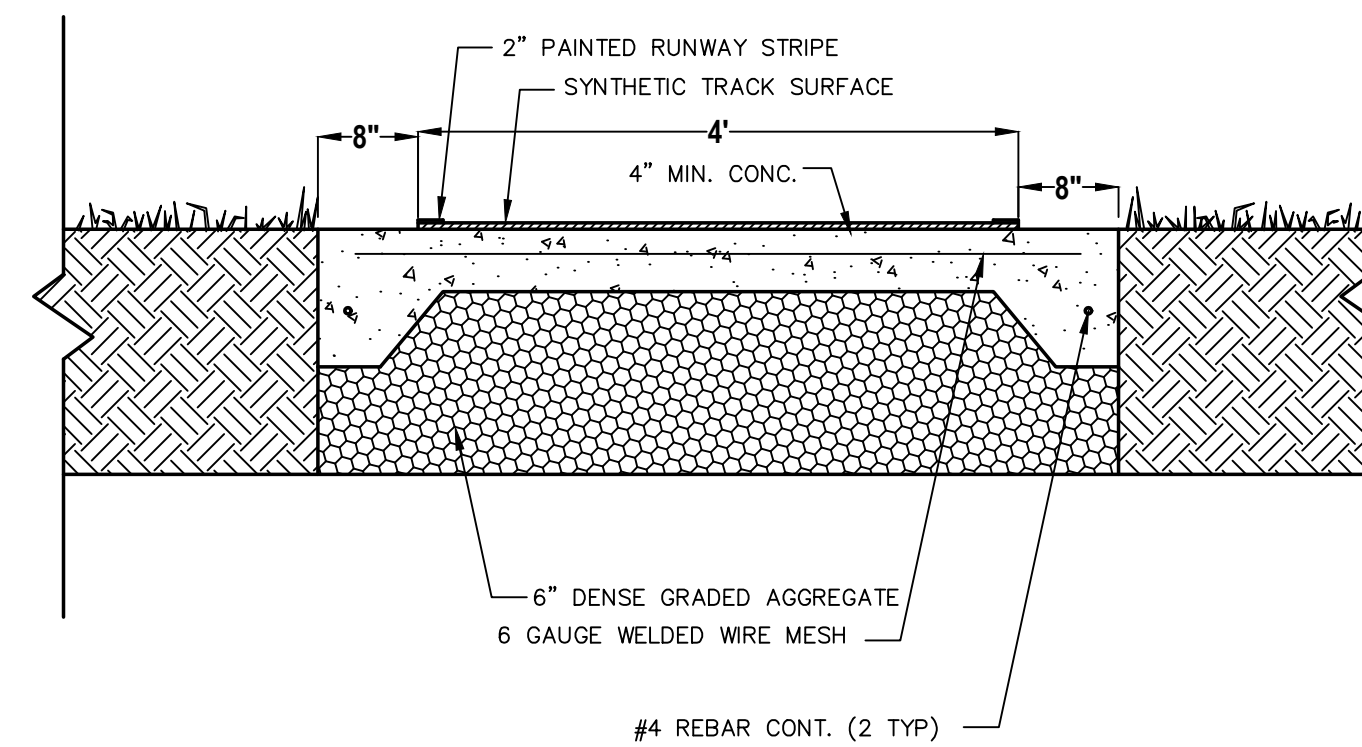


- NOTES:**
1. The SE360 Wood Toeboard as manufactured by SportsEdge, Provincetown, MA (or approved equal) is designed to be used on a level throwing surface with the SE373 Steel Shot Circle (see details). The toeboard is fabricated from select yellow pine and sealed with two coats of white enamel paint. The SE360 toeboard shall meet all NFHS requirements for high school use.

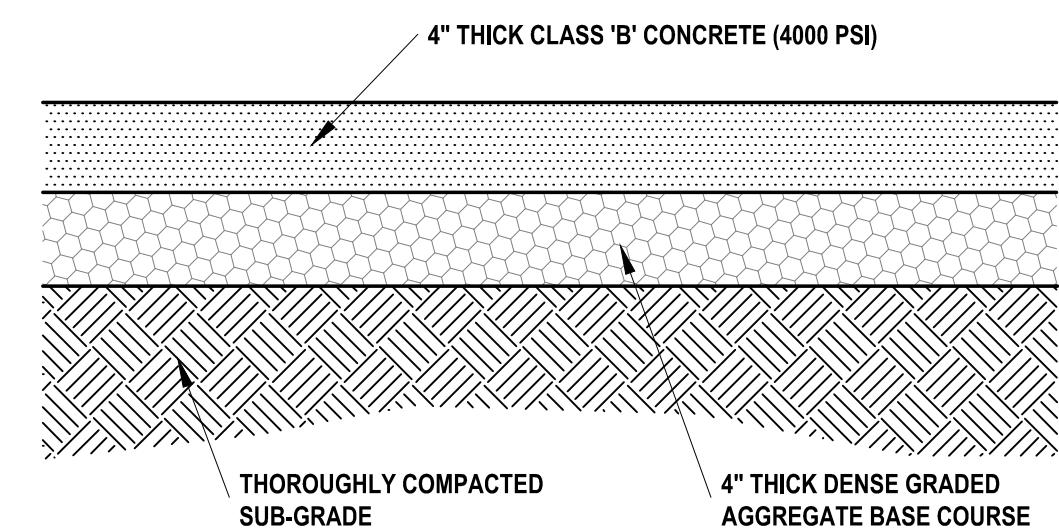
SHOT CIRCLE WOOD TOEBOARD, LEVEL PAD
NOT TO SCALE



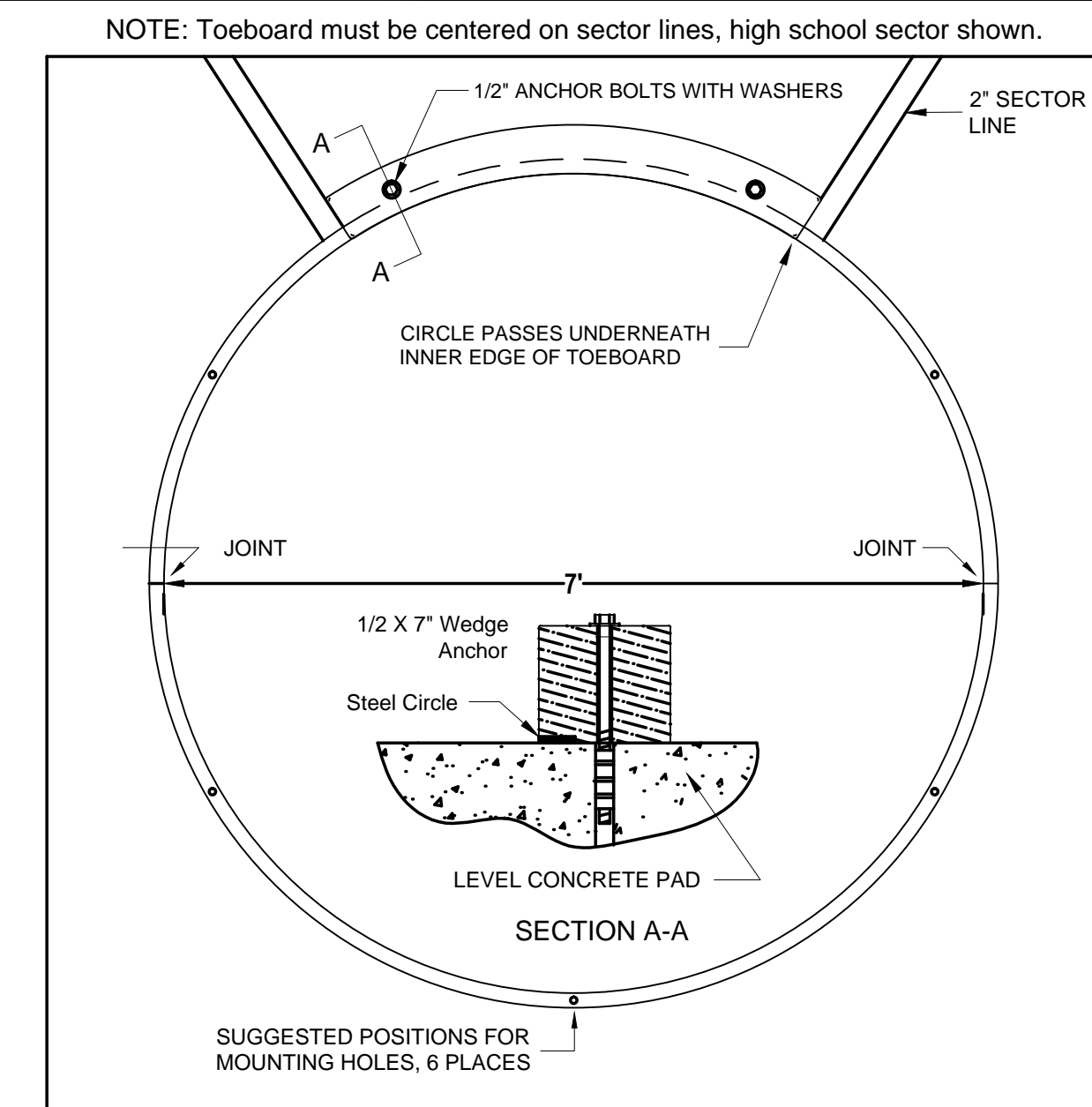
Drawing "A" - Cage Layout



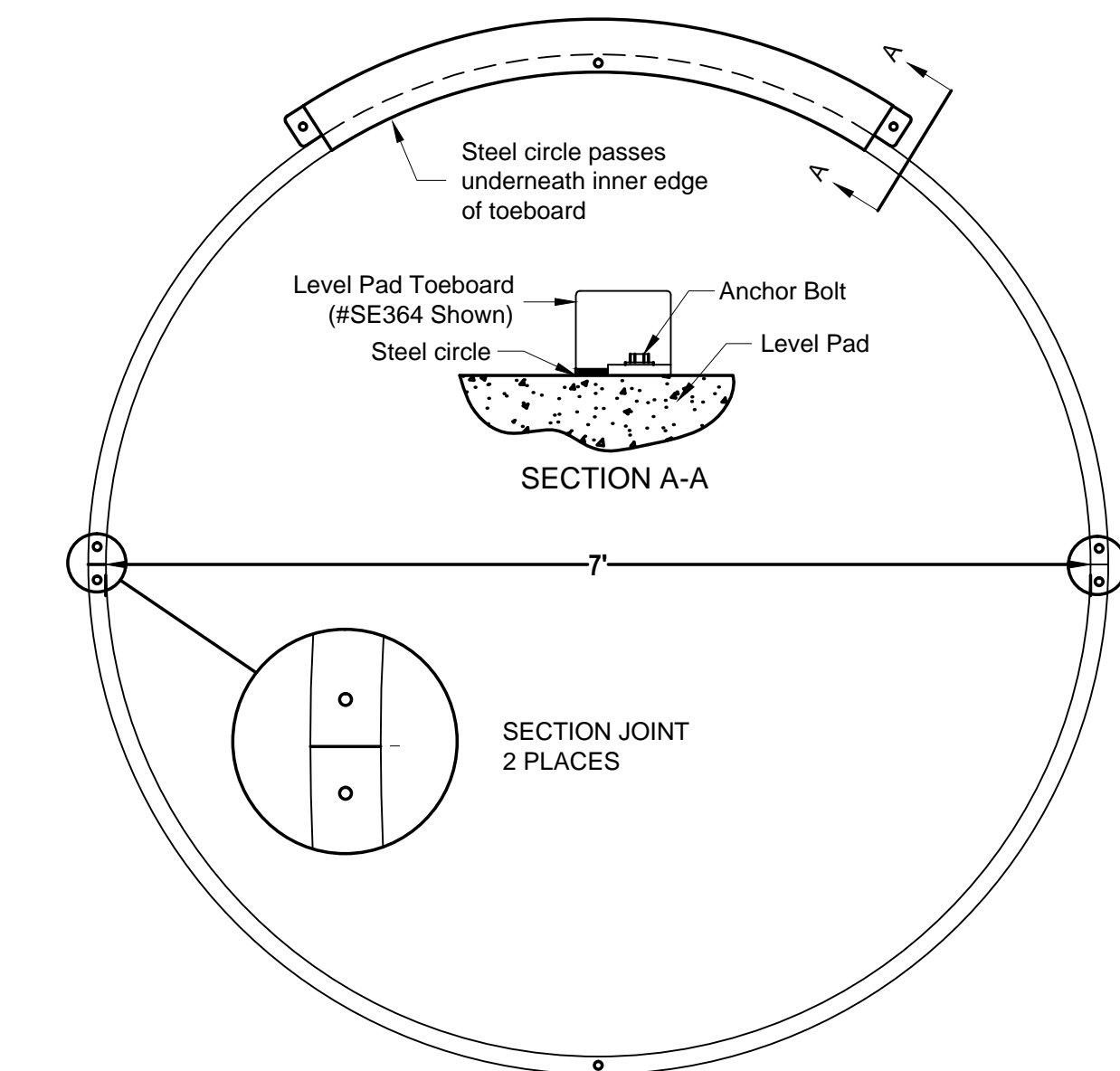
RUNWAY DETAIL
NOT TO SCALE



TYPICAL CONCRETE PAD DETAIL
NOT TO SCALE



- NOTES:**
1. The Model SE360 toeboard as manufactured by SportsEdge, Provincetown, MA (or approved equal) is mounted to a flat throwing surface (pad) with a SE373 Steel Shot Circle (see details).
 2. Scribe a 7 foot diameter circle on the pad to designate the inside edge of the steel shot circle or 2" wide painted circle. The circle should be centered on the pad with the two section joints to the right and left sides.
 3. Using the toeboard as a template, mark the center of the holes to be drilled for the 1/2" wedge anchors. Be sure the toeboard is properly positioned with the inside curved edge even with the inner edge of the steel circle. The toeboard must also be centered on the sector lines.
 4. Drill the holes for the wedge anchors and mount the circle and toeboard. Use 1/2" flat washers between the toeboard and the anchor nuts. The SE360 toeboard shall meet all NFHS requirements for high school use.



NOTE: When used as a shot circle, a SE360 Wood Toeboard is required. Toeboards are sold separately.

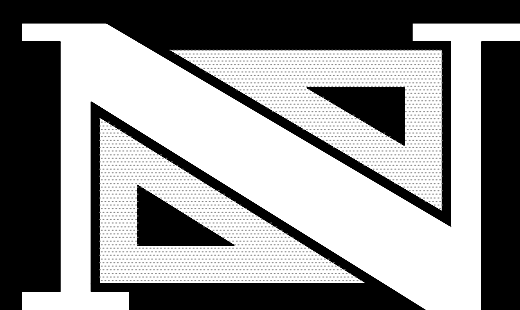
NOTICE: All installations should be conducted by experienced contractors and in accord with all applicable codes, laws and regulations. Suggested instructions herein are illustrative only and should be adapted to suit local requirements. SportsEdge is not responsible for the manner in which these products are installed.

The Model SE373 Steel Shot Circle as manufactured by SportsEdge, Provincetown, MA (or approved equal) consists of two flat segments that are installed end to end to form a 7 ft. circle. Each segment is roll bent out of 1/4" x 1-1/2" steel strip to a radius of 42". This product is designed to be bolted to the surface of a new or existing level pad. Mounting holes are drilled at the ends and center of each segment for 1/4" anchors. This circle shall meet NFHS specifications.

STEEL SHOT CIRCLE
NOT TO SCALE

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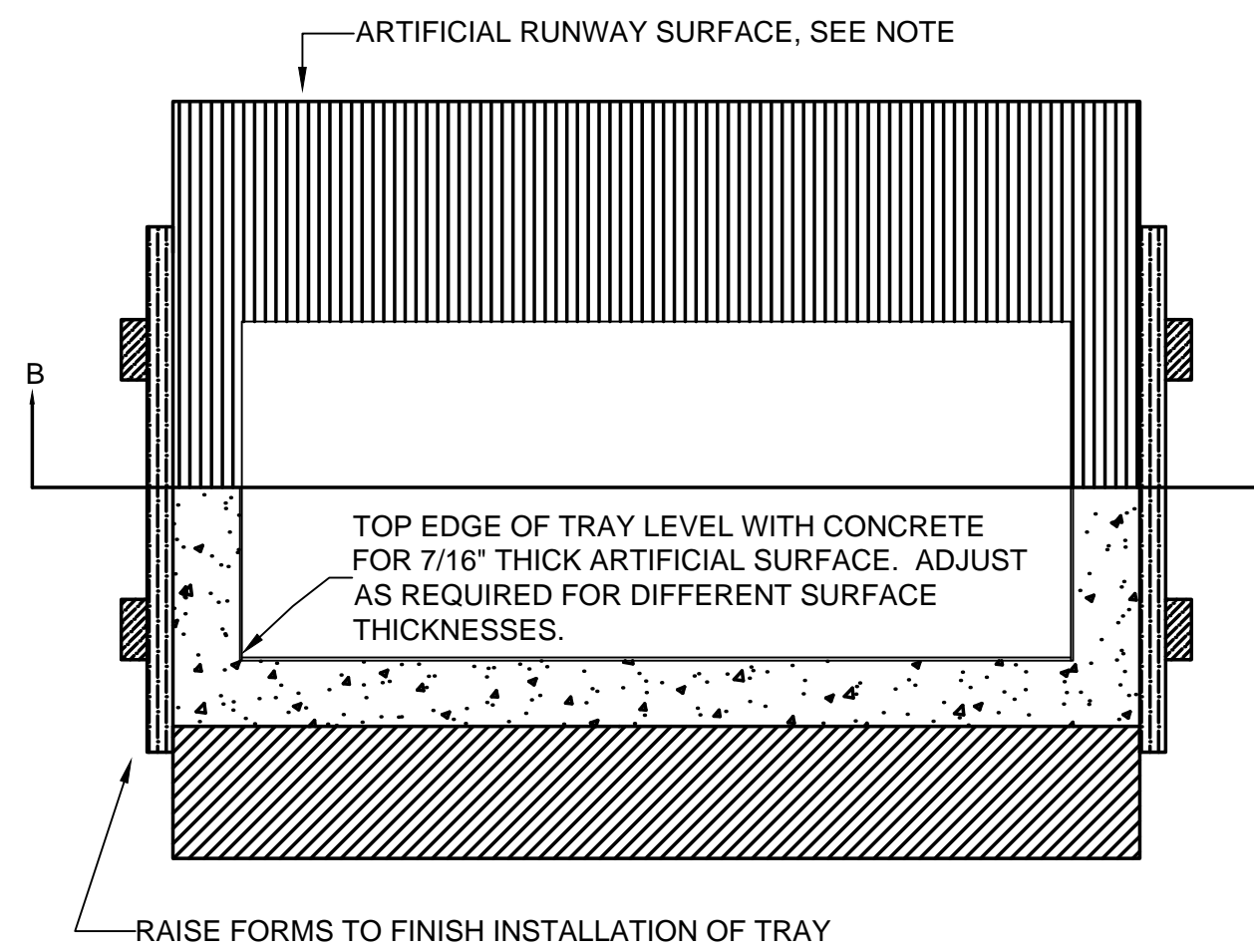
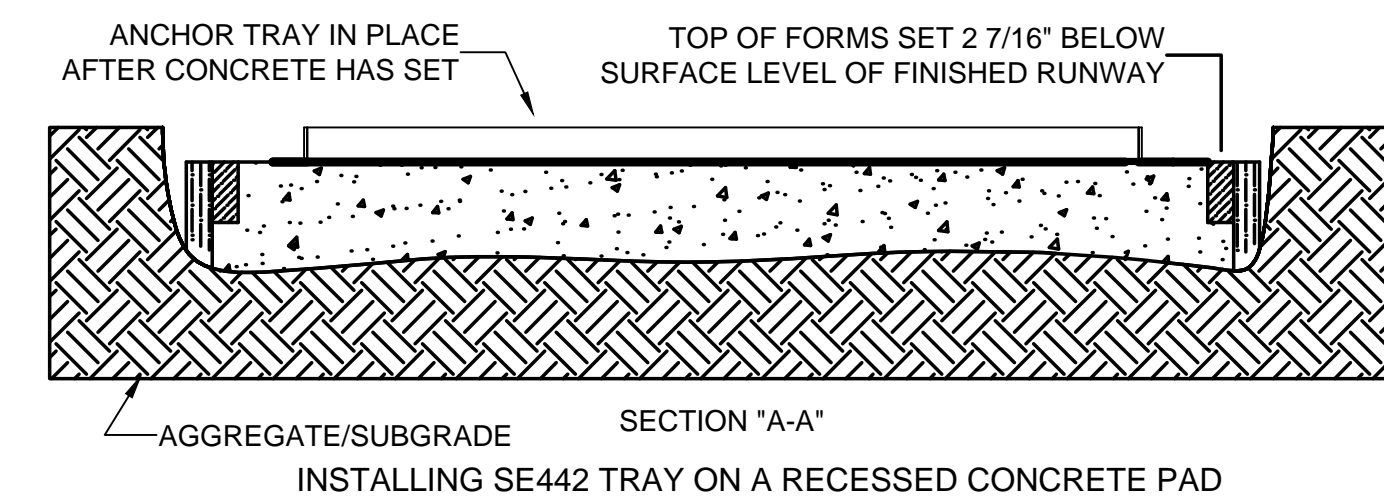
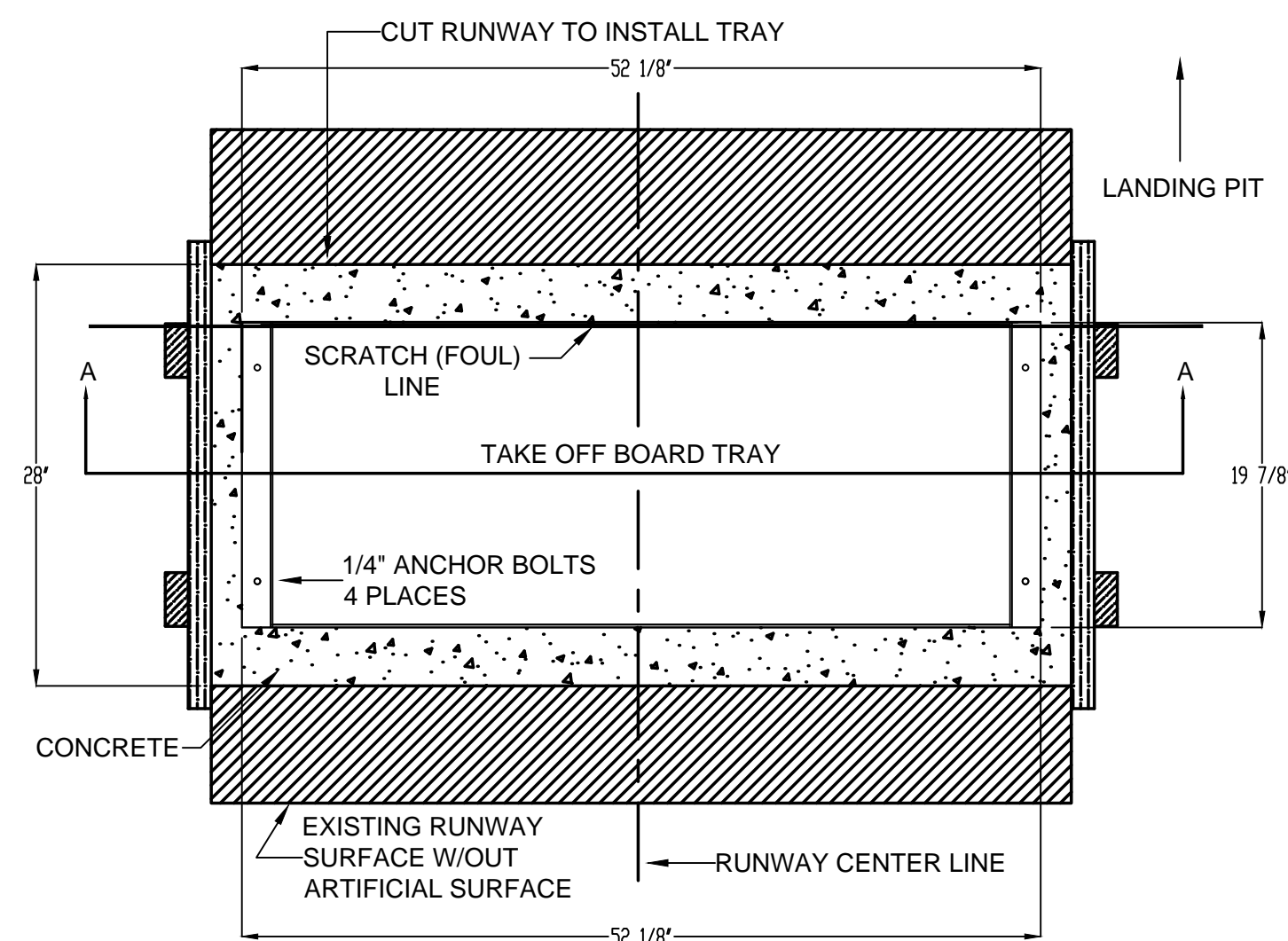


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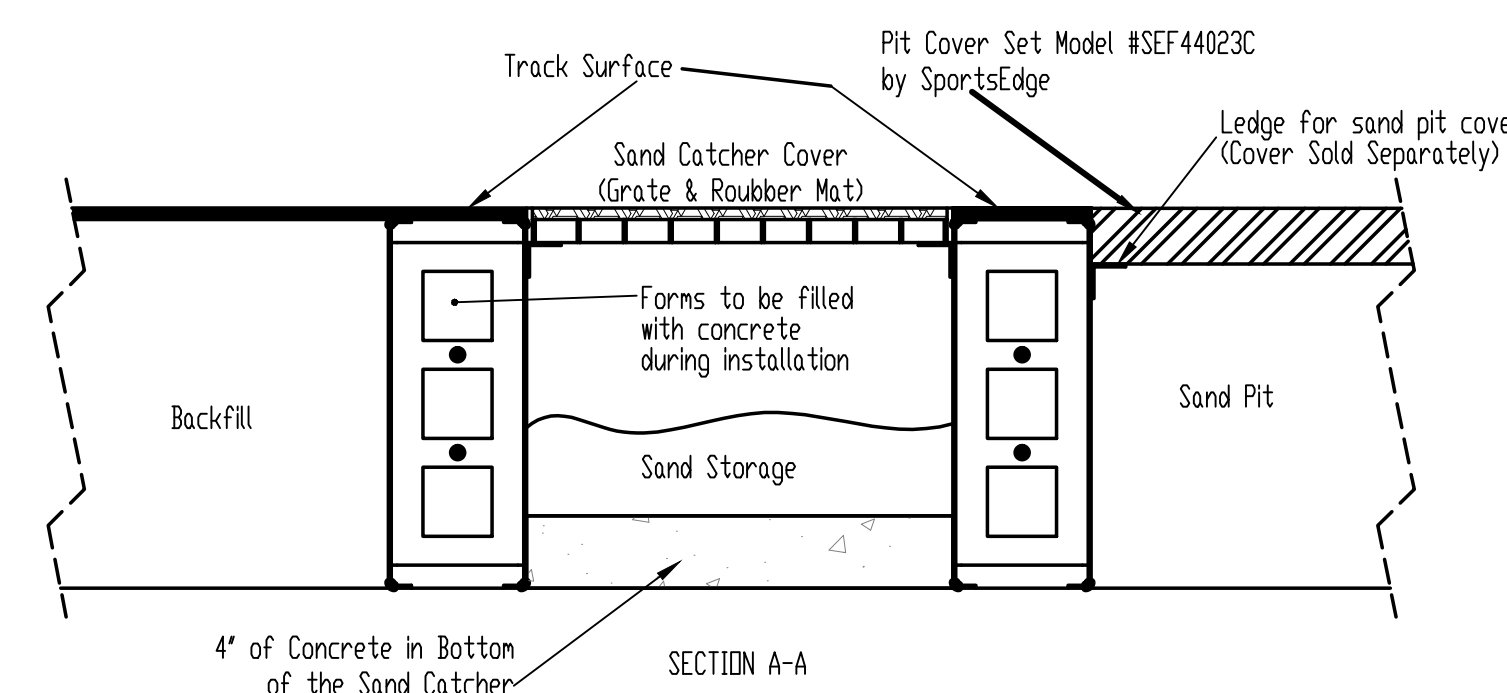
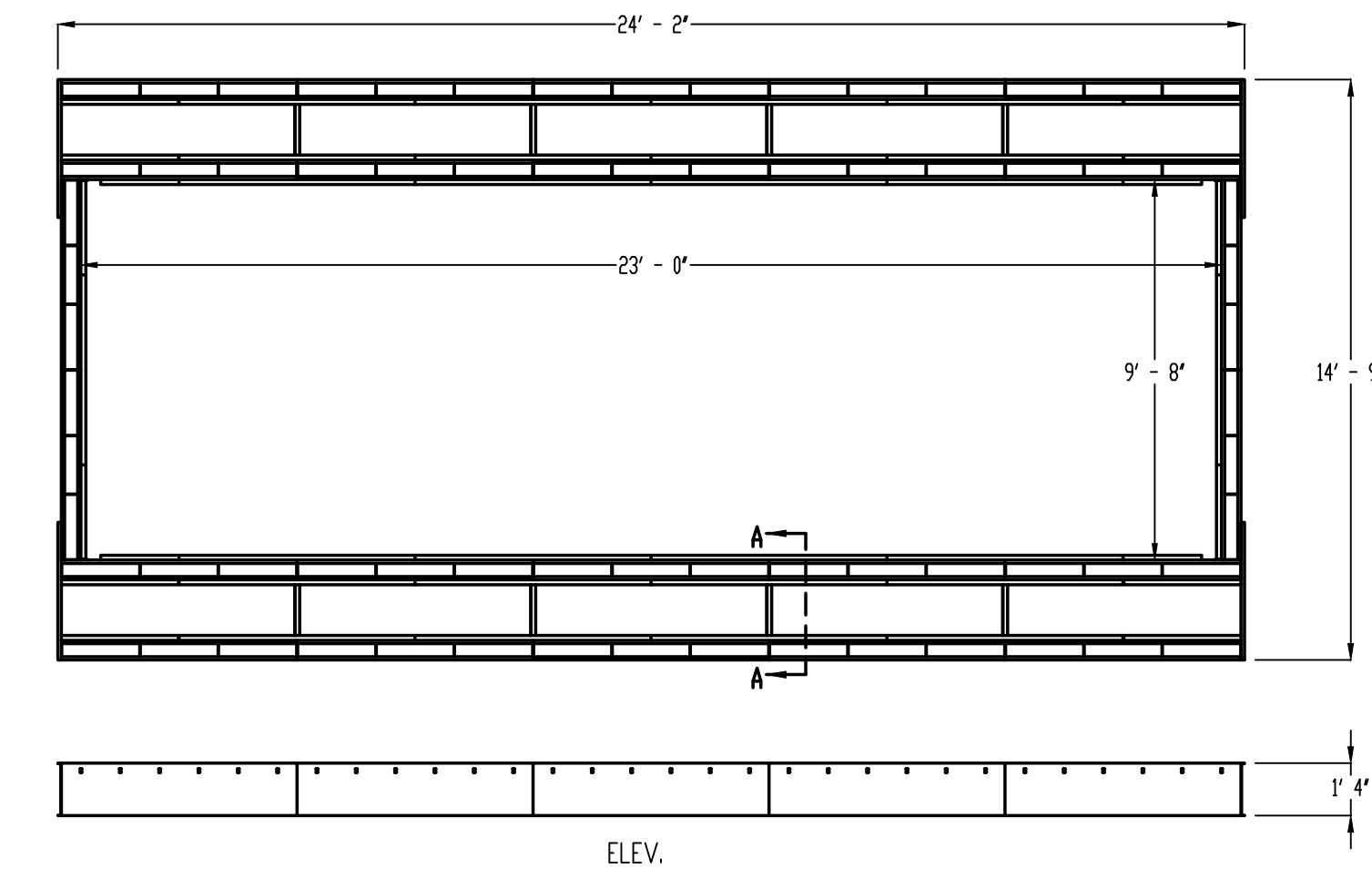
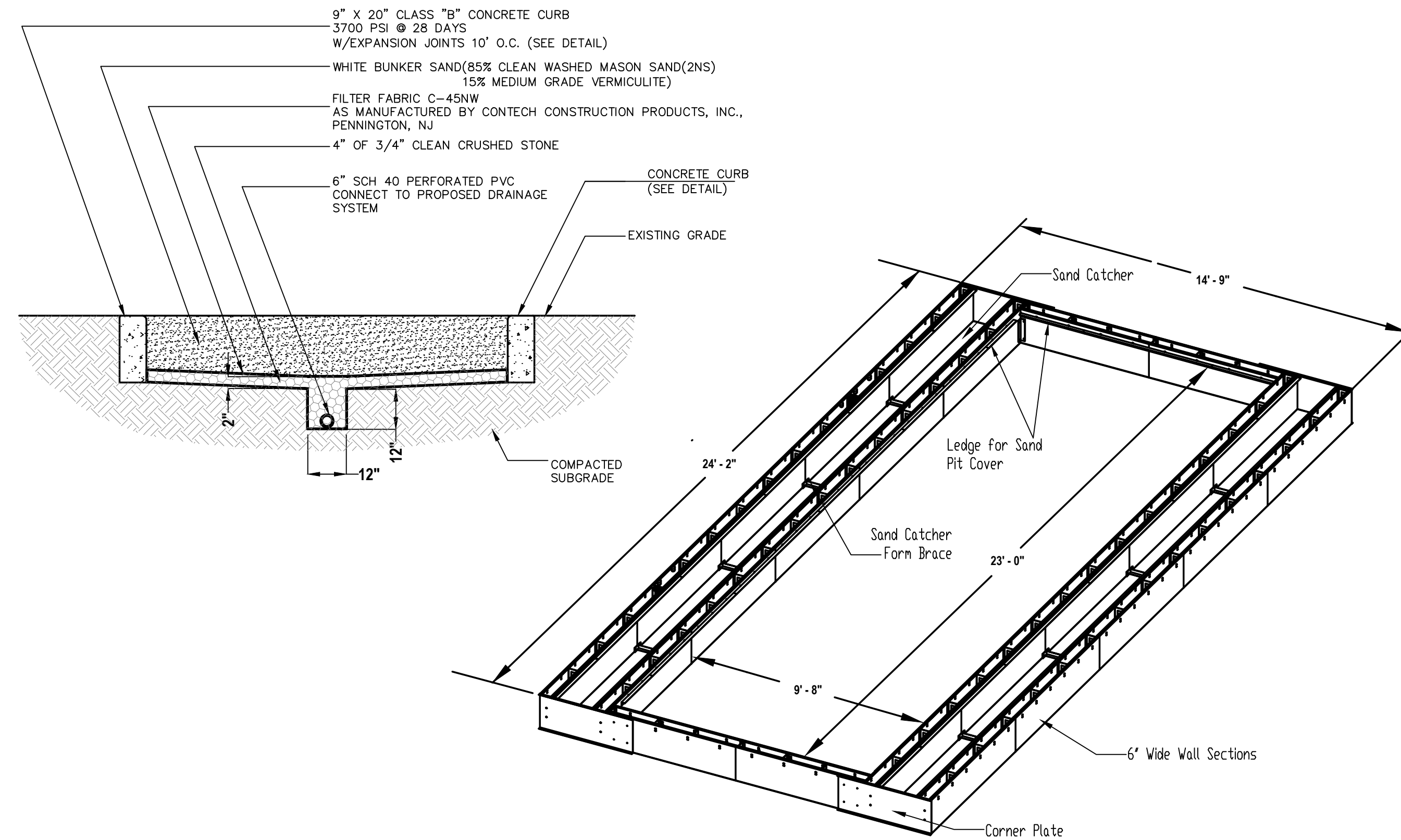
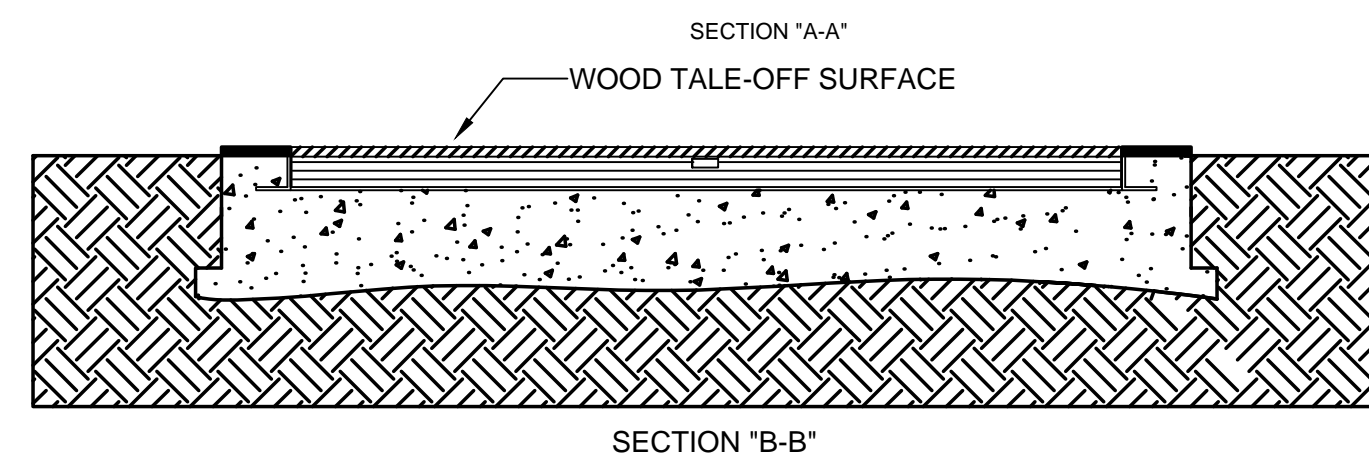
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PROFESSIONAL LAND SURVEYOR
PROFESSIONAL PLANNER

CONSTRUCTION DETAILS
CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT RAHWAY RIVER PARK
COUNTY OF UNION - PROJECT # 2011-019
BLOCK 201 - LOT 1
CITY OF RAHWAY, NEW JERSEY
UNION COUNTY
NEW JERSEY
DRAWN BY: D.J.D.R.A. CHECKED BY: T.S. PROJECT NO.: UNIOCTY11.012 SHEET NO.: 7.04
DESIGNED BY: D.J.D.R.A. SCALE: N.T.S. FIELD BOOK NO.: DATE: OCTOBER 2, 2015



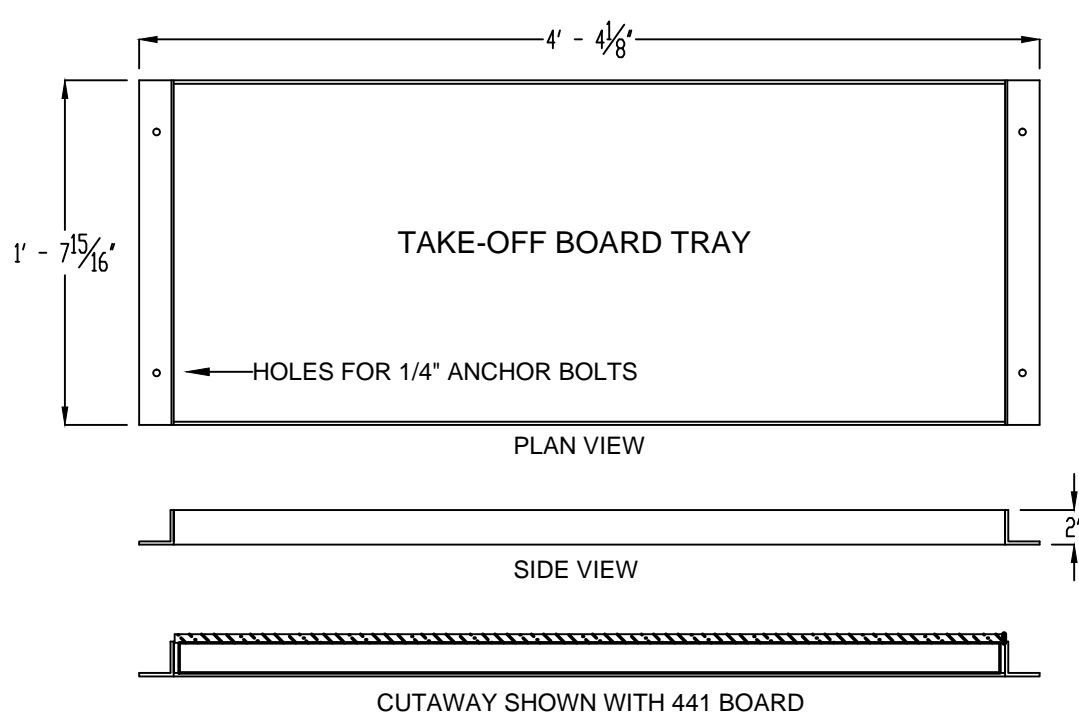
NOTE:
 1. Artificial runway surface should be trimmed even with the inside edge of the tray.
 2. If tray is installed in an asphalt runway without an artificial surface, the top edge of the tray should be 7/16" below the asphalt runway.



NOTES:
 1. Form system shall be Model #SEF44023 as manufactured by SportsEdge of Provincetown, MA or approved equal.
 2. The price bid on the Long Jump/Triple Jump Pit shall include a complete installation in accordance with the manufacturer's instructions.
 3. Contractor shall review technical specifications for more information.
 4. Long Jump/Triple Jump Pit shall meet NFHS specifications.

LONG JUMP/TRIPLE JUMP PIT & SAND CATCHER'S DETAIL

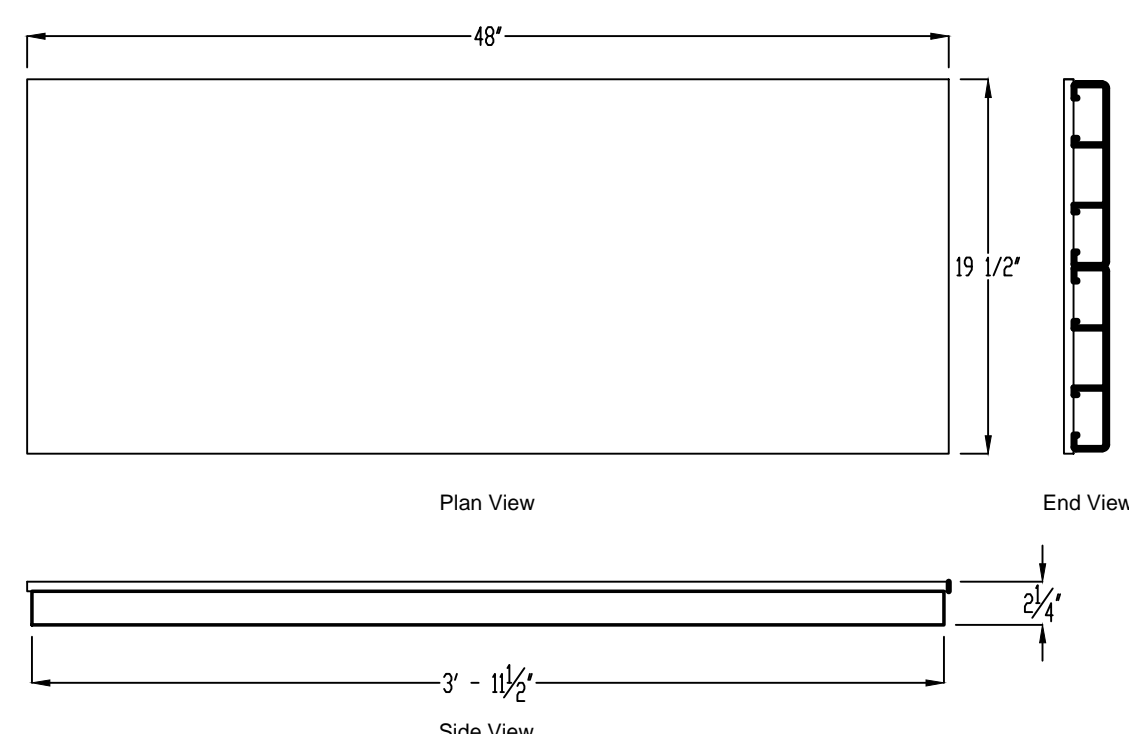
NOT TO SCALE



NOTES:
 1. The SE442 High School Aluminum Take-off Board Tray is designed to hold the SE441 take-off board which is purchased separately. The tray assembly is fabricated from 3/16" thick 6061-T6 aluminum sheet and angle which is formed and securely welded together. The take-off tray is incorporated into the runway and holds the take-off board flush with the runway surface.

LONG JUMP/TRIPLE JUMP TAKE-OFF BOARD TRAY

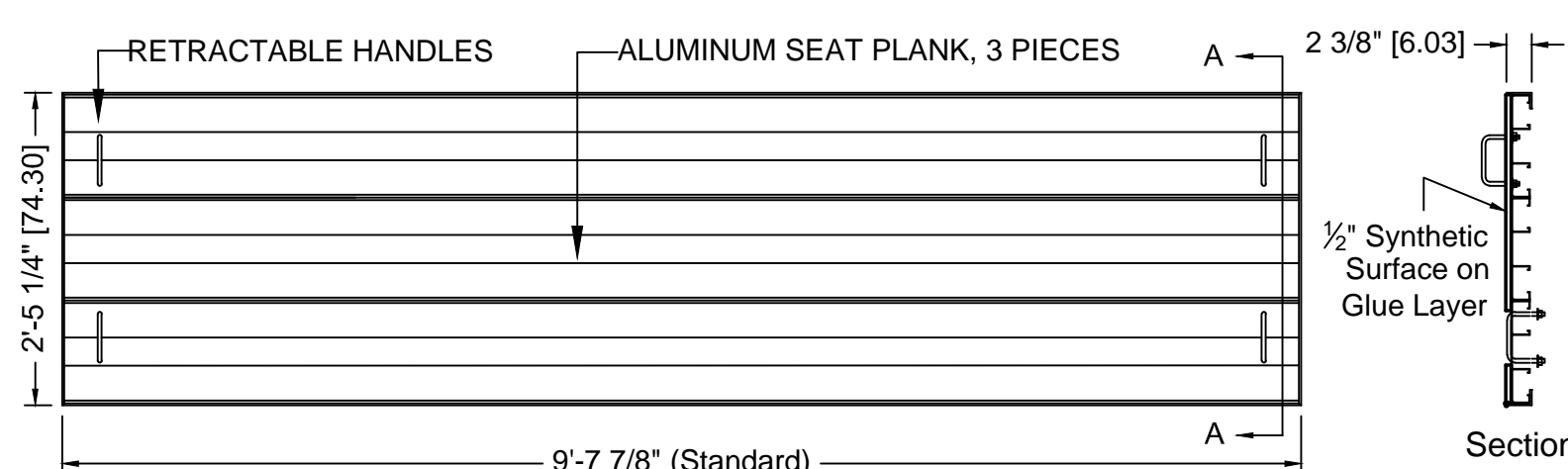
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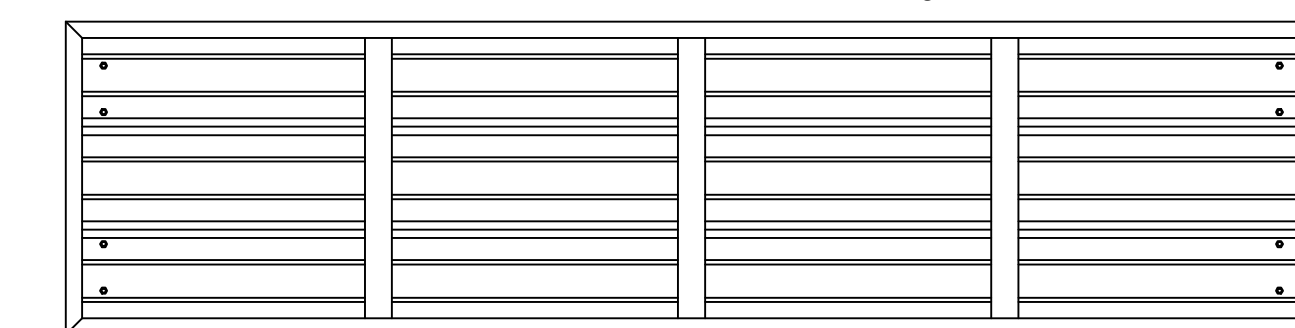
NOTES:
 1. The SE441 Wood High School Take-off Board is fabricated from 1/2" marine plywood and finished in white outdoor enamel. Each board is attached to sturdy aluminum seat planking, to resist weathering and deformation. The SE441 take-off board meets NFHS requirements for high school use and can be used on its own or with the SportsEdge SE442 Aluminum High School Take-off Tray.

LONG JUMP/TRIPLE JUMP TAKE-OFF BOARD

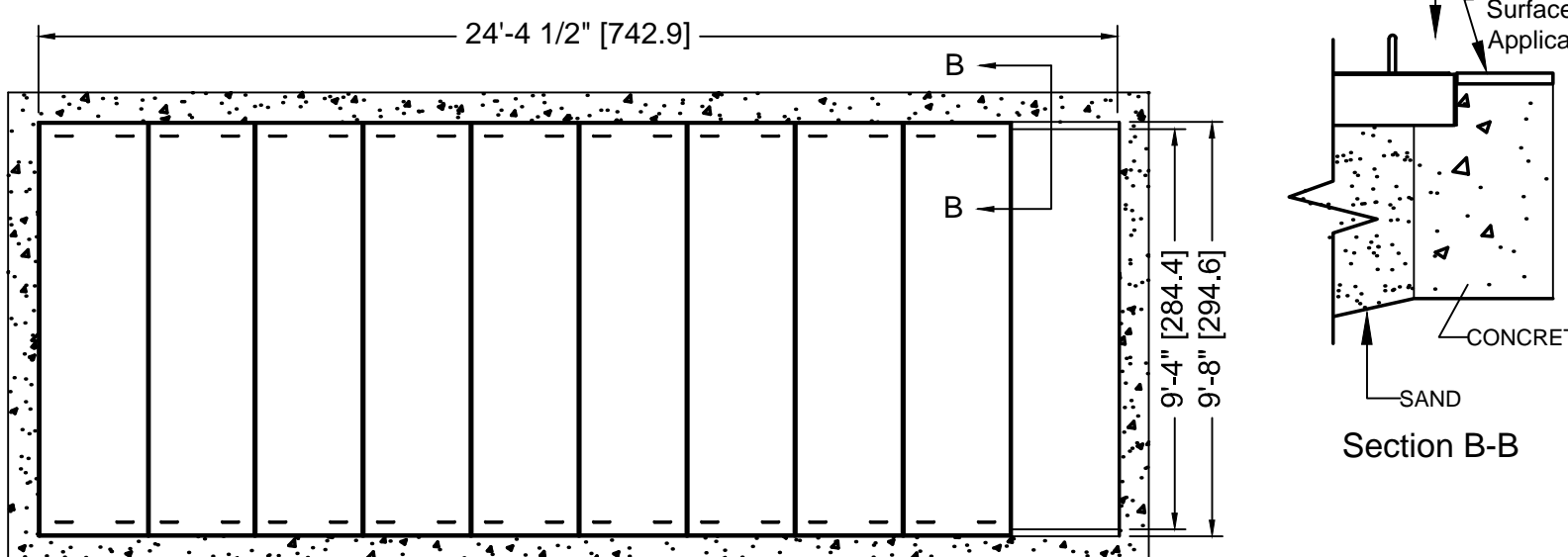
NOT TO SCALE



NOTE: Track surface material is to be installed in panels by contractor.
 FRAME - 2 3/8" x 1 1/2" aluminum angle.



NOTE: For a 1/2" synthetic surface, a 2 7/16" deep x 2" wide recess (including synthetic surface) on side walls is required to support cover panels. Sand trap systems may require a wider recess.



NOTE: Typical sand pit requiring 10 cover panels shown, one cover is removed. For longer sand pits, add 29 1/4" for each additional panel required.

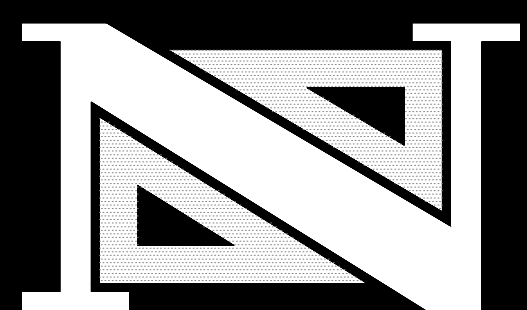
NOTES:
 1. To be Model SE730148 as manufactured by SportsEdge of Provincetown, MA or approved equal, is fabricated from 9-5/8" x 1-3/4" x 1/8" wall, extruded 6061-T6 aluminum seat plank. Three planks per panel are securely welded together in a frame of 2-3/8" x 1-1/2" x 3/16" aluminum angle. Each panel comes with four retractable handles for easy installation and removal. A 2" wide supporting recess is required on each side wall for panels. This recess is now required on the end walls. Standard panel width is 9'-7-7/8". To ensure proper fit, manufacture commences only upon receipt of form SE730148-2. A typical sand pit requires 10-11 cover panels. For longer pits, add 29-1/8" to the pit length for each additional panel. Measurements in brackets are in centimeters.
 2. The price bid on the Long Jump Sandpit Cover shall include a complete installation in accordance with the manufacturer's instructions. Sandpit cover shall meet NFHS specifications.

ALUMINUM LONG / TRIPLE JUMP SANDPIT COVER

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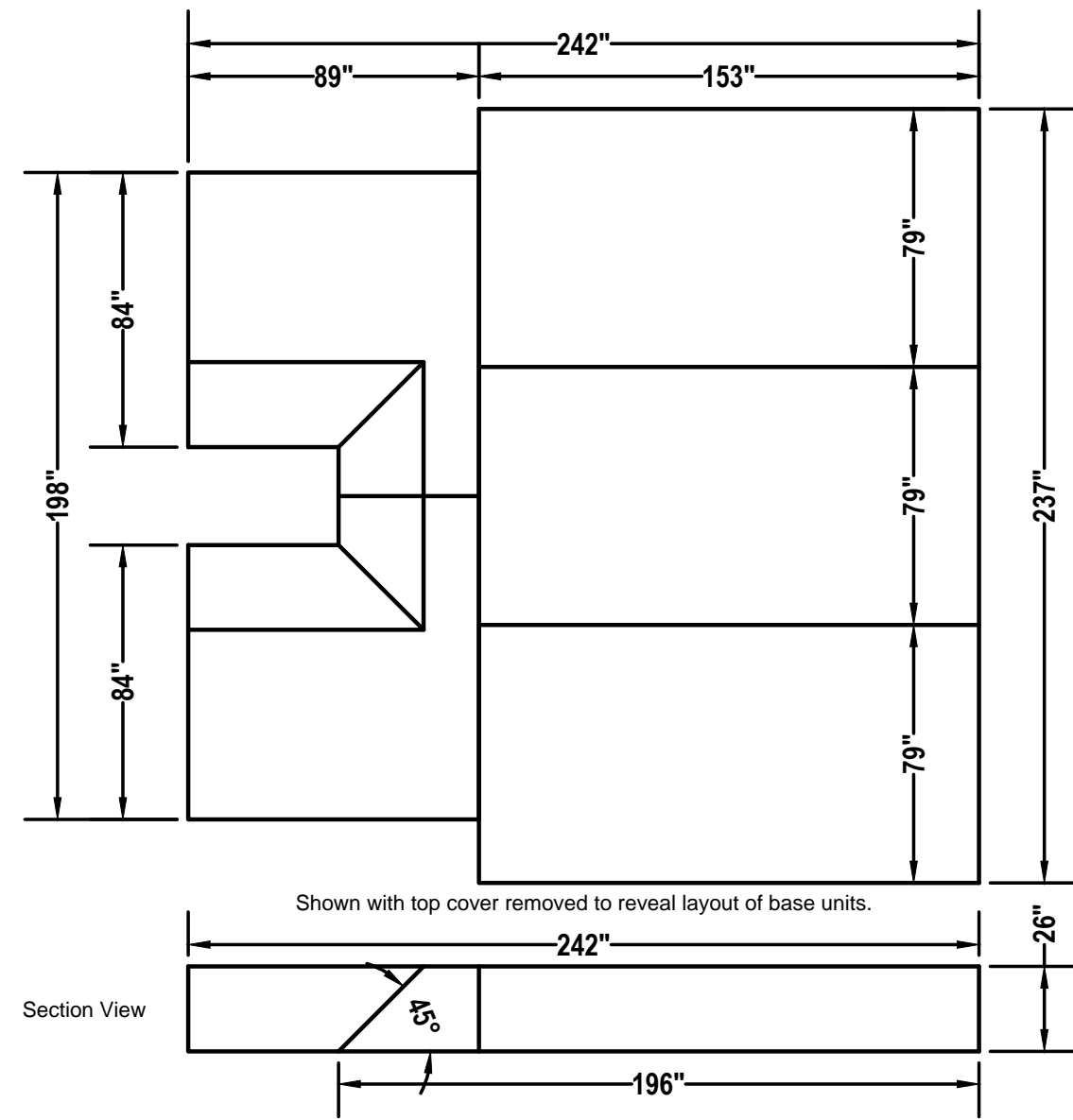


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 N.J. LICENSE NO. 3864

CONSTRUCTION DETAILS
 CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT RAHWAY RIVER PARK
 COUNTY OF UNION - PROJECT # 2011-019
 BLOCK 201 - LOT 1
 CITY OF RAHWAY, NEW JERSEY
UNION COUNTY
 DRAWN BY: D.J.D.R.A. CHECKED BY: T.S. PROJECT NO: UNIOCTY11.012 SHEET NO: 7.05
 DESIGNED BY: D.J.D.R.A. SCALE: N.T.S. FIELD BOOK NO: PAGE DATE: OCTOBER 2, 2015

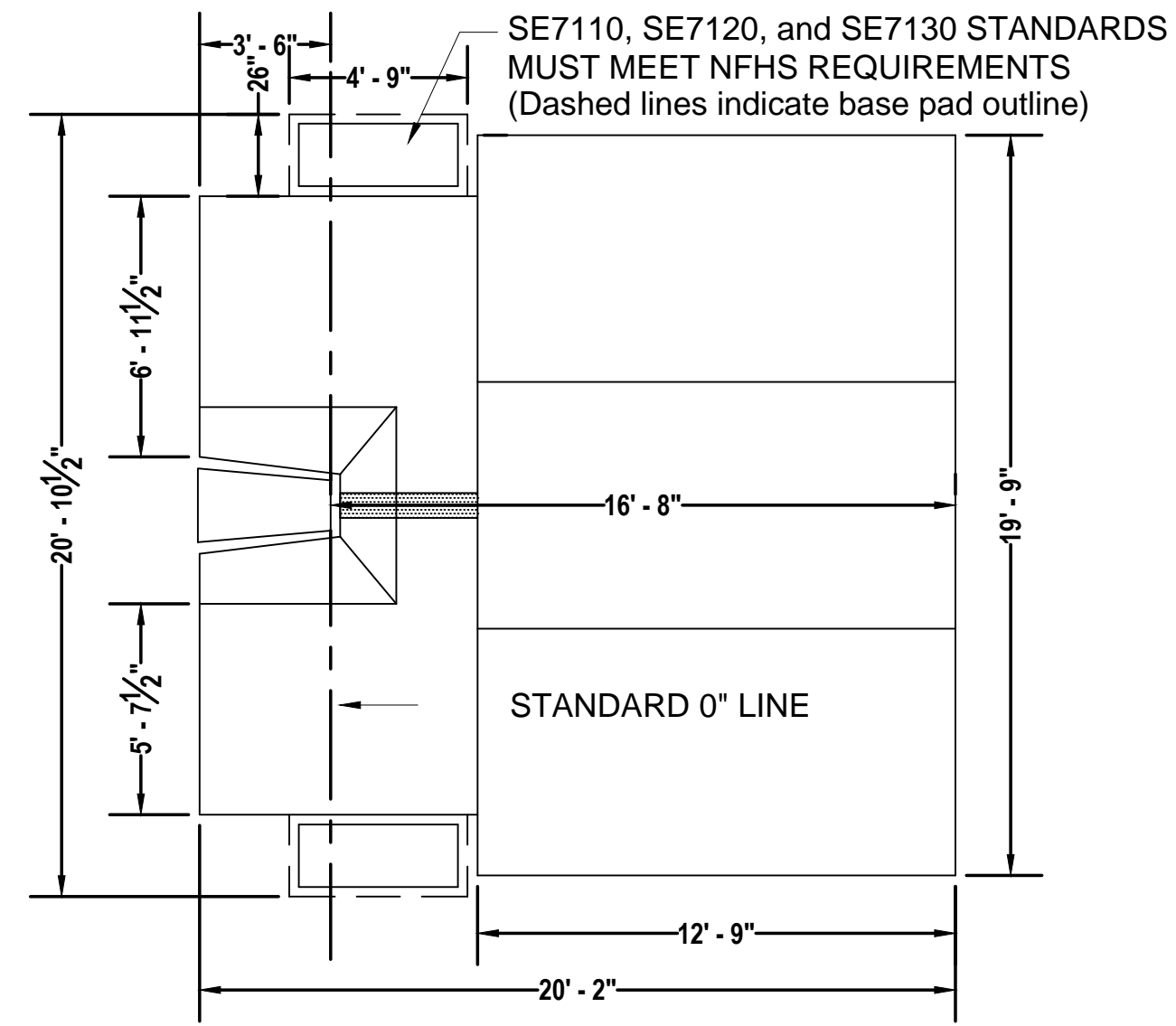


Overall size: 19'-9" x 20'-2" x 26"
 Overall size metric: 6.02m x 6.15m x 0.66m
 (3) Base units: 6'-7" x 12'-9" x 26"
 (2) Front Slant units: 8'-3" x 7'-5" x 26"

- NOTES:**
- The Model SE653 essentials pole vault landing system as manufactured by SportsEdge, Provincetown, MA (or approved equal).
 - The Model SE653 essentials pole vault landing system employs a skinned mesh top that holds the units together for a snug fit. Essentials pole vault landing system shall meet all NFHS specifications.

POLE VAULT LANDING SYSTEM DETAIL

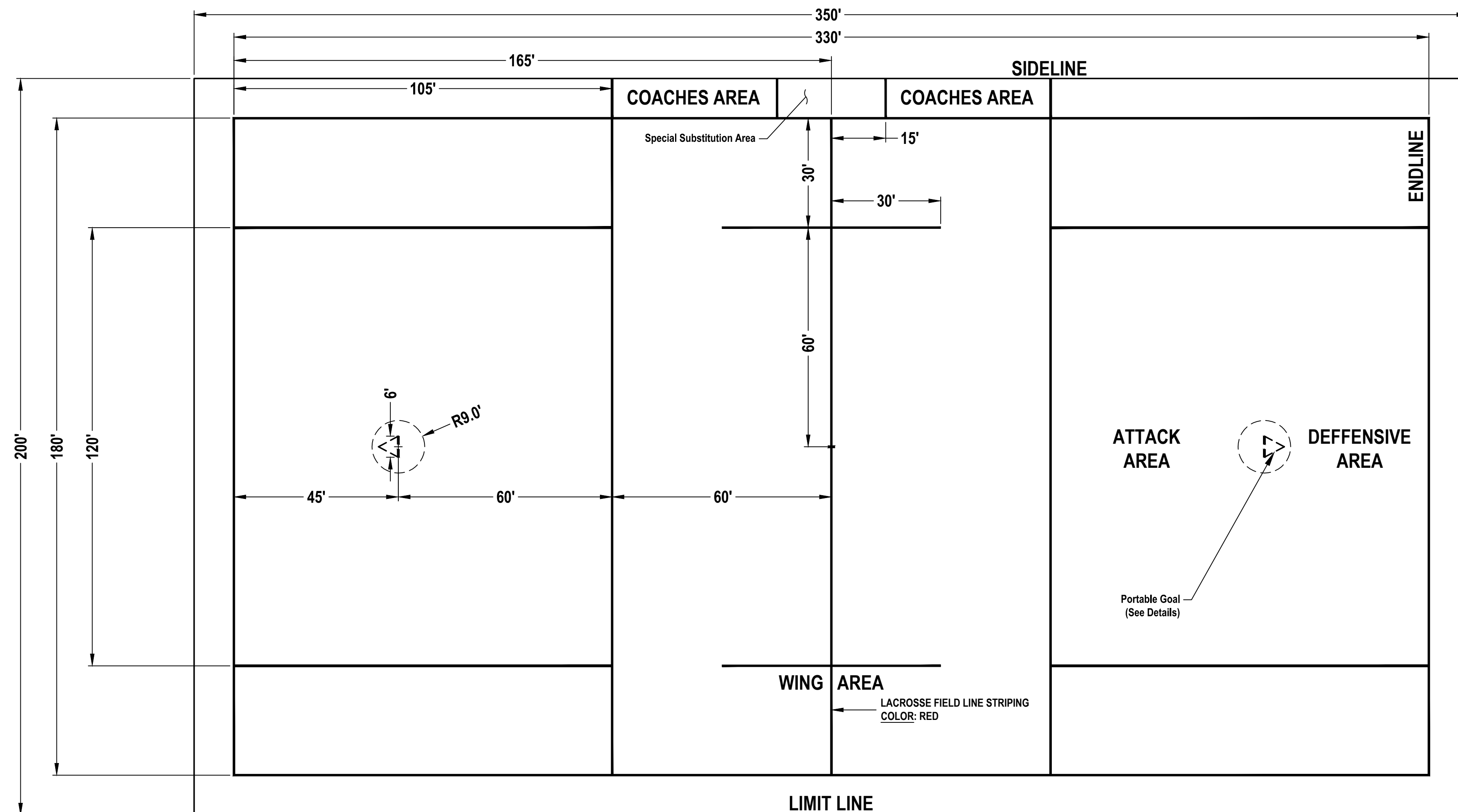
NOT TO SCALE



- NOTES:**
- The Model SE654 scholastic pole vault landing pit as manufactured by SportsEdge, Provincetown, MA (or approved equal).
 - The Model SE654 scholastic pole vault landing pit is shown with top pad removed to reveal layout of base units and velcro at box cut-out. Pole vault landing pit shall meet all NFHS specifications.

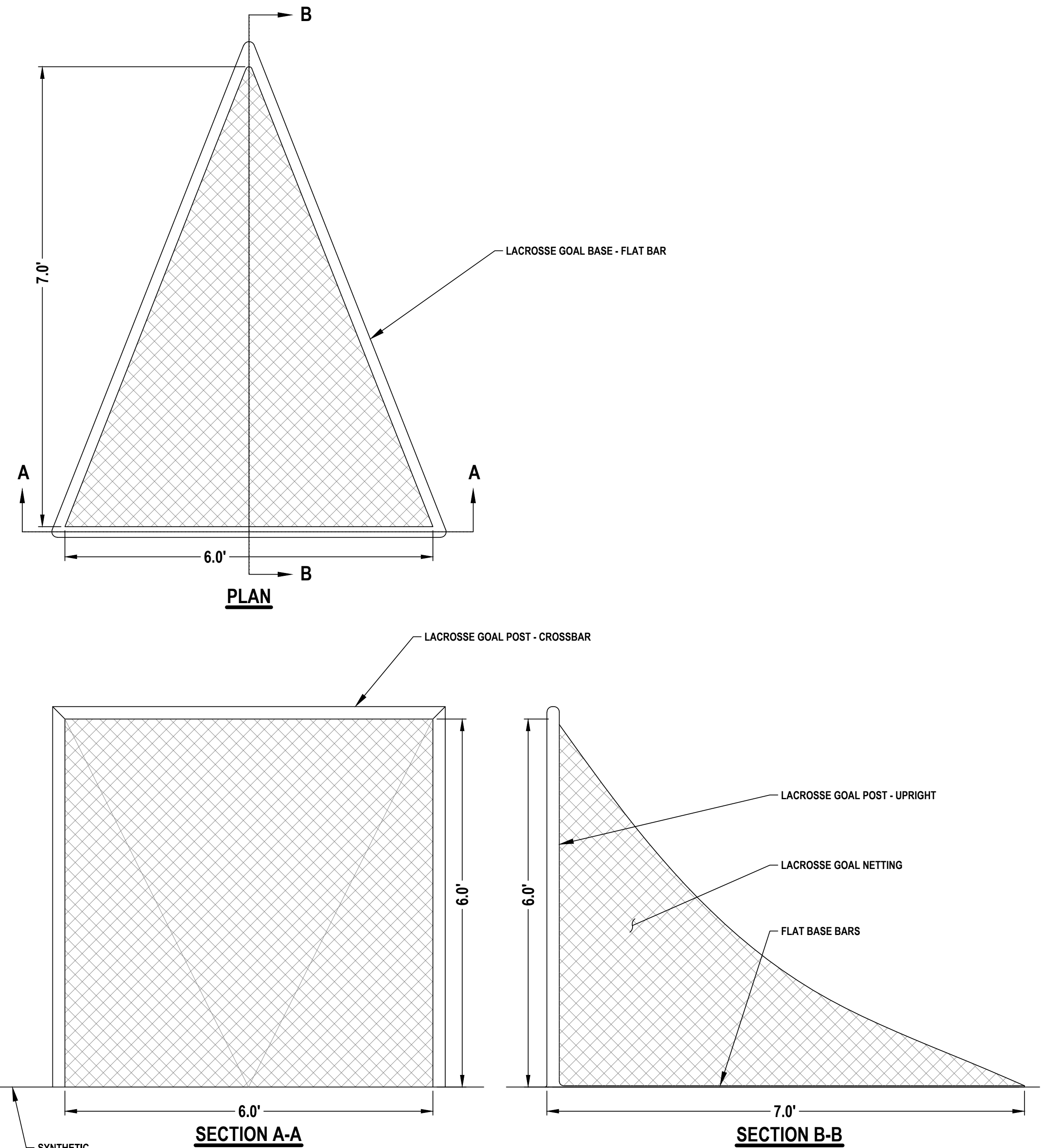
POLE VAULT LANDING PIT DETAIL

NOT TO SCALE



- NOTES:**
- LACROSSE FIELD LAYOUT TO MEET ALL NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATIONS GUIDELINES AND REQUIREMENTS.

LACROSSE FIELD LAYOUT



- NOTES:**
- LACROSSE GOAL SHALL BE MODEL NO. "ZE201, BY KWIIGOAL" AS DISTRIBUTED BY SPORTSEGE, PROVINCETOWN, MA; OR APPROVED EQUAL.
 - LACROSSE GOAL SHALL BE EQUIPPED WITH NETTING AND NET FASTENERS, AS MANUFACTURED BY SPORTSEGE, PROVINCETOWN, MA; OR APPROVED EQUAL.
 - LACROSSE GOAL SHALL BE ASSEMBLED & INSTALLED AS PER MANUFACTURERS INSTRUCTIONS AND NFHS SPECIFICATIONS.

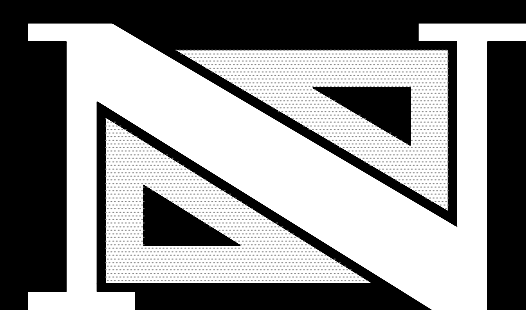
PORTABLE LACROSSE GOAL

NOT TO SCALE

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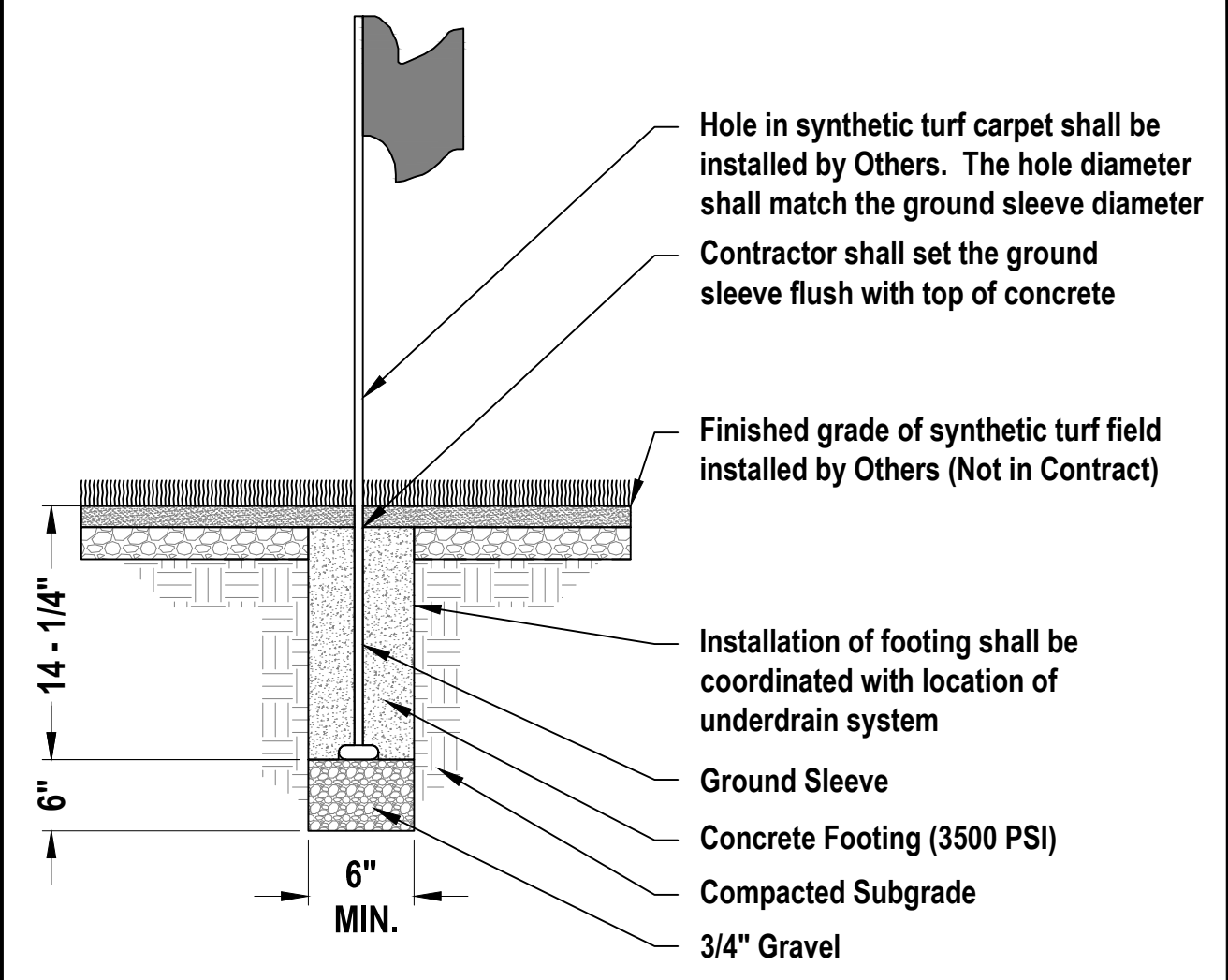


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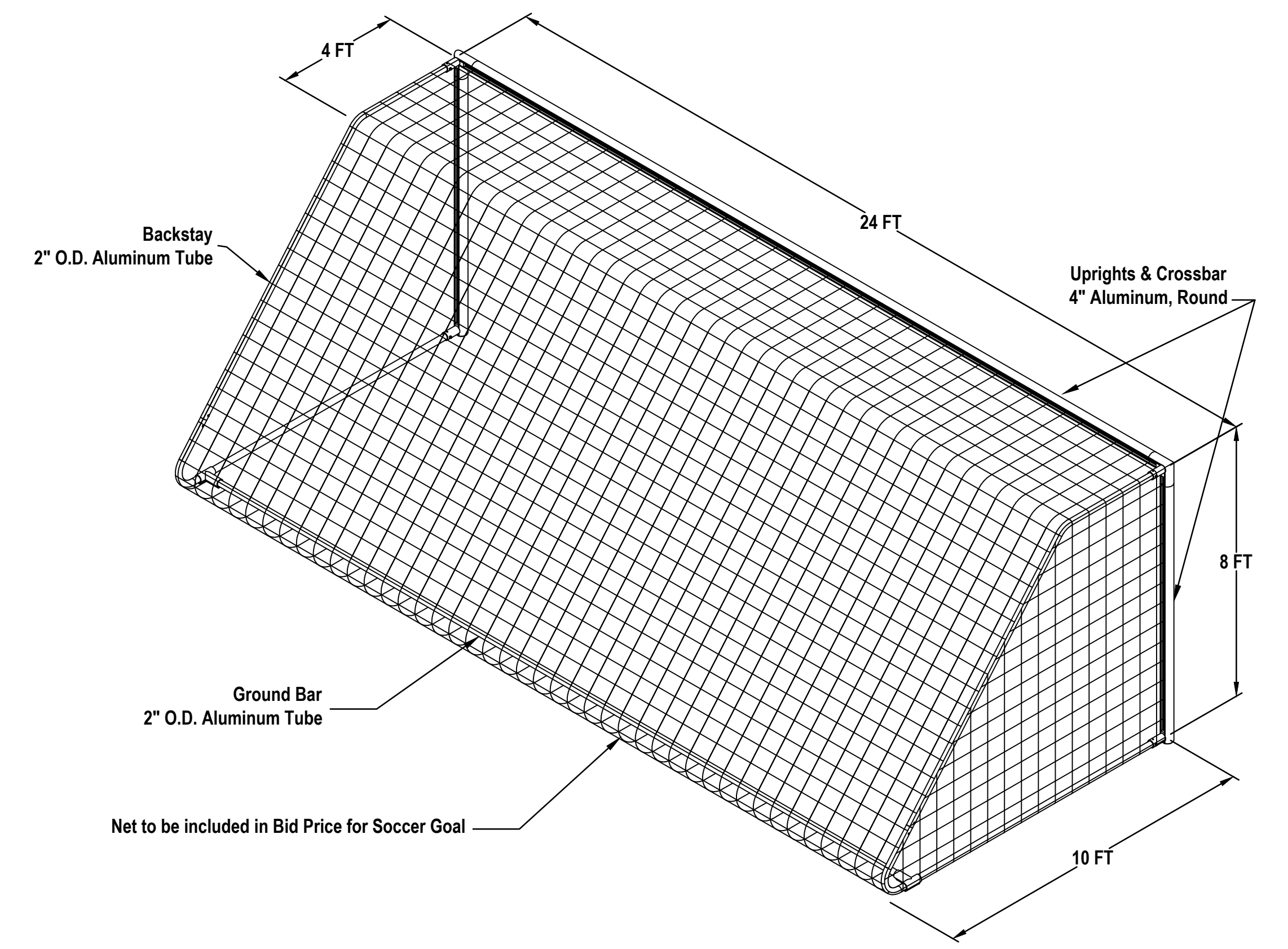
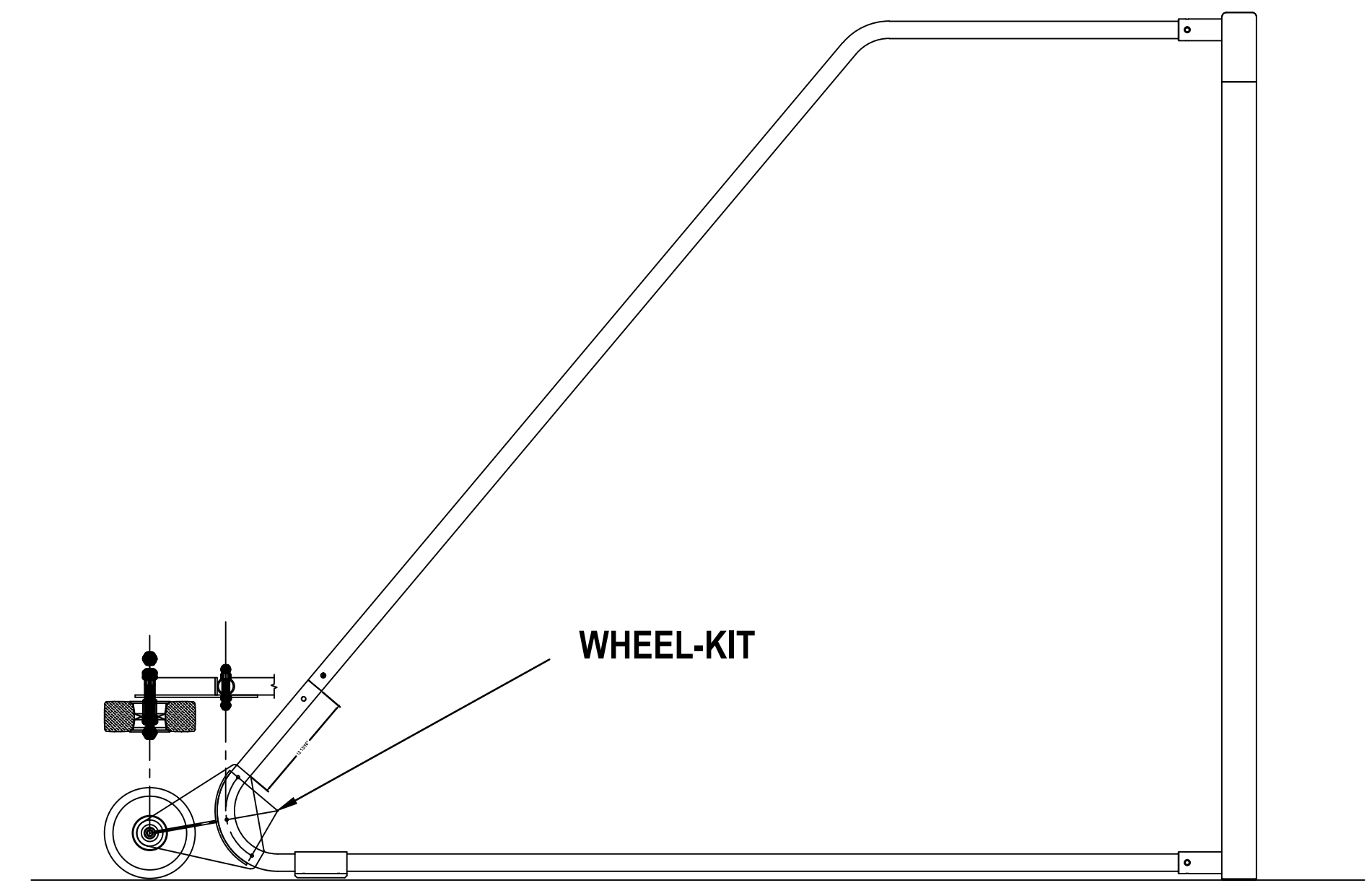
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 N.J. LICENSE NO. 331095669

CONSTRUCTION DETAILS
 CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT RAHWAY RIVER PARK
 COUNTY OF UNION - PROJECT # 2011-019
 BLOCK 201 - LOT 1
 CITY OF RAHWAY, NEW JERSEY
UNION COUNTY
 DRAWN BY: D.J.D.R.A. CHECKED BY: T.S. PROJECT NO: UNIOCTY11.012 SHEET NO: 7.06
 DESIGNED BY: D.J.D.R.A. SCALE: N.T.S. FIELD BOOK NO: DATE: OCTOBER 2, 2015



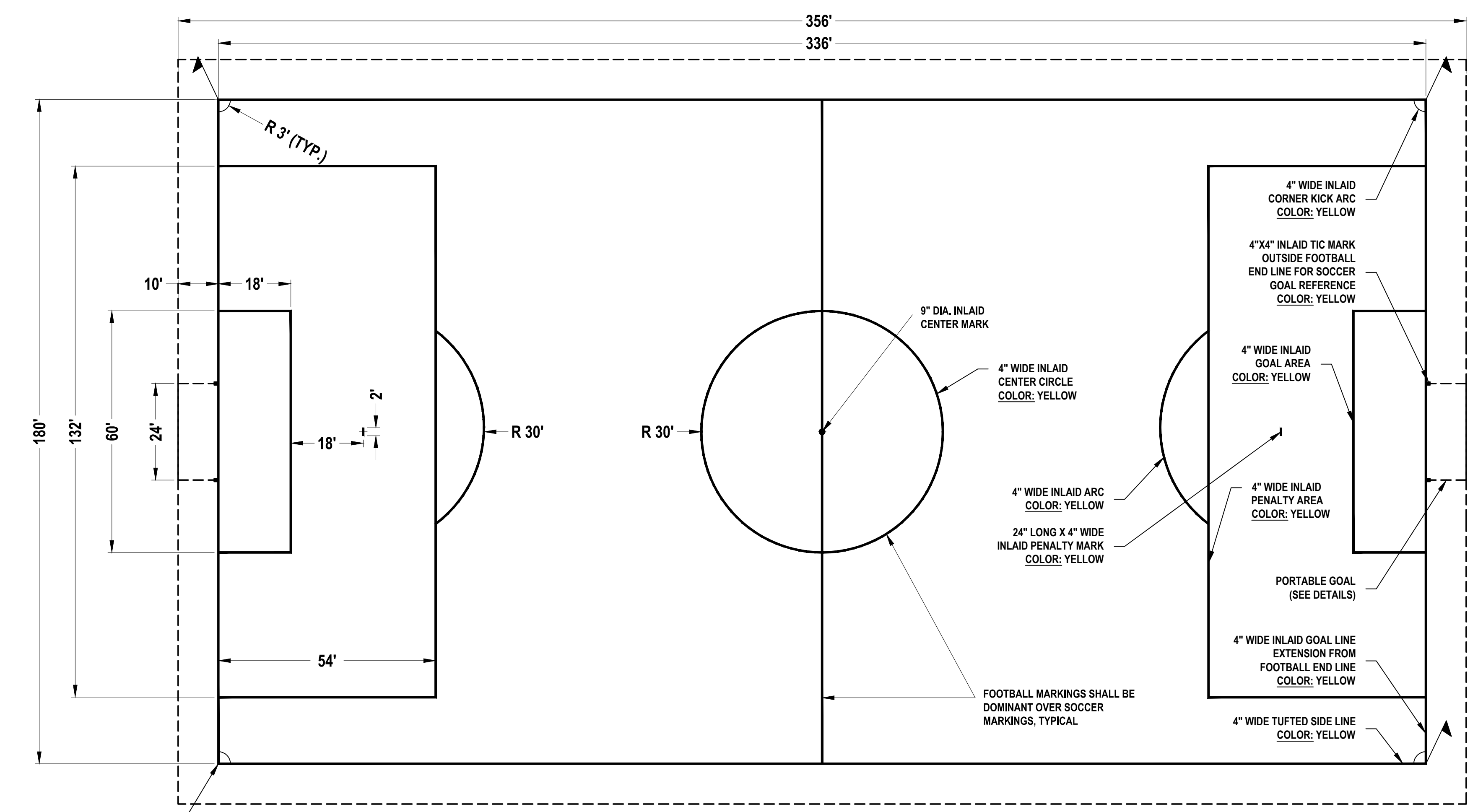
- NOTES:
- CORNER FLAGS SHALL BE INSTALLED AT SOCCER FIELD CORNERS, TOTAL 4, AS DENOTED ON PROPOSED SOCCER FIELD LAYOUT DETAIL.
 - CORNER FLAG SHALL BE MODEL NO. 68701 "INTERNATIONAL CORNER FLAG" AS MANUFACTURED BY KWIK GOAL, (215) 536-2200, OR APPROVED EQUAL.
 - PROVIDE PLUG INSERT FOR SLEEVE FLUSH WITH FINISHED GRADE OF SYNTHETIC TURF FIELD MATERIAL WHEN FLAGS ARE NOT IN USE.

REMOVABLE SOCCER FIELD CORNER FLAG DETAIL
NOT TO SCALE



- NOTES:
- SOCCER GOAL SHALL BE MODEL NO. "SE700R, SOCCER GOAL" AS MANUFACTURED BY SPORTSEGE, PROVINCETOWN, MA, OR APPROVED EQUAL.
 - SOCCER GOAL SHALL BE EQUIPPED WITH MOBILITY WHEEL KIT, AS MANUFACTURED BY SPORTSEGE, PROVINCETOWN, MA, OR APPROVED EQUAL.
 - SOCCER GOAL SHALL BE ASSEMBLED & INSTALLED AS PER MANUFACTURERS INSTRUCTIONS.

PORTABLE SOCCER GOAL & WHEEL KIT

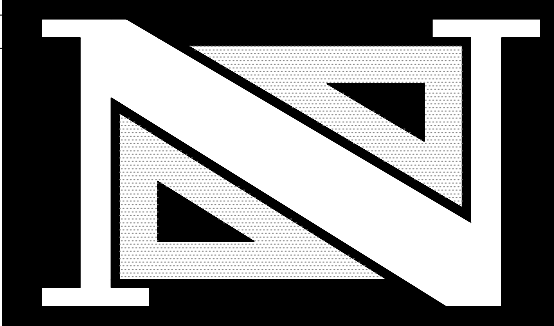


- NOTES:
- SOCCER FIELD LAYOUT SHALL MEET ALL NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATIONS GUIDELINES AND REQUIREMENTS.

SOCCER FIELD LAYOUT
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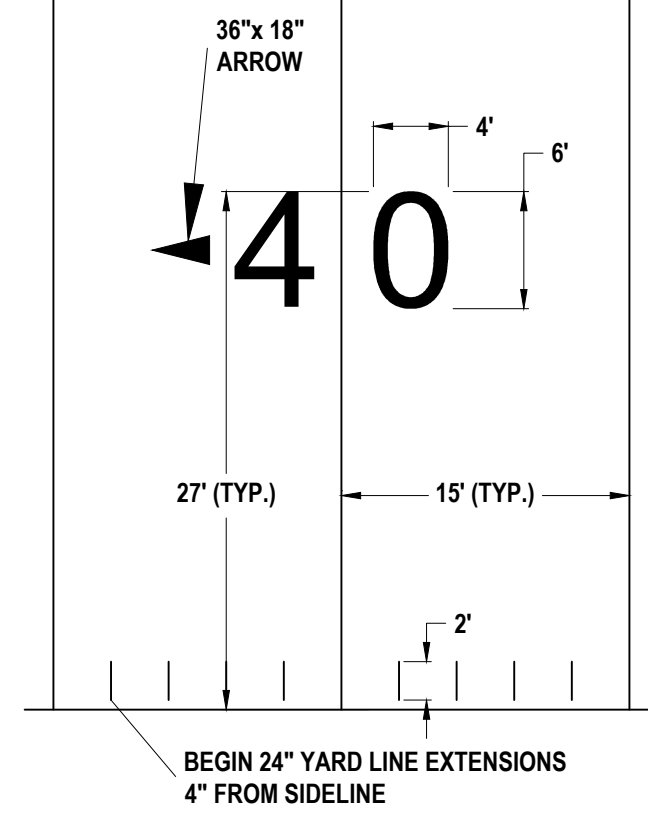
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N.J. LICENSE NO. 3864

CONSTRUCTION DETAILS
CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT RAHWAY RIVER PARK
COUNTY OF UNION - PROJECT # 2011-019
BLOCK 201 - LOT 1
CITY OF RAHWAY, NEW JERSEY
UNION COUNTY **NEW JERSEY**
DRAWN BY: D.J.D.R.A. CHECKED BY: T.S. PROJECT NO.: UNIOCTY11.012 SHEET NO.: 7.07
DESIGNED BY: D.J.D.R.A. SCALE: N.T.S. FIELD BOOK NO.: DATE: OCTOBER 2, 2015

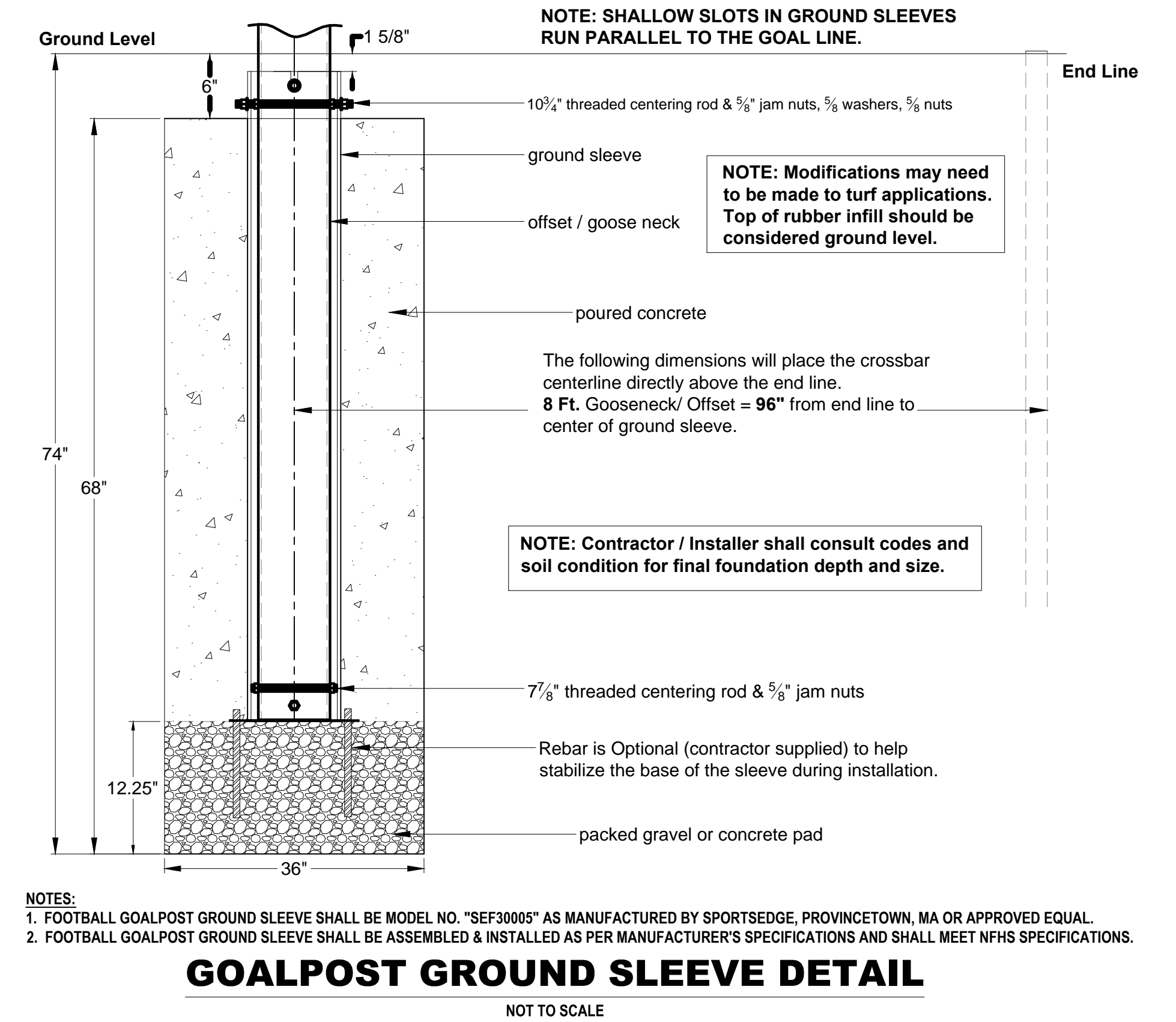
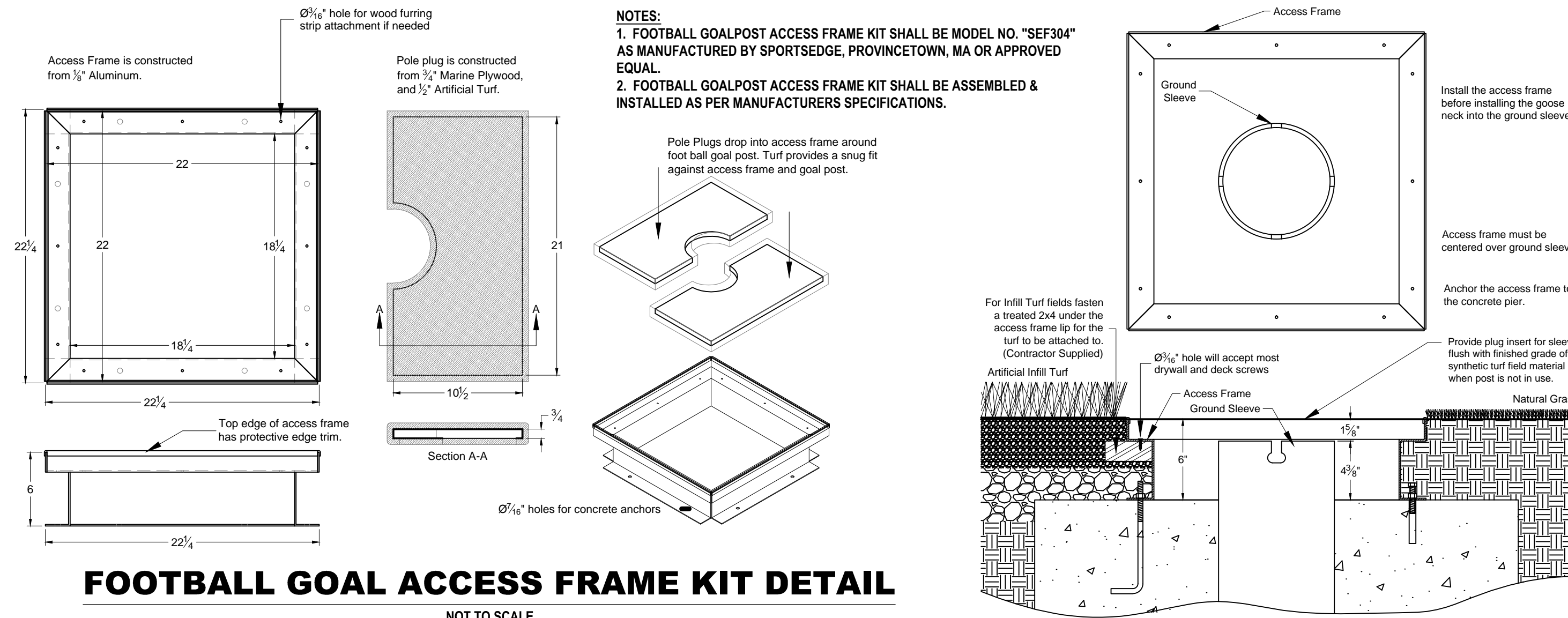
FOOTBALL YARD MARKER DETAIL

NOT TO SCALE



FOOTBALL GOAL ACCESS FRAME KIT DETAIL

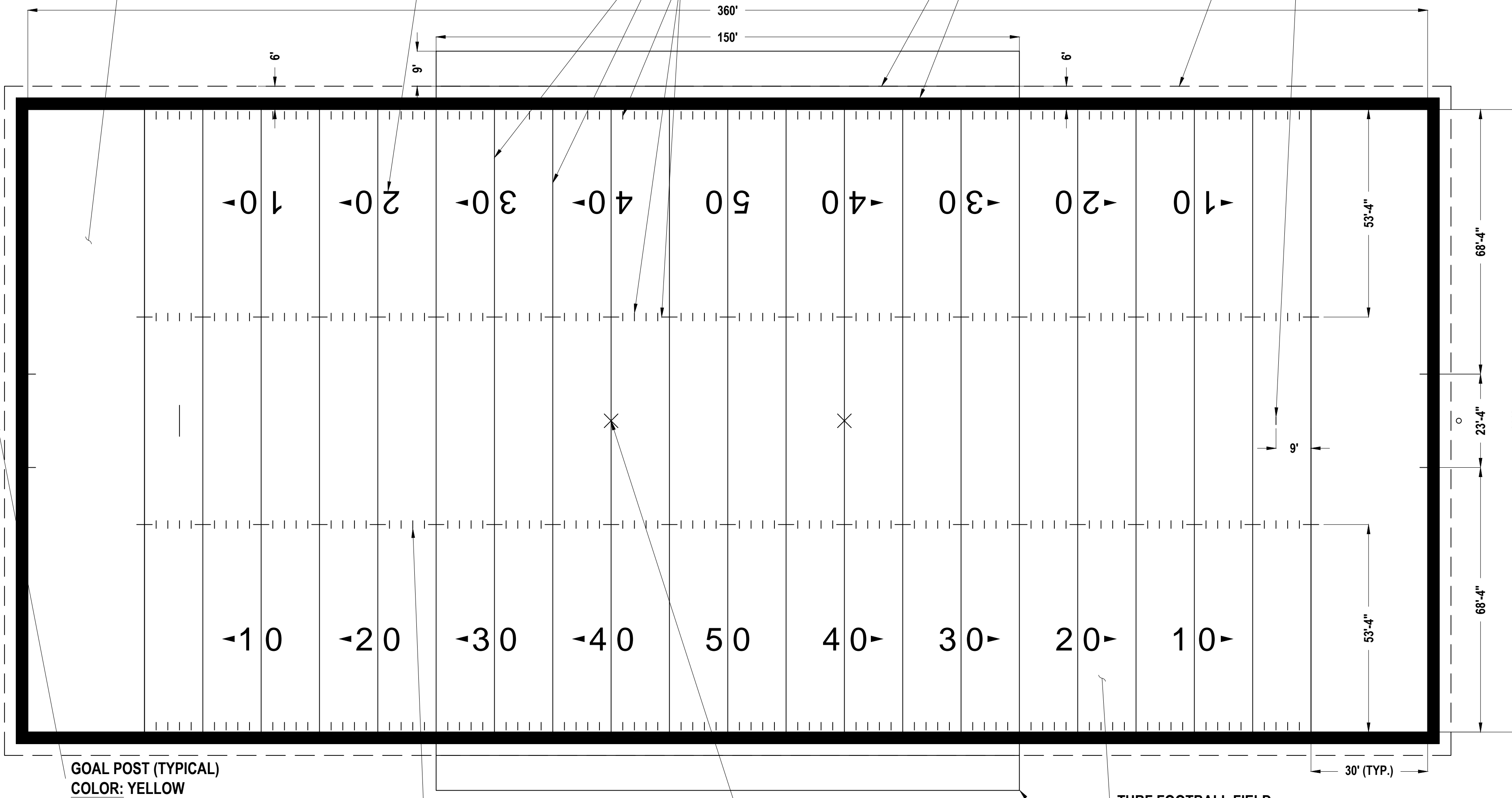
NOT TO SCALE



GOALPOST GROUND SLEEVE DETAIL

NOT TO SCALE

- TURF FOOTBALL FIELD ENDZONE COLOR: ALTERNATING FIELD GREEN & SUMMER GREEN FOR TEN YARD GOAL AREAS (ALTERNATE WITH ADJACENT IN-PLAY FIVE YARD COLOR PATTERN)
- FIELD MARKER NUMBERS COLOR: WHITE
- TUFTED YARD LINES COLOR: WHITE
- INLAID MARKERS COLOR: WHITE
- 150' x 3' COACHES BOX (STRIPING COLOR: WHITE)
- 3' WIDE FIELD BOUNDARY LINE COLOR: WHITE
- 4" WIDE DASHED RESTRAINING LINE COLOR: WHITE
- EXTRA POINT LINE (24" LONG X 4" WIDE) COLOR: WHITE



FOOTBALL FIELD DETAIL LAYOUT

NOT TO SCALE

NOTES:
1. FOOTBALL FIELD LAYOUT TO MEET ALL NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATIONS GUIDELINES AND REQUIREMENTS.

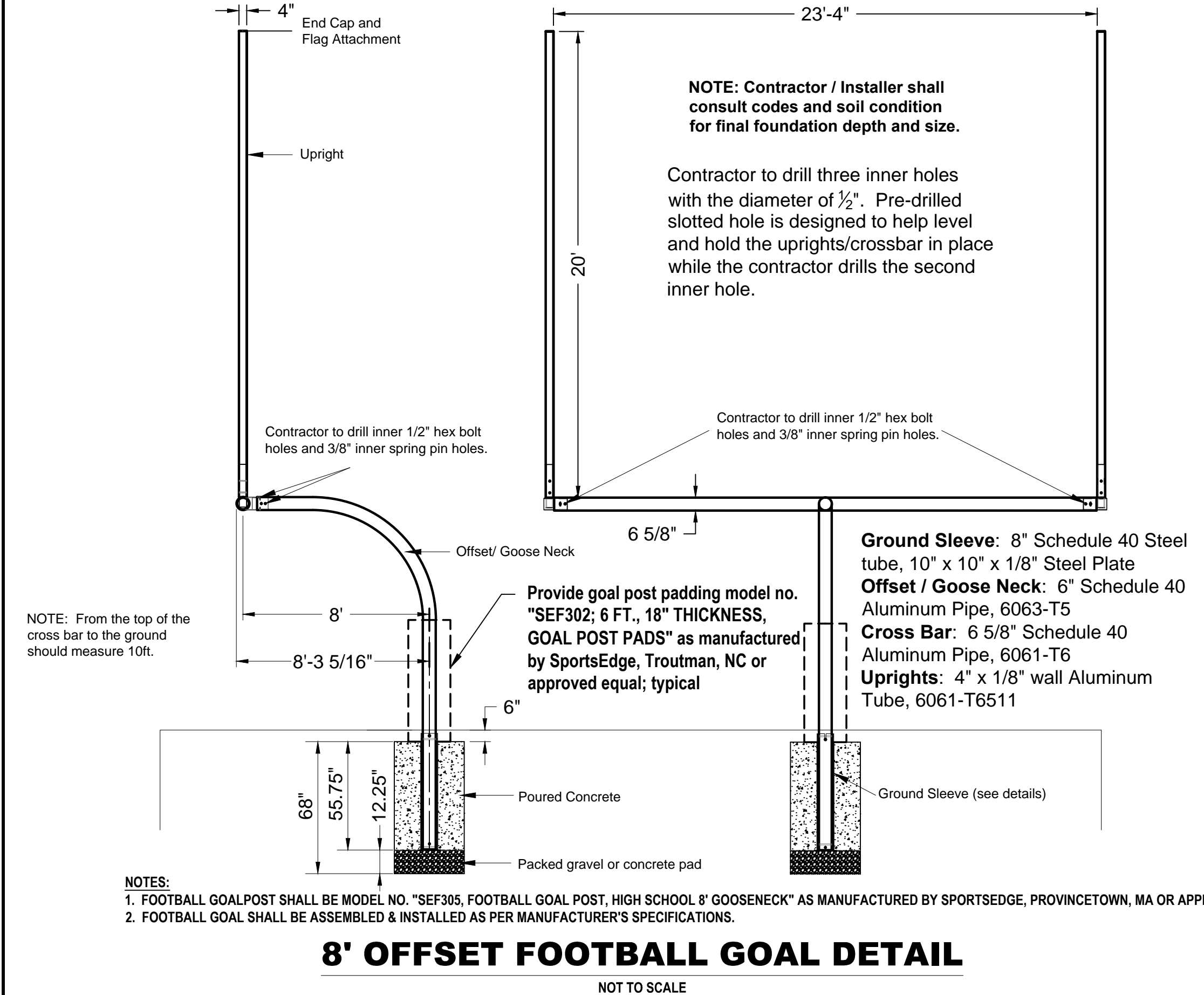
HASH MARKS (24" LONG x 4" WIDE) COLOR: WHITE

KICK-OFF 'X' (34" LONG x 4" WIDE) COLOR: WHITE

TURF FOOTBALL FIELD COLORS: ALTERNATING FIELD GREEN & SUMMER GREEN (ALTERNATE EVERY FIVE YARDS)

150' x 9' TEAM AREA (STRIPING COLOR: WHITE)

Goal posts to be constructed of schedule 40 aluminum with a 6 5/8" diameter cross bar and a gooseneck offset with 4" diameter uprights. The post shall be coated with durable yellow powder coat finish. Each goal shall be designed for easy leveling of the crossbar and uprights. Ground sleeves shall be included in bid price for football goal posts. Goal posts and sleeves shall meet NFHS specifications.



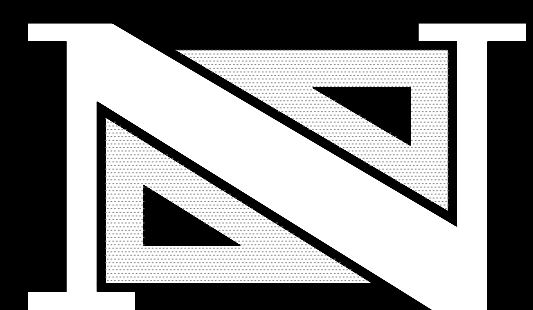
8' OFFSET FOOTBALL GOAL DETAIL

NOT TO SCALE

NOTES:
1. FOOTBALL GOALPOST SHALL BE MODEL NO. "SEF305, FOOTBALL GOAL POST, HIGH SCHOOL 8' GOOSENECK" AS MANUFACTURED BY SPORTSEGE, PROVINCETOWN, MA OR APPROVED EQUAL.
2. FOOTBALL GOAL SHALL BE ASSEMBLED & INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS.

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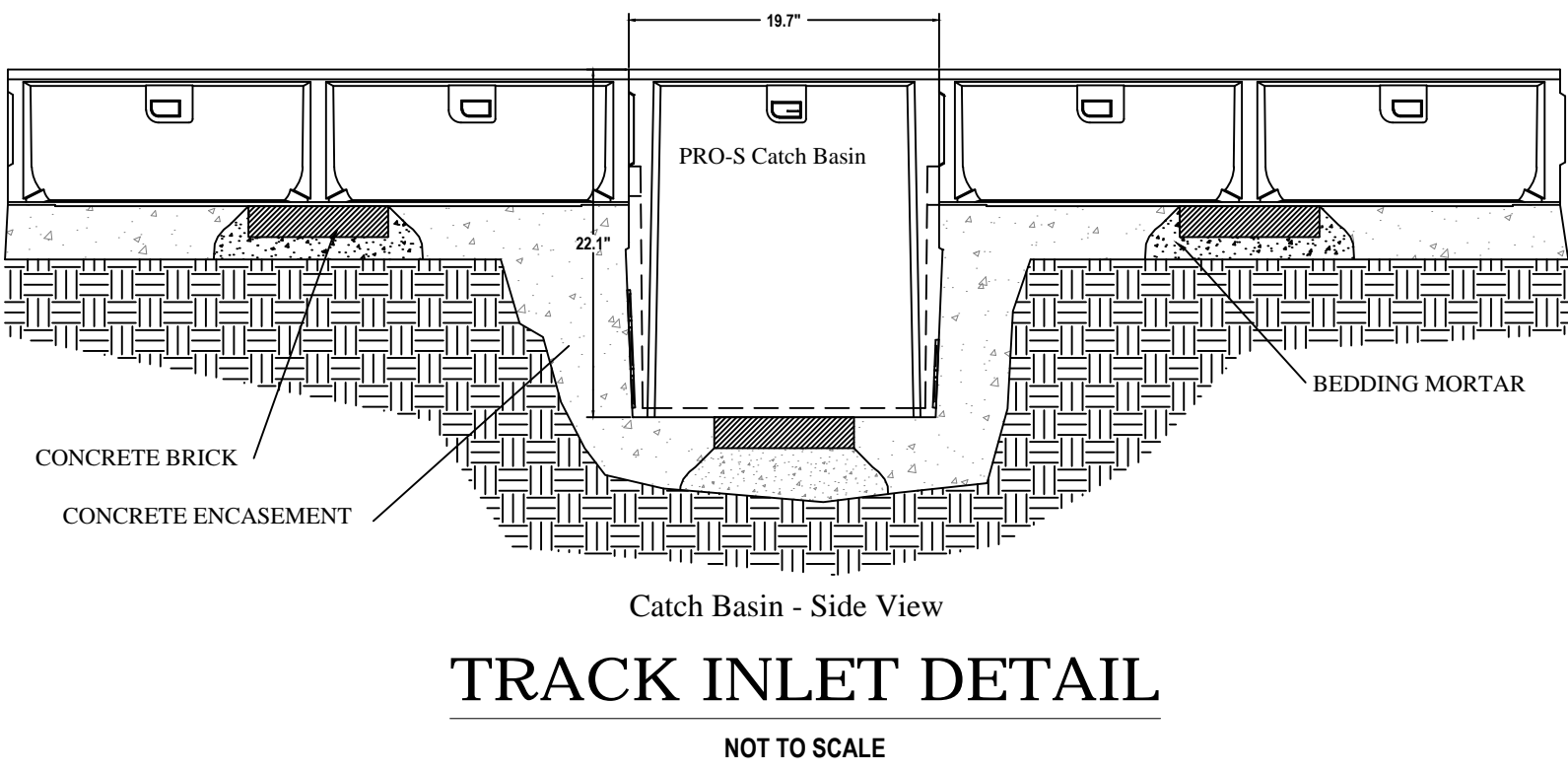
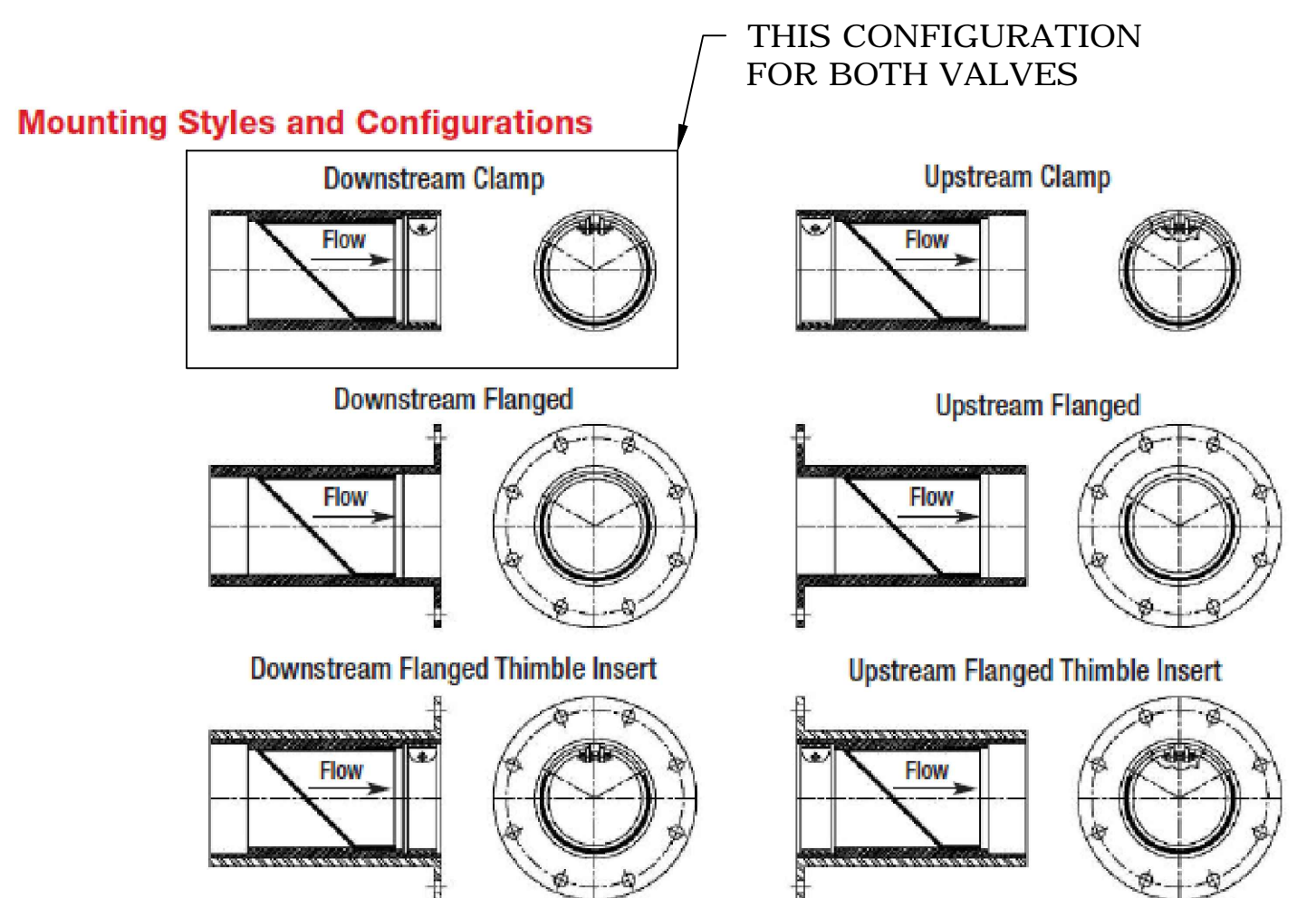
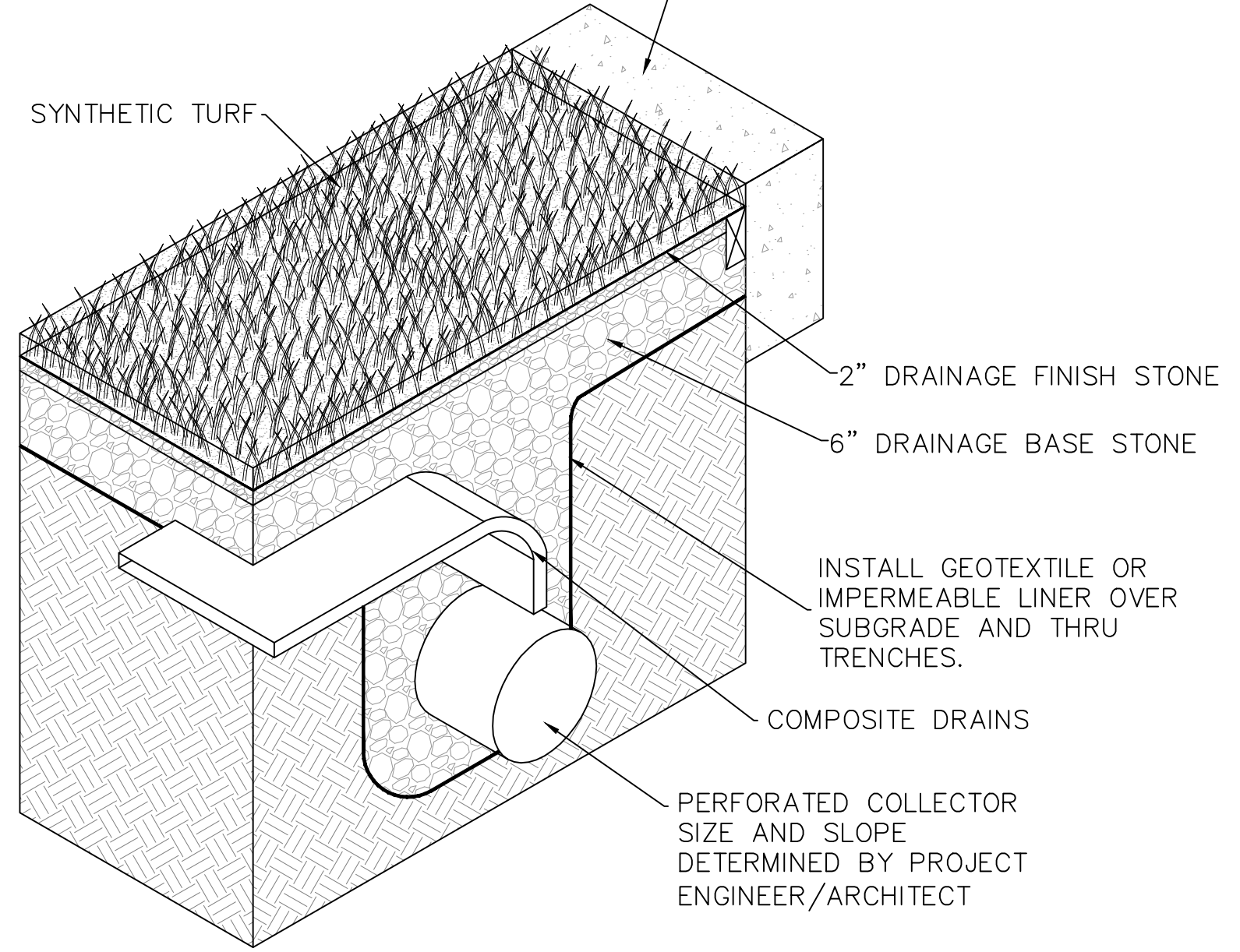
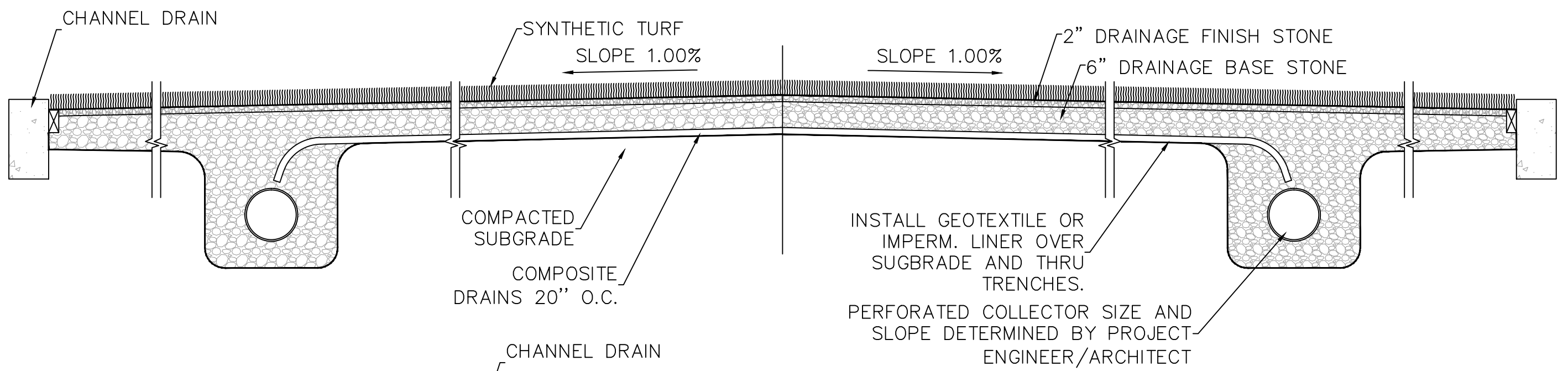
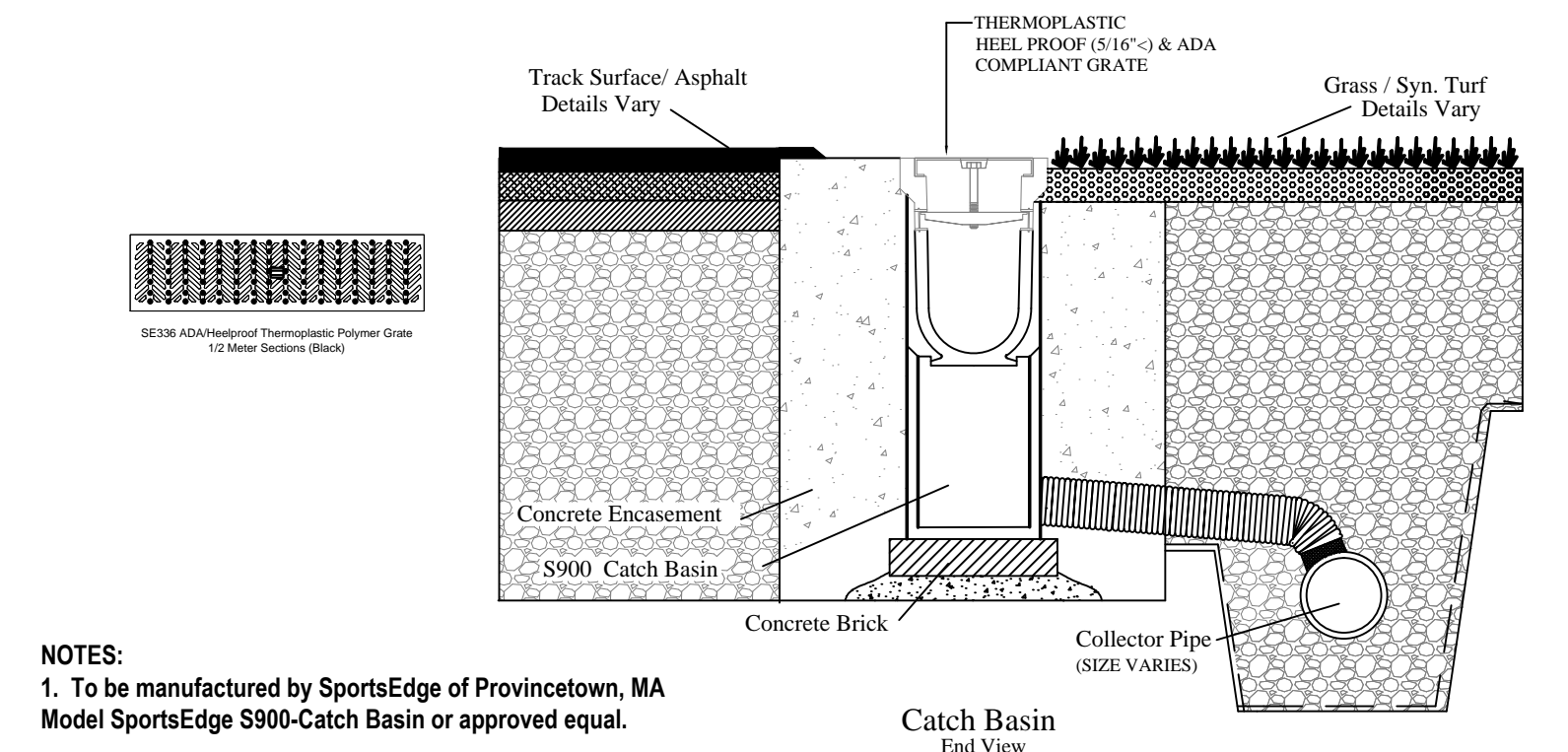
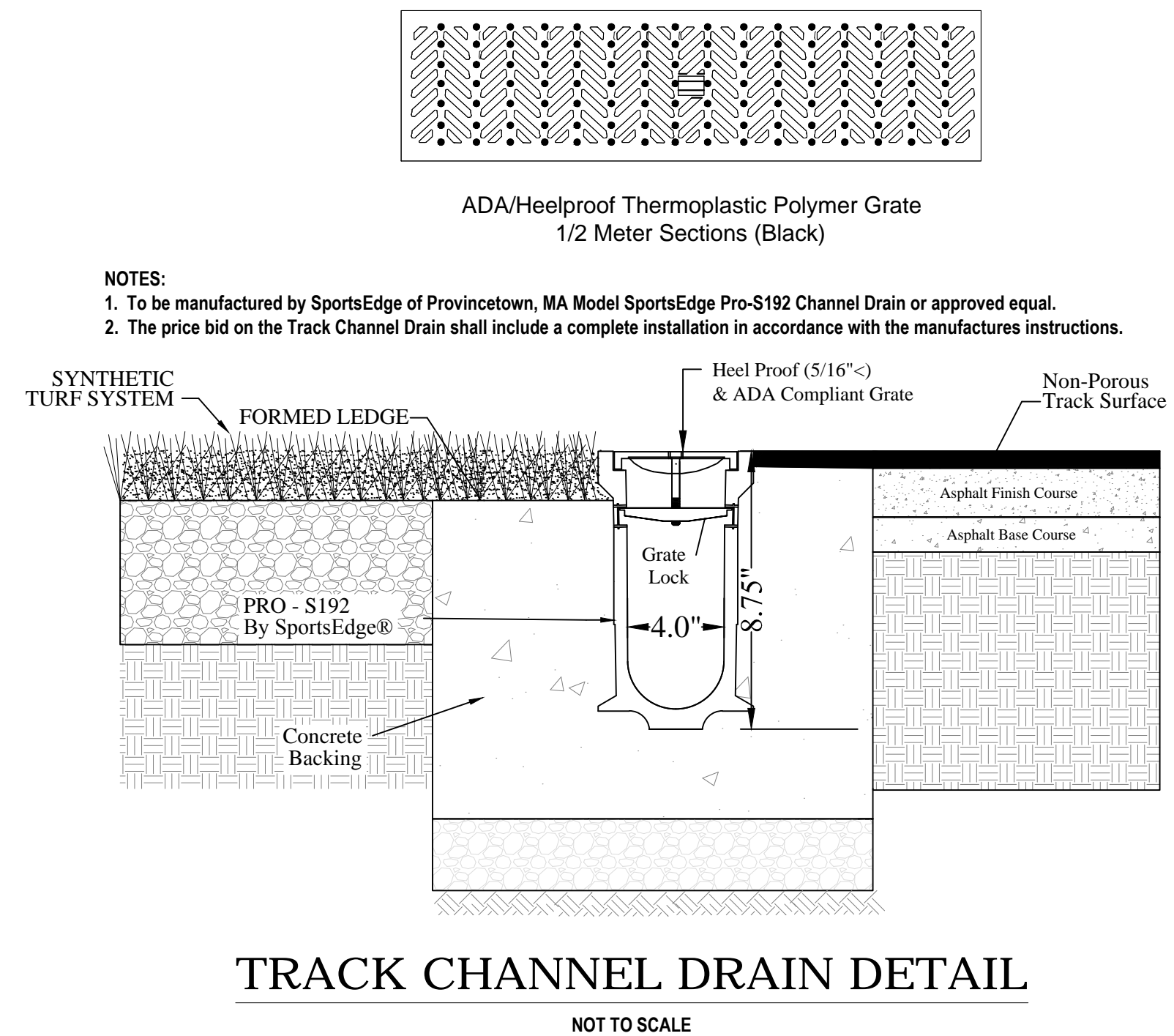
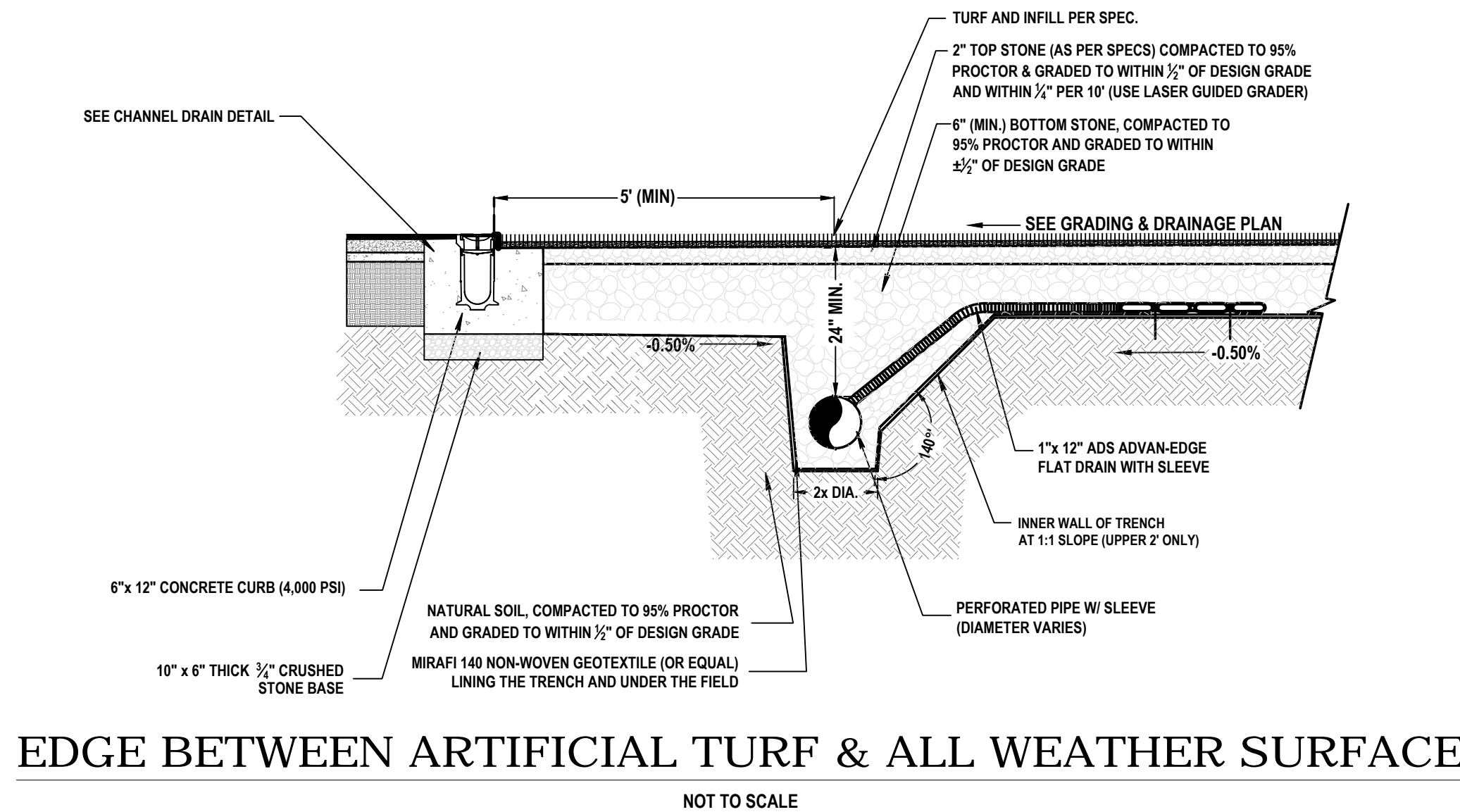
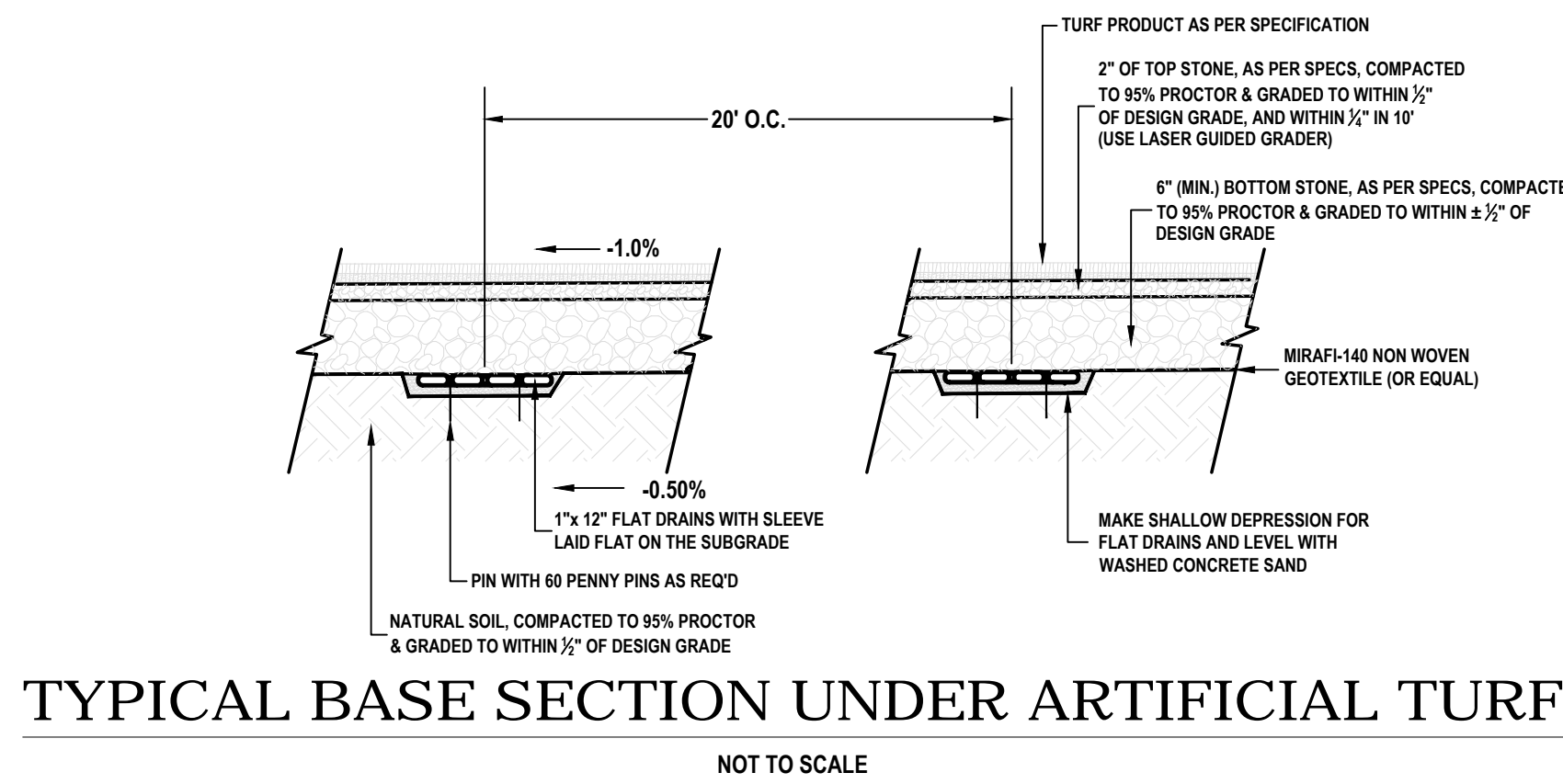


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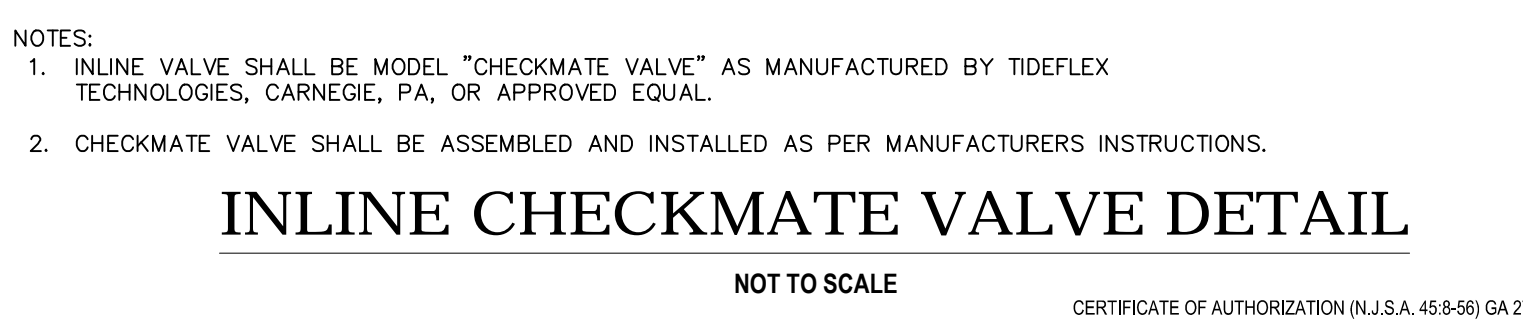
A PROJECT OF
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PROFESSIONAL LAND SURVEYOR
PROFESSIONAL PLANNER

CONSTRUCTION DETAILS
CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT RAHWAY RIVER PARK
COUNTY OF UNION - PROJECT # 2011-019
BLOCK 201 - LOT 1
CITY OF RAHWAY, NEW JERSEY
UNION COUNTY
NEW JERSEY
DRAWN BY: D.J.D.R.A. CHECKED BY: T.S. PROJECT NO: UNIOCTY11.012 SHEET NO: 7.08
DESIGNED BY: D.J.D.R.A. SCALE: N.T.S. FIELD BOOK NO: DATE: OCTOBER 2, 2015



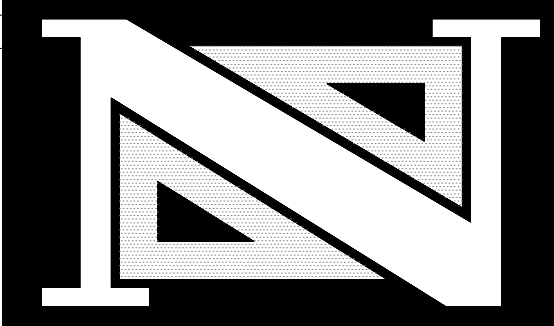
- FIELD DRAINAGE NOTES:**
- AFTER EXCAVATION OF EXISTING SOIL TO THE PROPER ELEVATIONS REQUIRED THE NEW SUBGRADE WILL BE SHAPED AND COMPACTED TO 95% DENSITY WITH A 0.5% SLOPE TO ALLOW FOR DRAINAGE.
 - A NEW CHANNEL DRAIN WILL BE INSTALLED AROUND THE PERIMETER TO PROVIDE A SECURE EDGE FOR FASTENING THE SYNTHETIC TURF. SEE CHANNEL DRAIN DETAIL.
 - A GEOTEXTILE FILTER FABRIC OR IMPERMEABLE LINER WILL BE PLACED OVER THE SUBGRADE AND COMPOSITE DRAINS WILL BE INSTALLED AT 20 FEET ON CENTER AT A 45 DEGREE ANGLE TO THE FIELD.
 - THE COMPOSITE DRAINS WILL DRAIN TO A PERIMETER COLLECTOR WHICH WILL BE CONNECTED TO THE EXISTING DRAINAGE SYSTEM. REFER TO THE FIELD DRAINAGE PLAN AND THE COMPOSITE DRAIN DETAIL.
 - CLEAN WASHED STONE WILL BE PLACED OVER THE COMPOSITE DRAINS AND THE PERIMETER COLLECTORS AND FINE GRADED FOR A FIELD WITH A 0.5% SLOPE.
 - A 2\"/>

| CHECKMATE® VALVE | | | | | | | | |
|-------------------------|-------------|------------------|-------------|------------------|------------|-------------|----------------------|--------|
| NOMINAL PIPE SIZE I.D.* | | OVERALL LENGTH** | | NUMBER OF CLAMPS | CUFF DEPTH | | BACK PRESSURE RATING | |
| Inches | Millimeters | Inches | Millimeters | | Inches | Millimeters | Feet | Meters |
| 4 | 100 | 7.86 | 200 | 1 | 1.5 | 38 | 40 | 12 |
| 6 | 150 | 9 | 229 | 1 | 2 | 51 | 40 | 12 |
| 8 | 200 | 15.23 | 387 | 1 | 2 | 51 | 40 | 12 |
| 9 | 225 | 15.38 | 391 | 1 | 2 | 51 | 40 | 12 |
| 10 | 250 | 15.12 | 409 | 1 | 2 | 51 | 40 | 12 |
| 12 | 300 | 23 | 584 | 1 | 2 | 51 | 40 | 12 |
| 14 | 350 | 25.75 | 654 | 1 | 4 | 102 | 20 | 6 |
| 16 | 400 | 28.61 | 727 | 1 | 4 | 102 | 20 | 6 |
| 18 | 450 | 31 | 787 | 1 | 4 | 102 | 20 | 6 |
| 20 | 500 | 42.14 | 1070 | 2 | 8 | 203 | 20 | 6 |
| 24 | 600 | 47.5 | 1207 | 2 | 8 | 203 | 20 | 6 |
| 30 | 750 | 54.87 | 1394 | 2 | 8 | 203 | 20 | 6 |
| 36 | 900 | 62.25 | 1581 | 2 | 8 | 203 | 20 | 6 |
| 42 | 1050 | 70.62 | 1794 | 2 | 8 | 203 | 10 | 3 |
| 48 | 1200 | 79 | 2007 | 2 | 8 | 203 | 10 | 3 |
| 54 | 1350 | 86.37 | 2194 | 2 | 8 | 203 | 10 | 3 |
| 60 | 1500 | 102.5 | 2604 | 2 | 12 | 305 | 10 | 3 |



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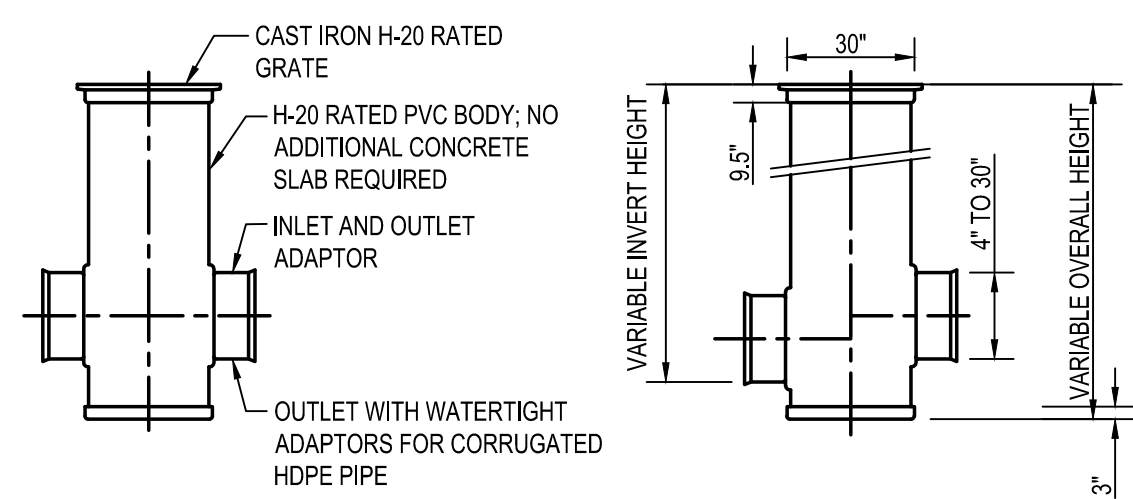


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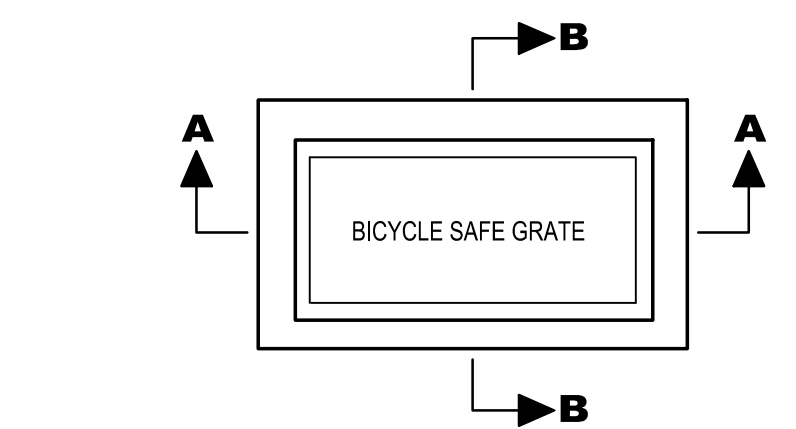
CONSTRUCTION DETAILS
CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT RAHWAY RIVER PARK
COUNTY OF UNION - PROJECT # 2011-019
BLOCK 201 - LOT 1
CITY OF ROCKAWAY, NEW JERSEY
UNION COUNTY **NEW JERSEY**
DRAWN BY: D.J.D.R.A. CHECKED BY: T.S. PROJECT NO.: UNIOCTY11.012 SHEET NO.: 7.09
DESIGNED BY: D.J.D.R.A. SCALE: N.T.S. FIELD BOOK NO.: DATE: OCTOBER 2, 2015



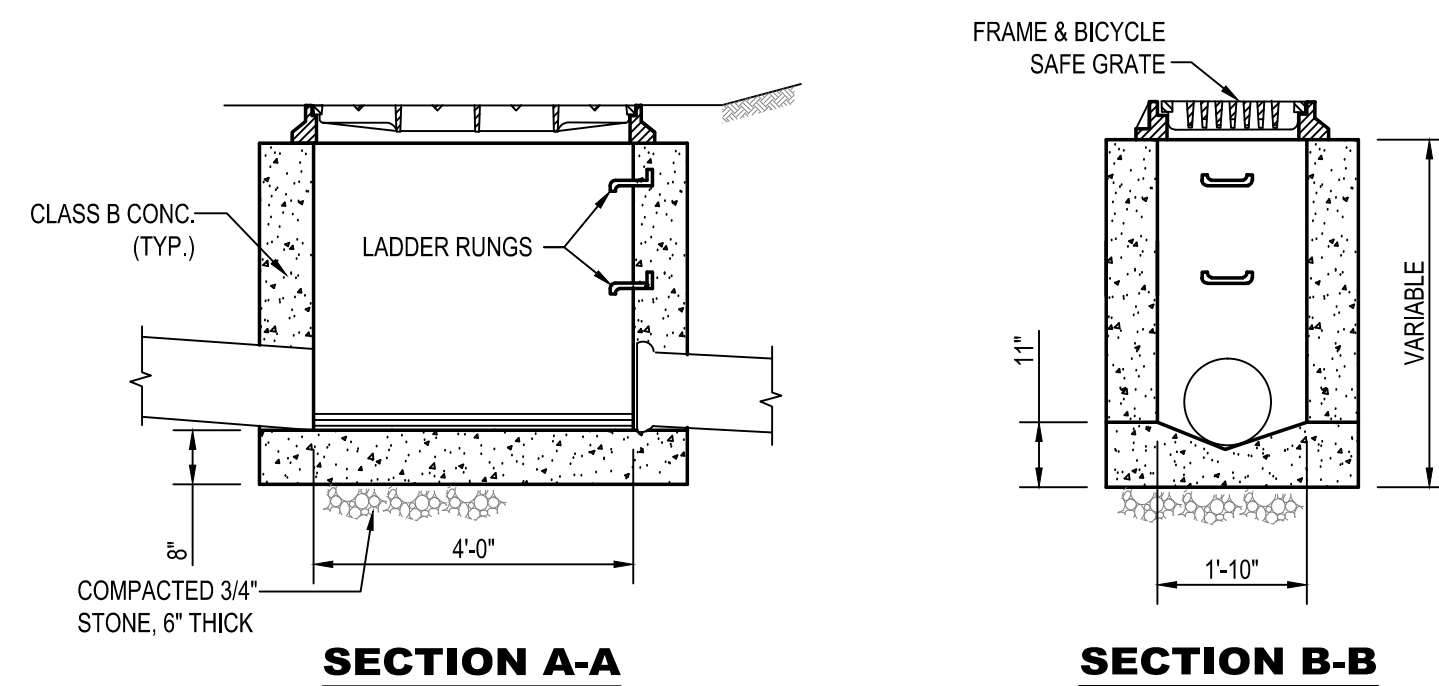
- NOTES:**
- REFER TO MANUFACTURER'S INSTALLATION RECOMMENDATIONS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 - DIMENSIONS ARE FOR REFERENCE ONLY; ACTUAL DIMENSIONS MAY VARY.
 - GRATE MEETS H-20 LOAD RATING.
 - QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
 - PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
 - SIZE OF OPENING MEETS REQUIREMENTS OF AMERICAN DISABILITY ACT AS STATED IN FEDERAL REGISTER PART III, DEPARTMENT OF JUSTICE, 28 CFR PART 36.
 - LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-232

ADS INLET (30" NYLOPLAST DRAIN BASIN)

NOT TO SCALE

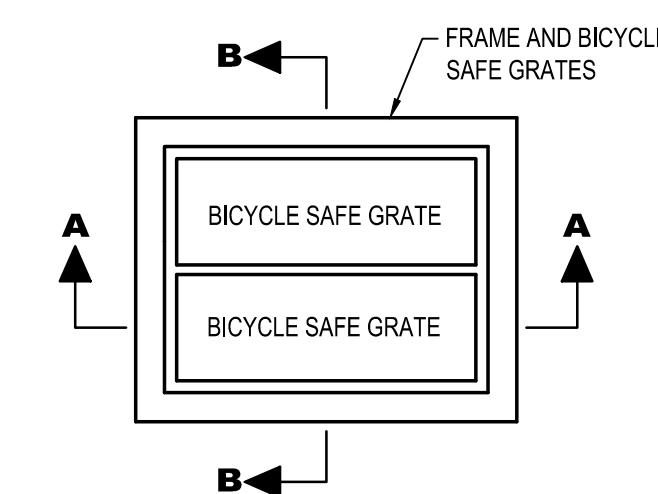


- NOTES:**
- INVERTS TO BE ELIMINATED IN BOTTOM OF TERMINAL INLETS. BOTTOMS SHALL BE DISHED AND SLOPED TOWARDS THE OUTLET PIPE AT A RATE OF GRADE OF 2 INCHES PER FOOT.
 - THIS INLET MAY BE CONSTRUCTED OF BRICK, CONCRETE, OR CONCRETE BLOCK. IF BRICK OR CONCRETE BLOCK IS USED, THE BOTTOM SHALL BE AS SHOWN FOR CONCRETE & THE OUTSIDE OF THE WALLS SHALL BE PLASTERED WITH 1/2" COAT OF 1:2 CEMENT SAND MORTAR.
 - INLET FRAME AND GRATES TO BE CAMPBELL FOUNDRY PATTERN NON. 2824 OR APPROVED EQUAL.
 - INLET SHALL BE CONSTRUCTED IN ACCORDANCE WITH NJDOT SPECIFICATIONS.

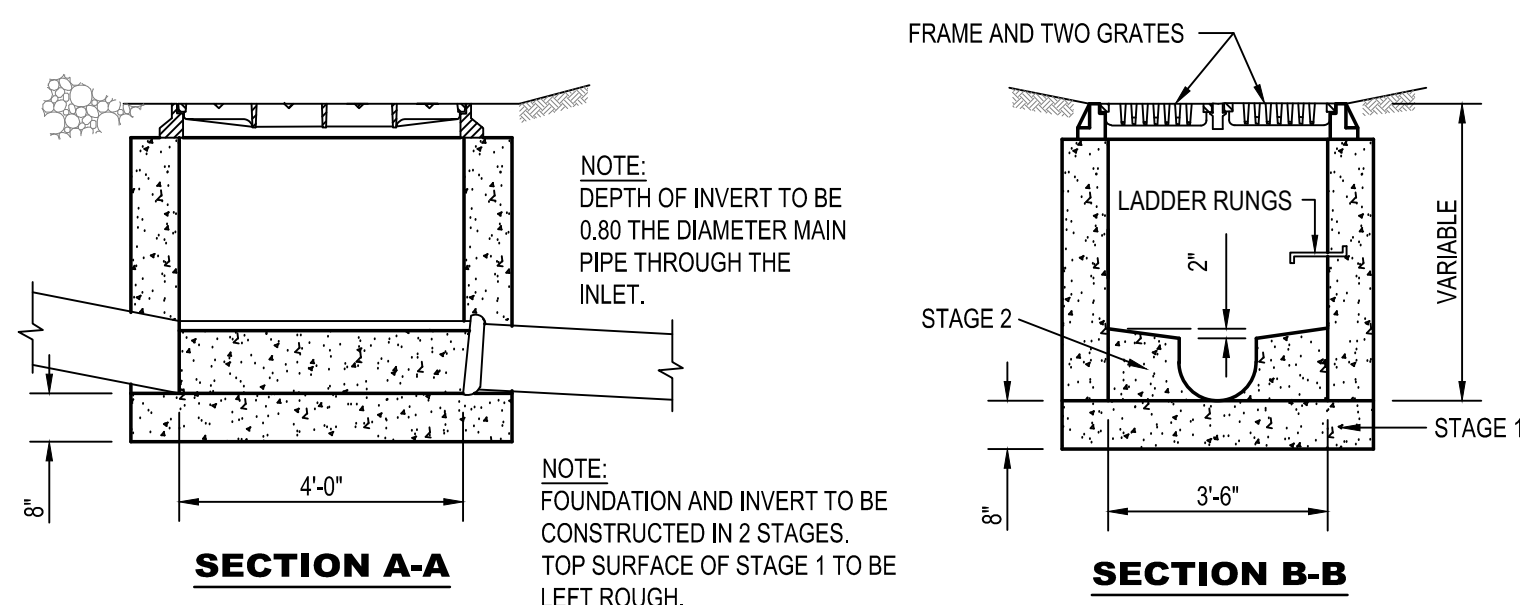


INLET TYPE "A"

NOT TO SCALE



- NOTES:**
- INVERTS TO BE ELIMINATED IN BOTTOM OF TERMINAL INLETS. BOTTOMS SHALL BE DISHED AND SLOPED TOWARDS THE OUTLET PIPE AT A RATE OF GRADE OF 2 INCHES PER FOOT.
 - THIS INLET MAY BE CONSTRUCTED OF BRICK, CONCRETE OR CONCRETE BLOCK. IF BRICK OR CONCRETE BLOCK IS USED, THE BOTTOM SHALL BE AS SHOWN FOR CONCRETE & THE OUTSIDE OF THE WALLS SHALL BE PLASTERED WITH 1/2" COAT OF 1:2 CEMENT SAND MORTAR.
 - INLET FRAME AND GRATES TO BE CAMPBELL FOUNDRY PATTERN NO. 3425 OR APPROVED EQUAL.
 - INLET SHALL BE CONSTRUCTED IN ACCORDANCE WITH NJDOT SPECIFICATIONS.



INLET TYPE "E"

NOT TO SCALE

Part # GISB-22-48-25

Flow Specifications

| Description of filter opening | Percent Open Area | Total Square Inches per Unit | Square Inches of Total (Unobstructed) Openings | Flow Rate (Cubic Feet per Second) |
|--|-------------------|------------------------------|--|-----------------------------------|
| Skimmer protected by-pass | 100% | 303.7 | 303.7 | 12.5 cfs |
| Coarse screen 3/4" x 1-3/4" stainless steel | 62% | 270.0 | 208.3 | 8.0 cfs |
| Medium screen 1/2" mesh stainless steel | 56% | 268.1 | 150.5 | 8.1 cfs |
| Fine screen 1/4" x 1/8" mesh stainless steel | 68% | 354.7 | 241.3 | 14.5 cfs |

THROAT FLOW RATE Total: 15.0 cfs
TREATED FLOW RATE Total: 30.6

FLOW RATES BASED ON UNOBSTRUCTED OPENINGS

5 YEAR MANUFACTURERS WARRANTY
PATENTED
ALL FILTER SCREENS ARE STAINLESS STEEL

BOX MANUFACTURED FROM MARINE GRADE FIBERGLASS & GEL COATED FOR UV PROTECTION

DISTRIBUTED BY:

SUNTREE TECHNOLOGIES
7901 CLEARLAKE RD., SUITE #2
COCOA BEACH, FL 32922
TEL: 321-637-7858 FAX: 321-637-7854
GRATE INLET SKIMMER BOX FOR CAMPBELL FOUNDRY 3400 GRATES
DATE: 03/30/12 SCALE: 1/8" = 1'-0"
DRAFTER: N.R.B. UNITS - INCHES

WATER QUALITY CATCH BASIN INSERT FOR TYPE 'A' INLET (GRATE INLET SKIMMER BOX)

NOT TO SCALE

Part # GISB-30-24-R

FLOW RATES per Single Basket

| SO | A (ft ²) | h (ft) | Q (ft ³ /s) |
|-------------|----------------------|--------|------------------------|
| TOP SIDE | 1 | 2.07 | 7.2 |
| CENTER SIDE | .75 | 2.07 | 8.4 |
| BOTTOM SIDE | .56 | 2.07 | 8.1 |
| BOTTOM | .47 | 0.78 | 2.9 |
| TOTAL | | | 28.6 |

FIGURE 2
DETAIL OF INSTALLATION

30" DIA. ADS NYLOPLAST INLET WITH 30" DIA. PEDESTRIAN-SAFE GRATE

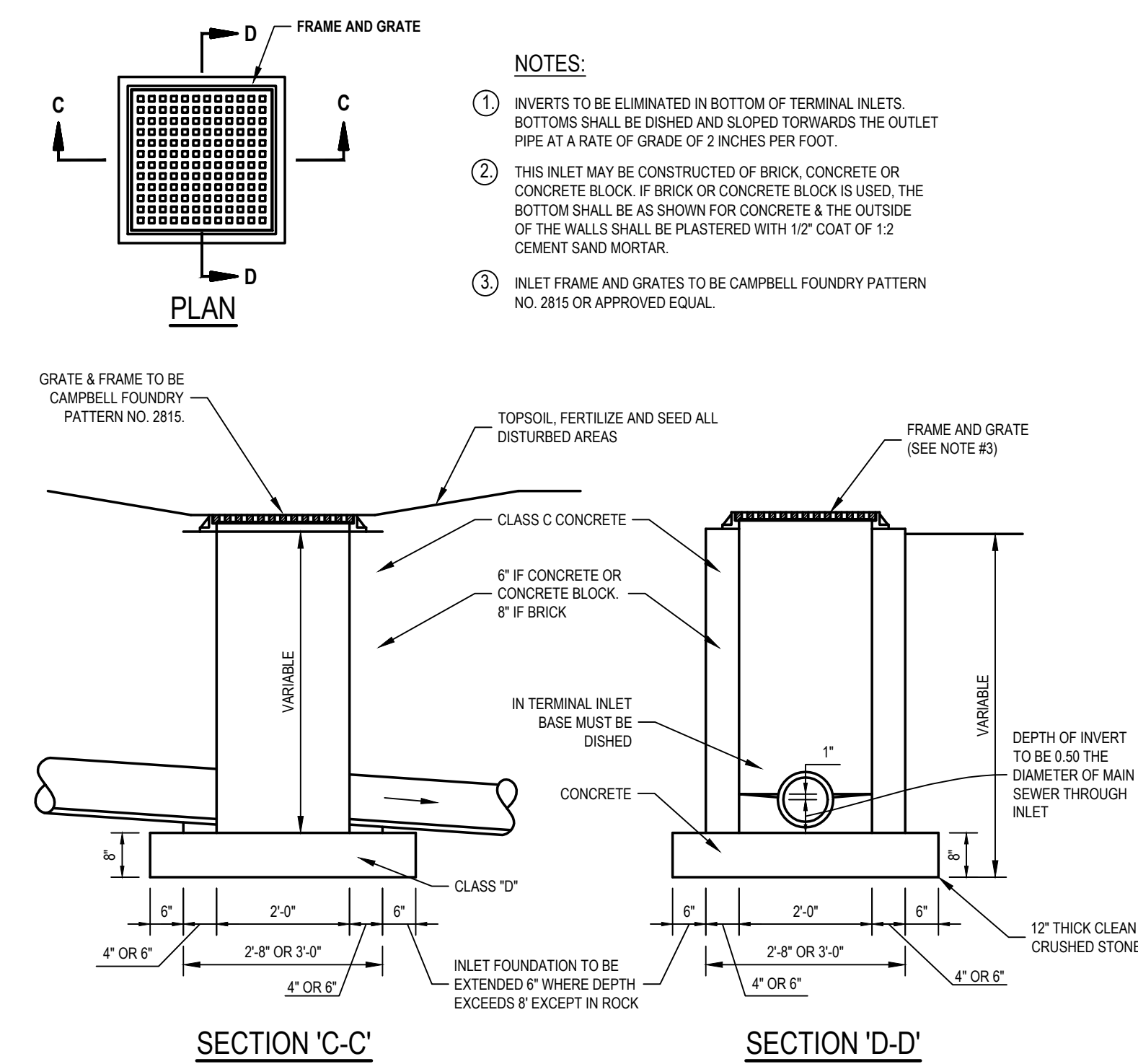
30" DIA. ADS NYLOPLAST INLET WITH 30" DIA. PEDESTRIAN-SAFE GRATE

5 YEAR MANUFACTURERS WARRANTY
PATENTED
ALL FILTER SCREENS ARE STAINLESS STEEL

SUNTREE TECHNOLOGIES
7901 CLEARLAKE RD., SUITE #2
COCOA BEACH, FL 32922
TEL: 321-637-7858 FAX: 321-637-7854
GRATE INLET SKIMMER BOX FOR 24" DEPTH FOR USE WITH A 30" GRATE
DATE: 03/30/12 SCALE: 1/8" = 1'-0"
DRAFTER: T.H.Z. UNITS - INCHES

WATER QUALITY CATCH BASIN INSERT FOR 30" ADS INLET (GRATE INLET SKIMMER BOX)

NOT TO SCALE

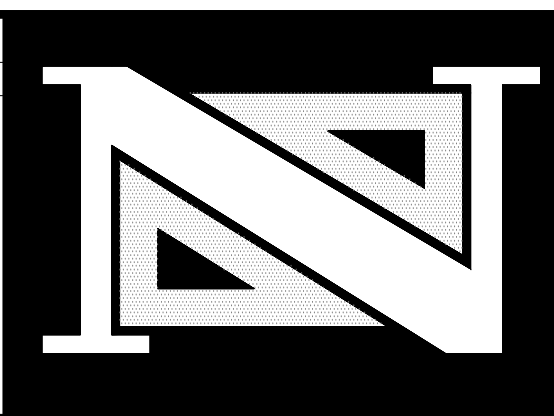


24" x 24" FIELD INLET DETAIL

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CONSTRUCTION DETAILS
CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT RAHWAY RIVER PARK
COUNTY OF UNION - PROJECT # 2011-019
BLOCK 201 - LOT 1
CITY OF RAHWAY, NEW JERSEY

UNION COUNTY
CITY OF RAHWAY, NEW JERSEY
NEW JERSEY

DRAWN BY: D.J.D.R.A. CHECKED BY: T.S. PROJECT NO: UNIOCTY11.012 SHEET NO: 7.10
DESIGNED BY: D.J.D.R.A. SCALE: N.T.S. DATE: OCTOBER 2, 2015
FIELD BOOK NO: PAGE

Project Information

Project #: 153976
 Project Name: Rahway River Park Multipurpose Field
 Date: 10/19/11
 Project Engineer: Zach Strong
 Sales Representative: Dan Shalloo
 Control System Type: Control and Monitoring
 Communication Type: Digital Cellular
 Scan: 153976
 Distribution Panel Location or ID:
 Total # of Distribution Panel Locations for Project: 1
 Design Voltage/Hz/Phase: 480/60/3
 Control Voltage: 120

Equipment Listing

| DESCRIPTION | APPROXIMATE SIZE | QTY | SIZE |
|-----------------------------------|------------------|-----|------|
| 1. Control and Monitoring Cabinet | 24 X 48 | 1 | |
| Total Off/On/Auto Switches: | | 2 | |

| PANEL SUMMARY | | | | | | |
|---------------|-------------------------|--------------|---------------------|----------------|-----------------------------------|--------------------------------------|
| CABINET # | CONTROL MODULE LOCATION | CONTACTOR ID | CIRCUIT DESCRIPTION | FULL LOAD AMPS | DISTRIBUTION PANEL ID (BY OTHERS) | CIRCUIT BREAKER POSITION (BY OTHERS) |
| 1 | 1 | C1 | Pole S1 | 29.60 | | |
| 1 | 1 | C2 | Pole S2 | 29.60 | | |
| 1 | 1 | C3 | Pole S3 | 29.60 | | |
| 1 | 1 | C4 | Pole S4 | 29.60 | | |
| 1 | 1 | C5 | Pole S1 | 7.40 | | |
| 1 | 1 | C6 | Pole S2 | 11.10 | | |
| 1 | 1 | C7 | Pole S3 | 14.80 | | |
| 1 | 1 | C8 | Pole S4 | 11.10 | | |

SWITCHING SCHEDULE

| Field Type | Zones | Zone Description |
|------------|-------|--------------------|
| Soccer | 1 | Soccer |
| Track | 1,2 | Track/Field Events |

| CONTROL POWER CONSUMPTION | |
|--|------------------------------|
| 120V Single Phase | |
| VA loading of Musco Supplied Equipment | INRUSH: 85.0 SEALED: 85.0 |

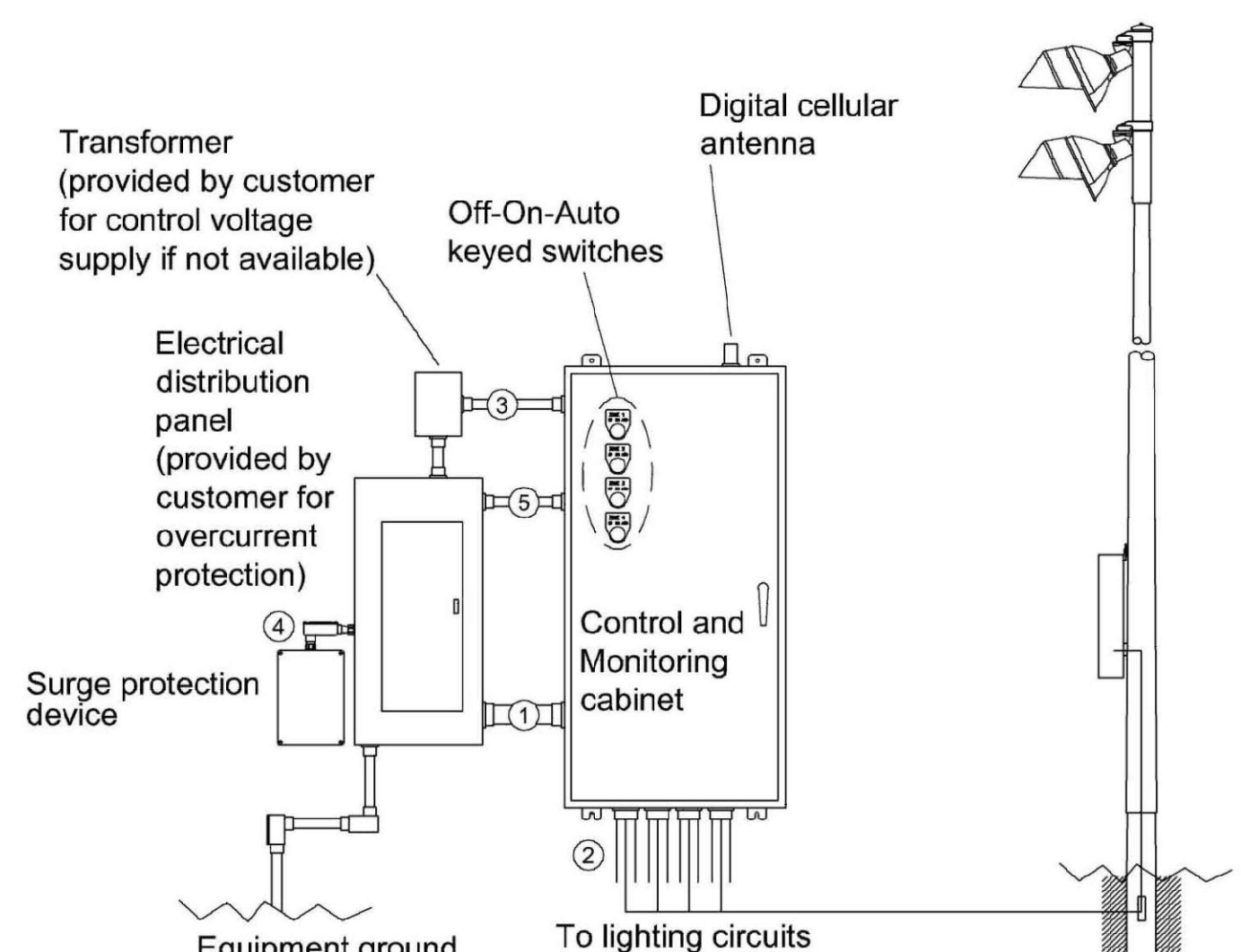
| BALLAST SPECIFICATIONS | VOLTAGE: 480v THREE PHASE | | | | | | |
|--|---------------------------|-----|-----|-----|-----|-----|-----|
| .90 Minimum Power Factor | | | | | | | |
| BALLAST OPERATING VOLTAGE | 208 | 220 | 240 | 277 | 347 | 380 | 480 |
| 1500 Watt Metal Halide Lamp | 8.6 | 7.7 | 7.5 | 6.5 | 5.1 | 0.0 | 3.7 |
| Operating line amperage per fixture, maximum | | | | | | | |
| 1000 Watt Metal Halide Lamp | 6.5 | 5.8 | 5.8 | 4.9 | 4.0 | 0.0 | 2.9 |
| Operating line amperage per fixture, maximum | | | | | | | |

| ZONE SCHEDULE | | | | |
|---------------|-----------------|--------------------|---------------------|--------------|
| ZONE | SELECTOR SWITCH | ZONE DESCRIPTION | CIRCUIT DESCRIPTION | |
| | | | POLE ID | CONTACTOR ID |
| Zone 1 | 1 | Soccer | S1 | C1 |
| | | | S2 | C2 |
| | | | S3 | C3 |
| | | | S4 | C4 |
| Zone 2 | 2 | Track/Field Events | S1 | C5 |
| | | | S2 | C6 |
| | | | S3 | C7 |
| | | | S4 | C8 |

| CIRCUIT SUMMARY BY ZONE | | | | | | |
|-------------------------|---------------------|---------------|----------------|-----------------------|--------------|------|
| POLE | CIRCUIT DESCRIPTION | # OF FIXTURES | FULL LOAD AMPS | CONTACTOR SIZE (AMPS) | CONTACTOR ID | ZONE |
| S1 | Soccer | 11 | 29.6 | 0 | C1 | 1 |
| S2 | Soccer | 11 | 29.6 | 0 | C2 | 1 |
| S3 | Soccer | 11 | 29.6 | 0 | C3 | 1 |
| S4 | Soccer | 11 | 29.6 | 0 | C4 | 1 |
| S1 | Track/Field Events | 3 | 7.4 | 0 | C5 | 2 |
| S2 | Track/Field Events | 4 | 11.1 | 0 | C6 | 2 |
| S3 | Track/Field Events | 5 | 14.8 | 0 | C7 | 2 |
| S4 | Track/Field Events | 4 | 11.1 | 0 | C8 | 2 |

NOTES:

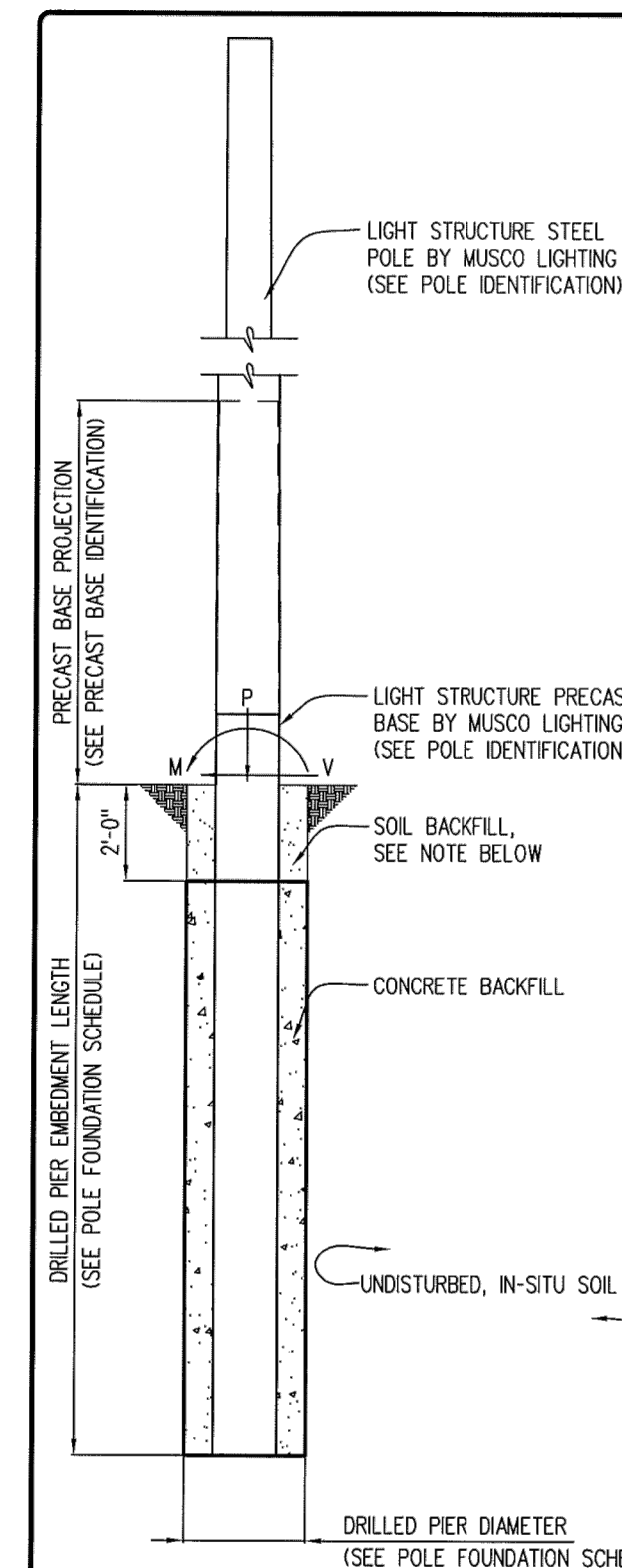
- CONTRACTOR SHALL CONFIRM THAT THE DESIGN VOLTAGE IS ACCURATE FOR THIS FACILITY. DESIGN VOLTAGE/PHASE IS DEFINED AS THE VOLTAGE/PHASE BEING CONNECTED AND UTILIZED AT EACH LIGHTING POLE'S BALLAST ENCLOSURE DISCONNECT. INACCURATE DESIGN VOLTAGE/PHASE CAN RESULT IN ADDITIONAL COSTS AND DELAYS. CONTACT YOUR MUSCO SALES REPRESENTATIVE TO CONFIRM THIS ITEM.
- IN A 3 PHASE DESIGN, ALL 3 PHASES ARE TO BE RUN TO EACH POLE. WHEN A 3 PHASE DESIGN IS USED MUSCO'S SINGLE PHASE LUMINAIRES COME PRE-WIRED TO UTILIZE ALL 3 PHASES ACROSS THE ENTIRE FACILITY.
- ONE CONTACTOR IS REQUIRED FOR EACH POLE. WHEN A POLE HAS MULTIPLE CIRCUITS, ONE CONTACTOR IS REQUIRED FOR EACH CIRCUIT. ALL CONTACTORS ARE UL 100% RATED FOR THE PUBLISHED CONTINUOUS LOAD. ALL CONTACTORS ARE 3 POLE.
- IF THE LIGHTING SYSTEM WILL BE FED FROM MORE THAN ONE DISTRIBUTION LOCATION, ADDITIONAL EQUIPMENT MAY BE REQUIRED. CONTACT YOUR MUSCO SALES REPRESENTATIVE.
- A SINGLE CONTROL CIRCUIT MUST BE SUPPLIED PER CONTROL SYSTEM.
- SIZE OVERCURRENT DEVICES USING THE FULL LOAD AMPS COLUMN OF THE CIRCUIT SUMMARY BY ZONE CHART - MINIMUM POWER FACTOR OF 0.9.



| WIRE | DESCRIPTION | # OF WIRES | TYP. WIRE SIZE (AWG) | MAX. WIRE LENGTH (FT) | WIRE FROM MUSCO | NOTES |
|------|---|------------|----------------------|-----------------------|-----------------|-------|
| 1 | LINE POWER & GROUND TO CONTACTORS | NOTE A | NOTE B | 27 | NO | A-E |
| 2 | LOAD POWER TO LIGHTING CIRCUITS | NOTE A | NOTE B | N/A | NO | A-D |
| 3 | CONTROL POWER (DEDICATED, 20A) | 3 | 12 | N/A | NO | C, D |
| 4 | SURGE PROTECTION DEVICE TO DISTRIBUTION PANEL | -- | -- | N/A | YES | D |
| 5 | SURGE PROTECTION DEVICE MONITORING | 2 | 14 | N/A | NO | C, D |

NOTES:

- CONTRACTOR SHALL CALCULATE PER LOAD AND VOLTAGE DROP.
- ALL CONDUIT DIAMETERS PER CODE.
- CONTRACTOR SHALL REFER TO CONTROL AND MONITORING SYSTEM INSTALLATION INSTRUCTIONS FOR MORE DETAILS ON EQUIPMENT INFORMATION AND THE INSTALLATION REQUIREMENTS.
- CONTACT MUSCO IF MAXIMUM WIRE LENGTH FROM CIRCUIT BREAKER TO CONTACTOR EXCEEDS VALUE SHOWN IN CHART.
- CONTROL (LABEL 3) AND MONITORING (LABEL 5) WIRING MUST BE IN SEPARATE CONDUITS FROM LINE AND LOAD POWER WIRING (LABELS 1, 2).



| POLE DESIGNATION | FORCES | | | DRILLED PIER | | |
|------------------|-------------------|---------------|----------------------|-----------------|------------------|---------------------------------------|
| | MOMENT (M) FT-LBS | SHEAR (V) LBS | VERTICAL (P) LBS (L) | DIAMETER INCHES | EMBEDMENT LENGTH | CONCRETE BACKFILL YD ³ (Z) |
| S1 | 115,554 | 2,391 | 3,582 | 30 | 16'-0" | 1.6 |
| S2 | 123,244 | 2,516 | 3,667 | 30 | 16'-0" | 1.6 |
| S3 | 125,502 | 2,548 | 3,757 | 30 | 16'-0" | 1.6 |
| S4 | 120,212 | 2,473 | 3,667 | 30 | 16'-0" | 1.6 |

- WEIGHT OF POLE, FIXTURES AND ACCESSORIES.
- MINIMUM CONCRETE BACKFILL VOLUME, SITE CONDITIONS MAY REQUIRE ADDITIONAL BACKFILL.

| PRECAST BASE IDENTIFICATION | | | | | | |
|-----------------------------|---------------------|---------------------------------|-------------------------------|------------------|--------|--|
| PRECAST BASE TYPE | PRECAST BASE WEIGHT | PRECAST BASE LENGTH ABOVE GRADE | PROJECTION STANDARD EMBEDMENT | OUTSIDE DIAMETER | | |
| SB | 4,580 | 23'-11" | 7'-11" | 16'-0" | 18.36" | |

| POLE IDENTIFICATION | | | | | |
|---------------------|-----------|-------------------|---------------------------------------|---|--|
| POLE DESIGNATION | POLE TYPE | PRECAST BASE TYPE | FIXTURE CONFIGURATION (FIX. PER XARM) | FIXTURE AND ACCESSORIES EPA (F ²) | |
| S1 | LS5700 | SB | 14 (7-7) | 30.8 | |
| S2 | LS5700 | SB | 15 (5-5-5) | 34.5 | |
| S3 | LS5700 | SB | 16 (6-5-5) | 35.2 | |
| S4 | LS5700 | SB | 15 (5-5-5) | 33.0 | |

POLE FOUNDATION ELEVATION

SCALE: NOT TO SCALE
 SOIL BACKFILL NOTE:
 THE TOP TWO FEET OF ANNULUS MAY BE BACKFILLED WITH SOIL WITH A CLASSIFICATION OF CLASS 5 OR BETTER IN ACCORDANCE WITH IBC - TABLE 1806.2

GENERAL NOTES

WIND DESIGN PARAMETERS:
 WIND: 100 MPH (EXP. C, I + 1.0) PER IBC CODE, 2009 EDITION. DESIGN WIND PARAMETERS ARE AS NOTED. ACTUAL WIND SPEED AND EXPOSURE MUST BE VERIFIED FOR THE SITE BY THE PROPER GOVERNING OFFICIAL.

SOIL DESIGN PARAMETERS:
 ALLOWABLE END BEARING SOIL PRESSURE: 4,000 PSF
 ALLOWABLE LATERAL SOIL BEARING PRESSURE: 0 PSF/FT (GRADE TO -1'-0"; 200 PSF/FT (-1'-0" TO -12'-0"); 533 PSF/FT (-12'-0" TO -20'-0"); 667 PSF/FT (BELOW -20'-0") IN ACCORDANCE WITH THE 2009 EDITION OF THE INTERNATIONAL BUILDING CODE, CHAPTER 18, SECTION 1806 - 1808.

DESIGN SOIL PARAMETERS ARE AS NOTED. ACTUAL ALLOWABLE SOIL PARAMETERS MUST BE VERIFIED ON SITE. REFERENCE SOILS AND FOUNDATION REPORT, NO. 11-247-RAHWAY, PREPARED BY JOHNSON SOILS COMPANY, GLEN ROCK, NJ.

A GEOTECHNICAL ENGINEER OR REPRESENTATIVE OF IS RECOMMENDED (NOT REQUIRED) TO BE AVAILABLE AT THE TIME OF THE FOUNDATION INSTALLATION TO VERIFY THE SOIL DESIGN PARAMETERS AND TO PROVIDE ASSISTANCE IF ANY PROBLEMS ARISE IN FOUNDATION INSTALLATION.

ENCOUNTERING SOIL FORMATIONS THAT WILL REQUIRE SPECIAL DESIGN CONSIDERATIONS OR EXCAVATION PROCEDURES MAY OCCUR. POLE FOUNDATIONS WILL NEED TO BE ANALYZED ACCORDING TO THE SOIL CONDITIONS THAT EXIST. IF ANY DISCREPANCIES OR INCONSISTENCIES ARISE, NOTIFY THE ENGINEER OF SUCH DISCREPANCIES. FOUNDATIONS WILL THEN BE REVISED ACCORDINGLY. REVISIONS WILL BE ANALYZED PER RECOMMENDATIONS DIRECTED BY A REGISTERED ENGINEER.

ALL EXCAVATIONS MUST BE FREE OF LOOSE SOIL AND DEBRIS PRIOR TO FOUNDATION INSTALLATION AND CONCRETE BACKFILL PLACEMENT. TEMPORARY CASINGS OR DRILLERS SLURRY MAY BE USED TO STABILIZE THE EXCAVATION DURING INSTALLATION. CASINGS MUST BE REMOVED DURING CONCRETE BACKFILL PLACEMENT. CONCRETE BACKFILL MUST BE PLACED WITH A TREME WHEN SLURRY OR WATER IS PRESENT WITHIN THE EXCAVATION OR WHEN THE FREE DROP EXCEEDS 6'-0".

CONCRETE SHALL BE AIR-ENTRAINED AND HAVE A MINIMUM COMPRESSIVE DESIGN STRENGTH AT 28 DAYS OF 3,000 PSI. 3,000 PSI CONCRETE SPECIFIED FOR EARLY POLE ERECTION. ACTUAL REQUIRED MINIMUM ALLOWABLE CONCRETE STRENGTH IS 1,000 PSI. ALL PIERS AND CONCRETE BACKFILL MUST BEAR ON AND AGAINST FIRM UNDISTURBED SOIL.

CONTRACTOR MUST BE FAMILIAR WITH THE COMPLETE SOIL INVESTIGATION REPORT AND BORINGS, AND CONTACT THE GEOTECHNICAL FIRM (IF NECESSARY) TO UNDERSTAND THE SOIL CONDITIONS AND THE POSSIBILITY OF GROUND WATER PUMPING AND EXCAVATION STABILIZATION OR BRACING DURING PRECAST BASE INSTALLATION AND PLACEMENT OF CONCRETE BACKFILL.

FIXTURES MUST BE LOCATED TO MAINTAIN 10'-0" MINIMUM HORIZONTAL CLEARANCE FROM ANY OBSTRUCTION.

POLES, FIXTURES, PRECAST BASES, ELECTRICAL ITEMS AND INSTALLATION PER MUSCO LIGHTING.

NOTES:

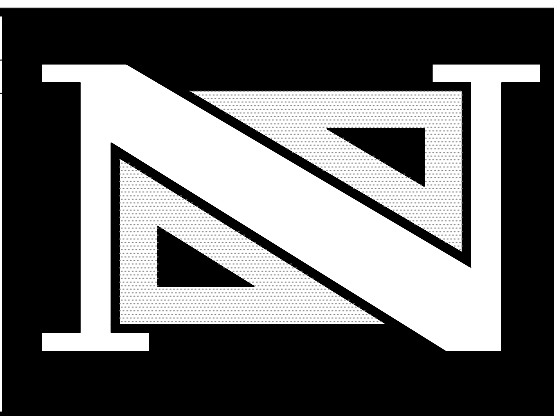
- CONTRACTOR SHALL PROVIDE A SIGNED/SEALED FOUNDATION DETAIL FROM A NEW JERSEY LICENSED PROFESSIONAL STRUCTURAL ENGINEER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE INSTALLATION OF ALL FOUNDATIONS, LIGHTING POLES, LIGHT FIXTURES, ELECTRICAL CONNECTIONS, ELECTRICAL ENCLOSURES AND ALL ELECTRICAL COMPONENTS ASSOCIATED WITH FIELD LIGHTING INCLUDING ELECTRICAL APPLICATIONS AND PERMITS TO THE RESPECTIVE UTILITY COMPANY. CONTRACTOR SHALL PROVIDE SIGNED/SEALED ELECTRIFICATION DRAWINGS FROM A NEW JERSEY LICENSED ELECTRICAL ENGINEER.

FIELD LIGHTING

NOT TO SCALE

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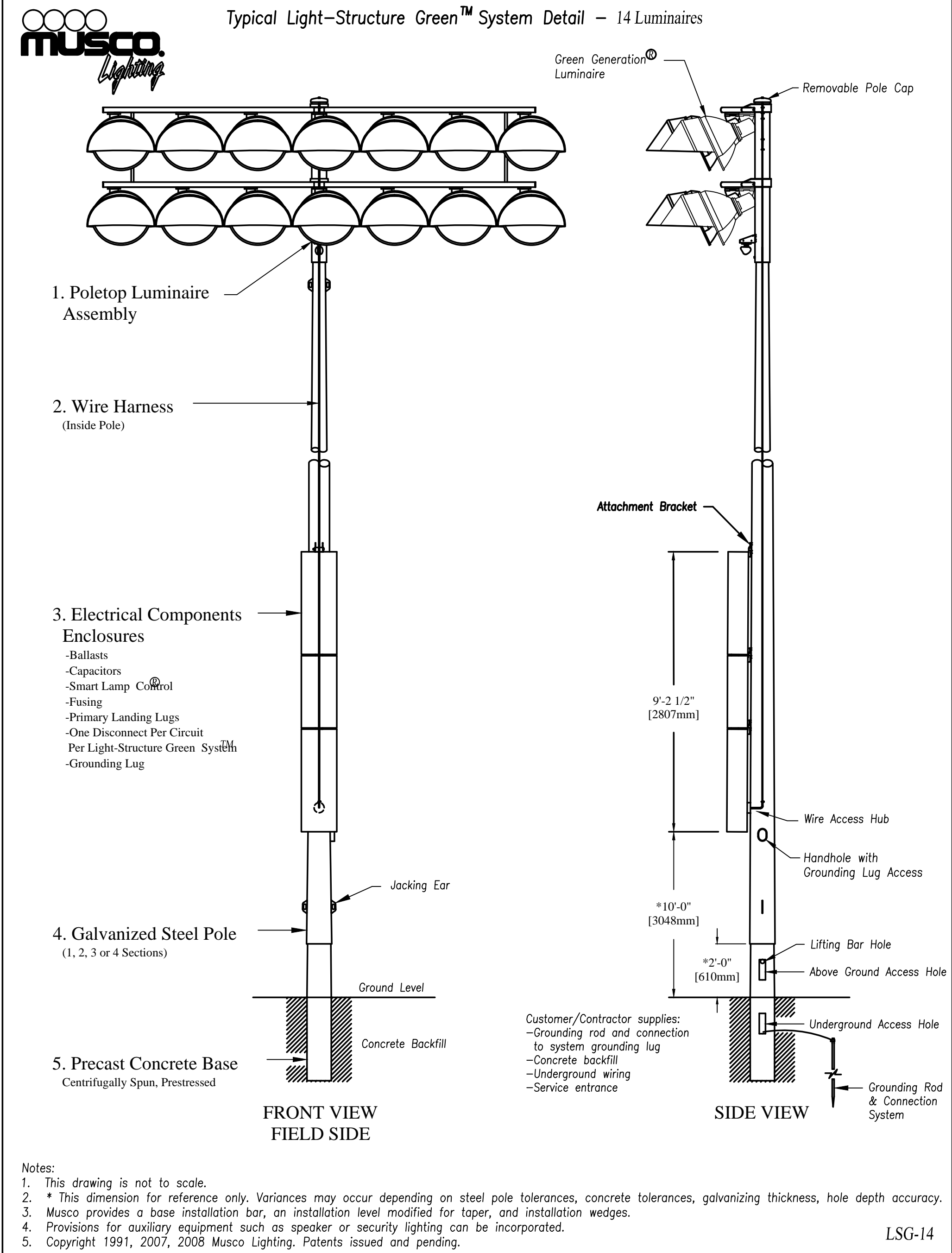
MICHAEL J. NEGLIA, P.E., P.L.S., P.P.
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PROFESSIONAL LAND SURVEYOR
 N.J. LICENSE NO. 3864

PROFESSIONAL PLANNER
 N.J. LICENSE NO. 38669

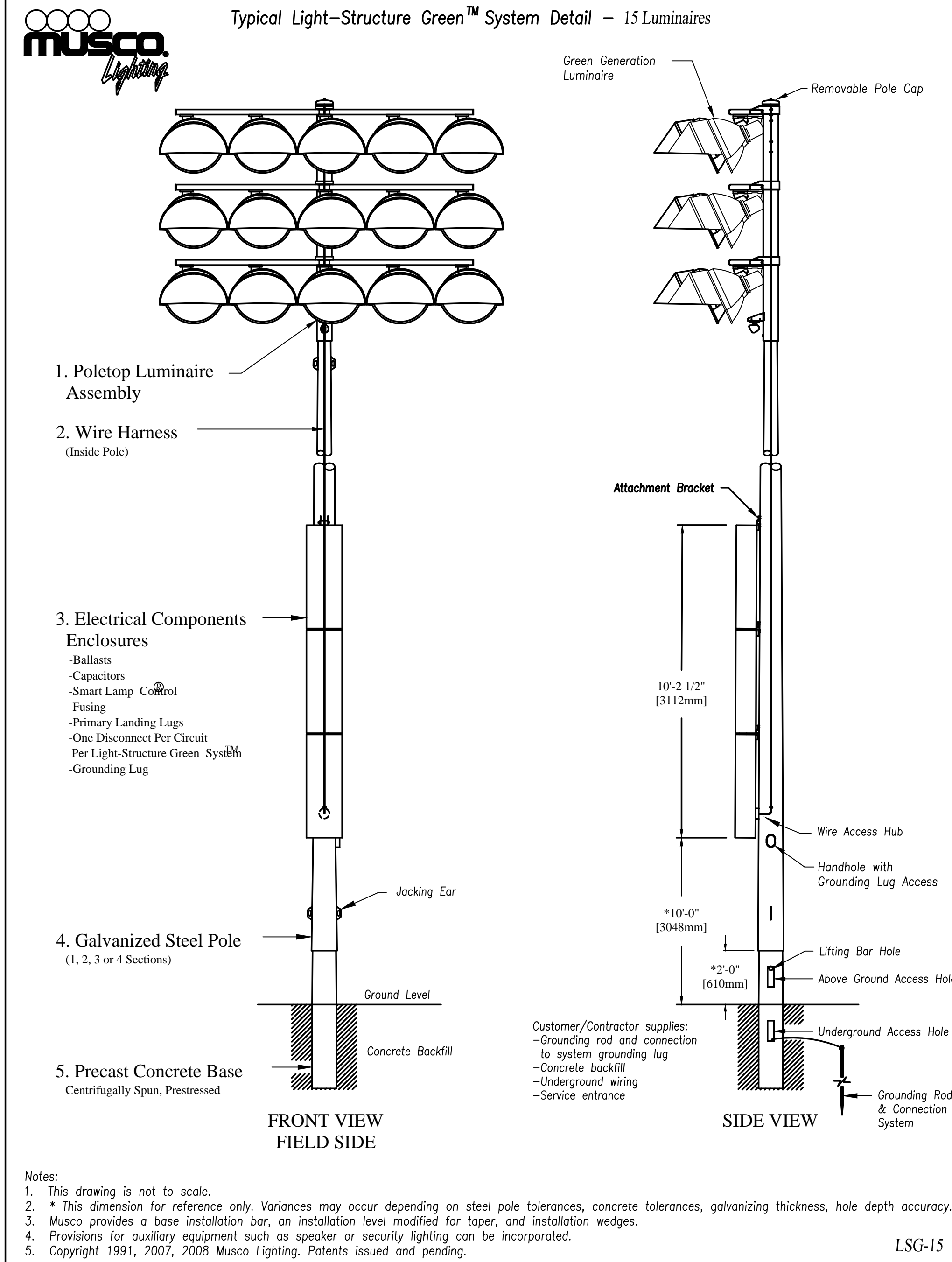
CONSTRUCTION DETAILS
 CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT RAHWAY RIVER PARK
 COUNTY OF UNION - PROJECT # 2011-019
 BLOCK 201 - LOT 1
 CITY OF RAHWAY, NEW JERSEY

UNION COUNTY
 DRAWN BY: D.J.D.R.A. CHECKED BY: T.S. PROJECT NO: UNIOCTY11.012 SHEET NO: 7.12
 DESIGNED BY: D.J.D.R.A. SCALE: N.T.S. DATE: OCTOBER 2, 2015



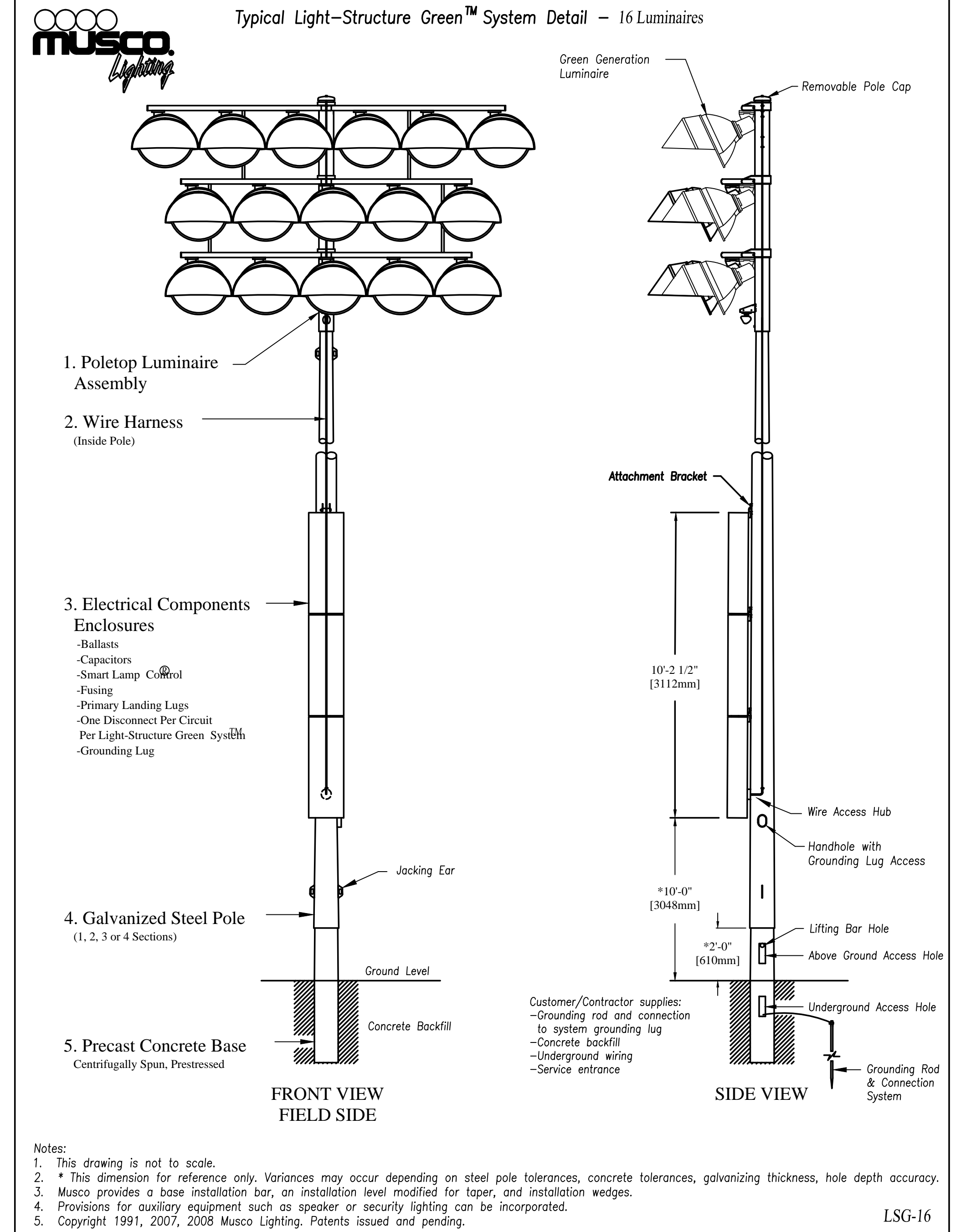
14 FIXTURE LIGHT POLE SYSTEM DETAIL (POLE - S1)

NOT TO SCALE



15 FIXTURE LIGHT POLE SYSTEM DETAIL (POLE - S2 & S4)

NOT TO SCALE



16 FIXTURE LIGHT POLE SYSTEM DETAIL (POLE - S3)

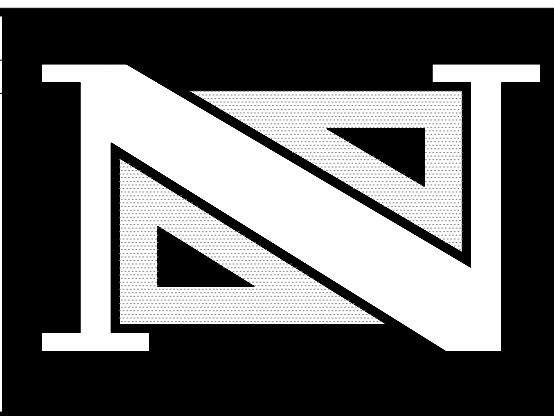
NOT TO SCALE

ALL LIGHTING FIXTURES SHALL BE PER MUSCO LIGHTING OR APPROVED EQUAL.

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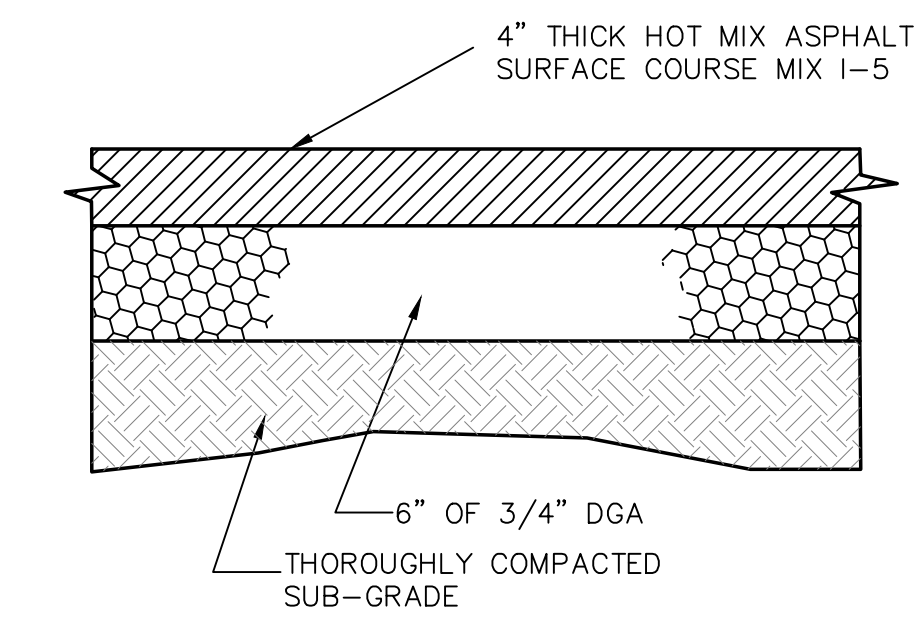
PROFESSIONAL LAND SURVEYOR
N.J. LICENSE NO. 38694

PROFESSIONAL PLANNER
N.J. LICENSE NO. 20,055/689

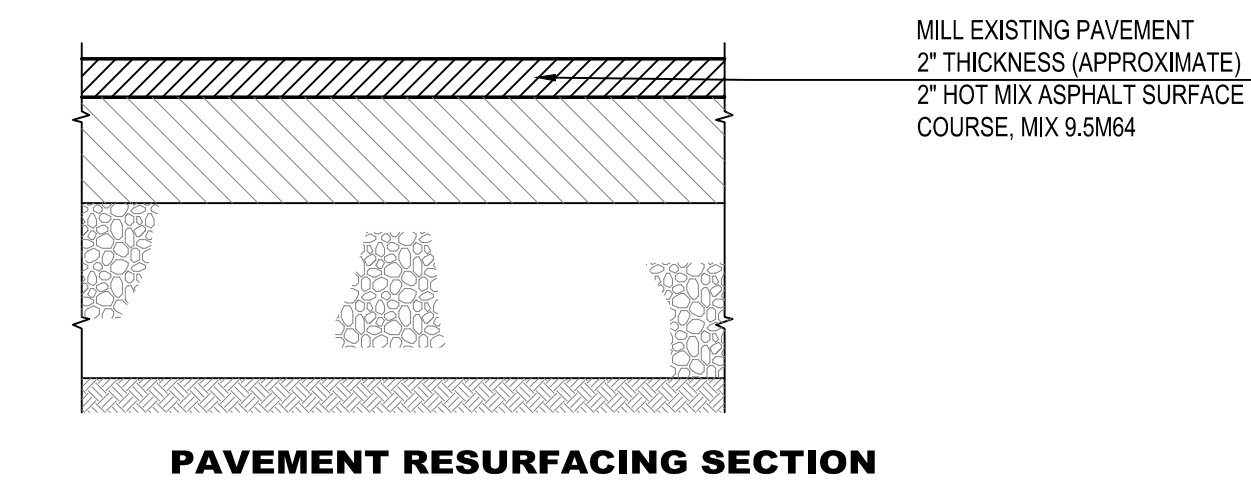
CONSTRUCTION DETAILS
CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT RAHWAY RIVER PARK
COUNTY OF UNION - PROJECT # 2011-019
BLOCK 201 - LOT 1
CITY OF RAHWAY, NEW JERSEY

UNION COUNTY **NEW JERSEY**

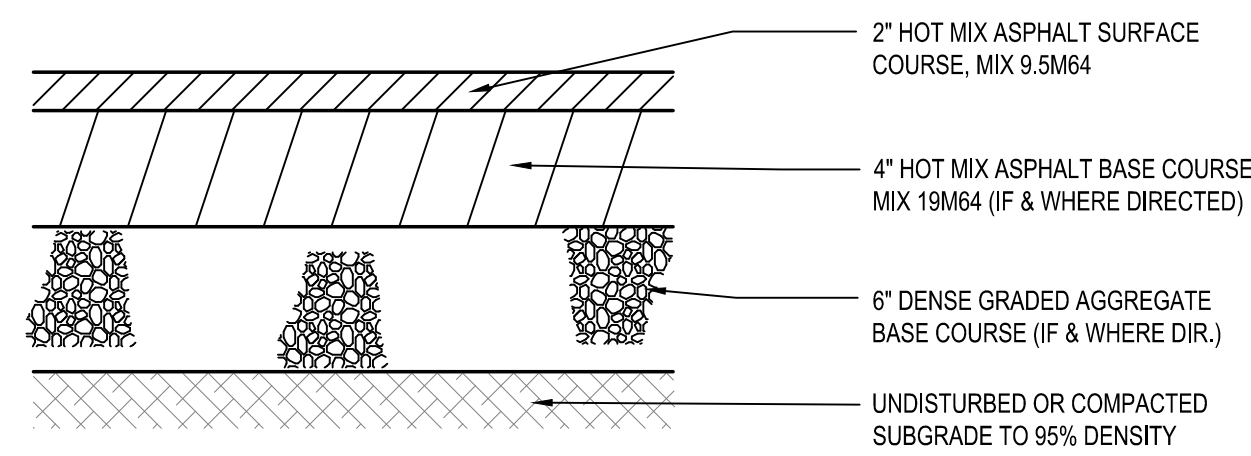
DRAWN BY: D.J.D.R.A. CHECKED BY: T.S. PROJECT NO.: UNIOCTY11.012 SHEET NO.: 7.13
DESIGNED BY: D.J.D.R.A. SCALE: N.T.S. DATE: OCTOBER 2, 2015



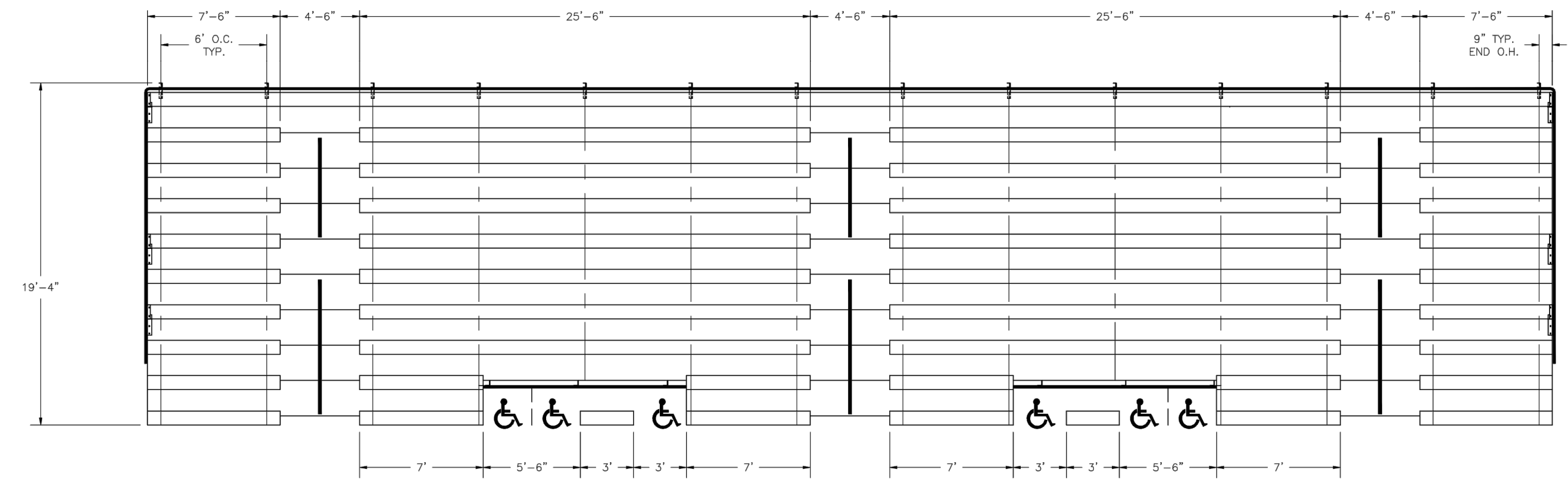
HOT MIX ASPHALT PATHWAY
NOT TO SCALE



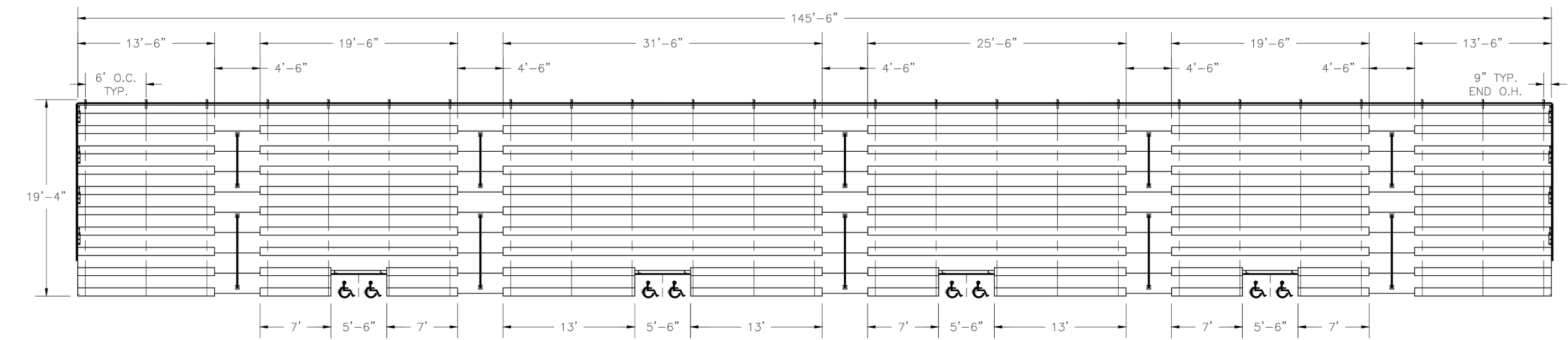
PAVEMENT RESURFACING SECTION



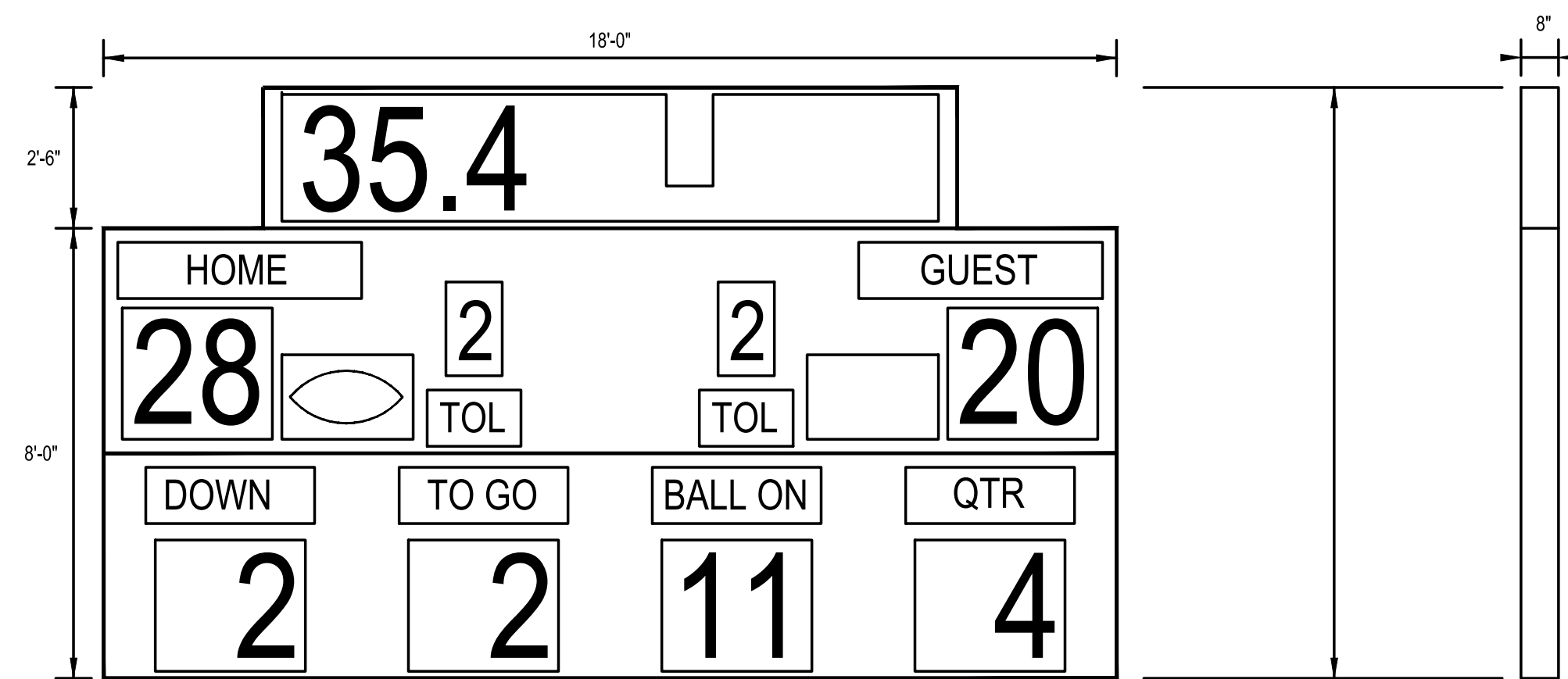
FULL PAVEMENT SECTION
PAVEMENT SECTIONS
NOT TO SCALE



PLAN VIEW: 79'-6" LENGTH



PLAN VIEW: 145'-6" LENGTH



FRONT VIEW

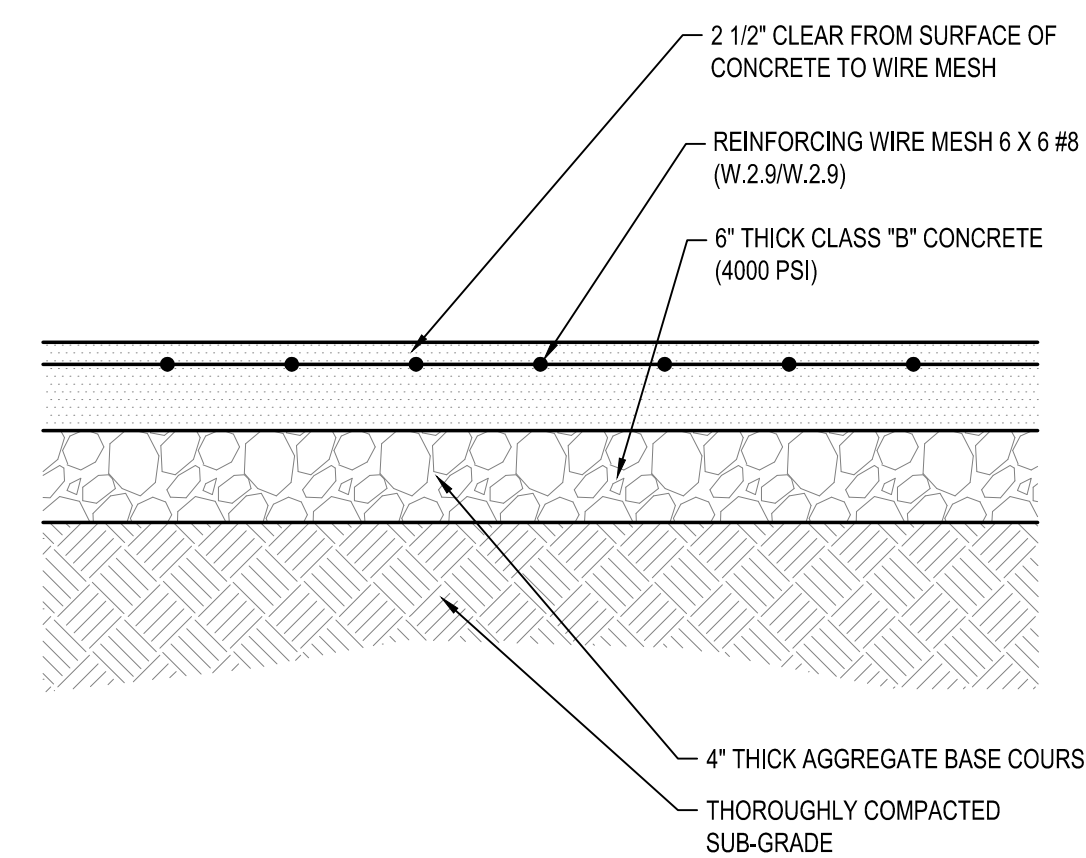
SIDE VIEW

OUTDOOR, MULTI-PURPOSE LED SCOREBOARD DETAIL

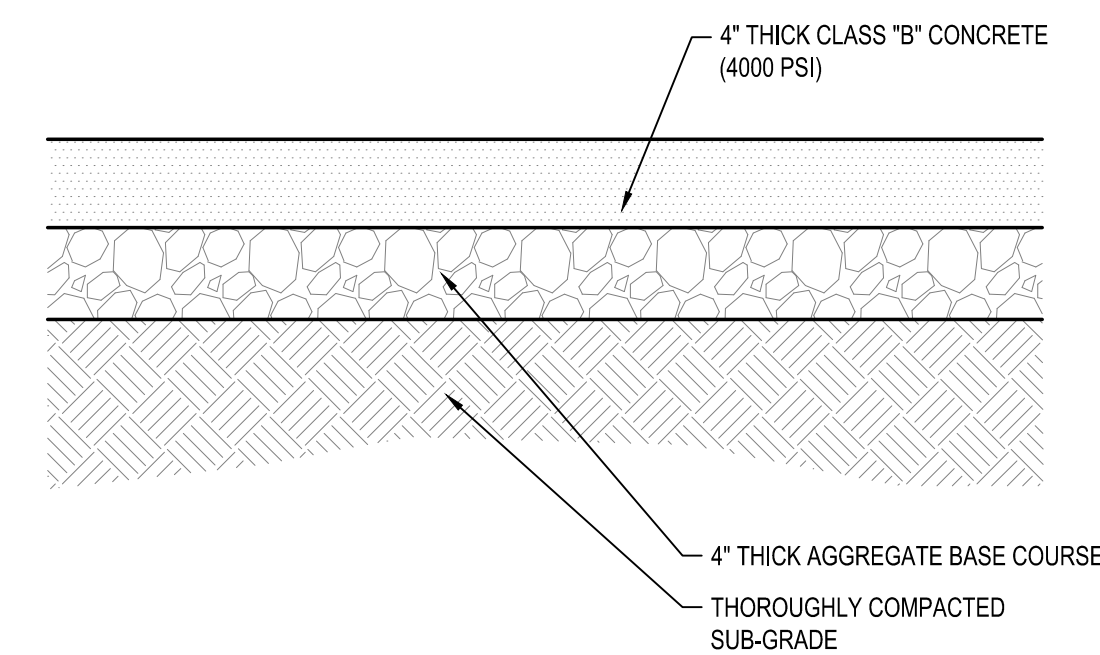
NOT TO SCALE

NOTE:

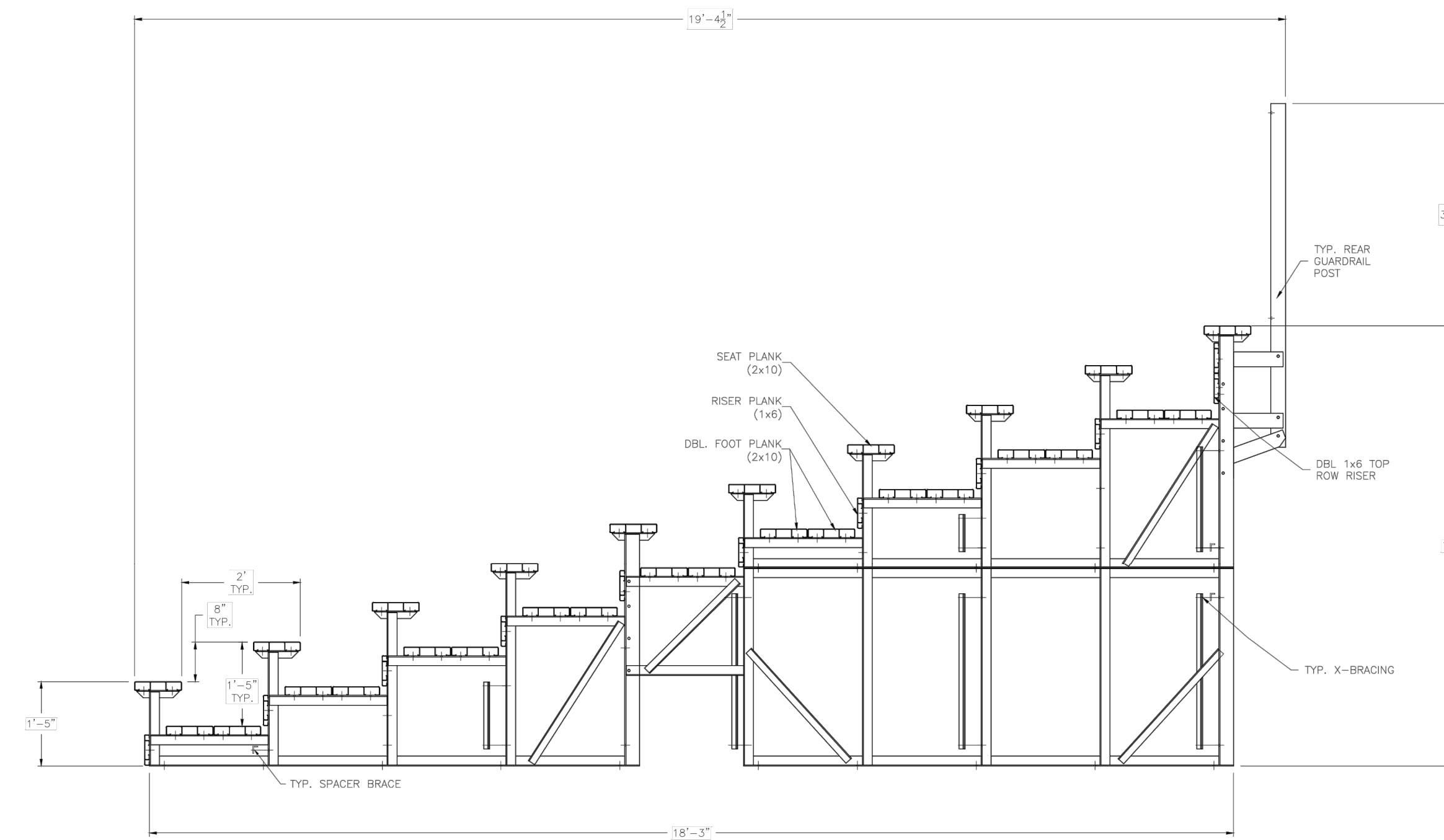
1. OUTDOOR MULTI-SPORT SCOREBOARD MODEL 7680 BY NEVCO OR APPROVED EQUAL.
2. SCOREBOARD SHALL HAVE ELECTRONICALLY CONTROLLED LED DISPLAY.
3. SCOREBOARD SHALL BE MOUNTED ACCORDING TO MANUFACTURER'S INSTRUCTIONS.



CONCRETE PAD REINFORCED, 6" THICK
NOT TO SCALE



CONCRETE SIDEWALK, 4" THICK
NOT TO SCALE



SIDE VIEW

10-ROW BLEACHER DETAIL
NOT TO SCALE

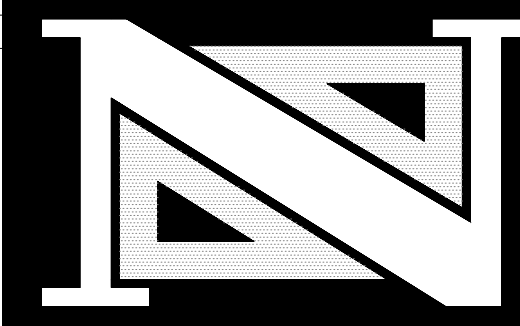
NOTES:

1. 10-ROW, 79.5' LONG NON-ELEVATED BLEACHER "MODEL NO. N-1079.5AH" AS PROVIDED BY NATIONAL RECREATION SYSTEMS, FORT WAYNE, INDIANA, OR APPROVED EQUAL.
2. 10-ROW, 145.5' LONG NON-ELEVATED BLEACHER "MODEL NO. N-10145.5AH" AS PROVIDED BY NATIONAL RECREATION SYSTEMS, FORT WAYNE, INDIANA, OR APPROVED EQUAL.
3. COACHS BOX SHALL BE ATTACHED TO THE 10 ROW, 145.5' LONG NON-ELEVATED BLEACHER AT THE MID POINT. COACHS BOX TO HAVE ITS OWN SUPPORT STRUCTURE.
4. BLEACHER GUARDRAIL TYPE SHALL BE CHAINLINK OPTION, AS SHOWN.
5. CONTRACTOR SHALL INCLUDE IN BASE BID ALL STRUCTURAL DESIGN DRAWINGS SIGNED AND SEALED BY A N.J. LICENSED STRUCTURAL ENGINEER FOR THE BLEACHER CONCRETE PAD AS PER NATIONAL RECREATION SYSTEMS CONCRETE FOUNDATION DESIGN REQUIREMENTS AND SPECIFICATIONS.

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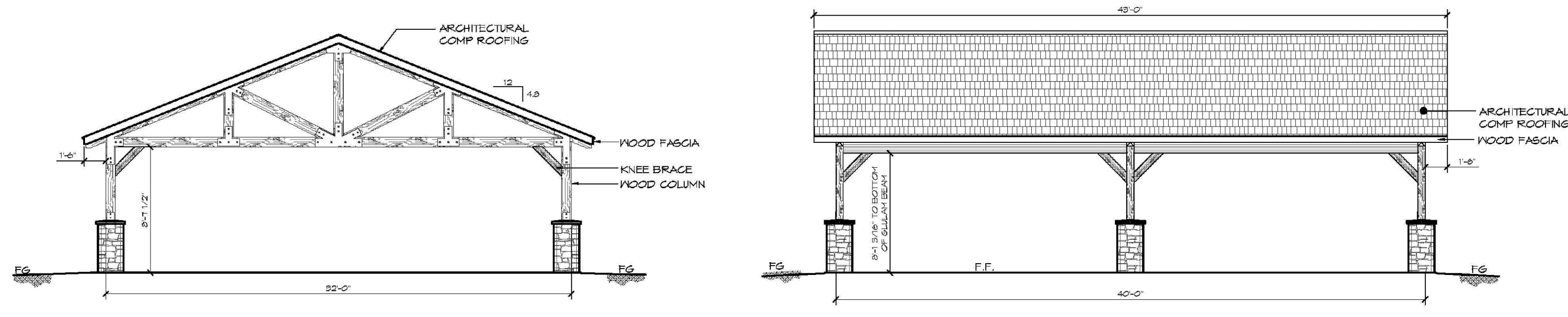


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PROFESSIONAL LAND SURVEYOR
PROFESSIONAL PLANNER

CONSTRUCTION DETAILS
CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT RAHWAY RIVER PARK
COUNTY OF UNION ~ PROJECT # 2011-019
BLOCK 201 ~ LOT 1
CITY OF RAHWAY, NEW JERSEY
UNION COUNTY **NEW JERSEY**
DRAWN BY: D.J.D.R.A. CHECKED BY: T.S. PROJECT NO: UNIOCTY11.012 SHEET NO: 7.14
DESIGNED BY: D.J.D.R.A. SCALE: N.T.S. DATE: OCTOBER 2, 2015



FRONT ELEVATION

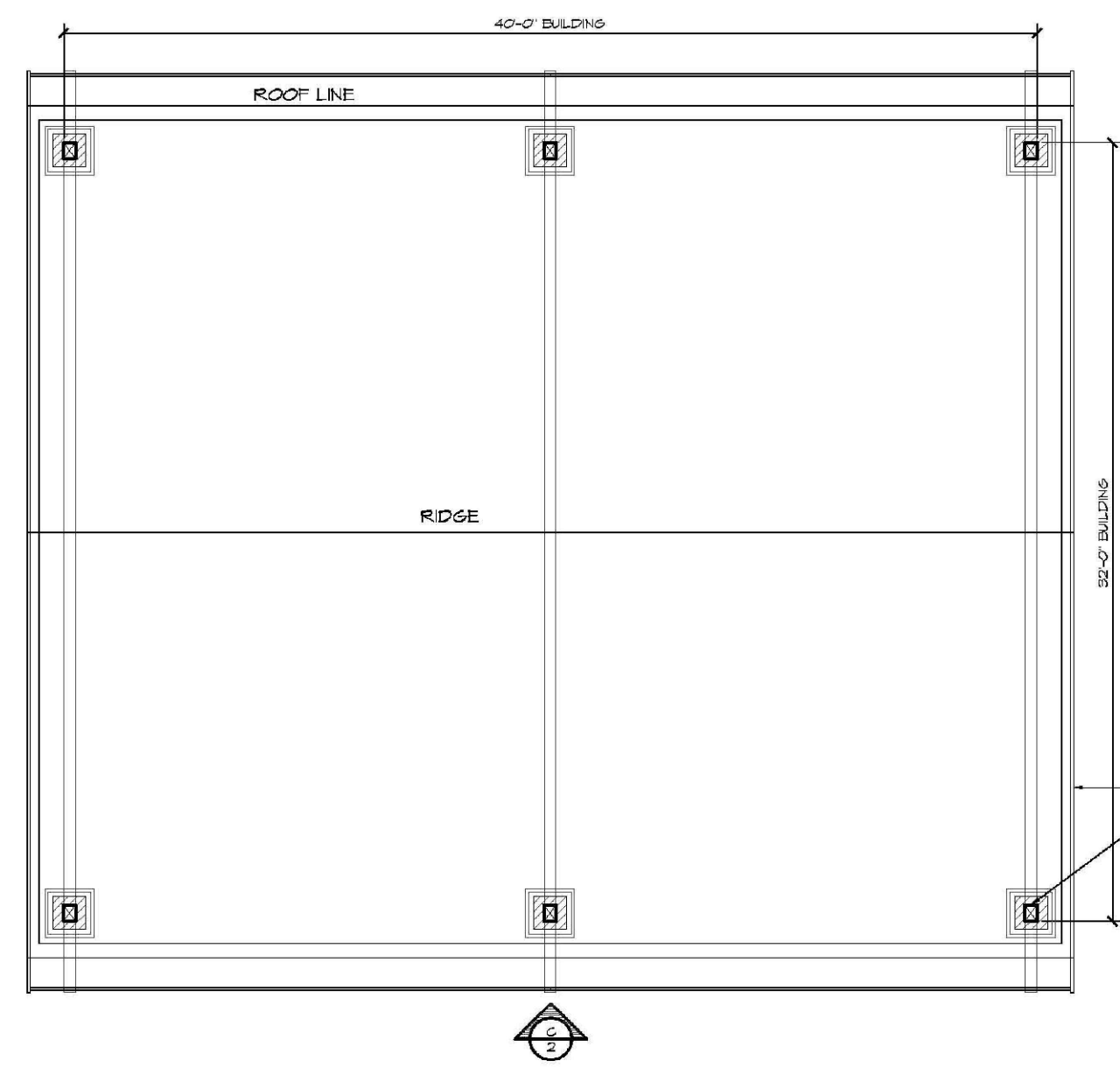
SIDE ELEVATION

THESE PLAN VIEW AND ELEVATION DRAWINGS ARE A PRELIMINARY ARCHITECTURAL REPRESENTATION OF THE BUILDING. ALL DIMENSIONS, FEATURES AND COMPONENTS SHOWN ON THESE PRELIMINARY DRAWINGS MAY OR MAY NOT BE PART OF THE QUOTE. PLEASE REFER TO THE 'SCOPE OF SUPPLY' AND SERVICES' LETTER PROVIDED WITH YOUR QUOTE FOR ROMTEC'S PROPOSED SCOPE OF SUPPLY.

WALL TYPE SCHEDULE

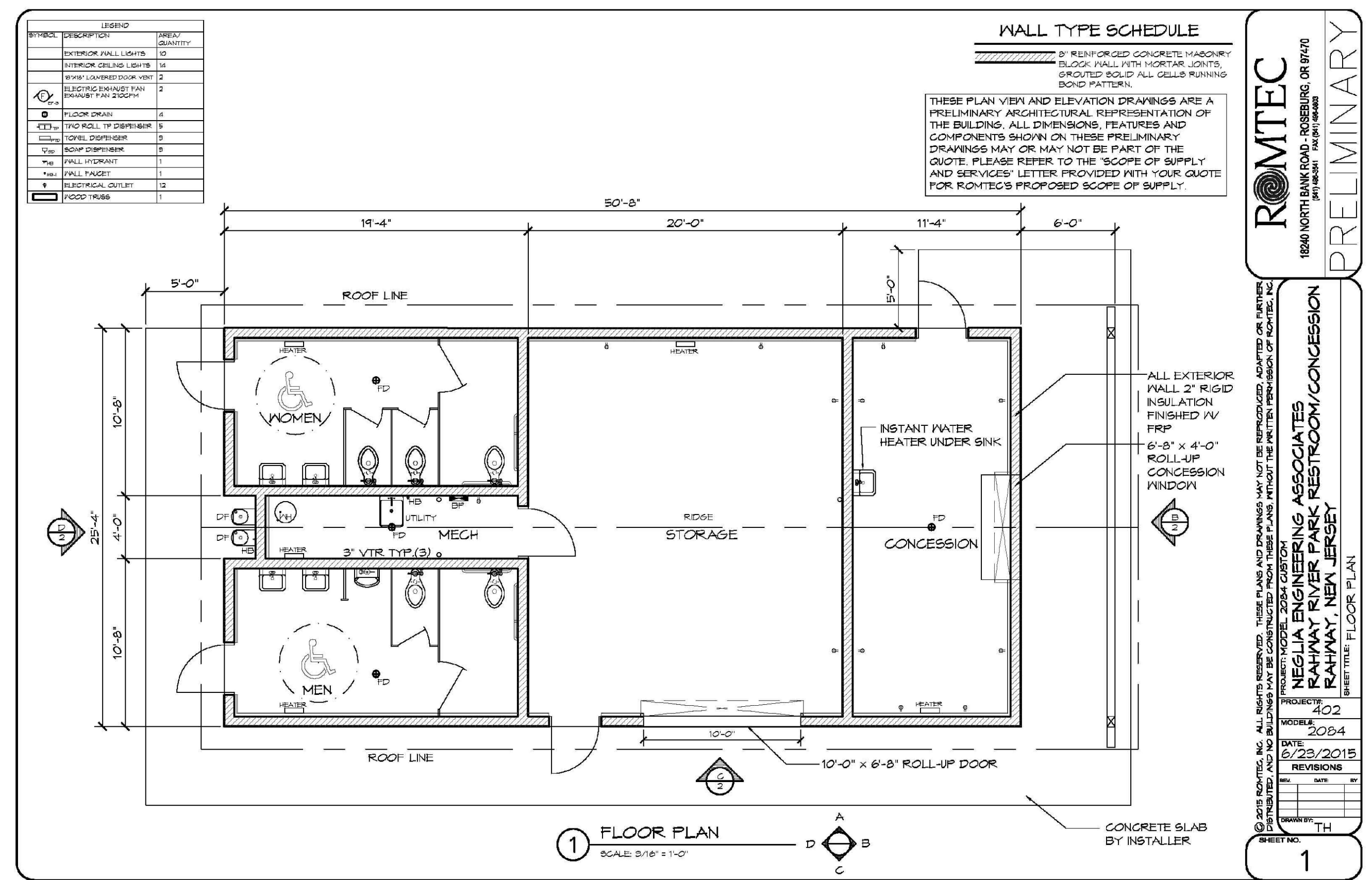
| | |
|---|--|
| 1 | 8" REINFORCED CONCRETE MASONRY BLOCK WALL WITH HORIZONTAL JOINTS GROUTED SOLID ALL CELLS RUNNING BOND PATTERN. |
|---|--|

- NOTE:**
1. ROMTEC MODEL NO. 3013 OR APPROVED EQUAL.
 2. THESE DRAWINGS ARE FOR BIDDING PURPOSES ONLY AND ARE SCHEMATIC. CONTRACTOR IS RESPONSIBLE TO FURNISH FINAL DESIGN DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO ORDERING.
 3. CONTRACTOR IS RESPONSIBLE TO INSTALL A CONCRETE SLAB UNDER THE PAVILION. NO SEPARATE PAYMENT TO BE MADE. THE COST SHALL BE INCLUDED IN THE UNIT PRICE FOR THE PAVILION.



FLOOR PLAN

OPEN-AIR PAVILION DETAIL
NOT TO SCALE



1 FLOOR PLAN
SCALE: 3/16" = 1'-0"

WALL TYPE SCHEDULE

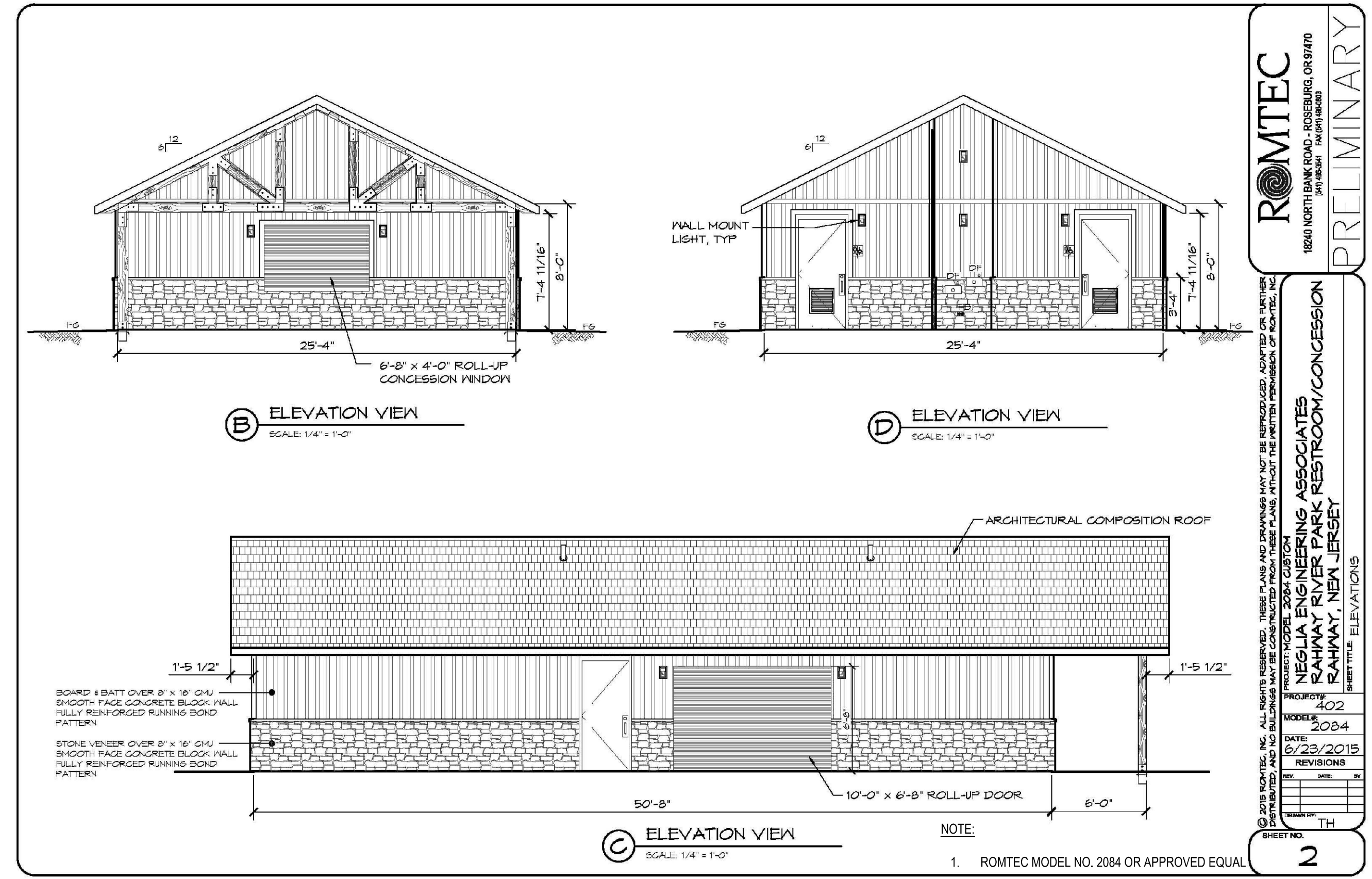
| | |
|---|--|
| 1 | 8" REINFORCED CONCRETE MASONRY BLOCK WALL WITH HORIZONTAL JOINTS GROUTED SOLID ALL CELLS RUNNING BOND PATTERN. |
|---|--|

ROMTEC
1820 NORTH BANK ROAD, ROSELAND, NJ 07068
TEL: 908-992-1111 FAX: 908-992-1112

NEGLIA ENGINEERING ASSOCIATES
RAHWAY RIVER PARK RESTROOM/CONCESSION
RAHWAY, NEW JERSEY

PROJECT: 402
NOBLE: 2084
DATE: 6/23/2015
REVISIONS:
BY: TH
CHECKED BY: TH

SHEET NO. 1



B ELEVATION VIEW
SCALE: 1/4" = 1'-0"

D ELEVATION VIEW
SCALE: 1/4" = 1'-0"

C ELEVATION VIEW
SCALE: 1/4" = 1'-0"

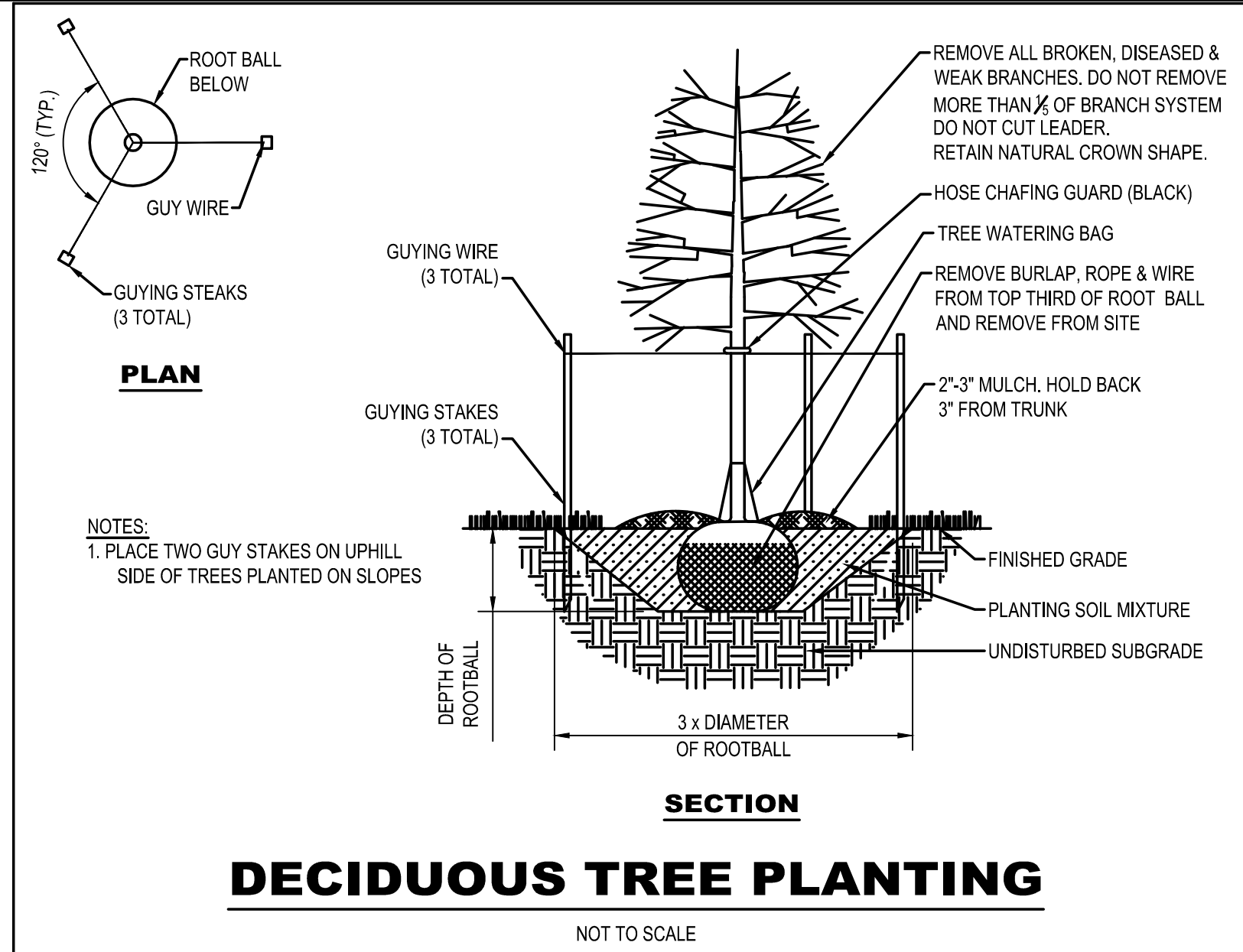
BATHROOM-CONCESSION-STORAGE BUILDING DETAIL
NOT TO SCALE

ROMTEC
1820 NORTH BANK ROAD, ROSELAND, NJ 07068
TEL: 908-992-1111 FAX: 908-992-1112

NEGLIA ENGINEERING ASSOCIATES
RAHWAY RIVER PARK RESTROOM/CONCESSION
RAHWAY, NEW JERSEY

PROJECT: 402
NOBLE: 2084
DATE: 6/23/2015
REVISIONS:
BY: TH
CHECKED BY: TH

SHEET NO. 2

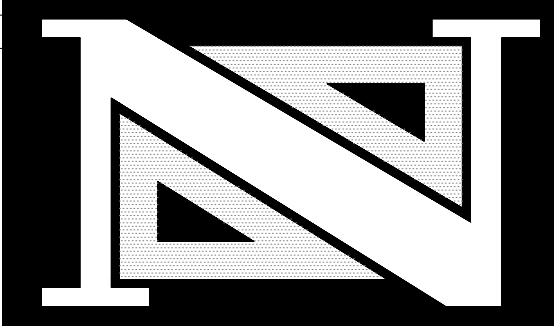


DECIDUOUS TREE PLANTING
NOT TO SCALE

- NOTES:**
1. PLACE TWO GUY STAKES ON UPHILL SIDE OF TREES PLANTED ON SLOPES

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PROFESSIONAL LAND SURVEYOR N.J. LICENSE NO. 3864
PROFESSIONAL PLANNER N.J. LICENSE NO. 33,059/695

CONSTRUCTION DETAILS
CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT RAHWAY RIVER PARK
COUNTY OF UNION - PROJECT # 2011-019
BLOCK 201 - LOT 1
CITY OF RAHWAY, NEW JERSEY

UNION COUNTY **NEW JERSEY**

DRAWN BY: D.J.D.R.A. CHECKED BY: T.S. PROJECT NO: UNIOCTY11.012 SHEET NO: 7.15
DESIGNED BY: D.J.D.R.A. SCALE: N.T.S. DATE: OCTOBER 2, 2015
FIELD BOOK NO: PAGE

NORTH

GRAPHIC SCALE
(IN FEET)
1 INCH = 30 FT.

NJSPCS

- PLAN LEGEND:**
- RD ROOF DRAIN
 - DC DEPRESSED CURB
 - UTILITY POLE
 - FIRE HYDRANT
 - WATER VALVE
 - GAS VALVE
 - UNKNOWN VALVE
 - GAS BOX
 - LIGHT POLE
 - TREE
 - SHRUB
 - ⊙ MONITORING WELL
 - EP EDGE OF PAVEMENT
 - SIGN
 - ▲ SURVEY POINT
 - ⊙ SANITARY MANHOLE
 - ⊙ WATER MANHOLE
 - ⊙ ELECTRIC MANHOLE
 - ⊙ TELEPHONE MANHOLE
 - ⊙ DRAINAGE MANHOLE
 - ⊙ GAS MANHOLE
 - ⊙ D.O.T. MANHOLE
 - INLET

SURVEYOR'S CERTIFICATION:

I CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR, LICENSED TO PRACTICE IN THE STATE OF NEW JERSEY, AND THAT THIS MAP OR PLAN IS A RESULT OF A FIELD SURVEY MADE ON 8-15-11, UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH THE RULES AND REGULATIONS PROMULGATED BY THE STATE BOARD OF ENGINEERS AND LAND SURVEYORS. I DECLARE THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE INFORMATION SHOWN HEREON CORRECTLY REPRESENTS THE CONDITIONS FOUND AT, AND AS OF THE DATE OF THE FIELD SURVEY, EXCEPT SUCH IMPROVEMENTS OR EASEMENTS, IF ANY, BELOW THE SURFACE AND NOT VISIBLE. ALSO, THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH CONTRACTUAL AGREEMENT.

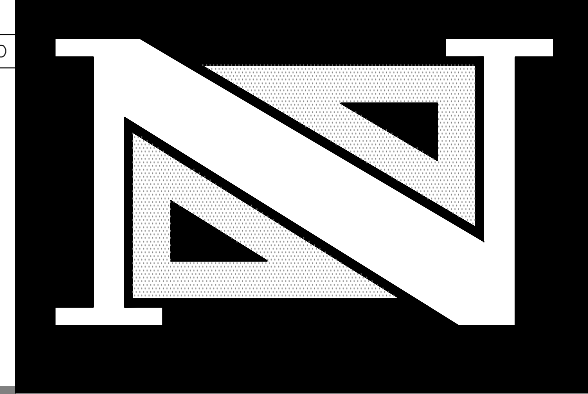
SURVEY NOTES:

1. UNDERGROUND UTILITIES IF DEPICTED ARE BASED ON VISIBLE EVIDENCE. THE LACK OF UTILITY INFORMATION DOES NOT DENY THE EXISTENCE OF SAME. REFERENCE TO THE APPROPRIATE UTILITY AUTHORITY SHOULD BE MADE TO VERIFY THE PRESENCE OR ABSENCE OF UTILITIES.
2. WETLANDS ARE NOT DEPICTED. THE LACK OF WETLANDS INFORMATION DOES NOT DENY THE EXISTENCE OF SAME. SITE REVIEW AND DELINEATION BY A QUALIFIED PROFESSIONAL IN SAME CAN BE LOCATED IF REQUIRED.
3. TOXIC WASTES ARE NOT DEPICTED. THE LACK OF TOXIC WASTE INFORMATION DOES NOT DENY THE EXISTENCE OF SAME. SITE REVIEW FOR THE SAME SHOULD BE PURSUED AND APART FROM THIS SURVEY.
4. HORIZONTAL DATUM BASED ON NAD'83, VERTICAL DATUM BASED ON NGVD'29 AND ESTABLISHED BY RAPID STATIC GPS OBSERVATIONS USING COR STATION NJ2. CONVERTED FROM NAVD'88 TO NGVD'29 BY NATIONAL GEODETIC SURVEY PROGRAM "VERTCON".



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TOPOGRAPHIC SURVEY
CONSTRUCTION OF ARTIFICIAL TURF AND SPORTS LIGHTING AT RAHWAY RIVER PARK
CITY OF RAHWAY
UNION COUNTY NEW JERSEY

DRAWN BY: _____ CHECKED BY: _____
DESIGNED BY: _____ SCALE: 1"=30'
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