PROJECT MANUAL

WARINANCO PARK
BASEBALL FIELD IMPROVEMENTS

Roselle, New Jersey

for

UNION COUNTY IMPROVEMENT AUTHORITY

10 ELIZABETHTOWN PLAZA 5th FLOOR
ELIZABETH, NEW JERSEY 07207

CME ASSOCIATES
1 TOWER CENTER BLVD, 20TH FL
EAST BRUNSWICK, NEW JERSEY

REQUEST FOR BIDS
NOVEMBER, 26th 2025

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UNION COUNTY IMPROVEMENT AUTHORITY

REQUEST FOR BIDS

FOR

Warinanco Park

Baseball Field Improvements

ISSUED BY:

Union County Improvement Authority
10 Elizabethtown Plaza
Elizabeth, New Jersey 07207

Bid Submission Date:

Wednesday the 26th of November 2025

UNION COUNTY IMPROVEMENT AUTHORITY
Warinanco Park Baseball Field Improvements
Roselle, New Jersey

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SPECIAL PROVISIONS

UNION COUNTY IMPROVEMENT AUTHORITY NOTICE TO BIDDERS -- The Union County Improvement Authority (UCIA) is soliciting bids for the Warinanco Park Baseball Field Improvements located in the Borough of Roselle, New Jersey. Sealed bids will be received by the UCIA at its Administrative Offices located at 10 Elizabethtown Plaza, 5th Floor, Elizabeth, New Jersey 07202 on or before **Wednesday, November 26th, 2025 at 10:30 AM** prevailing time, at which time the bids will be publicly opened and read aloud.

The bid plans and specifications, drawings, and other related documents for this work ("Bid Documents") may be obtained electronically on or after **Monday, October 13th, 2025** by completing the request form on the Union County Improvement Authority web site at:
https://ucimprovementauthority.org

Questions regarding the bid shall be directed in writing to Bibi Taylor of Union County Improvement Authority, Timothy Hennessy of RSC Architects and Lyra Knust of CME Associates via email at btaylorUCIA@ucnj.org, bidding@rscarchitects.com and lknust@cmeusa1.com. Written questions must be sent by **Tuesday, November 11th, 2025 at 4:00 PM.** Any addendum may be obtained electronically on or after **Friday, November 14th, 2025 on the Union County Improvement Authority web site at: https://ucimprovementauthority.org. It is the responsibility of the bidder to obtain the addendum.**

A **pre-bid meeting** will be held on **Monday, October 20th, 2025 at 10:00 AM** at the Warinanco Park Baseball Field #3, Roselle, New Jersey. A site tour will be conducted immediately following the pre-bid meeting. Attendance at the prebid meeting is not mandatory. However, it is strongly encouraged that the bidder attends the prebid meeting, either personally or through a representative identifying themselves as such.

Bidders must be classified by the State of New Jersey, Division of Property Management and Construction (DPMC) under classification code No. C008, No. C009, as well as other documentary requirements as set forth in the INSTRUCTIONS TO BIDDERS found in the Bid Documents. This project shall be subject to a Project Labor Agreement (PLA), the form of which is included in the Bid Documents.

Bids must be accompanied by a certified check, cashier's check or bond of a surety authorized to do business in New Jersey in the amount of ten percent (10%) of the total bid amount, but not exceeding $20,000, and must be accompanied by a consent of surety stating that surety will provide the bonds required by the Bid Documents, if bidder is awarded a contract.

Bidders shall submit an **original and two copies** of their bid in a sealed envelope, clearly marked on the outside with the words "Warinanco Park Baseball Field Improvements," and with bidder's name, address, telephone & fax numbers, and date of bid opening. Bids must be delivered to Dr. Bibi Taylor, Executive Director of the UCIA, 10 Elizabethtown Plaza, 5th Floor, Elizabeth, New Jersey 07207, prior to the stated time of bid opening. Late bids will be returned, unopened, to the bidder. The UCIA will not be responsible for late delivery; bidders shall assume full responsibility for timely delivery of their bids.

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

The award or rejection of a contract for the project shall be made within sixty (60) days of the bid opening date, except that the bids of any bidders who consent thereto may, at the request of the contracting unit, be held for consideration for such longer period as may be agreed. The UCIA reserves the right to (i) reject any Bid in accordance with N.J.S.A. 40A:11-13.2 and any Bidder that is deemed not responsible in accordance with the law; technical errors in accordance with law,

Union County Improvement Authority
10 Elizabethtown Plaza, 5th Floor
Elizabeth, New Jersey 07207

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UNION COUNTY IMPROVEMENT AUTHORITY
Warinanco Park Baseball Field Improvements
Roselle, New Jersey

ARTICLE 1
INSTRUCTIONS TO BIDDERS

1.01 INVITATION TO BID

A. Sealed bids will be received by the Union County Improvement Authority (UCIA) at its Administrative Offices located at 10 Elizabethtown Plaza, 5th Floor, Elizabeth, New Jersey 07207 at the time and place stated in the Notice to Bidders and shall be publicly opened and read aloud for the:

WARINANCO PARK BASEBALL FIELD IMPROVEMENTS

1.02 PREPARATION OF BIDS

A. Bids shall be submitted to the UCIA. Bids shall be submitted only on UCIA bid forms or a true copy thereof. Bids must be submitted in **triplicate (original and two copies)** in an envelope and shall be sealed and plainly marked on the outside to show bidder's name and address, telephone & fax numbers, bid due date, and the name of the bid: "Warinanco Park Baseball Field Improvements."

B. Any bid not prepared and submitted in accordance with the provisions described herein may be considered informal by the UCIA, who reserves the right to waive any informalities in the bid or reject all bids. Any bid received after the time and date specified will not be considered. No bidder shall withdraw a bid within sixty (60) days after the date of the bid opening, except due to mistake pursuant to N.J.S.A. 40A:11- 23.3.

C. Before submitting its bid, the bidder shall be familiar with the Bid Documents that will form part of the contract and shall have visited the site of the project to confirm for itself the character and amount of work involved. Bidder shall confirm also that it can secure the necessary labor and equipment and that the materials it proposes to use will comply with the requirements of the contract and can be obtained by bidder in the quantities and at the time required.

D. Where unit prices are required, bidder shall fill in applicable unit prices. Unit prices shall prevail over extended totals, in the event of a discrepancy between them. All unit prices, whether filled in by the bidder or established by the Bid Documents shall become part of the contract. No bid will be considered or award made unless applicable unit prices, as required, are filled in.

E. Should the bidder discover discrepancies in this Request for Bids, such discrepancies shall immediately be brought to the attention of the UCIA, and the discrepancies corrected by written agreement before proceeding further. The correction will be issued by addendum.

F. Any interpretation or instruction regarding the Bid Documents will be in the form of an addendum to the Bid Documents, and will be furnished to all prospective bidders. Oral explanation or instruction will not be binding. Addenda are amendments to the Bid Documents and shall be considered in preparing bids. Addenda take precedence over all earlier documents and over each other according to the latest date.

G. Failure of any bidder to receive an addendum shall not relieve such bidder from the obligation imposed by such addendum. Bidders should keep themselves currently acquainted with the Bid Documents during the bidding period and make inquiry on their own initiative as to issuance of any addenda. Receipt of all addenda shall be acknowledged on the Acknowledgement of Receipt of Addenda form provided at page B-17.

1.03 GENERAL INFORMATION

A. Questions regarding the bid shall be directed in writing to Bibi Taylor of Union County Improvement Authority, Timothy Hennessy of RSC Architects and Lyra Knust of CME Associates via email at btaylorUCIA@ucnj.org , bidding@rscarchitects.com and lknust@cmeusa1.com. Written questions must be sent by **Tuesday, November 11th, 2025 at 4:00 PM.**

B. Any bidder who has found to have prior negative experience, as defined in N.J.S.A 40A:11-4(b). The UCIA reserves the right to exercise this option as it deems proper and/or necessary and in its best interest.

C. The UCIA is exempt from all taxes including federal excise tax, transportation taxes, state excise, sales tax and local taxes. Contractor is required to familiarize itself with all governing tax laws.

D. It is understood and agreed that all prices quoted are firm and not subject to any increase during the life of the contract.

E. Should any difference arise between the contracting parties as to the meaning or intent of these instructions or the drawings and specifications, the UCIA's decision shall be final and conclusive.

F. The UCIA may make such investigation as it deems necessary to determine the ability of the bidder 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 may be reasonably requested by the UCIA. The successful bidder may be subject to a criminal background check in accordance with applicable law.

1.04 DELIVERY OF BIDS

A. Bids shall be delivered to Dr. Bibi Taylor, Executive Director, Union County Improvement Authority, 10 Elizabethtown Plaza, 5th Floor, Elizabeth, New Jersey, no later than the time and date indicated in the Notice to Bidders in a sealed envelope. Bids that arrive after the specified date and time shall be returned to the bidder unopened.

B. The UCIA shall not be responsible for late postal or overnight delivery, nor shall postmark dates or overnight dates be considered in honoring the bids. The UCIA shall not be responsible for hand delivered bids arriving late or at the wrong location. Unsealed, faxed or e-mailed bids will not be accepted. The UCIA shall not be responsible for, nor be required to, grant relief from non-delivery of bids forwarded by mail or third-party messenger/delivery services.

1.05 BID FORMS

A. Attention is directed to the fact that this Request for Bids includes a complete set of bid forms.

B. All bids shall be typewritten or printed in ink on the bid forms furnished by the UCIA. All bids must be signed by the officials of the corporation or company duly authorized to sign bid proposals, and all corrections or erasures shall be initialed by the person signing the proposal or by his/her authorized representative.

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

D. 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 as "+" 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."

1.06 BID SECURITY

A. Bids must be accompanied by a Certified Check, a Cashier's Check or Bid Bond payable to the order of the UCIA, in the sum of not less than ten (10%) percent of the total amount of the bid, to a maximum of $20,000.

B. All bid deposits shall be returned in accordance with the timeframes provided in N.J.S.A. 40A:11-24, except for the successful bidder(s) whose bid security shall be returned after execution of a formal contract and delivery of the performance bond/labor and material bond and certificates of insurance.

C. Should the successful bidder fail to enter into a contract after acceptance of the bid by the UCIA, the check or security deposited by such bidder shall, at the option of the UCIA, be retained as liquidated damages, or if a bid bond has been supplied, principal and surety shall be liable to UCIA in the amount of the bid bond.

1.07 CERTIFICATION OF SURETY

A. All bids shall be accompanied by a consent of surety from a surety company authorized to transact business in the State of New Jersey, stating that the surety will provide a bond in the sum equal to the full amount of the contract price if the contract is awarded to the bidder, conditioned on the faithful performance of the contract in strict accordance with the contract documents, and for the payment of labor, materials and all other indebtedness that may accrue on account of the work. Failure to submit a consent of surety with the bid will result in automatic rejection.

1.08 NON-COLLUSION AFFIDAVIT

A. The Non-Collusion Affidavit at page B-16 must be filled in completely and sworn to before a Notary Public and provided with the bid. Failure to do so will result in rejection of the bid.

1. Bidder certifies that, to the best of its knowledge, no UCIA official or employee has a vested interest, financial or otherwise, in the bid and if awarded a contract, will have no vested interest, financial or otherwise, in the contract. Bidder or contractor, as the case may be, agrees to comply in all respects with the Public Official and Employee Ethics Act. Bidder or Contractor will inform the UCIA in writing immediately if any potential conflict of interest arises during the course of bidding or during the performance of any contract entered into with the UCIA. Conflict of interest may constitute grounds for disqualification of bidder or termination of any contract following notification by the UCIA to bidder or contractor if same is not corrected by bidder or contractor within the time period established by the UCIA in such notice.

1.09 OWNERSHIP DISCLOSURE STATEMENT

A. The Ownership Disclosure Statement at page B-13 shall be completed and sworn to before a Notary Public and submitted with the bid. Failure to do so will result in rejection of the bid.

1.10 PERFORMANCE/PAYMENT BOND

A. Simultaneously with delivery of the executed contract, the successful bidder shall be required to furnish the UCIA with an executed Performance/Payment Bond (in the sum of one hundred percent (100%) of the Contract amount) from a surety company authorized to do business in the State of New Jersey. The Bond shall be in a form that is satisfactory to the UCIA, and be conditioned for the faithful performance of the contract and for the prompt payment of all materials and labor supplied or performed in the prosecution of the work. It shall be a condition of the bond that labor and material providers furnishing labor and materials in, and for, the prosecution of the work, shall have the right, according to law, to sue in an action of assumpsit, in the name of the oblige, for their use upon said bond, for such sum or sums as may be justly due. A form of Performance/Payment bond acceptable to the UCIA is provided at page B-11. If bidder's surety uses a different form, it must be substantially similar to the form provided at B-11.

1.11 POWER OF ATTORNEY

A. Attorneys-in-fact who sign bid bonds or contract bonds must file with each bond a certified copy of their Power of Attorney to sign said bonds.

1.12 ACCEPTANCE/REJECTION OF BIDS

A. The UCIA reserves the right to accept or reject any or all items covered in the bid request, or any portion(s) thereof, waive formalities, reject all bids, re-advertise and/or take such other steps decreed necessary and in accordance with all applicable law. Where two or more bidders are tied and all other relevant factors being equal, the UCIA reserves the right to make the award to one of the bidders.

B. Except as provided in Section 1.13 hereof, the bid is irrevocable by the bidder or the bidder's representatives. The bid, and any award made to the bidder by the UCIA, shall bind the bidder and the bidder's heirs, executors, administrators, successors or assigns.

C. Any award of a contract shall be made to the lowest responsible and responsive bidder based on the total lump sum base bid price plus allowances and alternate(s) as selected by the UCIA.

D. The award of a contract or the rejection of the bids shall be made within sixty (60) days of the date of receiving bids, unless written extensions are requested by the UCIA and accepted by the bidder(s). All bid securities shall be returned immediately if all bids are rejected. The successful bidder(s) to whom the award is to be made will be notified by receipt of the contract or a written "Notice to Proceed" from the UCIA (or its representative).

1.13 WITHDRAWAL OF BIDS

A. A written request for the withdrawal of a bid, or any part thereof, will be granted if the request is received by the UCIA prior to the specified time of the bid opening. Should a bidder request withdrawal of their bid after the bid opening date and time, the owner has the right to deny said request and require the lowest bidder to perform the work for the price provided in the bid, at the owner's discretion.

B. Should the bidder refuse to perform the work for the price provided, it will forfeit its bid security and will be held liable for the difference between its low bid and the next highest/responsive bidder.

C. A bidder may request withdrawal of its bid due to mistake pursuant to N.J.S.A. 40A:11-23.3.

1.14 INDEMNIFICATION

A. The successful bidder shall be bound by the provisions of the Hold Harmless Clause at page B-15, which Clause shall become part of the contract.

1.15 ASSIGNMENTS

A. Assignment to any third party of any monies due or to grow due the bidder or any contract based on this bid is prohibited and will not be recognized by the UCIA, except for financing.

1.16 UNCOMPLETED CONTRACTS

A. The bidder shall submit with its bid a current Classification/Prequalification Certificate and accompanying form(s) indicating the dollar amount of uncompleted contracts, and a notarized and itemized list of uncompleted contracts in the form, "Uncompleted Contracts Affidavit," provided at page B-22.

1.17 COMPLIANCE WITH LAWS

A. The contractor shall comply with all State of New Jersey and federal laws as they pertain to the performance under the contract.

Prevailing Wages:

1. The New Jersey Prevailing Wage Law, N.J.S.A. 34:11-56.25 et seq. is hereby made a part of every contract entered into by the UCIA, except those, which are not within the scope of the Law. The successful bidder and its subcontractors shall be obligated to pay workers not less than the prevailing wage rate, to submit certified payrolls as documentation of compliance, and to permit on-site monitoring, including interviews with employees and review of subcontracts, by UCIA and State representatives. The bidder's signature on its proposal is its guarantee that neither bidder nor any of bidder's subcontractors employed to perform the work covered by this bid are listed or are on record as one who has failed to pay prevailing wages in accordance with the provisions of the New Jersey Prevailing Wage Law.

2. Every contractor and subcontractor shall keep an accurate payroll record, showing the name, craft or trade, job title or classification, actual hourly rate or wages paid, hours worked and total wages paid to each workman employed by the contractor in connection with a public work. Payroll records shall be preserved for a period of three (3) years from the date of payment.

3. In the event it is found that any worker employed by the contractor or any subcontractor covered by the contract has been paid a rate of wages less than the prevailing wage required to be paid by the contract, the UCIA may terminate the contractor's or subcontractor's right to proceed with the work or such part of the work as to which there has been a failure to pay required wages, and to prosecute the work to completion or otherwise.

B. Equal Employment/Affirmative Action:

1. The successful bidder shall be required to complete and submit an Initial Project Workforce Report Construction, New Jersey Department of Treasury Form AA-201, upon notification of award.

2. 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 UCIA.

3. The successful bidder expressly agrees to comply with Titles VI and VII of the Civil Rights Act of 1964, as amended, and all other applicable federal, state and/or local laws, ordinances, rules, regulations and orders prohibiting discrimination in hiring or employment opportunities. Compliance is not delegable to any union, training program or other source of recruitment, which prevents the contractor from meeting his obligations

4. In the employment of persons for the performance of public work, no contractor or subcontractor nor any person acting on behalf of such contractor or subcontractor shall by reason of age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex, discriminate against any individual who is qualified and available to perform the work to which the employment relates.

5. The successful bidder shall agree that:

   a. The successful bidder will be required to comply with the Affirmative Action laws and regulations, including but not limited to, *N.J.S.A*. 10:5-31 *et seq.* and *N.J.A.C*. 17:27-1 *et seq.*

   b. Exhibit B, Mandatory Equal Employment Opportunity Language – Construction, at page B-23, shall be part of any contract awarded to the successful bidder.

   c. In the hiring of persons for the performance of work under the 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 the contract, the successful bidder, and his subcontractors and all persons acting on their behalf, shall not, by reason of, age, race, creed, color, national origin, ancestry, marital status, affectional or sexual

orientation, gender identity or expression, disability, nationality or sex, discriminate against any person who is qualified and available to perform the work to which the employment relates;

d. The successful bidder, all subcontractors and all persons on their behalf shall not, in any manner, discriminate against or intimidate any employee engaged in the performance of work under the 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 age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex.

e. There may be deducted from the amount payable to the successful bidder by the UCIA under the contract a penalty of $50.00 for each person for each calendar day during which such person is discriminated against or intimidated in violation of the provisions of the contract by the successful bidder and the subcontractors or any person acting on their behalf;

f. The contract may be canceled or terminated by the UCIA, and all money due or to become due under the contract may be forfeited for any violation of this Section 1.18 occurring after notice to the successful bidder/contractor from the UCIA of any prior violation of this Section.

g. It shall be the successful bidder's (contractor's) responsibility to investigate the applicability of the Civil Rights Act of 1964 and the Americans with Disabilities Act of 1990 and to comply in all respects to the provisions thereof.

C. Use American Goods and Products, Where Available:

1. Bidders shall comply with the requirements of *N.J.S.A*. 40A11-18 and use only manufactured and farm products of the United States, wherever available, for the project.

E. OSHA Compliance:

1. The contractor shall guarantee that all materials, supplies and equipment to be provided under the contract shall meet all applicable requirements, specifications and standards of the Federal Occupational Safety and Health Act (OSHA) of 1970 as amended to date of acceptance by the UCIA, and shall also apply to contractor's construction procedures.

F. Applicable Laws:

1. It shall be the responsibility of the contractor alone to investigate and determine the applicability of any and all federal statutes, New Jersey statutes, local ordinances, rules, regulations, etc., as they affect and impact upon this project, and to take all necessary steps to assure the contractor's compliance with the aforementioned requirements. It is specifically stipulated and agreed by and between the UCIA and contractor that no liability or responsibility whatsoever will attach to the UCIA, architect or construction manager in the event of non- compliance with any federal statute, state statute, local ordinance, rule, regulation, etc.

2. The following list of statutes and regulations, which may be applicable in whole or in part, is provided for the benefit of the contractor and is **not meant to be all-inclusive**. In the event that other laws are applicable, it shall be the responsibility and obligation of the contractor to ascertain and comply with them.

2.1 New Jersey Statutes and Regulations

1. N.J.A.C. 17:27-1 *et seq*., Affirmative Action
2. N.J.S.A. 52.38-1 *et seq.,* Project Labor Agreement
3. N.J.S.A. 34:11-56.25 *et seq*., Prevailing Wage Act,
4. N.J.S.A. 34:32-44, Business Registration Certificate
5. N.J.S.A. 34:11-56.48 et seq.; N.J.A.C. 12:62-1.2 *et seq*., Contractor Registration Act
6. N.J.S.A. 52:25-24.2 Stockholder Certificate

2.2 Federal Statutes

1. Immigration Control and Reform Act (1986) – 8 U.S.C.A. Section 1324(a) *et seq.*
2. Civil Rights Act of 1964 – 42 U.S.C.A. Section 1971 *et seq*.
3. The Americans with Disabilities Act of 1990.

1.18 PROJECT LABOR AGREEMENT

A. Contractor shall abide by the terms of the Project Labor Agreement (PLA), at page B-40 (including obtaining the necessary and applicable Letters of Assent from subcontractors (of any tier). Through the Letters of Assent, the subcontractors (of any tier) also must be prepared to abide by the terms of the PLA. Contractor will be required to submit the Letters of Assent to the UCIA with the executed PLA.

1.19 EXAMINATION OF SITE, DRAWINGS AND SPECIFICATIONS

A. Each bidder shall visit the site(s) of the proposed work during the pre-bid conference and site tour as indicated in the Notice to Bidders and fully acquaint itself with the conditions as they exist so that bidder may fully understand the facilities, difficulties, and restrictions attending the execution of the work under the contract.

B. Bidders shall thoroughly examine and be familiar with the Bid Documents. The failure to receive or examine any form, instrument or document, or to visit the site and acquaint itself with conditions there existing shall in no way relieve any bidder from obligation with respect to its bid. By submitting a bid, the bidder agrees and warrants that it has examined the site, the Bid Documents, and that the specifications and drawings are adequate, and the required result can be produced under the drawings and specifications. No claim for any extra will be allowed because of alleged impossibilities in the productions of the results specified or because of unintentional errors or conflicts in the drawings and specifications. No change orders will be issued for items, materials or issues that existed on or with respect to the site prior to bidding.

1.20 DRAWINGS AND SPECIFICATIONS

A. The project shall be performed in accordance with the requirements of the drawings and specifications, subject to modification as may be provided in General Conditions. The drawings and specifications are intended to complement and supplement each other.

B. Any work required by either of them and not by the other shall be performed as if denoted in both. Should any work be required, which is not denoted in the specifications or on the drawings because of an obvious omission, but which is, nevertheless, necessary for the proper performance of the project, such work shall be performed as fully as if it were described and delineated.

1.21 NUMBER AND TITLE OF DRAWINGS

A. The number and title of drawings accompanying the specifications, which form a part of the Bid Documents and upon which the bids shall be based, are listed in the Index of Drawings found on the plan set Title Sheet.

1.22 PRE-BID CONFERENCE

A. A pre-bid conference to answer any questions pertaining to the Bid Documents will be held at the time and place designated in the Notice to Bidders. Questions concerning the Bid Documents may be posed in writing at any time as indicated in the Notice to Bidders. Questions received after that date will not be addressed.

B. All interpretations and supplemental instructions given by the UCIA or its representatives at the pre-bid conference will be issued in the form of an addendum to the contract documents, which will be sent to all bidders. All such data shall become a part of the Bid Documents. Failure of any bidder to receive any addendum will not relieve the bidder from any obligation under its bid as submitted.

- No addenda will be issued later than seven (7) days prior to the bid due date, except to extend the bidding due date.

1.23 BRAND NAME OR EQUIVALENT

A. Whenever a material, article, or piece of equipment is identified in the Bid Documents by reference to manufacturer's name, trade names, catalogue numbers, etc., it is intended to establish a standard. Similar materials, articles, or equipment of other manufacturers of the same general design will be considered provided the Contractor complies with the Division 01 Section "Product Requirements." No substitution will be permitted without the Engineer's written approval.

B. **Whenever in the Division specifications a manufacturer or product is listed, it shall mean that it includes but is not limited to such manufacturer or product.**

1.24 SUBCONTRACTS

A. Bidder is specifically advised that any person, firm, or other party to whom it proposes to award a subcontract under the contract must be acceptable to the UCIA, and the Bidder shall furnish all information deemed necessary by the UCIA to determine the qualifications of the proposed subcontractor.

1.25 FORM OF AGREEMENT

A. The contract to be entered into with the successful bidder will be subject to all statutory provisions on the matter of Public Works, The Law Against Discrimination, the laws governing Equal Employment Opportunity and Affirmative Action, Prevailing Wages, and all other applicable federal and State laws.

B. The contract shall be executed by the successful bidder not later than twenty-one (21) days from the date of award by the UCIA.

1.26 MULTIPLE BIDS NOT ALLOWED

No bidder is allowed to submit more than one bid from an individual, firm, partnership, corporation or association under the same or different name. This will be cause for automatic rejection of each bid.

1.27 PUBLIC WORKS CONTRACTOR REGISTRATION ACT

Contractors performing covered "public works" as defined by *N.J.S.A.* 34:11-56.48 *et seq.* must comply with the requirements of *N.J.A.C.* 12:62-1.2, 2.1 and 2.2 (as amended) and described below:

Subchapter 1. General Provisions

12:62-1.2 Definitions

"Act" means "The Public Works Contractor Registration Act" (N.J.S.A. 34:11-56.48 et seq.) and the rules promulgated thereunder.
"Commissioner" means the Commissioner of Labor and Workforce Development or his or her duly authorized representatives.
"Contractor" means 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 provisions of the New Jersey Prevailing Wage Act, P.L. 1963, c.150, N.J.S.A. 34:11-56.25 et seq., and includes any subcontractor or lower tier subcontractor of a contractor as defined in this section.
"Custom fabrication" means the fabrication of plumbing, heating, cooling, ventilation or exhaust duct systems and mechanical insulation.
"Department" means the Department of Labor and Workforce Development.
"Maintenance" means "maintenance work" as that term is defined at N.J.S.A. 34:11-56.26, namely, the repair of existing facilities when the size, type or extent of such facilities is not thereby changed or increased.
"Public work" means construction, reconstruction, demolition, alteration, custom fabrication, or repair work, or maintenance work, including painting and decorating, done under contract and paid for in whole or in part out of the funds of a public body, except work performed under a rehabilitation program. "Public work" shall also mean construction, reconstruction, demolition, alteration, custom fabrication, or repair work done on any property or premises, whether or not the work is paid for from public

funds, if, at the time of the entering into the contract the property or premises is owned by the public body or:
1. Not less than 55 percent of the property or premises is leased by a public body, or is subject to an agreement to be subsequently leased by the public body; and
2. The portion of the property or premises that is leased or subject to an agreement to be subsequently leased by the public body measures more than 20,000 square feet.
"Subcontractor" means any subcontractor or lower tier subcontractor of a contractor, including owner operators or independent contractors.
"Worker" includes a laborer, mechanic, skilled or semi-skilled laborer and apprentices or helpers employed by any contractor or subcontractor and engaged in the performance of services directly upon a public work, regardless of whether their work becomes a component part thereof, but does not include material suppliers or their employees who do not perform services at the job site. For the purposes of these rules, contractors or subcontractors engaged in custom fabrication shall not be regarded as material suppliers.

12:62-2.1 Registration Required

(a) No contractor shall bid on any contract for public work unless the contractor is registered pursuant to the Prevailing Wage Act. In addition:
1. No contractor shall list a subcontractor in a bid proposal for a public works contract unless the subcontractor, as required, is registered pursuant to the terms of N.J.S.A. 34:11-56.48 et seq., the Public Works Contractor Registration Act, at the time the bid is submitted to the public entity; and
2. No contractor or subcontractor not listed on the bid proposal shall engage in the performance of any public work project unless the contractor or subcontractor is registered pursuant to the Act.
(b) Any contractor which seeks to register under the Act shall apply to the Division of Wage and Hour Compliance, within the Department of Labor and Workforce Development. For this purpose, the Department shall prepare a "New Jersey Department of Labor and Workforce Development Application for Public Works Contractor Registration." This form shall be available from the Department.
(c) As part of its application to the Department, a contractor shall provide all required information and documents requested by the Application for Public Works Contractor Registration. The information to be submitted for review shall include:
1. The name, principal business address, telephone and fax number as well as any e-mail address of the business;
2. Whether the contractor or subcontractor is a corporation, partnership, sole proprietorship, or other form of a business entity;
3. The name and address of the custodian of records and agent for service of process within the State of New Jersey;

4. The name, addresses of residence, and telephone number of each person with a financial interest in the business and the percentage of interest, except that if the business is a publicly traded corporation, the contractor shall supply the names and addresses of residence of the corporation's officers;
5. The business' Federal Employer Identification Number and State of New Jersey Taxpayer Identification Number;
6. A history of previous and/or current labor law violations and the final dispositions of such violations and any violations, or pending violations, brought by a governmental entity of criminal or civil statutes and/or regulations which would reflect upon the fitness of the applicant/contractor to bid on or engage in public work projects;
7. Proof of workers' compensation insurance; and
8. Any other relevant and appropriate information from a particular applicant as determined by the Commissioner
(d) The contractor shall pay an initial, non-refundable, annual registration fee of $300.00 to the Commissioner. The non-refundable fee for the second annual registration shall be $300.00. Upon successful completion of two consecutive years of registration, a contractor may elect to register for a two-year period and pay a non- refundable registration fee of $500.00. However, a two-year registration will only be granted if the applicant has not violated the Act and/or the Prevailing Wage Act or these rules during the period of licensure preceding submission of the renewal application.
(e) An applicant shall fully and accurately complete all relevant parts of the Application for Public Works Contractor Registration. Failure to provide a complete application shall result in rejection.
(f) An applicant who fails to provide specifically requested additional information or documentation shall be considered not in compliance with the Act and shall be subject to rejection.
(g) If the applicant knowingly supplies incomplete or inaccurate information to the Department in connection with his or her application, he or she shall be disqualified under these rules, barred from reapplying for registration for a period of up to one year from the date of notice of disqualification, and may be subject to other penalties described in N.J.A.C. 12:62-2.3, 2.4 and 2.5.

12:62-2.2 Issuance and term of a certificate of registration

(a) Upon receipt of the fee, a fully completed form and all documentation required under N.J.A.C. 12:62-2.1, the Commissioner shall issue a certificate of registration to the contractor within 30 days.
(b) An initial certificate of registration shall be valid only for a period of one calendar year from the date of registration.
(c) Registration shall be renewed not less than 30 calendar days prior to the expiration date of the immediately preceding registration. However, renewal shall be predicated

upon the contractor not having knowingly or willfully violated the provisions of the Act or of the New Jersey Prevailing Wage Act during the period of licensure preceding the renewal application.
(d) Each contractor shall, after the bid is made and prior to the awarding of the public works contract, submit to the public entity for whom the work is to be performed the certificates of registration for all subcontractors listed in the bid proposal.
(e) A certificate of registration shall not be transferable.
(f) A registered contractor who allows his or her contractor registration certificate to expire prior to attempting to renew same, must subsequently apply for a registration certificate as if for the first time.

1.28 BUSINESS REGISTRATION CERTIFICATE (*N.J.S.A.* 52:32-44)

A. Business Registration: All for-profit New Jersey business organizations and foreign business organizations doing business in the State of New Jersey are required to obtain a Business Registration Certificate from the State of New Jersey Department of Treasury, Division of Revenue prior to conducting business in the State of New Jersey. "Business organization" means an individual, partnership, association, joint stock company, trust, corporation, or other legal business entity or successor thereof.

B. Proof of valid business registration with the State of New Jersey Department of Treasury, Division of Revenue shall be submitted by the bidder in the form of a valid Business Registration Certificate prior to the time a contract is awarded. The successful bidder must include proof of its own business registration and proof of the business registrations of those subcontractors required to be listed in the bid pursuant to N.J.S.A. 40A:11-16.

C. 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.

D. For the term of the contract, the contractor and each of its affiliates and each subcontractor and each of its affiliates, as defined in N.J.S.A. 52:32-44, shall collect and remit to the Director, New Jersey Division of Taxation, the sales and/or 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.

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1.29 PAY TO PLAY

A. Pursuant to *N.J.S.A.* 19:44A-20.27, contractors doing business with public entities must file an annual disclosure statement of political contributions with the New Jersey Election Law Enforcement Commission (ELEC) if they receive contracts in excess of $50,000 per year from public entities. Bidders are responsible for determining whether a filing with ELEC is necessary. Additional information on this matter may be obtained from ELEC at 888-313-3532 or at www.elec.state.nj.us.

1.30 PUBLIC INFORMATION

A. Any and all information submitted with or, where permitted by law, submitted subsequent to the bids, will be considered public information subject to disclosure to the public. Submission of a bid will constitute a full wavier by bidder of any right to confidentiality with regard to information that is submitted with the bid or subsequently provided to the UCIA pursuant to the requirements of the bid documents. However, if bidder chooses to include material of a proprietary nature in its bid, the UCIA will attempt to keep such material confidential to the extent permitted by applicable law. The bidder must specifically identify each page of its bid that contains such information by properly marking the applicable pages. Preferably, any sections which contain material of a proprietary nature shall be severable or removable from the bid to assist the UCIA in protecting this information. The bidder shall include the following notice in the introduction of the relevant section:

> *"The data on pages ___ identified by ___ (symbol) and labeled "Proprietary Information," contain information that is a trade secret and/or which, if disclosed, would cause substantial injury to bidder's competitive position. (Insert Name of Bidder) requests that such data be used only for the evaluation of its bid, and understands that disclosure will be limited only to the extent that the UCIA determines it proper or to the extent that the UCIA deems disclosure necessary according to law. If an award is made under this bid, the UCIA will have the right to use or disclose the data as permitted or required by law."*

The UCIA will seek to prevent the unauthorized disclosure of this information in applying the proprietary standard to marked data. However, the UCIA assumes no liability for any loss, damage, or injury that may result from any disclosure or use of marked data or any disclosure of this or other information.

1.31 LIQUIDATED DAMAGES

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 UCIA, the contractor hereby agrees to pay to the UCIA as liquidated damages, but not as a penalty, $1,500 per day for each and every calendar day that contractor is in default on the time to complete the project. Liquidated damages will be deducted from moneys due the contractor and if the damages exceed such amount, the contractor and/or its surety will be liable to pay the excess.

1.32 INSURANCE REQUIREMENTS

The UCIA requires all bidders to comply with the insurance requirements set forth in the Supplementary Condition to the Contract. A certificate of insurance evidencing the required coverage and amounts must be filed with the UCIA at the time of execution of the contract and prior to commencement of any work.

UNION COUNTY IMPROVEMENT AUTHORITY
Warinanco Park Baseball Field Improvements
Roselle, New Jersey

BIDDERS CHECKLIST

BIDDER'S NAME_____

Items 1 through 24 are the forms which must be completed and/or provided in **TRIPLICATE (original and two copies)** with the Bid.

BIDDER MUST INITIAL EACH ENTRY AND SIGN AND DATE THIS FORM.

			Bidder's Initials
1.		This Bidder's Checklist B-1 to B-2	_____
2.		Bid Form, Pages B-3 to B-8	_____
3.	**	Bid Security in the form of Certified Check, Cashier's Check or Bid Bond; see Page B-9	_____
4.	**	Consent of Surety, Page B-10 (See sample Performance/Payment Bond at Page B-11)	_____
5.	**	Ownership Disclosure Statement, Page B-13	_____
6.		Hold Harmless Clause, Page B-15	_____
7.		Non-Collusion Affidavit, Page B-16	_____
8.	**	Acknowledgement of Receipt of Addenda to Bid Documents, Page B-17	_____
9.	**	List of Subcontractors as required by N.J.S.A.40A:11-16, Page B-18	_____
10.	**	~~Certified Financial Statement prepared within last 12 months (See Page B-19)~~ ***(Omitted)***	_____
11.		Public Contractors Registration Act Certificate for Contractor and Subcontractors listed in N.J.S.A.40A:11-16. See N.J.S.A. 34:11-56-48	_____
12.		Business Registration Certificate for Contractor and Subcontractors listed in N.J.S.A. 40A:11-16. See N.J.S.A. 52:32-44; see also Page B-21	_____
13.		Uncompleted Contracts Affidavit, Page B-22	_____
14.		Affirmative Action Compliance, Page B-23	_____
15.		Certificate of Bidder Showing Ability to Perform Contract, Page B-28	_____
16.		Equipment Statement, Page B-29	_____
17.		Americans with Disability Act Language, Page B-30	_____
18.		Statement of Bidder's Qualifications, Page B-32	_____

[Continued on next page]

UNION COUNTY IMPROVEMENT AUTHORITY

Warinanco Park Baseball Field Improvements

Roselle, New Jersey

BIDDERS CHECKLIST (Continued)

BIDDER'S NAME_____

19.	Contractor Performance Record, Page B-35	_____
20.	Affidavit Regarding List of Debarred, Suspended or Disqualified Bidders, Page B-38	_____
21.	Certificate of Insurance Statement, Page B-39	_____
22.	Acknowledgement of PLA, Page B-40	_____
23.	Time of Completion, Page B-72	_____
24.	Agreement for Use of Bid Documents in Electronic Form, Page B-73	_____

** Failure to submit any of these items will result in MANDATORY rejection of the bid; failure to submit with the bid cannot be cured. Failure to submit any of the unstarred items may result in rejection of the bid.

The undersigned hereby acknowledges the above-listed requirements.

NAME OF BIDDER:

_____
Person, Firm, or Corporation

_____
Signature

_____
Title

BID FORM

I/We have carefully examined the all the Bidding Documents for bid for the

Warinanco Park Baseball Field Improvements
Roselle, County of Union, New Jersey

that is on file in the Union County Division of Engineering. The County recommends that the Bidder inspect the site of the Project The Bidder will contract to do all the work and furnish all materials mentioned in Bidding Documents. Work will be accomplished in the manner prescribed therein.

Bid Forms must be completed legibly. 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 Unit Price and Amount of each item on the form must be stated in numerals. In case of a conflict unit prices shall take precedence over total price extensions, and the sum of individual items, including unit prices multiplied by estimated quantities, and/or individual lump sum and/or allowance amounts will take precedence over the Total Bid price.

ITEM NO.	DESCRIPTION	APPROXIMATE QUANTITY	UNIT PRICE DOLLARS CENTS	EXTENDED PRICE DOLLARS CENTS
1	Mobilization	LUMP SUM		
2	Construction signs (If and where ordered)	48 SF		
3	Breakaway barricade (If and where ordered)	3 UN		
4	Drum (If and where ordered)	9 UN		
5	Traffic cone (If and where ordered)	25 UN		
6	Portable variable message sign (If and where ordered)	30 DAY		
7	Traffic director, Municipal police allowance	ALLOWANCE	$10,000.00	$10,000.00
8	Clearing site	LUMP SUM	$15,000.00	$15,000.00
9	Excavation unclassified	6,488 CY		
10	Excavation unclassified, test pit (If and where ordered)	50 CY		
11	Additional quarry dense graded aggregate for earthwork (If and where ordered)	100 CY		
12	Site grading and earthwork including import and disposal of soils	LUMP SUM		
13	Load, haul and dispose of regulated, non-hazardous materials (If and where ordered)	5,000 CY		

ITEM NO.	DESCRIPTION	APPROXIMATE QUANTITY	UNIT PRICE DOLLARS CENTS	EXTENDED PRICE DOLLARS CENTS
14	Dense graded aggregate for pipe trench	635 CY		
15	Coarse aggregate, NJDOT No. 57 stone, storage course, clean and washed	5,767 CY		
16	24" dia. reinforced concrete pipe, class V	231 LF		
17	36" dia. reinforced concrete pipe, class V	18 LF		
18	24" dia. high density polyethylene pipe, smooth wall interior, corrugated	693 LF		
19	6" dia. PVC SDR-35, storm sewer	247 LF		
20	15" dia. perforated high density polyethylene pipe, smooth wall interior, corrugated	1,210 LF		
21	Cleanout, 15" dia., storm sewer	10 UN		
22	Cleanout, 24" dia., storm sewer	1 UN		
23	Manhole, 4' square storm sewer	2 UN		
24	Inlet, Type E	1 UN		
25	Inlet, Type B2 modified, outlet control structure	1 UN		
26	Subsurface detention system, ABT, Inc. Permavoid 85, or approved equal including non-woven geotextile fabric, pipe couplings and connections, and all appurtenances	LUMP SUM		
27	Furnish and install 4' high black vinyl coated chain link fence	1,140 LF		
28	Furnish and install 8' high black vinyl coated chain link fence	405 LF		
29	Furnish and install 4' high by 12' wide black vinyl coated chain link fence double gate	2 UN		
30	Furnish and install 8' high by 5' wide black vinyl coated chain link fence gate	8 UN		
31	Hot mix asphalt sidewalk, 6" thick	10 SY		
32	9" x 16" concrete vertical curb	11 LF		
33	Roadway trench repair	53 SY		

ITEM NO.	DESCRIPTION	APPROXIMATE QUANTITY	UNIT PRICE DOLLARS CENTS	EXTENDED PRICE DOLLARS CENTS
34	Miscellaneous concrete, class B	4 CY		
35	Furnish and install duplex weatherproof GFI receptacle in dugout including all necessary wires, conduits and handholes	2 UN		
36	Furnish and install duplex weatherproof GFI receptacle in shed including all necessary wires, conduits and handholes	1 UN		
37	Furnish and install sports lighting system for synthetic turf baseball field including all system components, infrastructure, and electrical connection materials required to result in a fully operational sports lighting system	LUMP SUM		
38	Topsoiling 4" thick, including fine grading (If and where ordered)	5,625 SY		
39	Fertilizing (If and where ordered)	5,625 SY		
40	Sodding (If and where ordered)	5,625 SY		
41	Furnish and install 5 row x 27' long, non-elevated, galvanized steel/aluminum bleacher including concrete pad and all appurtenances	2 UN		
42	Furnish and install 30' bleacher cover	2 UN		
43	Furnish and install 15' long aluminum player bench with shelf, steel galvanized frame	4 UN		
44	Furnish and install 42' dugout with metal roof and concrete pad	2 UN		
45	Furnish and install top rail fence protection	1,140 LF		
46	Furnish and install one set of removable bases and homeplate	1 UN		
47	Portable pitching mound	1 UN		
48	Outfield distance markers	3 UN		
49	Windscreen fabric	168 LF		

ITEM NO.	DESCRIPTION	APPROXIMATE QUANTITY	UNIT PRICE DOLLARS CENTS	EXTENDED PRICE DOLLARS CENTS
50	25' high multi-sport ballstopper system (If and where ordered)	434 LF		
51	62' Arched backstop with 5' extension including concrete footing, and all appurtenances	1 UN		
52	Furnish and install one set of 20' high permanent foul poles	1 UN		
53	Furnish and install flagpole including concrete footing, and all appurtenances	LUMP SUM		
54	Base construction for synthetic turf including excavation, disposal offsite, impermeable liner, permeable quarry aggregate base layer (9" thick), 12"x12" perimeter curbing, 2"x4" pressure treated wood nailer, 1"x12" composite underdrains	LUMP SUM		
55	Furnish and install synthetic turf baseball field including all field markings and grooming equipment	LUMP SUM		
56	Construction of a fully and completely operational 12'x20' timber shed, including foundation, excavation, materials, appurtenances, utility connections, labor and necessary equipment in accordance with contract documents	LUMP SUM		

UNION COUNTY IMPROVEMENT AUTHORITY
Warinanco Park Baseball Field Improvements
Roselle, New Jersey

Bidder's Name_____

BID FORM (continued from B-6)

Having inspected the site of the Work, the undersigned will furnish all labor, material, equipment and services necessary for the complete construction of the **Warinanco Park Baseball Field Improvements**, as defined in the Bid Documents, for the contract amount indicated below, in strict accordance with the Bid Documents:

BASE BID TOTAL:
(Identified individually for accounting and invoicing purposes)

_____ _____
Words Figures

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

One Hundred and Thousand Dollars $100,000.00
Words Figures

TOTAL BASE BID PLUS CONTINGENCY:

_____ $_____
Words Figures

Further, the undersigned agrees, if awarded the contract, to execute an agreement for the above stated Work on the Standard Form of Agreement Between Owner and Contractor, AIA Document A132 - 2019/Construction Manager as Advisor Edition. The undersigned also agrees, if awarded the contract, that Bidder will pay the UCIA $1,500 per day for each calendar day beyond the completion Date that is set forth in the schedule provided in the Bid Documents.

The undersigned acknowledges that, during the progress of the Work or delivery of the materials to be furnished, two percent (2%) of the contract price shall be retained until said work is fully completed and accepted (including all punch list items, delivery of warranties and submission and acceptance of all contract close out documentation).

The undersigned, acting through its authorized officers and intending to be legally bound, agrees that this bid proposal shall constitute an offer by the undersigned to enter into a contract with the acts and things therein provided, which offer shall be irrevocable for sixty (60) calendar days from the date of opening hereof and that the Owner may accept this offer at any time during said period by notifying the undersigned of the acceptance of said offer.

No member, employee or officer of the Warinanco Park or the Union County Improvement Authority is directly interested in this proposal, or in the supplies or work to which it relates, or to any portion of the profits thereof

UNION COUNTY IMPROVEMENT AUTHORITY

Warinanco Park Baseball Field Improvements
Roselle, New Jersey

Bidder's Name_____

BID FORM (continued from B-7)

The undersigned further agrees to comply with the requirements as to conditions of employment, wage rates, and hours of labor set forth in the contract documents.

NAME OF BIDDER

_____
_____
_____
ADDRESS OF BIDDER

_____
ORIGINAL SIGNATURE OF CORPORATE SECRETARY

_____
PRINT NAME OF CORP. SECTY

[Corporate Seal]

BY:_____
ORIGINAL SIGNATURE

_____
PRINT NAME

_____
TITLE

FAX: _____

E-Mail: _____

Phone: _____

NOTE:

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 on its behalf may also sign the bid documents. **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.

SAMPLE BID BOND FORM

THIS SAMPLE BID BOND CONTAINS LANGUAGE THAT IS ACCEPTABLE TO THE UCIA; ANY LANGUAGE THAT LIMITS THE BID BOND TO THE DIFFERENCE BETWEEN THE BID AMOUNT AND SUCH LARGER AMOUNT FOR WHICH THE UCIA COULD CONTRACT SHALL NOT BE ACCEPTABLE

THIS BOND, made this _____ day of _____, 20__.

WITNESSETH:

KNOW ALL MEN BY THESE PRESENT, that we, the undersigned,
_____, as Principal and
_____ as
Surety, are held firmly bound unto the Union County Improvement Authority, as Owner, in the sum of Ten Percent (10%) of Amount of Bid, but in no case in excess of $20,000, for the payment of which we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

The condition of the above is such that whereas the Principal has submitted to the Union County Improvement Authority a certain Bid, attached hereto and hereby made a part hereof to enter into a contract in writing for
_____.

NOW, THEREFORE,

(a) If said Bid be rejected, or in the alternate,

(b) If said Bid shall be accepted and the Principal shall execute and deliver a contract in the Form of Agreement attached hereto (properly completed in accordance with said Bid), and shall in all other respects perform the agreement created by the acceptance of said Bid,

Then this obligation shall be null and void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligation of said Surety and its bond shall in no way be impaired or affected by an extension of the time within which the Owner may accept such bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the **Principal and the Surety** have hereunto set their hands and seals, and in such of them as are corporations have caused their corporate seals to be hereto affixed and those present to be signed by their proper officers, the day and year first set forth above.

by Principal:_____ **by Surety:**_____

NOTE: POWER OF ATTORNEY OF OFFICERS OF SURETY COMPANY DEMONSTRATING AUTHORITY TO EXECUTE THE BID BOND MUST BE SUBMITTED WITH THE BID BOND.

UNION COUNTY IMPROVEMENT AUTHORITY

Warinanco Park Baseball Field Improvements

Roselle, New Jersey

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 to the Union County Improvement Authority (UCIA) for the Warinanco Park Baseball Field Improvements.

- Alteration and Addition, and if Contractor shall enter into the contract, Surety will become bound as surety for its faithful performance, and 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.

_____

NAME OF SURETY

ADDRESS: _____

_____

_____

By:_____

ORIGINAL SIGNATURE - ATTORNEY-IN-FACT FOR SURETY CO.

NOTE: POWER OF ATTORNEY OF OFFICERS OF SURETY COMPANY DEMONSTRATING AUTHORITY TO EXECUTE THIS DOCUMENT MUST BE SUBMITTED.

SAMPLE PERFORMANCE/PAYMENT/WARRANTY BOND
Consolidated Bond Form

A. **Performance Bond**
B. **Payment of Labor & Material Bond**
C. **1-Year Warranty**

KNOW ALL MEN BY THESE PRESENT THAT WE, the undersigned, _____
_____
_____
_____

as Principal, and_____
as the Surety, are held and firmly bound unto the Union County Improvement Authority, hereinafter called "the Union County Improvement Authority," and as hereinafter set forth, in the full and just several sum of

(a)_____Dollars (_____)

for faithful performance of the contract as designated in Paragraph "A" and

(b)_____Dollars (_____)

for payment of labor and materials as designated in Paragraph "B"

(c)_____Dollars (_____)

to guarantee remedy of defects as designated in Paragraph "C" lawful money of the United States of America, to be paid to the Union County Improvement Authority or its assigns, to which payment well and truly to be made and done, we bond ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

Sealed with our respective seals and dated this _____ day of _____ 20__.

WHEREAS, the above bounden Principal has entered into a contract with the Union County Improvement Authority, bearing even date herewith, for Contract No. _____
_____
_____ upon certain terms and conditions in said contract more particularly mentioned, and:

WHEREAS, it is one of the conditions of the award of the Union County Improvement Authority pursuant to which said contract is about to be entered into, that these presents be executed.

NOW THEREFORE, the joint and several conditions of this obligation are such:

"A" – That if the above bounden Principal as Contractor shall well and faithfully do and perform the things agreed by him to be done and performed according to the terms of the said Contract therein referred to and made a part thereof and such alterations as may be made in said work as therein provided and which are hereby made a part of this Bond the same as though they were set forth herein, and shall indemnify and save harmless the said Union County Improvement Authority and all of its officers, agents and employees from any expenses incurred through the failure of said Contractor and any of its subcontractors to complete the work as specified and for any damages growing out of the manner of performance of said Contract by said Contractor or his subcontractors or his or their agents or servants, including patent, trademark and copyright infringements; then this part of this obligation shall be void; otherwise it shall be and remain in full force and effect.

"B" – That if the above bounden Principal shall and will promptly pay or cause to be paid, all sums of money which may be due any person, co-partnership, association or corporation including any subcontractors for all material furnished and labor supplied or performed in the prosecution of the work, whether or not the said material or labor enter into and become component parts of the work or improvement contemplated, then this obligation shall be void; otherwise it shall be and remain in full force and effect.

"C" – That if the above bounden Principal shall remedy without cost to the said Union County Improvement Authority any defects which may develop during the period of one (1) year from date of completion and acceptance of the work performed under said Contract, provided such defects, in the judgment of the Union County Improvement Authority or its successors, are caused by defective or inferior materials or workmanship, then this obligation shall be void; otherwise it shall be and remain in full force and effect.

It is further agreed that any alterations which may be made in the terms of the contract or in the work to be done or materials to be furnished or labor to be supplied or performed under it or the giving by the Union County Improvement Authority of any extension of time for the performance of the contract or any other forbearance on the part of either the Union County Improvement Authority or the Principal and the Surety or Sureties or either or any of them, their heirs, executors, administrators, successors or assigns, from their liability hereunder, notice to the Surety or Sureties or any such alterations, extension, or forbearance being hereby waived.

The Principal and Surety hereby jointly and severally agree with the obligee herein that every person, co-partnership, association or corporation who, whether as subcontractor or otherwise, has furnished material or supplied or performed labor in prosecution of the work as above provided and who has not been paid therefor, may sue in assumpsit of this bond in the name of the Union County Improvement Authority for his, their, or its use, prosecute the same to final judgment for such sum or sums as may be justly due him, them, or it and have execution thereon; provided, however, that the Union County Improvement Authority shall not be liable for the payment of any costs or expenses of any such suit and further provided that the subcontractors or otherwise shall not have the right to sue or bring action against the Union County Improvement Authority directly.

IN WITNESS WHEREOF, the said Principal and Surety have duly executed this bond under seal the day and year above written.

WITNESS:

_____
(Principal)

_____ BY: _____
(Signature of Principal)

_____
(Type Name and Title of
Principal's Signatory)

_____
(Type Name of Surety Co.)

_____ BY: _____
(Signature of Attorney-in-Fact)

UNION COUNTY IMPROVEMENT AUTHORITY

Warinanco Park Baseball Field Improvements

Roselle, New Jersey

Bidder's Name_____

OWNERSHIP DISCLOSURE STATEMENT

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

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 of all partners/principals owning 10% or more of the undersigned.

OR

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

If a corporation owns all or part of the stock of the corporation or partnership submitting the bid, then the statement shall include a list of the stockholders who own 10% or more of the stock of any class of that owning corporation. If no one owns 10% or more stock, attest to that.

Check the box that represents the type of business organization:

☐Partnership ☐Corporation ☐Sole Proprietorship
☐Limited Partnership ☐Limited Liability Corporation ☐Limited Liability Partnership
☐Subchapter S Corporation

Complete if Bidder is one of the 3 types of corporations:

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

All Bidders:

Sign and notarize the form below, and, if necessary, complete the stockholder list below.

Stockholders/Partners/Principals:

Name: _____ *Name:* _____

Home Address: _____ *Home Address:* _____

[Continued on next page]

UNION COUNTY IMPROVEMENT AUTHORITY

Warinanco Park Baseball Field Improvements

Roselle, New Jersey

Bidder's Name_____

OWNERSHIP DISCLOSURE STATEMENT (Continued from B-13)

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

*Name:*_____

Home Address: _____

_____

Name: _____

Home Address: _____

_____

Name: _____

Home Address: _____

_____

*Name:*_____

Home Address: _____

_____

Name: _____

Home Address: _____

_____

Name: _____

Home Address: _____

_____

NAME OF BIDDER:_____

Subscribed and sworn before me this ___ day of _____ , 20 _

*By:*_____
(Affiant)

. (Notary Public)

_____
(Print name & title of affiant)

My Commission expires:

(Corporate Seal)

UNION COUNTY IMPROVEMENT AUTHORITY

Warinanco Park Baseball Field Improvements

Roselle, New Jersey

Bidder's Name_____

HOLD HARMLESS CLAUSE

A. The Contractor shall indemnify and save harmless the Union County Improvement Authority, the County of Union, their elected and appointed officers, professionals, consultants, agents and employees, including their individual members, and the Engineer and Construction Manager, and their employees and agents (collectively, the "Indemnified Parties"), from and against all losses, claims, demands, payments, suits, actions, recoveries, and judgments of every nature and description brought against or recoverable from the Indemnified Parties, including attorney's fees, by reason of any act or omission of the Contractor, its agents, employees, assigns, subcontractors and any entity acting in the Contractor's behalf and on the Contractor's direction in the execution of any work for the project, and any activities directly or indirectly incidental thereto. This specifically includes any negligence or carelessness of the Contractor in failing to review all plans, specifications, and other documents published by the Indemnified Parties in connection with the preparation and award of the contract.

B. The Contractor shall assume all risk and bear any loss or injury to the property or any person which is caused by Contractor's negligence, including its negligent failure to notify the Indemnified Parties of any dangerous condition requiring the Indemnified Parties' action, during the progress of the work provided for in the contract, including periods when the Contractor is not present on the site, until the work shall have been completed and accepted. The Contractor shall also assume all responsibility for any and all loss by reason of the Contractor's negligence or violation of any local, state, or federal law, regulation, practice, or order. The Contractor shall give the Union County Improvement Authority and all other appropriate authorities all required notices relating to the work provided for in the contract, including all notices of dangerous conditions.

C. The Contractor, in executing the agreement for the work, represents to the Indemnified Parties that the contents of this hold harmless clause have been communicated to its subcontractors and employees and that this representation is made on behalf of both the Contractor and all persons and entities acting in the Contractor's behalf including subcontractors and employees.

_____
Name of Bidder

ATTEST:

_____

By: _____

Print Name: _____

Title: _____

UNION COUNTY IMPROVEMENT AUTHORITY

Warinanco Park Baseball Field Improvements

Roselle, New Jersey

Bidder's Name_____

NON-COLLUSION AFFIDAVIT

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

STATE OF _____)
) **SS:**
COUNTY OF _____)

I _____, of the municipality 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, participated 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 UNION COUNTY IMPROVEMENT AUTHORITY relies upon the truth of the statements contained in said proposal and in the statements contained in this 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 the Bidder, _____ (N.J.S.A. 52:34-15).

_____
NAME OF BIDDER

_____
SIGNATURE

_____
TITLE

NOTE: This Affidavit must be executed by the same person who signed the BID FORM (pages B-3 to B-8).

Subscribed and sworn before me
this _____day of _____, 20____.

_____
Notary Public of the State of _____
My commission expires: _____

UNION COUNTY IMPROVEMENT AUTHORITY

Warinanco Park Baseball Field Improvements

Roselle, New Jersey

Bidder's Name_____

ACKNOWLEDGMENT OF RECEIPT OF ADDENDA

Pursuant to N.J.S.A. 40A:11-23.2(e), 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 UCIA'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

IF NO ADDENDA ISSUED, INSERT "NONE" HERE: _____

ACKNOWLEDGMENT BY BIDDER:

NAME OF BIDDER: _____

SIGNATURE: _____

PRINTED NAME AND TITLE: _____

DATE: _____

UNION COUNTY IMPROVEMENT AUTHORITY

Warinanco Park Baseball Field Improvements

Roselle, New Jersey

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 if bidder is not using any subcontractors, certify below.

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: $_____
Description of Work Subcontracted: _____
_____
License No. _____

Company Name:_____
Address: _____
Telephone: _____ Subcontract Amount: $_____
Description of Work Subcontracted: _____
_____
License No. _____

Company Name:_____
Address: _____
Telephone: _____ Subcontract Amount: $_____
Description of Work Subcontracted: _____
_____
License No. _____

NAME OF BIDDER

_____

Date _____

_____

ADDRESS

By: _____

_____

PRINT NAME AND TITLE

IF MORE THAN THREE SUBCONTRACTORS, PLEASE COPY THIS SHEET AS NECESSARY AND SUBMIT ALL SHEETS WITH BID.

(THIS FORM HAS BEEN DELETED)

UNION COUNTY IMPROVEMENT AUTHORITY

Warinanco Park Baseball Field Improvements

Roselle, New Jersey

Bidder's Name_____

FINANCIAL STATEMENT

as of _____ 2022

NAME_____ RESIDENCE_____

BUSINESS

OCCUPATION_____ ADDRESS_____

OR PROFESSION

I make the following statement of all my assets and liabilities at the close of business on the date indicated above

_____

(Name and Location of Financial Institution)

and give other material information for the purpose of obtaining advances on notes and bills bearing my signature, endorsement guaranty, and for obtaining credit upon present and future applications.

ASSETS		LIABILITIES and NET WORTH	
Cash on Hand	$	Notes Payable to Banks-Unsecured Direct borrowings only	$
Cash in Banks		Notes Payable to Banks-Secured Direct borrowings only	
Notes Receivable		Notes Payable to Others-Unsecured	
Accounts Receivable		Notes Payable to Others-Secured	
Loans Receivable		Accounts Payable	
Life Insurance-Cash Surrender Value (Do not deduct loans)		Loans against Life Insurance	
Securities-Readily Marketable U.S. Govt. & listed on Stock Exchanges		Real Estate Mortgages Payable	
Securities-Not Readily Marketable Unlisted stocks & bonds		Real Estate Taxes & Assessments Payable	
Mortgages Owned		Federal & State Income Taxes	
Real Estate Owned		Other Taxes	
Automobile(s) Registered in own name		Interest Payable on loans, mortgages, etc.	
Other Assets (Itemize)		Brokers Margin Accounts	
		Other Liabilities (Itemize)	
		Net Worth	
TOTAL ASSETS		TOTAL LIABILITIES & NET WORTH	

(THIS FORM HAS BEEN DELETED)

Certification – This is to certify that all the statements contained herein and in any supporting schedules are true and give a correct showing of any financial condition as of the date indicated. I further certify that I had no liabilities, direct or contingent, business or accommodation, except as set forth in this statement, and that the title to all assets therein set forth is in my name: Solely, except as may be otherwise noted. IN THE EVENT OF ANY MATERIAL ADVERSE CHANGE IN MY FINANCIAL CONDITION, I AGREE TO NOTIFY THE FINANCIAL INSTITUTION NAMED HEREIN IMMEDIATELY IN WRITING.

Signed this _____ day of _____, 20_____

_____
(Signature)

NOTE: IF YOU ARE ENCLOSING AN ANNUAL REPORT OR AUDITOR'S REPORT IN CONNECTION WITH YOUR BID IN LIEU OF COMPLETING THE SAMPLE "FINANCIAL STATEMENT" INCLUDED IN THE BID PACKAGE, PLEASE SIGN THE CERTIFICATION STATEMENT LISTED BELOW AND ATTACH TO THE ANNUAL/AUDITOR'S REPORT.

CERTIFICATION: This is to certify that all the statements contained herein and in any supporting schedules are true and give a correct showing of my financial condition as of the date indicated. I further certify that I had no liabilities, direct or contingent, business or accommodation, except as set forth as in my name solely, except as may be otherwise noted.

Signed this_____ day of _____, 2022.

_____
Signature

UNION COUNTY IMPROVEMENT AUTHORITY

Warinanco Park Baseball Field Improvements

Roselle, New Jersey

Bidder's Name_____

BUSINESS REGISTRATION

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.

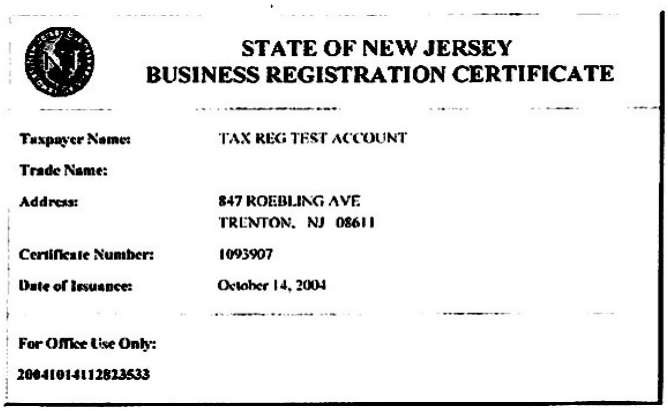
If subcontractors are named on the bid, proof of the business registration for each must be provided prior to the award of a contract. Similarly to the bidder, the proof must show that each subcontractor was registered with the State of New Jersey Department of the Treasury, Division of Revenue and obtained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

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.

STATE OF NEW JERSEY
BUSINESS REGISTRATION CERTIFICATE
FOR STATE AGENCY AND CASINO SERVICE CONTRACTORS
TAXPAYER NAME:
TAX REGISTRATION TEST ACCOUNT
TRADE NAME:
CLIENT REGISTRATION
TAXPAYER IDENTIFICATION#:
SEQUENCE NUMBER:
ADDRESS:
ISSUANCE DATE:
07/14/04
EFFECTIVE DATE:
SAMPLE


STATE OF NEW JERSEY
BUSINESS REGISTRATION CERTIFICATE
Taxpayer Name: TAX REG TEST ACCOUNT
Trade Name:
Address: 847 ROEBLING AVE
TRENTON, NJ 08611
Certificate Number: 1093907
Date of Issuance: October 14, 2004
For Office Use Only:
20041014112823533

ATTACH BRC HERE

UNION COUNTY IMPROVEMENT AUTHORITY

Warinanco Park Baseball Field Improvements

Roselle, New Jersey

Bidder's Name_____

UNCOMPLETED CONTRACTS AFFIDAVIT

PURSUANT TO N.J.A.C. 17:19-2.13, BIDDER DECLARES THE FOLLOWING WITH RESPECT TO ITS UNCOMPLETED CONTRACTS, ON ALL WORK, FROM WHATEVER SOURCE (PUBLIC AND PRIVATE), BOTH IN NEW JERSEY AND FROM OTHER GOVERNMENTAL JURISDICTIONS				
Entity	Project Title	Original Contract Amount	Uncompleted Amount As Of Bid Opening Date	Name and Telephone Number of Party to be Contacted From Entity For Verification

TOTAL AMOUNT OF UNCOMPLETED CONTRACTS $_____

Sworn and Subscribed to Before me
this _____ day of _____, 20_

_____
Notary Public

BIDDER:

_____
(Signature)

_____
(Print Name)

UNION COUNTY IMPROVEMENT AUTHORITY

Warinanco Park Baseball Field Improvements

Roselle, New Jersey

Bidder's Name_____

AFFIRMATIVE ACTION COMPLIANCE

General Requirements of P.L. 1975, c. 127 – The undersigned bidder is hereby put on notice and acknowledges that:

Bidders are required to comply with Affirmative Action / Equal Employment Opportunity law as set forth in N.J.S.A. 10:5-31 *et seq.* and N.J.A.C. 17:27.

In particular, Exhibit B, Mandatory Equal Employment Opportunity Language (Construction Contracts), attached hereto, shall be incorporated into the contract awarded by the UCIA for the construction of the Project.

Additionally, the bidder to whom the contract is awarded shall submit to the UCIA, prior to the signing of the contract, Form AA-201, Initial Project Workforce Report Construction.

Bidders are referred to the State of New Jersey website www.state.nj.us/treasury/contract_compliance for further information and forms regarding AA/EEO laws and regulations.

If the successful contractor does not submit the Initial Project Workforce Report Construction (AA-201) prior to signing of the contract, the UCIA will declare the contractor non-responsive and may award the contract to the next lowest responsible bidder.

_____

NAME OF BIDDER

By: _____

Print Name: _____

Title: _____

Date: _____

(REVISED 4/10)

EXHIBIT B

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 Dept. of LWD, Construction EEO Monitoring Program 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 Dept. of LWD, Construction EEO Monitoring Program is satisfied that the contractor or subcontractor is employing workers provided by a union which provides evidence, in accordance with standards prescribed by the Dept. of LWD, Construction EEO Monitoring Program, 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. l7:27‑7.2. 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:

(l) To notify the public agency compliance officer, the Dept. of LWD, Construction EEO Monitoring Program, 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 Dept. of LWD, Construction EEO Monitoring Program. 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 Dept. of LWD, Construction EEO Monitoring Program, 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 Dept. of LWD, Construction EEO Monitoring Program.

(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 Dept. of LWD, Construction EEO Monitoring Program and submitted promptly to the Dept. of LWD, Construction EEO Monitoring Program 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 Dept. of LWD, Construction EEO Monitoring Program an initial project workforce report (Form AA 201) electronically provided to the public agency by the Dept. of LWD, Construction EEO Monitoring Program, 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 Dept. of LWD, Construction EEO Monitoring Program as may be requested by the Dept. of LWD, Construction EEO Monitoring Program 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 Dept. of LWD, Construction EEO Monitoring Program for conducting a compliance investigation pursuant to **Subchapter l0 of the Administrative Code (NJAC 17:27).**

UNION COUNTY IMPROVEMENT AUTHORITY

Warinanco Park Baseball Field Improvements

Roselle, New Jersey

Bidder's Name_____

CERTIFICATE OF BIDDER SHOWING ABILITY TO PERFORM CONTRACT

STATE OF _____)
) SS:
COUNTY OF _____)

I, _____, of the municipality of _____ _____ in 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 ("Contractor'), and that I executed said proposal with full authority to do so; and that said Contractor, pursuant to N.J.S.A. 40A:11-20, certifies that it owns, leases or controls all the necessary equipment required by the Bid Documents and as set forth on the Equipment Statement.

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

_____
Sworn to and subscribed before me
this _____ day of _____, 20____.

Name of Affiant

_____
Print Name of Affiant

_____
A Notary Public of New Jersey
My Commission Expires:

UNION COUNTY IMPROVEMENT AUTHORITY

Warinanco Park Baseball Field Improvements

Roselle, New Jersey

Bidder's Name_____

EQUIPMENT STATEMENT

The undersigned hereby certifies that Bidder is fully prepared with the necessary capital, material, and machinery to conduct the Work as herein specified and further certifies that the equipment required for the proper execution of this contract in the time specified is available as follows:

LIST EQUIPMENT OWNED BY THE BIDDER:
(Attach additional sheets if necessary)

LIST EQUIPMENT TO BE LEASED BY THE BIDDER FOR THIS JOB:
(Attach additional sheets if necessary)
Include certifications from owner or person in control of equipment, including subcontractor, definitively granting the bidder control of the equipment as may be necessary for the completion of work.

_____ _____
Witness **NAME OF BIDDER**

_____
_____ _____
Date **ADDRESS**

BY: _____

_____
PRINT NAME

_____
TITLE

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

UNION COUNTY IMPROVEMENT AUTHORITY

Warinanco Park Baseball Field Improvements

Roselle, New Jersey

Bidder's Name_____

AMERICANS WITH DISABILITIES ACT
EQUAL OPPORTUNITY FOR INDIVIDUALS WITH DISABILITIES

The Contractor and the Union County Utilities Authority (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 thereunto, 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

AMERICANS WITH DISABILITIES ACT (Continued)

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 of Bidder _____

By:_____
Signature

Print Name: _____

Title:_____

Date _____

UNION COUNTY IMPROVEMENT AUTHORITY

Warinanco Park Baseball Field Improvements
Roselle, New Jersey

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 engaged in construction or contracting business under present firm or trade name?
_____

6. Contracts on hand: (Show gross amount of each Contract and the appropriate dates of Completion)
_____

_____

_____

_____

7. General character of work performed by you._____

_____

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

_____

UNION COUNTY IMPROVEMENT AUTHORITY

Warinanco Park Baseball Field Improvements
Roselle, New Jersey

Bidder's Name_____

STATEMENT OF BIDDER'S QUALIFICATIONS (Continued)

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

_____

_____

10. List your major equipment available for this Contract. (Attach separate sheet, if necessary)

_____

_____

11. Experience in the Construction work similar in importance to this Project.

_____

_____

12. 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.

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

_____

_____

14. Bank Reference. (Name, Address, Phone, Representative) _____

15. Will you, upon request, furnish any other information that may be required by the UCIA?

_____

16. The undersigned hereby authorizes and requests any person, firm or corporation to furnish any information requested by the UCIA in verification of the recitals comprising this Statement of Bidder's Qualifications.

UNION COUNTY IMPROVEMENT AUTHORITY

Warinanco Park Baseball Field Improvements
Roselle, New Jersey

Bidder's Name_____

STATEMENT OF BIDDER'S QUALIFICATIONS (Continued)

17. Bidder's telephone number, fax number and e-mail address.

Phone _____

Fax _____

E-mail_____

Mobile _____

NAME OF BIDDER

_____

By: _____

Print Name: _____

Title: _____

Subscribed and sworn to before me
this _____day of _____, 20____.

_____
Notary Public of New Jersey
My Commission Expires:
_____, 20__.

UNION COUNTY IMPROVEMENT AUTHORITY

Warinanco Park Baseball Field Improvements
Roselle, New Jersey

Bidder's Name_____

CONTRACTOR PERFORMANCE RECORD

How many years has your organization been in business as a Contractor under your present business name? _____.

How many years experience in construction work has your organization had (a) as a general contractor? _____; (b) as a subcontractor? _____.

What is the construction experience of the principal individuals of your organization?

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

Has bidder ever failed to complete any work contracted to you?

If so, where and why? (Attach separate sheet if necessary)

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.

PERFORMANCE RECORD (Continued) List of all contracts completed by you within past 10 years. **Bidder's Name**_____

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

UNION COUNTY IMPROVEMENT AUTHORITY

Warinanco Park Baseball Field Improvements
Roselle, New Jersey

Bidder's Name_____

CONTRACTOR PERFORMANCE RECORD (Continued)

Explanation of details in connection with non-completion of contracts, time extensions, penalties imposed, labor troubles experience, liens, claims and notices filed again contracts listed in preceding item "Performance Record:"

CERTIFICATION

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

_____
(Name of Bidder)

By: _____
(Signature)

_____
(Title)

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

_____
A Notary Public of New Jersey
My Commission Expires: 20__.

UNION COUNTY IMPROVEMENT AUTHORITY

Warinanco Park Baseball Field Improvements
Roselle, New Jersey

Bidder's Name_____

AFFIDAVIT REGARDING LIST OF DEBARRED, SUSPENDED OR DISQUALIFIED BIDDERS

STATE OF NEW JERSEY _____)
) SS:
COUNTY OF _____)

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

_____
Name of Bidder

By:_____
(Signature of Authorized Representative)

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

_____
Notary Public of New Jersey
My Commission Expires: _____, 20____.

UNION COUNTY IMPROVEMENT AUTHORITY

Warinanco Park Baseball Field Improvements
Roselle, New Jersey

Bidder's Name_____

CERTIFICATE OF INSURANCE STATEMENT

The Bidder fully understands the UCIA's insurance requirements as stated in the Bid Documents 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.

NAME OF BIDDER_____

By: _____
(Signature)

Print Name :_____

Title: _____

UNION COUNTY IMPROVEMENT AUTHORITY

Warinanco Park Baseball Field Improvements
Roselle, New Jersey

Bidder's Name_____

ACKNOWLEDGEMENT OF PROJECT LABOR AGREEMENT REQUIREMENTS (PLA)

Bidder, _____, hereby acknowledges that the within Project, upon which the undersigned has submitted a Bid Proposal, requires the execution of a Project Labor Agreement (PLA) and the utilization of union employees. The undersigned, if awarded a contract, agrees to execute the PLA, substantially in the form attached hereto, and comply with all terms and conditions of same in the performance of the Work.

NAME OF BIDDER:_____

Attest:

By:_____

_____

Print Name: _____

Title: _____

PROJECT LABOR AGREEMENT
BY AND BETWEEN
AND
THE UNION COUNTY BUILDING AND
CONSTRUCTION TRADES COUNCIL, AFL-CIO

THIS PROJECT LABOR AGREEMENT dated _____ 20__, by and between_____, located at_____ (the "Contractor"), and the **Union County Building and Construction Trades Council, AFL-CIO** ("BTC"), on behalf of itself and the various local Unions (the Contractor and the BTC are sometimes collectively referred to as the "Parties"):

W I T N E S S E T H:

WHEREAS, the Union County Improvement Authority (the "Authority") has been duly created by ordinance of the Union County Board of County Commissioners as a public body corporate and politic of the State of New Jersey pursuant to and in accordance with the County Improvement Authorities Law, constituting Chapter 183 of the Pamphlet Laws of 1960 of the State, as amended and supplemented from time to time; and

WHEREAS, the Authority authorized bids for the construction pursuant to New Jersey Local Public Contracts Law, N.J.S.A. 40A:11-1 *et seq*. for the Project; and

WHEREAS, on _____, the Authority awarded the bid for the Project to the Contractor; and

WHEREAS, on behalf of itself, and reflecting the objectives of the Library, the Authority desires to provide for the efficient, safe, quality, and timely completion of the Project in a manner designed to afford lower reasonable costs to the Authority, the Library and the public; and

WHEREAS, this Project Labor Agreement ("PLA" or "Agreement") will foster the achievement of these goals, by:

(1) ensuring a reliable source of skilled and experienced labor;
(2) standardizing the terms and conditions governing the employment of labor on the Project;
(3) permitting wide flexibility in work scheduling and shift hours and times; from those which otherwise might obtain;
(4) receiving negotiated adjustments as to work rules and staffing requirements from those which otherwise might obtain;
(5) providing comprehensive and standardized mechanisms for the settlement of work disputes, including those relating to jurisdiction;
(6) avoiding the costly delays of potential strikes, slowdowns, walkouts, picketing and other disruptions arising from work disputes, and promote labor harmony and peace for the duration of the Project.

(7) furthering public policy objectives as to improved employment opportunities for minorities, women and the economically disadvantaged in the construction industry;
(8) expediting the construction process; and,

WHEREAS, the BTC and its local affiliate Unions desire the stability, security and work opportunities afforded by a Project Labor Agreement; and

WHEREAS, the Parties desire to maximize Project safety conditions for both workers and the public;

NOW, THEREFORE, the Parties agree as follows:

ARTICLE 1 - PARTIES TO THE AGREEMENT

This is a Project Labor Agreement entered into by and between the Contractor and the Union County Building and Construction Trades Council, AFL-CIO, on behalf of itself and its affiliates and members, and the applicable local Unions for the performance of work in connection with the Project. The Authority is not a party to this PLA, but is the owner ("Owner") of the Project and is referenced herein in that regard.

ARTICLE 2 - GENERAL CONDITIONS

Section 1. Definitions

Throughout this PLA, the local Unions are referred to singularly and collectively as "the Union(s)." Where specific reference is made to "Local Unions" that phrase is sometimes used. The term "Contractor(s)" shall include the Contractor and all of the Contractor's subcontractors of whatever tier, engaged in on-site Project Work within the scope of this Agreement as defined in Article 3. The Union County Building and Construction Trades Council, AFL-CIO is referenced as the BTC, and the work covered by this Agreement (as defined in Article 3) is referred to as the "Project" or "Project Work."

Section 2. Conditions for Agreement to Become Effective

This PLA shall not become effective unless it is executed by the BTC and the Contractor. It will remain in effect until the completion of the Project.

Section 3. Entities Bound and Administration of Agreement

This Agreement shall be binding on the Contractor and all of the subcontractors performing on-site Project Work. The Contractor shall include in any subcontract for performance during the term of this Agreement, a requirement that their subcontractors, of whatever tier, become bound by this Agreement with respect to subcontracted work performed within the scope of Article 3. This Agreement shall be administered by the Authority.

Section 4. Supremacy Clause

This Agreement, together with the local Collective Bargaining Agreements appended hereto as Schedule A represents the complete understanding of all signatories and supersedes any national agreement, local agreement or other collective bargaining agreement of any type which would otherwise apply to this Project, in whole or in part, except for all work performed under the NTD Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, all instrument calibration work and loop checking shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument an Control Systems Technicians, and the National Agreement of the International Union of Elevator Constructors, with the exception of Article VII, IX and X of this Project Agreement, which shall apply to such work. Where a subject covered by the provisions, explicit or implicit, of this Agreement is also covered by a Schedule, the provisions of this Agreement shall prevail. It is further understood that the Contractor shall not be required to sign any other agreement as a condition of performing work on this Project. No practice, understanding or agreement between the Contractor and Local Unions that is not explicitly set forth in this Agreement shall be binding on this Project unless endorsed in writing by the Authority.

Section 5. Liability

The liability of the Contractor and the liability of the BTC under this Agreement shall be several and not joint. The Authority and the Contractor shall not be liable for any violations of this Agreement by any other Contractor, and the BTC and the applicable Local Unions shall not be liable for any violations of this Agreement by any other union.

Section 6. Non-Liability of Authority

The Authority shall require in its bid specifications for all work within the scope of Article 3 that the successful bidder become a signatory to and bound by this Agreement, and their subcontractors of whatever tier become bound by this Agreement. The Authority is not a party to and shall not be liable in any manner under this Agreement. It is understood that nothing in this Agreement shall be construed as limiting the sole discretion of the Authority in determining which Contractors shall be awarded contracts for Project Work. It is further understood that the Authority has sole discretion at any time to terminate, delay or suspend the work, in whole or part, on this Project.

Section 7. Availability and Applicability to All Successful Bidders

BTC agrees that this Agreement will be made available to, and will fully apply to the successful bidder for the Project who becomes signatory thereto, without regard to whether that successful bidder performs work at other sites on either a union or non-union basis and without regard to whether employees of such successful bidder are, or are not, members of any unions. This Agreement shall not apply to the work of the Contractor performed at any location other than the Project site, as defined in Article 3, Section 1.

ARTICLE 3 - SCOPE OF THE AGREEMENT

The Project Work covered by this Agreement shall be as defined and limited by the following sections of this Article.

Section 1: The Work

The scope of work is confined to the on-site Project Work. This Agreement shall apply to the Project Work set forth and described in the Bid Documents, including the General Terms and Specifications and all attachments thereto. This scope of work may be amended from time to time.

Section 2. Excluded Employees

The following persons are not subject to the provisions of this Agreement, even though performing work on the Project:

Superintendents, supervisors (excluding superintendents and general supervisors and forepersons specifically covered by a craft's Schedule), engineers, inspectors and testers (excluding divers specifically covered by a craft's Schedule), quality control assurance personnel, timekeepers, mail carriers, clerks, office workers, messengers, guards, non-manual employees, and all professional, engineering, administrative and construction management persons;

Employees of the Authority, the CM/Architect/Engineer, the County, the City or any State agency, authority or entity or employees of any municipality or county or other public employer;

Employees and entities engaged in off-site manufacture, modifications, repair, maintenance, assembly, painting, handling or fabrication of Project components, materials, equipment or machinery, unless such offsite operations are covered by the New Jersey Prevailing Wage Act by being dedicated exclusively to the performance of the public works contract or building Project and are adjacent to the site of work, or involved in deliveries to and from the Project site, excepting local deliveries of all major construction materials including fill, ready mix, asphalt and item 4 which are covered by this Agreement;

Employees of the Contractor, excepting those performing manual, on-site Project Work who will be covered by this Agreement;

Employees engaged in on-site equipment warranty;

Employees engaged in geophysical testing (whether land or water) other than boring for core samples;

Employees engaged in laboratory or specialty testing or inspections;

Employees engaged in ancillary Project Work performed by third parties such as electric utilities, gas utilities, telephone utility companies, and railroads.

Section 3. Non-Application To Certain Entities

This Agreement shall not apply to the parents, affiliates, subsidiaries, or other joint or sole ventures of the Contractor that do not perform work at this Project. It is agreed, for the purposes of this Agreement only, that this Agreement does not have the effect of creating any joint employment, single employer or alter ego status among the Authority, and/or the Contractor. The Agreement shall further not apply to any state or county agency, authority, or other municipal or public entity and nothing contained herein shall be construed to prohibit or restrict the Authority or its employees of any other state authority, agency or entity and its employees from performing on or off-site work related to the Project. As the Project Work is completed and accepted, the Agreement shall not have further force or effect on such items or areas except where inspections, additions, repairs, modifications, check-out and/or warranty work are assigned in writing (copy to Local Union involved) by the Contractor for performance under the terms of this Agreement.

ARTICLE 4 - UNION RECOGNITION AND EMPLOYMENT

Section 1. Pre-Hire Recognition

The Contractor recognizes the applicable local Unions as the sole and exclusive bargaining representatives of all craft employees who are performing Project Work within the scope of this Agreement as defined in Article 3.

Section 2. Union Referral

A. The Contractor agrees to hire craft employees covered by this Agreement through the job referral systems and hiring halls (where the referrals meet the qualifications set forth in items 1, 2, and 4 subparagraph B) established in the Local Unions' area collective bargaining agreements (attached as Schedules A and B to this Agreement).

Notwithstanding this, the Contractors shall have sole rights to determine the competency of all referrals; the number of employees required (except with regard to pile driving); the selection of employees to be laid-off (subject to the applicable procedures in Schedules A and B) for permanent and/or temporary layoffs and except as provided in Article 5, Section 3); and the sole right to reject any applicant referred by a Local Union, subject to the show-up payments required in the applicable Schedule. In the event that a Local Union is unable to fill any request for qualified employees within a 48-hour period after such requisition is made by the Contractor (Saturdays, Sundays, and holidays excepted), the Contractor may employ qualified applicants from another competent source. In the event that the Local Union does not have a job referral system, the Contractor shall give the Local Union first preference to refer applicants, subject to the other provisions of this Article. The Contractor shall notify the Local Union of the craft employees hired within its jurisdiction from any source other than referral by the Union.

B. Following the employment of the first employee in each craft under Schedule A or the procedure set forth above in paragraph A, the Contractor may request by name, and the Local will honor, referral of persons who have applied to the Local for Project Work and who meet the following qualifications as determined by a Committee comprised of the applicable Local Union, the BTC, and a mutually selected third party or, in the absence of agreement, the permanent arbitrator (or designee) designated in Article 7:

(1) possess any license required by New Jersey law for Project Work to be performed;

(2) have worked a total of at least 1000 hours in the Construction craft during the prior 3 years;

(3) were on the Contractor's active payroll for at least 60 out of the 180 calendar days prior to the contract award;

(4) have demonstrated ability to safely perform the basic function of the applicable trade.

No more than 12 percent of the employees covered by this Agreement, per Contractor by craft, shall be hired through the special provisions above (any fraction shall be rounded to the next highest whole number).

C. A certified MBE/WBE contractor may request from the Workforce Coordinator an exception to, and waiver of, the above per centum limitation upon the number of its employees to be hired through the special provision of Section 2.B above. This exception is based upon hardship and demonstration by the contractor that the Project Work would be the contractor's only job and that it would be obliged to lay off qualified minority and female employees in its current workforce moving from the last job.

The exception and waiver are also conditioned upon the employees meeting the qualifications as set forth in Section 2.B above.

Section 3. Non-Discrimination in Referrals

The BTC, on behalf of its affiliates and local Unions, represents that the various hiring halls and referral systems will be operated in a non-discriminatory manner and in full compliance with all applicable federal, state and local laws and regulations, which require equal employment opportunities. Referrals shall not be affected in any way by the rules, regulations, bylaws, constitutional provisions or any other aspects or obligations of union membership, policies or requirements and shall be subject to such other conditions as are established in this Article. No employment applicant shall be discriminated against by any referral system or hiring hall because of the applicant's union membership, or lack thereof.

Section 4. Minority And Female Referrals

In the event a Union either fails, or is unable, to refer qualified minority or female applicants in percentages equaling Project affirmative action goals as set forth in the bid specifications, the Contractor may employ qualified minority or female applicants from any other available source as Apprentice Equivalents. Apprentice Equivalents will have completed a DOL approved training program, applied to take a construction Apprenticeship test, and will be paid at not less than the applicable equivalent Apprentice rate. With the approval of the Local Administrative Committee (LAC), experience in construction related areas may be accepted as meeting the above requirements.

Section 5. Cross And Qualified Referrals

The Unions shall not knowingly refer to the Contractor an employee then employed by another Contractor working under this Agreement. The Local Unions will exert their utmost efforts to recruit sufficient numbers of skilled and qualified craft employees to fulfill the requirements of the Contractor.

Section 6. Union Dues/Working Assessments

All employees covered by this Agreement shall be subject to the union security provisions contained in the applicable Schedule local agreements, as amended from time to time, but only for the period of time during which they are performing on-site Project Work and only to the extent of rendering payment of the applicable union dues and assessments uniformly required for union membership in the Local Union, which represents the craft in which the employee is performing Project work. No employee shall be discriminated against at the Project site because of the employee's union membership or lack thereof. In the case of unaffiliated employees, the dues payment can be received by the Unions as a working assessment fee.

Section 7. Craft Forepersons and General Forepersons

The selection of craft forepersons and/or general forepersons and the number of forepersons required shall be solely the responsibility of the Contractor except where otherwise provided by specific provisions of an applicable Schedule. All forepersons shall take orders exclusively from the designated Contractor representatives. Craft forepersons shall be designated as working forepersons at the request of the Contractor, except when an existing local Collective Bargaining Agreement prohibits a foreperson from working when the craftspersons he is leading exceed a specified number.

ARTICLE 5 - UNION REPRESENTATION

Section 1. Local Union Representative

Each Local Union representing on-site Project employees shall be entitled to designate, in writing (copy to Contractor), one representative, and the Business Manager, who shall be afforded access to the Project.

Section 2. Stewards

A. Each Local Union shall have the right to designate a working journey person as a Steward and an alternate, and shall notify the Contractor of the identity of the designated Steward (and alternate) prior to the assumption of such duties. Stewards shall not exercise supervisory functions and will receive the regular rate of pay for their craft classifications. There will be no non-working Stewards on the Project.

B. In addition to their work as an employee, the Steward shall have the right to receive complaints or grievances and to discuss and assist in their adjustment with the Contractor's appropriate supervisor. Each Steward shall be concerned with the employees of the Steward's Contractor and, if applicable, subcontractors of that Contractor, but not with the employees of any other Contractor. The Contractor will not discriminate against the Steward in the proper performance of Union duties.

C. The Stewards shall not have the right to determine when overtime shall be worked, or who shall work overtime, except pursuant to a Schedule provision providing procedures for the equitable distribution of overtime.

Section 3. Layoff of a Steward

Contractors agree to notify the appropriate Union, 24 hours prior to the layoff of a Steward, except in cases of discipline or discharge for just cause. If a Steward is protected against layoff by a Schedule, such provisions shall be recognized to the extent the Steward possesses the necessary qualifications to perform the work required. In any case in which a Steward is discharged or disciplined for just cause, the Local Union involved shall be notified immediately by the Contractor.

ARTICLE 6 - MANAGEMENTS RIGHTS

Section 1. Reservation of Rights

Except as expressly limited by a specific provision of this Agreement, the Contractor retains full and exclusive authority for the management of the Project operations including, but not limited to: the right to direct the work force, including determination as to the number to be hired and the qualifications therefore; the promotion, transfer, layoff of its employees; or the discipline or discharge for just cause of its employees; the assignment and schedule of work; the promulgation of reasonable Project work rules; and, the requirement, timing and number of employees to be utilized for overtime work. No rules, customs, or practices, which limit or restrict productivity or efficiency of the individual, as determined by the Contractor and/or joint working efforts with other employees shall be permitted or observed.

Section 2. Materials, Methods & Equipment

There shall be no limitations or restriction upon the contractors' choice of materials, techniques, methods, technology or design, or, regardless of source or location, upon the use and installation of equipment, machinery, package units, pre-cast, pre-fabricated, pre-finished, or pre-assembled materials, tool, or other labor-saving devices. Contractors may, without restriction, install or use materials, supplies or equipment regardless of their source. The on-site installation or application of such items shall be performed by the craft having jurisdiction over such work; provided, however, it is recognized that other personnel having special qualifications may participate, in a supervisory capacity, in the installation, check-out or testing of specialized or unusual equipment or facilities as designated by the Contractor. Notwithstanding the foregoing statement of contractor rights, prefabrication issues relating to work traditionally performed at the job site shall be governed pursuant to the terms of the applicable Schedule. There shall be no restrictions as to work, which is performed off-site for the Project, except for 1) offsite operations work covered under the New Jersey Prevailing Wage Act or 2) done in a fabrication center, tool yard, or batch plant dedicated exclusively to the performance of work on the Project, and located adjacent to the "site of work."

ARTICLE 7 - WORK STOPPAGES AND LOCKOUTS

Section 1. No Strikes-No Lockout

There shall not be strikes, sympathy strikes, picketing, work stoppages, slowdowns, hand billing, demonstrations or other disruptive activity at the Project for any reason by any Union or employee against the Contractor or employer while performing work at the Project. There shall be no other Union, or concerted or employee activity which disrupts or interferes with the operation of the existing free flow of traffic in the Project area. Failure of any Union or employee to cross any picket line established by any union, signatory or non-signatory to this Agreement, or the picket or demonstration line of any other organization, at or in proximity to the Project site is a violation of this Article. There shall be no lockout at the Project by the Contractor. The Contractor and Unions shall take all steps necessary to ensure compliance with this Section 1 and to ensure uninterrupted construction and the free flow of traffic in the Project area for the duration of this Agreement.

Section 2. Discharge for Violation

The Contractor may discharge any employee for violating Section 1 above, and any such employee will not be eligible thereafter for referral under this Agreement for a period of 100 days.

Section 3. Notification

If the Contractor contends that any Union has violated this Article, it will notify the appropriate district or area council of the Local Union involved advising of such fact, with copies of the notification to the Local Union and the BTC. The district or area council, and the BTC shall each instruct, order and otherwise use their best efforts to cause the employees, and/or the Local Unions to immediately cease and desist from any violation of this Article. A district or area council, or the BTC complying with these obligations shall not be liable for the unauthorized acts of a Local Union or its members.

Section 4. Expedited Arbitration

The Contractor or Union alleging a violation of Section 1 of this Article may utilize the expedited procedure set forth below (in lieu of, or in addition to, any actions at law or equity) that may be brought.

A. A party invoking this procedure shall notify J.J. Pierson Jr, Esq., at 51 JFK Parkway, First Floor West, Short Hills, New Jersey 07078, telephone number (973) 359-8100, fax number (973) 359-8161 ,who shall serve as Arbitrator under this expedited arbitration procedure. In the event that J.J. Pierson is unable to serve, a party invoking this procedure shall notify Gary Kendellen, who shall serve as arbitrator under this expedited procedure. Copies of such notification will be simultaneously sent to the alleged violator and, if a Local Union is alleged to be in violation, it's International, the Owner, the GC, and the BTC.

B. The Arbitrator shall thereupon, after notice as to time and place to the Contractor, the Local Union involved, the BTC, and the Authority, hold a hearing within 48 hours of receipt of the notice invoking the procedure it is contended that the violation still exists. The hearing will not, however, be scheduled for less than 24 hours after the notice to the district or area council required by Section 3 above.

C. All notices pursuant to this Article may be by telephone, telegraph, hand delivery, or fax, confirmed by overnight delivery, to the arbitrator, Contractor or Local Union involved. The hearing may be held on any day including Saturdays or Sundays. The hearing shall be completed in one session, which shall not exceed 8 hours duration (no more than 4 hours being allowed to either side to present their case, and conduct their cross examination) unless otherwise agreed. A failure of any Union or Contractor to attend the hearing shall not delay the hearing of evidence by those present or the issuance of an award by the Arbitrator.

D. The sole issue at the hearing shall be whether a violation of Section 1, above, occurred. If a violation is found to have occurred, the Arbitrator shall issue a Cease and Desist Award restraining such violation and serve copies on the Contractor and Union involved. The Arbitrator shall have no authority to consider any matter in justification, explanation or mitigation of such violation or to award damages, which issue is reserved solely for court proceedings, if any. The Award shall be issued in writing within 3 hours after the close of the hearing, and may be issued without an Opinion. If any involved party desires an Opinion, one shall be issued within 15 calendar days, but its issuance shall not delay compliance with, or enforcement of, the Award.

E. An Award issued under this procedure may be enforced by any court of competent jurisdiction upon the filing of the Agreement together with the Award. Notice of the filing of such enforcement proceedings shall be given to the Union or Contractor involved. In any court proceeding to obtain a temporary or preliminary order enforcing the arbitrator's Award as issued under this expedited procedure, the involved Union and Contractor waive their right to a hearing and agree that such proceedings may be ex parte, provided notice is given to opposing counsel. Such agreement does not waive any party's right to participate in a hearing for a final court order of enforcement or in any contempt proceeding.

F. Any rights created by statue or law governing arbitration proceedings which are inconsistent with the procedure set forth in this Article, or which interfere with compliance thereto, are hereby waived by the Contractor and the Local Unions to whom they accrue.

G. The fees and expenses of the Arbitrator shall be equally divided between the Contractor and Local Union.

Section 5. Arbitration of Discharges for Violation

Procedures contained in Article 9 shall not be applicable to any alleged violation of this Article, with the single exception that an employee discharged for violation of Section 1, *supra*, may have recourse to the procedures of Article 9 to determine if the employee did, in fact, violate the provisions of Section 1 of this Article; but not for the purpose of modifying the discipline imposed where a violation is found to have occurred.

ARTICLE 8. - LOCAL ADMINISTRATIVE COMMITTEE (LAC)

Section 1. The Local Administrative Committee

The local administrative committee will meet on a regular basis to:

(1) Implement and oversee the Agreement procedures and initiatives;
(2) Monitor the effectiveness of the Agreement; and
(3) Identify opportunities to improve efficiency and work execution.

Section 2. Composition

The LAC will be co-chaired by the President of the BTC or his designee, and a designated official of the Authority. It will be comprised of representatives of the applicable Local Unions to this Project and representatives of the Contractor.

ARTICLE 9 - GRIEVANCE & ARBITRATION PROCEDURE

Section 1. Procedure for Resolution of Grievances

Any question, dispute or claim arising out of, or involving the interpretation or application of this Agreement (other than jurisdictional disputes or alleged violations of Article 7, Section 1) shall be considered a grievance and shall be resolved pursuant to the exclusive procedure of the steps described below; provided, in all cases, that the question, dispute or claim arose during the term of this Agreement.

Step 1:

(a) When any employee covered by this Agreement feels aggrieved by a claimed violation of this Agreement, the employee shall, through the Local Union business representative or job steward give notice of the claimed violation to the work site representative of the Contractor. To be timely, such notice of the grievance must be given within 7 calendar days after the act, occurrence, or event giving rise to the grievance, or after the act, occurrence or event became known or should have become known to the Union. The business representative of the Local Union or the job steward and the work site representative of the Contractor shall meet and endeavor to adjust the matter within 7 calendar days after timely notice has been given. If they fail to resolve the matter within the prescribed period, the grieving party, may, within 7 calendar days thereafter, pursue Step 2 of the grievance procedure by serving the Contractor and the Authority with written copies of the grievance setting forth a description of the claimed violation, the date on which the grievance occurred, the provisions of the Agreement alleged to have been violated. Grievances and disputes settled at Step 1 are non-precedential except as to the specific Local Union, employee and Contractor directly involved, unless the settlement is accepted in writing, by the Local Union, as creating a precedent.

(b) Should any party or party affiliate to this Agreement have a dispute (excepting jurisdictional disputes or alleged violations of Article 7, Section 1) with any other party or party affiliate to this Agreement and, if after conferring, a settlement is not reached within 7 calendar days, the dispute shall be reduced to writing and proceed to Step 2 in the same manner as outlined in subparagraph (a) for the adjustment of employee grievances.

Step 2:

The Business Manager or designee of the Local Union, together with representatives of the BTC, the Contractor, and the Authority shall meet in Step 2 within 5 calendar days of the written grievance to arrive at a satisfactory settlement.

Step 3:

(a) If the grievance shall have been submitted but not resolved in Step 2, any of the participating Step 2 entities may, within 14 calendar days after the initial Step 2 meeting, submit the grievance in writing (copies to other participants) to the next available arbitrator of the panel of arbitrators consisting of J.J. Pierson Jr., Esq., Gary Kendellen and Wellington Davis, who shall serve as arbitrator under this expedited procedure. The Labor Arbitration Rules of the American Arbitration Association shall govern the conduct of the arbitration hearing, at which all Step 2 participants shall be parties.

(b) Failure of the grieving party to adhere to the time limits set forth in this Article shall render the grievance null and void. These time limits may be extended only by written consent of the Contractor and the Local Union at the particular step where the extension is agreed upon. The Arbitrator shall have authority to make decisions only on the issues presented to him and shall not have the authority to change, add to, delete or modify any provision of this Agreement.

Section 2. Limitation as to Retroactivity

No arbitration decision or award may provide retroactivity of any kind exceeding 30 calendar days prior to the date of service of the written grievance on the Contractor or Local Union.

Section 3. Participation by General Contractor

The Authority shall be notified by the Contractor of all actions at Steps 2 and 3 and, at its election, may participate in full in all proceedings at these Steps, including Step 3 arbitration.

ARTICLE 10 - JURISDICTIONAL DISPUTES

Section 1. No Disruptions

There will be no strikes, sympathy strikes, work stoppages, slowdowns, picketing or other disruptive activity of any kind arising out of any jurisdictional dispute. Pending the resolution of the dispute, the work shall continue uninterrupted and as assigned by the Contractor. No jurisdictional dispute shall excuse a violation of Article 7.

Section 2. Assignment

A. There shall be a mandatory pre-job markup/assignment meeting prior to the commencement of any work. Attending such meeting shall be designated representatives of the applicable Local Union and the Contractor. Best efforts will be made to schedule the pre-job meeting in a timely manner before Notice to Proceed is issued but not later than 7 days prior to the start of the Project.

B. Project construction work assignments shall be made by the Contractor according criteria set forth in Section 3, Subsection D 1-3.

C. When a Contractor has made an assignment of work, he shall continue the assignment without alteration unless otherwise directed by an arbitrator or there is agreement between the National and International Unions involved. Claims of a change of original assignment shall be processed in accordance with Article I of the Procedural Rules of the Plan for the Settlement of Jurisdictional Disputes in the Construction Industry ("the Plan").

D. In the event that a Union involved in the change of original assignment dispute is an affiliate of a National or International Union that is not affiliated with the Building and Construction Trades Department and does not wish to process a case through the Plan, the parties shall mutually select one of the following Arbitrators: Arbitrator J.J. Pierson, Arbitrator Paul Greenberg or Arbitrator John McMahon and submit the dispute directly to the Arbitrator. The selected Arbitrator shall determine whether the case requires a hearing or may be decided upon written submissions. In rendering his determination on whether there has been a change of original assignment, the Arbitrator shall be governed by the following:

1. The contractor who has the responsibility for the performance and installation shall make a specific assignment of the work which is included in his contract to a particular union(s). For instance, if contractor A subcontracts certain work to contractor B, then contractor B shall have the responsibility for making the specific assignments for the work included in his contract. If contractor B, in turn, shall subcontract certain work to contractor C, then contractor C shall have the responsibility for making the specific assignment for the work included in his contract. After work has been so assigned, such assignment will be maintained even though the assigning contractor is replaced and such work is subcontracted to another contractor. It is a violation of the Agreement for the contractor to hold up disputed work or shut down a project because of a jurisdictional dispute.

2. When a contractor has made an assignment of work, he shall continue the assignment without alteration unless otherwise directed by an arbitrator or there is agreement between the National or International Unions involved.

   a. Unloading and/or handling of materials to stockpile or storage by a trade for the convenience of the responsible contractor when his employees are not on the job site, or in an emergency situation, shall not be considered to be an original assignment to that trade.

   b. Starting of work by a trade without a specific assignment by an authorized representative of the responsible contractor shall not be considered an original assignment to that trade, provided that the responsible contractor, or his authorized representative, promptly, and, in any event, within eight working hours following the start of work, takes positive steps to stop further unauthorized performance of the work by that trade.

Section 3. Procedure for Settlement of Disputes

A. Any Union having a jurisdictional dispute with respect to Project work assigned to another Union will submit through its International the dispute in writing to the Administrator of the Plan within 72 hours and send a copy of the letter to the other Union involved, the Contractor involved, the General Contractor, the BTC, and the district or area councils of the unions involved. Upon receipt of a dispute letter from any Union, the Administrator will invoke the procedures set forth in the Plan to resolve the jurisdictional dispute. The jurisdictional dispute letter shall contain the information described in Article IV of the Procedural Rules of the Plan.

B. Within 5 calendar days of receipt of the dispute letter, there shall be a meeting of the General Contractor, the Contractor involved, the Local Unions involved and designees of the BTC and the district or area councils of the Local Unions involved for the purpose of resolving the jurisdictional dispute.

C. In order to expedite the resolution of jurisdictional disputes, the parties have agreed in advance to mutually select one of the following designated Arbitrators: Arbitrator J.J.Pierson, Arbitrator Paul Greenberg or Arbitrator John McMahon to hear all unresolved jurisdictional disputes arising under this Agreement. All other rules and procedures of the Plan shall be followed. If none of the three Arbitrators is available to hear the dispute within the time limits of the Plan, the Plan's arbitrator selection process shall be utilized to select another arbitrator.

D. In the event that a Union involved in the dispute is an affiliate of a National or International Union that is not affiliated with the Building and Construction Trades Department and does not wish to process a case through the Plan as described in paragraphs A-C above, the parties to the dispute shall mutually select one of the following Arbitrators: Arbitrator J. J. Pierson, Arbitrator Paul Greenberg or Arbitrator John McMahon to hear the dispute and shall submit the dispute directly

to the selected arbitrator. The time limits for submission and processing disputes shall be the same as provided elsewhere in this Section. The selected Arbitrator shall schedule the hearing within seven business days from the date of submission. If he cannot hear the case within the required timeframe, one of the other Arbitrators will be selected to hear the case unless all parties to the dispute agree to waive the seven day time limit. In rendering his decision, the Arbitrator shall determine:

1. First whether a previous agreement of record or applicable agreement, including a disclaimer agreement, between the National and International Unions to the dispute governs;

2. Only if the Arbitrator finds that the dispute is not covered by an appropriate or applicable agreement of record or agreement between the crafts to the dispute, he shall then consider the established trade practice in the industry and prevailing practice in the locality. Where there is a previous decision of record governing the case, the Arbitrator shall give equal weight to such decision of record, unless the prevailing practice in the locality in the past ten years favors one craft. In that case, the Arbitrator shall base his decision on the prevailing practice in the locality. Except, that if the Arbitrator finds that a craft has improperly obtained the prevailing practice in the locality through raiding, the undercutting of wages or by the use of vertical agreements, the Arbitrator shall rely on the decision of record and established trade practice in the industry rather than the prevailing practice in the locality.

3. Only if none of the above criteria is found to exist, the Arbitrator shall then consider that because efficiency, cost or continuity and good management are essential to the well being of the industry, the interests of the consumer or the past practices of the employer shall not be ignored.

   The Arbitrator shall set forth the basis for his decision and shall explain his findings regarding the applicability of the above criteria. If lower-ranked criteria are relied upon, the Arbitrator shall explain why the higher-ranked criteria were not deemed applicable. The Arbitrator's decision shall only apply to the job in dispute.

   Each party to the arbitration shall bear its own expense for the arbitration and agrees that the fees and expenses of the Arbitrator shall be borne by the losing party or parties as determined by the Arbitrator.

E. The Arbitrator shall render a short-form decision within 5 days of the hearing based upon the evidence submitted at the hearing, with a written decision to follow within 30 days of the close of hearing.

F. This Jurisdictional Dispute Resolution Procedure will only apply to work performed by Local Unions that represent workers employed on the Project.

G. Any Local Union involved in a jurisdictional dispute on this Project shall continue working in accordance with Section 2 above and without disruption of any kind.

Section 4. Award

Any award rendered pursuant to this Article and the Plan shall be final and binding on the disputing Local Unions and the involved Constructor on this Project only and may be enforced in accordance with the provisions of Article VII of the Plan. Any award rendered pursuant to the alternate procedures of this Article shall be final and binding on the disputing Local Unions and the involved Contractor on this Project only, and may be enforced in any court of competent jurisdiction. Such award or resolution shall not establish a precedent on any other construction work not covered by this Agreement. In all disputes under this Article, the General Contractor and the involved Contractors shall be considered parties in interest.

Section 5. Limitations

The Jurisdictional Dispute Arbitrator shall have no authority to assign work to a double crew, that is, to more employees than the minimum required by the Contractor to perform the work involved; nor to assign work to employees who are not qualified to perform the work involved; not to assign work being performed by non-union employees to union employees. This does not prohibit the establishment, with the agreement of the Contractor, of composite crews where more than one employee is needed for the job. The aforesaid determinations shall decide only to whom the disputed work belongs.

Section 6. No Interference with Work

There shall be no interference or interruption of any kind with the Project Work while any jurisdictional dispute is being resolved. The Project Work shall proceed as assigned by the Contractor until finally resolved under the applicable procedure of this Article. The award shall be confirmed in writing to the involved parties. There shall be no strike, work stoppage or interruption in protest of any such award.

ARTICLE 11 - WAGES AND BENEFITS

Section 1. Classification and Base Hourly Rate

All employees covered by this Agreement shall be classified in accordance with the work performed and paid the base hourly wage rates for those classifications as specified in the attached Schedules, as amended during this Agreement. Recognizing, however, that special conditions may exist or occur on the Project, the Parties, by mutual agreement may establish rates and/or hours for one or more classifications, which may differ from Schedules. Parties to such agreements shall be the Contractor, the Local Unions, and the BTC.

Section 2. Employee Benefit Funds

A. The Contractor agrees to pay contributions on behalf of all employees covered by this Agreement to the established employee benefit funds in the amounts designated in the appropriate Schedule; provided, however, that the Contractor and the BTC agree that only such bona fide employee benefits as are explicitly required under N.J.S.A 34:11-56.30 of the New Jersey State Labor Law shall be included in this requirement and paid by the Contractor on this Project. Bona fide jointly trusted fringe benefit plans established or negotiated through collective bargaining during the life of this Agreement may be added if similarly protected under N.J.S.A. 34:11-56-30. The Contractor shall not be required to contribute to non-N.J.S.A 34:11-56.30 benefits, trusts or plans.

B. The Contractor agrees to be bound by the written terms of the legally established Trust Agreements specifying the detailed basis on which payments are to be paid into, and benefits paid out of, such Trust Funds but only with regard to work done on this Project and only for those employees to whom this Agreement requires such benefit Payments.

C. Should the Contractor or sub-contractor become delinquent in the payment of contributions to the fringe benefit funds, then the subcontractor at the next higher tier, or upon notice of the delinquency claim from the Union or the Funds, agrees to withhold from the subcontractor such disputed amount from the next advance, or installment payment for work performed until the dispute has been resolved.

ARTICLE 12 - HOURS OF WORK, PREMIUM PAYMENTS, SHIFTS AND HOLIDAYS

Section 1. Work Week and Work Day

A. The standard work week shall consist of 40 hours of work at straight time rates per one of the following schedules:

(1) Five-Day Work Week: Monday-Friday, 5 days, 8 hours plus 1/2 hour unpaid lunch period each day.
(2) Four-Day Work Week: Monday-Thursday; 4 days, 10 hours plus 1/2 hour unpaid lunch period each day.

B. The Day Shift shall commence between the hours of 6:00 a.m. and 9:00 a.m. and shall end between the hours of 2:30 p.m. and 7:30 p.m. Starting and quitting times shall occur at the employees' place of work as may be designated by the Contractor.

C. Scheduling - The Contractor shall have the option of scheduling either a five-day work week, or four-day work week (when mutually agreed upon on a craft-by-craft basis). The Contractor shall also have the option to set the workday hours consistent with Project requirements, the Project schedule, and minimization of interference with City operations traffic flow. When conditions beyond the control of the

Contractor, such as severe weather, power failure, fire or natural disaster, prevent the performance of Project work on a regularly scheduled work day, the Contractor may, with mutual agreement of the Local Union on a craft-by-craft basis, schedule Friday (where on 4, 10's) during the calendar week in which a workday was lost, pursuant to Schedule A; providing the employees involved work a total of 40 hours or less during that work week.

D. Notice – The Contractor shall provide not less than 5 days prior notice to the Local Union involved as to the work week and work hours schedules to be worked or such lesser notice as may be mutually agreed upon.

Section 2. Overtime

Overtime pay for hours outside of the standard work week and work day, described in paragraph A above, shall be paid in accordance with the applicable Schedule. There will be no restriction upon the Contractor's scheduling of overtime or the non-discriminatory designation of employees who shall be worked, except as noted in Article 5**,** Section 2. There shall be no pyramiding of overtime pay under any circumstances. The Contractor shall have the right to schedule work so as to minimize overtime.

Section 3. Shifts

A. Flexible Schedules - Scheduling of shift work shall remain flexible in order to meet Project schedules and existing Project conditions including the minimization of interference with City operations. It is not necessary to work a day shift in order to schedule a second shift. Shifts must be worked a minimum of five consecutive work days, must have prior approval of the CM and must be scheduled with not less than five work days notice to the Local Union.

B. Second/Shift - The second shift (starting between 2 p.m. and 8 p.m.) shall consist of 8 hours work (or 10 hours of work) for an equal number of hours pay at the straight time rate plus 15% in lieu of overtime and exclusive of a 1/2 hour unpaid lunch period.

C. Flexible Starting Times - Shift starting times will be adjusted by the Contractor as necessary to fulfill Project requirements subject to the notice requirements of paragraph A.

D. Four Tens - When working a four-day work week, the standard work day shall consist of 10 hours work for 10 hours of pay pursuant to Schedule A exclusive of an unpaid 1/2 hour meal period and regardless of the starting time. This provision is applicable to night shifts only, and such night shifts are subject to the shift differential in paragraph B above.

E. It is agreed that when Project circumstances require a deviation from the above shifts, the involved unions, Contractor and the CM shall adjust the starting times of the above shifts or establish shifts which meet the Project requirements. It is agreed that neither party will unreasonably withhold their agreement.

Section 4. Holidays

A. Schedule - There shall be 8 recognized holidays on the Project:

New Years Day	Labor Day
Presidents Day	Veterans Day
Memorial Day	Thanksgiving Day
Fourth of July	Christmas Day

*Work shall be scheduled on Good Friday pursuant to the craft's Collective Bargaining Agreement.

All said holidays shall be observed on the dates designated by New Jersey law. In the absence of such designations, they shall be observed on the calendar date except those holidays which occur on Sunday shall be observed on the following Monday. Holidays falling on Saturday are to be observed on the preceding Friday.

B. Payment - Regular holiday pay, if any, and/or premium pay for work performed on such a recognized holiday shall be in accordance with the applicable Schedule.

C. Exclusivity - No holidays other than those listed in Section 4-A above shall be recognized nor observed except in Presidential Election years when Election Day is a recognized holiday.

Section 5. Reporting Pay

A. Employees who report to the work location pursuant to regular schedule and who are not provided with work or whose work is terminated early by the Contractor, for whatever reason, shall receive minimum reporting pay in accordance with the applicable Schedule.

B. When an employee, who has completed their scheduled shift and left the Project site, is "called back" to perform special work of a casual, incidental or irregular nature, the employee shall receive pay for actual hours worked with a minimum guarantee, as may be required by the applicable Schedule.

C. When an employee leaves the job or work location of their own volition or is discharged for cause or is not working as a result of the Contractor's invocation of Section 7 below, they shall be paid only for the actual time worked.

D. Except as specifically set forth in this Article there shall be no premiums, bonuses, hazardous duty, high time or other special payments of any kind.

E. There shall be no pay for time not actually worked except as specifically set forth in this Agreement and except where an applicable Schedule requires a full weeks pay for forepersons.

Section 6. Payment of Wages

A. Payday - Payment shall be made by check, drawn on a New Jersey bank with branches located within commuting distance of the job site. Paychecks shall be issued by the Contractor at the job site by 10 a.m. on Thursdays. In the event that the following Friday is a bank holiday, paychecks shall be issued on Wednesday of that week. Not more than 3 days wages shall be held back in any pay period. Paycheck stubs shall contain the name and business address of the Contractor, together with an itemization of deductions from gross wages.

B. Termination-Employees who are laid-off or discharged for cause shall be paid in hill for that which is due them at the time of termination. The Contractor shall also provide the employee with a written statement setting forth the date of lay off or discharge.

Section *7.* Emergency Work Suspension

The Contractor or CM may, if considered necessary for the protection of life and /or safety of employees or others, suspend all or a portion of Project Work. In such instances, employees will be paid for actual time worked; provided, however, that when the Contractor requests that employees remain at the job site available for work, employees will be paid for "stand-by" time at their hourly rate of pay.

Section 8. Injury/Disability

The employee who, after commencing work, suffers a work-related injury or disability while performing work duties, shall received no less than 8 hours wages for that day. Further, the employee shall be rehired at such time as able to return to duties provided there is still work available on the Project for which the employee is qualified and able to perform.

Section 9. Time Keeping

The Contractor may utilize brassing or other systems to check employees in and out. Each employee must check in and out. The Contractor will provide adequate facilities for checking in and out in an expeditious mariner.

Section 10. Meal Period

The Contractor shall schedule an unpaid period of not more than 1/2 hour duration at the work location between the 3rd and 5th hour of the scheduled shift. The Contractor may, for efficiency of operation, establish a schedule which coordinates the meal periods of two or more crafts. If an employee is required to work through the meal period, the employee shall be compensated in a manner established in the applicable Schedule.

Section 11. Break Periods

There will be not rest periods, organized coffee breaks or other non-working time established during working hours. Individual coffee containers will be permitted at the employee's work location. Local area practice will prevail for coffee breaks that are not organized.

ARTICLE 13 – APPRENTICES

Section 1. Ratios

Recognizing the need to maintain continuing supportive programs designed to develop adequate numbers of competent workers in the construction industry and to provide craft entry opportunities for minorities, women and economically disadvantaged non-minority males, the Contractor will employ apprentices in their respective crafts to perform such work as is within their capabilities and which is customarily performed by the craft in which they are indentured. The Contractor may utilize apprentices and such other appropriate classifications as are contained in the applicable Schedule in a ratio not to exceed 25% of the work force by craft (without regard to whether a lesser ratio is set forth in the applicable Schedule), unless the applicable Schedule provides for a higher percentage. Apprentices and such other classifications as are appropriate shall be employed in a manner consistent with the provisions of the appropriate Schedule.

Section 2. Department of Labor

To assist the Contractor in attaining a maximum effort on this Project, the Unions agree to work in close cooperation with, and accept monitoring by, the New Jersey State and Federal Departments of Labor to ensure that minorities, women, or economically disadvantaged are afforded opportunities to participate in apprenticeship programs which result in the placement of apprentices on this Project. To further ensure that this Contractor effort is attained, up to 50% of the apprentices placed on this Project should be first year, minority, women or economically disadvantaged apprentices. The Local Unions will cooperate with Contractor request for minority, women or economically disadvantaged referrals to meet this Contractor effort.

Section 3. Helmets to Hardhats

Contractor and the Unions recognize a desire to facilitate the entry into the building and construction trades of veterans who are interested in careers in the building and construction industry. The Contractor and Unions agree to utilize the services of the Center for Military recruitment, Assessment and Veterans Employment (hereinafter "Center") and the Center's "Helmets to Hardhats" program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs as identified by the parties.

The Unions and Contractor agree to coordinate with the Center to create and maintain an integrated database of veterans interested in working on the Project and of apprenticeship and employment opportunities for the Project. To the extent permitted by law, the Unions will give credit to such veterans for bona fide, provable past experience.

ARTICLE 14 - SAFETY PROTECTION OF PERSON AND PROPERTY

Section 1. Safety Requirements

The Contractor will ensure that applicable OSHA requirements and other requirements set forth in the contract documents are at all times maintained on the Project and the employees and Unions agree to cooperate hilly with these efforts. Employees must perform their work at all times in a safe manner and protect themselves and the property of the Contractor and the Authority from injury or harm. Failure to do so will be grounds for discipline, including discharge.

Section 2. Contractor Rules

Employees covered by this Agreement shall at all times be bound by the reasonable safety, security, and visitor rules as established by the Contractor and the CM. Such rules will be published and posted in conspicuous places throughout the Project.

Section 3. Inspections

The Contractor and CM retain the right to inspect incoming shipments of equipment, apparatus, machinery and construction materials of every kind.

ARTICLE 15 - NO DISCRIMINATION

Section 1. Cooperative Efforts

The Contractor and Unions agree that they will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin or age in any manner prohibited by law or regulation. It is recognized that special procedures maybe established by Contractor and Local Unions and the New Jersey State Department of Labor for the training and employment of persons who have not previously qualified to be employed on construction projects of the type covered by this Agreement. The Parties to this Agreement will assist in such programs and agree to use their best efforts to ensure that the goals for female and minority employment are met on this Project.

Section 2. Language of Agreement

The use of the masculine or feminine gender in this Agreement shall be construed as including both genders.

ARTICLE 16 - GENERAL TERMS

Section 1. Project Rules

The CM and the Contractor shall establish such reasonable Project rules as are appropriate for the good order of the Project, provided they do not violate the terms of this agreement. These rules will be explained at the pre-job conference and posted at the Project site and may be amended thereafter as necessary. Failure of an employee to observe these rules and regulations shall be

grounds for discipline, including discharge. The fact that no order was posted prohibiting a certain type of misconduct shall not be a defense to an employee disciplined or discharged for such misconduct when the action taken is for cause.

Section 2. Tools of the Trades

The welding/cutting torch and chain fall, are tools of the trade that has jurisdiction over the work performed. Employees using these tools shall perform any of the work of the trade. There shall be no restrictions on the emergency use of any tools or equipment by any qualified employee or on the use of any tools or equipment for the performance of work within the employee's jurisdiction.

Section 3. Supervision

Employees shall work under the supervision of the craft foreperson or general foreperson.

Section 4. Travel Allowances

There shall be no payments for travel expenses, travel time, subsistence allowance or other such reimbursements or special pay except as expressly set forth in this Agreement and in the applicable Schedule limited to travel expenses.

Section 5. Full Work Day

Employees shall be at their staging area at the starting time established by the Contractor and shall be returned to their staging area by quitting time after performing their assigned functions under the supervision of the Contractor. The signatories reaffirm their policy of a fair day's work for a fair day's wage.

Section 6. Cooperation

The BTC and the Local Unions will cooperate in seeking any New Jersey statutory Department of Labor approvals that may be required for implementation of any terms of this Agreement.

ARTICLE 17 - SAVINGS AND SEPARABILITY

Section 1. Partial Invalidity

In the event that the application of any provision of this Agreement is enjoined, on either an interlocutory or permanent basis, or otherwise found in violation of law, the provision involved shall be rendered, temporarily or permanently, null and void but the remainder of the Agreement shall remain in full force and effect. In such event, the Agreement shall remain in effect for contracts already bid and awarded or in construction where the Contractor voluntarily accepts the Agreement. The Parties to this Agreement will enter into negotiations for a substitute provision in conformity with the law and the intent of the Parties for contracts to be let in the future.

Section 2. The Bid Specifications

In the event that the bid specifications, or other action, requiring that a successful bidder become signatory to this Agreement is enjoined, on either an interlocutory or permanent basis, or otherwise found in violation of law, such requirement shall be rendered, temporarily or permanently, null and void but this PLA shall remain in full force and effect to the extent allowed by law. In such event, the Agreement shall remain in effect for contracts already bid and awarded or where the Contractor voluntarily accepts the Agreement. The Parties will enter in to negotiations as to modifications to the Agreement to reflect the court action taken and the intent of the Parties for contracts to be let in the future.

Section 3. Non-Liability

In the event of an occurrence referenced in Section 1 or Section 2 of this Article 17, neither the Authority, the County, the City, the CM, the Contractor, nor the BTC or its local affiliates shall be liable, directly or indirectly, for any action taken, or not taken, to comply with any court order, injunction or determination. Project bid specifications will be issued in conformance with court orders in effect and no retroactive payments or other action will be required if the original court determination is ultimately reversed.

Section 4. Non-Waiver

Nothing in this Article shall be construed as waiving the prohibitions of Article *7* as to the Contractor and the BTC and its local affiliates.

ARTICLE 18 - FUTURE CHANGES TO COLLECTIVE BARGAINING AGREEMENTS

Section 1. Changes to Area Contracts

A. The Schedules to this Agreement shall remain in full force and effect until the Contractor and/or the parties to the Area Collective Bargaining Agreements (which are contained in the Schedules) notify the Authority in writing of the mutually agreed upon changes in provisions of such agreements which are applicable to the Project, and their effective dates.

B. It is agreed that any provisions negotiated into the Area Collective Bargaining Agreements will not apply to work on this Project other than that uniformly required of contractors for work normally covered by those agreements. Nor shall any provisions be recognized or applied on this Project if they may be construed to apply exclusively, or predominantly, to work covered by this PLA.

C. Any disagreement between signatories to this Agreement over the incorporation into Schedules "A" of provisions agreed upon in the negotiations of Area Collective Bargaining Agreements shall be resolved in accordance with the procedure set forth in Article 9 of this PLA.

Section 2. Labor Disputes during Area Contract Negotiations

The BTC and the Local Unions agree that there shall be no strikes, work stoppages, sympathy actions, picketing, slowdowns or other disruptive activity or other violations of Article 7 by any Local Union involved in the renegotiation of Area Local Collective Bargaining Agreements nor shall there be any lock-out on the Project of any Local Union during the course of such renegotiations.

THE REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK

IN WITNESS WHEREOF, the Parties hereto cause these presents to be duly executed as of the day and year first above written.

Witness:	**[Name of Successful Bidder]**
By: _____	By: _____
Witness:	**Union County Building and Construction Trades Council, AFL-CIO**
By: _____	By: _____

ADDENDUM NO. 1

TO PROJECT LABOR AGREEMENT
BY AND BETWEEN _____ AND
THE UNION COUNTY BUILDING AND
CONSTRUCTION TRADES COUNCIL, AFL-CIO

TELE-DATA WORK

The parties hereby agree that all Tele-data work and associated electrical work performed on any of the sites during construction shall be done by employees represented by the signatory unions. For the purpose of this Agreement, Tele-data work shall include, but not limited to, the following: All receiving, placement, installation, operation, testing, inspection, maintenance, repair and service of radio, television, video, data, voice, sound, emergency call, microwave and visual production and reproduction apparatus, equipment and appliances used for domestic, commercial, education and entertainment purposes; all installation and erection of equipment, apparatus or appliance, cables and/or wire, emergency power (batteries) and all directly related work which becomes an integral part of the telecommunication and/or telecommunications related systems repair and service maintenance work of telecommunications systems and devices including, but not limited to, Private Branch Exchanges (PBX-PABX), Key equipment-owned, CCTV, CATV, card access, Systems RS 232 ethernet and/or any local area network system associated with computer installation.

Witness:

_____
Contractor

By: _____

By: _____

Witness:

Signatory Unions

By: _____

By: _____

ADDENDUM NO. 2

TO PROJECT LABOR AGREEMENT
BY AND BETWEEN _____ AND
THE UNION COUNTY BUILDING AND
CONSTRUCTION TRADES COUNCIL, AFL-CIO

SHEET METAL WORK

The Contractor agrees that when subcontracting for prefabrication of H.V.A.C. duct and other related sheet metal, such prefabrication shall be subcontracted to fabricators who pay their employees engaged in such fabrication not less than the prevailing wage for comparable sheet metal fabrication as established under agreements between local affiliates of Sheet Metal Workers' International Association and local sheet metal fabricators.

Contractor and the Sheet Metal Workers' International Association agree to work with fabrication shops referenced in the Addendum. This joint effort will be directed at improving fabricators' competitiveness through the application of continuous improvement principles.

Witness:

_____
Contractor

By: _____

By: _____

Witness:

Sheet Metal Workers'
International Assoc. Local #25

By: _____

By: _____

ADDENDUM NO. 3

TO PROJECT LABOR AGREEMENT
BY AND BETWEEN _____ AND
THE UNION COUNTY BUILDING AND
CONSTRUCTION TRADES COUNCIL, AFL-CIO

LETTER OF ASSENT

Re: Project Labor Agreement re. Union County Building & Trades Council, AFL-CIO and Union County Improvement Authority (the "Agreement')

The undersigned, as a General Contractor, Contractor(s) or Subcontractor(s) on a Contract which is part of large project construction for the Union County Improvement Authority, for and in consideration of the award of a Contract to perform work on said Project, and in further consideration of the mutual promises made in the Project Labor Agreement, a copy of which was received and is acknowledged, hereby:

(1) On behalf of itself and all its employees, accepts and agrees to be bound by the terms and conditions of the Project Labor Agreement, together with any and all amendments and supplements now existing or which are later made thereto, and understands that any act of non-compliance with all such terms and conditions will subject the non-complying Contractor or employee(s) to being prohibited from the Project Site until full compliance is obtained.

(2) Certifies that it has no commitments or agreements that would preclude its full compliance with the terms and conditions of said Projects Labor Agreement.

(3) Agrees to secure from any Contractor(s) (as defined in said Project Labor Agreement) which is or becomes a Subcontractor(s) (of any tier), a duly executed Letter of Assent in form identical to this document prior to commencement of any work.

[NAME OF CONTRACTOR]

By: _____

Title: _____

Contract Number _____

Date:

cc: Unions employed by Contractor

UNION COUNTY IMPROVEMENT AUTHORITY

SCHEDULE A TO PROJECT LABOR AGREEMENT

COLLECTIVE BARGAINING AGREEMENTS

LOCAL

UNION COUNTY IMPROVEMENT AUTHORITY
Warinanco Park Baseball Field Improvements
Roselle, New Jersey

Bidder's Name_____

TIME OF COMPLETION

The undersigned agrees that, if awarded the Contract, the scope of work will begin within ten (10) Calendar Days after Notice to Proceed by the Owner and will be substantially completed within 150 calendar days from the date of the notice to proceed.

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

agree to complete work in the time frame specified

_____
SIGNATURE

_____
TITLE

Date: _____, 20____

UNION COUNTY IMPROVEMENT AUTHORITY

Warinanco Park Baseball Field Improvements
Roselle, New Jersey

Bidder's Name_____

AGREEMENT FOR USE OF BID DOCUMENTS IN ELECTRONIC FORM

This Agreement is made in reference to the following project: **Warinanco Park Baseball Field Improvements (**"Project") for **Union County Improvement Authority** ("Owner").

The Union County Utilities Authority (UCIA) will provide to _____("Recipient") certain drawings, specifications and other documents prepared by CME Associates ("CME") in electronic or other machine-readable format. These documents shall be referred to herein as the "Electronic Documents." It is understood and agreed that Recipient may wish to make certain Electronic Documents available to other individuals and entities in connection with the Project. This Agreement is intended to govern the use of the Electronic Documents by the Recipient and other individuals and entities.

In consideration of CME's agreement to release the Electronic Documents to Recipient, Recipient agrees as follows:

1. Any distribution by Recipient of all or any portion of the Electronic Documents shall be limited for use on this Project only. Such distribution is subject to CME's approval and may be made only after written notice is given to CME by Recipient, and any additional recipient agrees in writing to be bound by the terms of this Agreement.

2. This Agreement shall be incorporated in the General Conditions for the Contract for Construction and shall become binding on all parties who use the Electronic Documents. Any individual or entity, including the Owner, to whom CME release all or any portion of the Electronic Documents, or who thereafter receives all or any portion of the Electronic Documents, shall be a Recipient for purposes of this Agreement.

3. All drawings, specifications or other documents of any kind prepared by CME as the case may be, whether in hard copy or any electronic or machine readable format including the Electronic Documents (collectively the "CME Documents"), are instruments of CME's services prepared solely for use in connection with the Project. CME shall reserve all rights, including copyrights, for their respective Documents. This Agreement is not intended in any way to alter the respective interests of the parties in the CME Documents as may be set forth in any other agreement, notwithstanding CME's agreement to release the Electronic Documents to Recipient.

4. The Electronic Documents are provided to the Recipient in connection with the Recipient's performance of its responsibilities and obligations relating to the Project, including bidding. CME shall retain a set of paper copies of the Electronic Documents, which Recipient may review at the UCIA at a mutually agreeable time. If it is determined that any difference exists between the paper copies and the Electronic Documents, the paper copies shall be presumed to be correct and take precedence over the Electronic Documents, unless CME specifically advises Recipient to the contrary in writing.

5 The parties agree that the Electronic Documents are not, and shall not be construed to be, a product. It is expressly agreed by the Recipient that there are no warranties of any kind in the Electronic Documents or in the media in which they are contained, either express or implied.

6. Recipient agrees not to add to, delete from, or otherwise modify or alter in any way, or to allow others to add to, delete from, or otherwise modify or alter in any way, the Electronic Documents or any copies Recipient prints from the Electronic Documents. Recipient recognizes that additions, deletions, alterations or modifications to the CME Documents introduced by anyone other than CME, as the case may be, may result in adverse consequences that CME can neither predict nor control. Therefore, even in the event that CME may have specifically given the Recipient permission to use the Electronic Documents in connection with Recipient's obligation to prepare certain documents for the Project which requires Recipient to add to, delete from, modify or alter the CME Documents, Recipient shall be subject to the provisions of Paragraphs 9 and 10 of this Agreement. Furthermore, if Recipient receives CME's permission to add to, delete from, modify or alter the CME Documents, Recipient shall, in addition to the other obligations set forth herein, remove CME's title block, as the case may be, from the paper copy of the Electronic Documents used by Recipient.

7. The Electronic Documents are supplied in the following format: **PDF Format**.

Any conversion of the format is solely the responsibility of the Recipient. Recipient understands and agrees that the conversion of the paper copies of the CME Documents into electronic or machine-readable format or the conversion of the Electronic Documents from the machine-readable formats to a different format may introduce errors and inaccuracies. Recipient therefore agrees to confirm the accuracy of the Electronic Documents before using them. Recipient shall accept all responsibility for any errors or inaccuracies and shall release CME and the UCIA from any liability or claims for recovery of damages or expenses arising as the result thereof.

8. Recipient further agrees that the CME Documents were prepared for use in connection with this Project only, and that the Electronic Documents are supplied to Recipient only for the limited purpose stated herein. Recipient agrees not to use, or allow others to use, the Electronic Documents, in whole or in part, for any purpose or project other than as stated herein.

9. Recipient agrees to waive any and all claims and liability against CME and the UCIA, and their respective subconsultants and consultants, as the case may be, arising under this Agreement or as a result of Recipient's use of the Electronic Documents.

10. Recipient agrees to indemnify and save harmless CME and their respective subconsultants, and each of their partners, officers, shareholders, directors and employees, and the Owner and its officers and employees and professionals, from any and all claims, judgments, suits, liabilities, damages, costs or expenses (including reasonable defense and attorneys fees) arising as the result of 1) Recipient's failure to comply with any of the requirements of this Agreement; or 2) a defect, error or omission in the Electronic Documents or the information contained therein, which defect, error or omission was not contained in the paper copies of the Contract Documents; or 3) from any addition, deletion, modification or alteration to, or the misinterpretation of the Electronic Documents.

RECIPIENT

Name: _____ **Date:** _____

Title: _____

Company: _____

DRAFT

AIA® Document A132® – 2019

Standard Form of Agreement Between Owner and Contractor,
Construction Manager as Adviser Edition

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 Construction Manager:
(Name, legal status, address, and other information)

« »« »
« »
« »
« »

The Architect:
(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.

This document is intended to be used in conjunction with AIA Documents A232™–2019, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition; B132™–2019, Standard Form of Agreement Between Owner and Architect, Construction Manager as Adviser Edition; and C132™–2019, Standard Form of Agreement Between Owner and Construction Manager as Adviser. AIA Document A232™–2019 is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

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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 Modifications, 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.

ARTICLE 3 DATE OF COMMENCEMENT AND DATES OF SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:
(Check one of the following boxes.)

[« »] The date of this Agreement.

[« »] A date set forth in a notice to proceed issued by the Owner.

[« »] Established as follows:
(Insert a date or a means to determine the date of commencement of the Work.)

« »

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

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

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§ 3.3 Substantial Completion of the Project or Portions Thereof

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the date of Substantial Completion of the Work of all of the Contractors for the Project will be:
(Insert the date of Substantial Completion of the Work of all Contractors for the Project.)

« »

§ 3.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work of all of the Contractors for the Project are to be completed prior to Substantial Completion of the entire Work of all of the Contractors for the Project, the Contractors shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date
« »	

§ 3.4 When the Work of this Contract, or any Portion Thereof, is Substantially Complete

§ 3.4.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall substantially complete the entire Work of this Contract:
(Check one of the following boxes and complete the necessary information.)

[« »] Not later than « » (« ») calendar days from the date of commencement of the Work.

[« »] By the following date: « »

§ 3.4.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work of this Contract are to be substantially complete prior to when the entire Work of this Contract shall be substantially complete, the Contractor shall substantially complete such portions by the following dates:

Portion of Work	Date to be substantially complete
« »	

§ 3.4.3 If the Contractor fails to substantially complete the Work of this Contract, or portions thereof, as provided in this Section 3.4, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

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 one of the following:
(Check the appropriate box.)

[« »] Stipulated Sum, in accordance with Section 4.2 below

[« »] Cost of the Work plus the Contractor's Fee, in accordance with Section 4.3 below

[« »] Cost of the Work plus the Contractor's Fee with a Guaranteed Maximum Price, in accordance with Section 4.4 below

(Based on the selection above, complete Section 4.2, 4.3 or 4.4 below.)

§ 4.2 Stipulated Sum

§ 4.2.1 The Contract Sum shall be « » ($ « »), subject to additions and deductions as provided in the Contract Documents.

§ 4.2.2 Alternates

§ 4.2.2.1 Alternates, if any, included in the Contract Sum:

Item	Price
« »	

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§ 4.2.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement.
(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance
« »		

§ 4.2.3 Allowances, if any, included in the Contract Sum:
(Identify each allowance.)

Item	Price
« »	

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

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

§ 4.3 Cost of the Work Plus Contractor's Fee without a Guaranteed Maximum Price
§ 4.3.1 The Cost of the Work is as defined in Exhibit B, Determination of the Cost of the Work.

§ 4.3.2 The Contractor's Fee:
(State a lump sum, percentage of Cost of the Work or other provision for determining the Contractor's Fee.)

« »

§ 4.3.3 The method of adjustment of the Contractor's Fee for changes in the Work:

« »

§ 4.3.4 Limitations, if any, on a Subcontractor's overhead and profit for increases in the cost of its portion of the Work:

« »

§ 4.3.5 Rental rates for Contractor-owned equipment shall not exceed « » percent (« » %) of the standard rental rate paid at the place of the Project.

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

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

§ 4.3.7 The Contractor shall prepare and submit to the Construction Manager, within 14 days of executing this Agreement, a written Control Estimate for the Owner's review and approval. The Control Estimate shall include the items in Section B.1 of Exhibit B, Determination of the Cost of the Work.

§ 4.4 Cost of the Work Plus Contractor's Fee with a Guaranteed Maximum Price
§ 4.4.1 The Cost of the Work is as defined in Exhibit B, Determination of the Cost of the Work.

§ 4.4.2 The Contractor's Fee:
(State a lump sum, percentage of Cost of the Work or other provision for determining the Contractor's Fee.)

« »

§ 4.4.3 The method of adjustment of the Contractor's Fee for changes in the Work:

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« »

§ 4.4.4 Limitations, if any, on a Subcontractor's overhead and profit for increases in the cost of its portion of the Work:

« »

§ 4.4.5 Rental rates for Contractor-owned equipment shall not exceed « » percent (« » %) of the standard rental rate paid at the place of the Project.

§ 4.4.6 Unit Prices, if any:
(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

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

§ 4.4.7 Guaranteed Maximum Price
§ 4.4.7.1 The Contract Sum is guaranteed by the Contractor not to exceed « » ($ « »), subject to additions and deductions by Change Order as provided in the Contract Documents. This maximum sum is referred to in the Contract Documents as the Guaranteed Maximum Price. Costs which would cause the Guaranteed Maximum Price to be exceeded shall be paid by the Contractor without reimbursement by the Owner.

§ 4.4.7.2 Alternates
§ 4.4.7.2.1 Alternates, if any, included in the Guaranteed Maximum Price:

Item	Price
« »	

§ 4.4.7.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement.
(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance
« »		

§ 4.4.7.3 Allowances, if any, included in the Guaranteed Maximum Price:
(Identify each allowance.)

Item	Price
« »	

§ 4.4.7.4 Assumptions, if any, upon which the Guaranteed Maximum Price is based:
(Identify each assumption.)

« »

§ 4.4.8 To the extent that the Contract Documents are anticipated to require further development, the Guaranteed Maximum Price includes the costs attributable to such further development consistent with the Contract Documents and reasonably inferable therefrom. Such further development does not include changes in scope, systems, kinds and quality of materials, finishes, or equipment, all of which, if required, shall be incorporated by Change Order.

§ 4.4.9 The Owner shall authorize preparation of revisions to the Contract Documents that incorporate the agreed-upon assumptions contained in Section 4.4.7.4. The Owner shall promptly furnish such revised Contract Documents to the Contractor. The Contractor shall notify the Owner and Architect of any inconsistencies between the agreed-upon assumptions contained in Section 4.4.7.4 and the revised Contract Documents.

§ 4.5 Liquidated damages, if any:

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(Insert terms and conditions for liquidated damages, if any, to be assessed in accordance with Section 3.4.)

« »

§ 4.6 Other:
(Insert provisions for bonus, cost savings or other incentives, if any, that might result in a change to the Contract Sum.)

« »

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Construction Manager by the Contractor, and Certificates for Payment issued by the Construction Manager and Architect, 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 Provided that an Application for Payment is received by the Construction Manager not later than the « » day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the « » day of the « » month. If an Application for Payment is received by the Construction Manager after the application date fixed above, payment of the amount certified shall be made by the Owner not later than « » (« ») days after the Construction Manager receives the Application for Payment.
(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Progress Payments Where the Contract Sum is Based on a Stipulated Sum

§ 5.1.4.1 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 Construction Manager and Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.4.2 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.

§ 5.1.4.3 In accordance with AIA Document A232™–2019, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.4.3.1 The amount of each progress payment shall first include:

- **.1** That portion of the Contract Sum properly allocable to completed Work;
- **.2** 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; and
- **.3** That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

§ 5.1.4.3.2 The amount of each progress payment shall then be reduced by:

- **.1** The aggregate of any amounts previously paid by the Owner;
- **.2** The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A232–2019;
- **.3** Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;

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.4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A232–2019; and

.5 Retainage withheld pursuant to Section 5.1.7.

§ 5.1.5 Progress Payments Where the Contract Sum is Based on the Cost of the Work without a Guaranteed Maximum Price

§ 5.1.5.1 With each Application for Payment, the Contractor shall submit the cost control information required in Exhibit B, Determination of the Cost of the Work, along with payrolls, petty cash accounts, receipted invoices, or invoices with check vouchers attached, and any other evidence required by the Owner, Construction Manager or Architect to demonstrate that payments already made by the Contractor on account of the Cost of the Work equal or exceed progress payments already received by the Contractor, plus payrolls for the period covered by the present Application for Payment, less that portion of the payments attributable to the Contractor's Fee.

§ 5.1.5.2 Applications for Payment shall show the Cost of the Work actually incurred by the Contractor through the end of the period covered by the Application for Payment and for which the Contractor has made or intends to make actual payment prior to the next Application for Payment.

§ 5.1.5.3 In accordance with AIA Document A232-2019 and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.5.3.1 The amount of each progress payment shall first include:

.1 The Cost of the Work as described in Exhibit B, Determination of the Cost of the Work;

.2 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified; and

.3 The Contractor's Fee computed upon the Cost of the Work described in the preceding Section 5.1.5.3.1.1 at the rate stated in Section 4.3.2; or if the Contractor's Fee is stated as a fixed sum in Section 4.3.2 an amount which bears the same ratio to that fixed-sum Fee as the Cost of the Work included in Section 5.1.5.3.1.1 bears to a reasonable estimate of the probable Cost of the Work upon its completion.

§ 5.1.5.3.2 The amount of each progress payment shall then be reduced by:

.1 The aggregate of any amounts previously paid by the Owner;

.2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A232–2019;

.3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;

.4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A232–2019;

.5 The shortfall, if any, indicated by the Contractor in the documentation required by Section 5.1.5.1 to substantiate prior Applications for Payment, or resulting from errors subsequently discovered by the Owner's auditors in such documentation; and

.6 Retainage withheld pursuant to Section 5.1.7.

§ 5.1.5.4 The Owner, Construction Manager and Contractor shall agree upon a mutually acceptable procedure for review and approval of payments to Subcontractors and the percentage of retainage held on Subcontracts, and the Contractor shall execute subcontracts in accordance with those agreements.

§ 5.1.5.5 In taking action on the Contractor's Applications for Payment, the Construction Manager and Architect shall be entitled to rely on the accuracy and completeness of the information furnished by the Contractor, and such action shall not be deemed to be a representation that (1) the Construction Manager and Architect have made a detailed examination, audit or arithmetic verification of the documentation submitted in accordance with Article 5 or other supporting data; (2) that the Construction Manager and Architect have made exhaustive or continuous on-site inspections; or (3) that the Construction Manager and Architect have made examinations to ascertain how or for what purposes the Contractor has used amounts previously paid on account of the Contract. Such examinations, audits and verifications, if required by the Owner, will be performed by the Owner's auditors acting in the sole interest of the Owner.

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§ 5.1.5.6 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.

§ 5.1.5.7 If final completion of the Work is materially delayed through no fault of the Contractor, then the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A232-2019.

§ 5.1.6 Progress Payments Where the Contract Sum is Based on the Cost of the Work with a Guaranteed Maximum Price

§ 5.1.6.1 With each Application for Payment, the Contractor shall submit payrolls, petty cash accounts, receipted invoices or invoices with check vouchers attached, and any other evidence required by the Owner, Construction Manager or Architect to demonstrate that payments already made by the Contractor on account of the Cost of the Work equal or exceed progress payments already received by the Contractor plus payrolls for the period covered by the present Application for Payment, less that portion of the progress payments attributable to the Contractor's Fee.

§ 5.1.6.2 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 Guaranteed Maximum Price among: (1) the various portions of the Work; (2) any contingency for costs that are included in the Guaranteed Maximum Price but not otherwise allocated to another line item or included in a Change Order; and (3) the Contractor's Fee.

§ 5.1.6.2.1 The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Construction Manager and Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.6.2.2 The allocation of the Guaranteed Maximum Price under this Section 5.1.6.2 shall not constitute a separate guaranteed maximum price for the Cost of the Work of each individual line item in the schedule of values.

§ 5.1.6.2.3 When the Contractor allocates costs from a contingency to another line item in the schedule of values, the Contractor shall submit supporting documentation to the Architect and Construction Manager.

§ 5.1.6.3 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. The percentage of completion shall be the lesser of (1) the percentage of that portion of the Work which has actually been completed; or (2) the percentage obtained by dividing (a) the expense that has actually been incurred by the Contractor on account of that portion of the Work and for which the Contractor has made payment or intends to make payment prior to the next Application for Payment by (b) the share of the Guaranteed Maximum Price allocated to that portion of the Work in the schedule of values.

§ 5.1.6.4 In accordance with AIA Document A232-2019, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.6.4.1 The amount of each progress payment shall first include:

- **.1** That portion of the Guaranteed Maximum Price properly allocable to completed Work as determined by multiplying the percentage of completion of each portion of the Work by the share of the Guaranteed Maximum Price allocated to that portion of the Work in the most recent schedule of values;
- **.2** That portion of the Guaranteed Maximum Price properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction or, if approved in writing in advance by the Owner, suitably stored off the site at a location agreed upon in writing;
- **.3** That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified; and
- **.4** The Contractor's Fee, computed upon the Cost of the Work described in the preceding Sections 5.1.6.4.1.1 and 5.1.6.4.1.2 at the rate stated in Section 4.4.2 or, if the Contractor's Fee is stated as a fixed sum in that Section, an amount that bears the same ratio to that fixed-sum fee as the Cost of the Work included in Sections 5.1.6.4.1.1 and 5.1.6.4.1.2 bears to a reasonable estimate of the probable Cost of the Work upon its completion.

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§ 5.1.6.4.2 The amount of each progress payment shall then be reduced by:

.1 The aggregate of any amounts previously paid by the Owner;

.2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A232–2019;

.3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;

.4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A232–2019;

.5 The shortfall, if any, indicated by the Contractor in the documentation required by Section 5.1.6.1 to substantiate prior Applications for Payment, or resulting from errors subsequently discovered by the Owner's auditors in such documentation; and

.6 Retainage withheld pursuant to Section 5.1.7.

§ 5.1.6.5 The Owner and the Contractor shall agree upon a mutually acceptable procedure for review and approval of payments to Subcontractors and the percentage of retainage held on Subcontracts, and the Contractor shall execute subcontracts in accordance with those agreements.

§ 5.1.6.6 In taking action on the Contractor's Applications for Payment, the Construction Manager and Architect shall be entitled to rely on the accuracy and completeness of the information furnished by the Contractor and such action shall not be deemed to be a representation that (1) the Construction Manager or Architect have made a detailed examination, audit, or arithmetic verification of the documentation submitted in accordance with Section 5.1.6.1 or other supporting data; (2) that the Construction Manager or Architect have made exhaustive or continuous on-site inspections; or (3) that the Construction Manager or Architect have made examinations to ascertain how or for what purposes the Contractor has used amounts previously paid on account of the Contract. Such examinations, audits, and verifications, if required by the Owner, will be performed by the Owner's auditors acting in the sole interest of the Owner.

§ 5.1.6.7 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.

§ 5.1.6.8 If final completion of the Work is materially delayed through no fault of the Contractor, then the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A232-2019.

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to when the Work of this Contract is substantially complete, the Owner may withhold the following amount, as retainage, from the payment otherwise due:
(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)

« »

§ 5.1.7.1.1 The following items are not subject to retainage:
(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)

« »

§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:
(If the retainage established in Section 5.1.7.1 is to be modified prior to when the entire Work of this Contract is substantially complete, including modifications for completion of portions of the Work as provided in Section 3.4.2, insert provisions for such modifications.)

« »

§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, when the Work of this Contract is substantially complete, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted when the Work of this Contract is substantially complete shall not include retainage as follows:

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(Insert any other conditions for release of retainage when the Work of this Contract is substantially complete, or upon Substantial Completion of the Work of all Contractors on the Project or portions thereof.)

« »

§ 5.2 Final Payment

§ 5.2.1 Final Payment Where the Contract Sum is Based on a Stipulated Sum

§ 5.2.1.1 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 Article 12 of AIA Document A232–2019, and to satisfy other requirements, if any, which extend beyond final payment; and

.2 a final Certificate for Payment or Project Certificate for Payment has been issued by the Architect.

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

« »

§ 5.2.2 Final Payment Where the Contract Sum is Based on the Cost of the Work with or without a Guaranteed Maximum Price

§ 5.2.2.1 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 Article 12 of AIA Document A232–2019, and to satisfy other requirements, if any, which extend beyond final payment;

.2 the Contractor has submitted a final accounting for the Cost of the Work, pursuant to Exhibit B, Determination of the Cost of the Work and a final Application for Payment; and

.3 a final Certificate for Payment or Project Certificate for Payment has been issued by the Architect in accordance with Exhibit B, Determination of the Cost of the Work.

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

« »

§ 5.3 Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.
(Insert rate of interest agreed upon, if any.)

« » % « »

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as Initial Decision Maker pursuant to Article 15 of AIA Document A232–2019, 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 Architect.)

« »
« »
« »
« »

§ 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document A232–2019, the method of binding dispute resolution shall be as follows:

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(Check the appropriate box.)

[« »] Arbitration pursuant to Article 15 of AIA Document A232–2019.

[« »] Litigation in a court of competent jurisdiction.

[« »] Other: *(Specify)*

« »

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 Where the Contract Sum is a Stipulated Sum

§ 7.1.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A232–2019.

§ 7.1.1.1 If the Contract is terminated for the Owner's convenience in accordance with Article 14 of AIA Document A232–2019, then the Owner shall pay the Contractor a termination fee as follows:
(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner's convenience.)

« »

§ 7.1.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A232–2019.

§ 7.2 Where the Contract Sum is Based on the Cost of the Work with or without a Guaranteed Maximum Price

§ 7.2.1 Termination

§ 7.2.1.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A232–2019.

§ 7.2.1.2 Termination by the Owner for Cause

§ 7.2.1.2.1 If the Owner terminates the Contract for cause as provided in Article 14 of AIA Document A232–2019, the Owner shall then only pay the Contractor an amount as follows:

.1 Take the Cost of the Work incurred by the Contractor to the date of termination;

.2 Add the Contractor's Fee, computed upon the Cost of the Work to the date of termination at the rate stated in Section 4.3.2 or 4.4.2, as applicable, or, if the Contractor's Fee is stated as a fixed sum in that Section, an amount that bears the same ratio to that fixed-sum Fee as the Cost of the Work at the time of termination bears to a reasonable estimate of the probable Cost of the Work upon its completion;

.3 Subtract the aggregate of previous payments made by the Owner; and

.4 Subtract the costs and damages incurred, or to be incurred, by the Owner under Article 14 of AIA Document A232–2019.

§ 7.2.1.2.2 When the Contract Sum is based on the Cost of the Work with a Guaranteed Maximum Price, if the Owner terminates the Contract for cause as provided in Article 14 of AIA Document A232-2019, the amount, if any, to be paid to the Contractor under Article 14 of AIA Document A232-2019 shall not cause the Guaranteed Maximum Price to be exceeded, nor shall it exceed the amount calculated in Section 7.2.1.2.1.

§ 7.2.1.2.3 The Owner shall also pay the Contractor fair compensation, either by purchase or rental at the election of the Owner, for any equipment owned by the Contractor that the Owner elects to retain and that is not otherwise included in the Cost of the Work under Section 7.2.1.2.1.1. To the extent that the Owner elects to take legal assignment of subcontracts and purchase orders (including rental agreements), the Contractor shall, as a condition of receiving the payments referred to in this Article 7, execute and deliver all such papers and take all such steps, including the legal assignment of such subcontracts and other contractual rights of the Contractor, as the Owner may require for the purpose of fully vesting in the Owner the rights and benefits of the Contractor under such

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subcontracts or purchase orders. All Subcontracts, purchase orders and rental agreements entered into by the Contractor will contain provisions allowing for assignment to the Owner as described above.

§ 7.2.1.3 Termination by the Owner for Convenience
If the Owner terminates the Contract for convenience in accordance with Article 14 of AIA Document A232–2019, then the Owner shall pay the Contractor a termination fee as follows:
(Insert the amount of or method for determining the fee, if any, payable to the Contractor following a termination for the Owner's convenience.)

« »

§ 7.3 Suspension
The Work may be suspended by the Owner as provided in Article 14 of AIA Document A232–2019; in such case, the Contract Sum and Contract Time shall be increased as provided in Article 14 of AIA Document A232–2019, except that the term "profit" shall be understood to mean the Contractor's Fee as described in Section 4.3.2 or 4.4.2, as applicable, of this Agreement.

ARTICLE 8 MISCELLANEOUS PROVISIONS
§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A232–2019 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 The Owner's representative:
(Name, address, email address, and other information)

« »
« »
« »
« »
« »
« »

§ 8.3 The Contractor's representative:
(Name, address, email address, and other information)

« »
« »
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« »

§ 8.4 Neither the Owner's nor the Contractor's representative shall be changed without ten days' prior notice to the other party.

§ 8.5 Insurance and Bonds
§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A132™–2019, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition, Exhibit A, Insurance and Bonds, and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as set forth in AIA Document A132™–2019, Exhibit A, and elsewhere in the Contract Documents.

§ 8.6 Notice in electronic format, pursuant to Article 1 of AIA Document A232–2019, may be given in accordance with a building information modeling exhibit, if completed, or as otherwise set forth below:
(If other than in accordance with a building information modeling exhibit, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)

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§ 8.7 Relationship of the Parties

Where the Contract is based on the Cost of the Work plus the Contractor's Fee, with or without a Guaranteed Maximum Price, the Contractor accepts the relationship of trust and confidence established by this Agreement and covenants with the Owner to cooperate with the Architect and exercise the Contractor's skill and judgment in furthering the interests of the Owner; to furnish efficient business administration and supervision; to furnish at all times an adequate supply of workers and materials; and to perform the Work in an expeditious and economical manner consistent with the Owner's interests. The Owner agrees to furnish and approve, in a timely manner, information required by the Contractor and to make payments to the Contractor in accordance with the requirements of the Contract Documents.

§ 8.8 Other provisions:

« »

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

.1 AIA Document A132™–2019, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition

.2 AIA Document A132™–2019, Exhibit A, Insurance and Bonds Exhibit

.3 AIA Document A232™–2019, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition

.4 Building Information Modeling Exhibit, if completed:

« »

.5 Drawings

Number	Title	Date
« »		

.6 Specifications

Section	Title	Date	Pages
« »			

.7 Addenda, if any:

Number	Date	Pages
« »		

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

.8 Other Exhibits:

(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

[« »] AIA Document A132™–2019, Exhibit B, Determination of the Cost of the Work

[« »] AIA Document E235™–2019, Sustainable Projects Exhibit, Construction Manager as Adviser Edition, dated as indicated below:
(Insert the date of the E235-2019 incorporated into this Agreement.)

« »

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[« »] The Sustainability Plan:

Title	Date	Pages
« »		

[« »] Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages
« »			

.9 Other documents, if any, listed below:
(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A232–2019 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)

« »

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

« »	« »
OWNER *(Signature)*	**CONTRACTOR** *(Signature)*
« »« »	« »« »
(Printed name and title)	*(Printed name and title)*

DRAFT

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AIA® Document A232® – 2019

General Conditions of the Contract for Construction,
Construction Manager as Adviser Edition

for the following PROJECT:
(Name, and location or address)

« »
« »

THE CONSTRUCTION MANAGER:
(Name, legal status, and address)

« »« »
« »

THE OWNER:
(Name, legal status, and address)

« »« »
« »

THE ARCHITECT:
(Name, legal status, and address)

« »« »
« »

TABLE OF ARTICLES

1 GENERAL PROVISIONS

2 OWNER

3 CONTRACTOR

4 ARCHITECT AND CONSTRUCTION MANAGER

5 SUBCONTRACTORS

6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

7 CHANGES IN THE WORK

8 TIME

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10 PROTECTION OF PERSONS AND PROPERTY

11 INSURANCE AND BONDS

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.

This document is intended to be used in conjunction with AIA Documents A132™–2019, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition; B132™–2019, Standard Form of Agreement Between Owner and Architect, Construction Manager as Adviser Edition; and C132™–2019, Standard Form of Agreement Between Owner and Construction Manager as Adviser.

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12 UNCOVERING AND CORRECTION OF WORK

13 MISCELLANEOUS PROVISIONS

14 TERMINATION OR SUSPENSION OF THE CONTRACT

15 CLAIMS AND DISPUTES

DRAFT

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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. 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 or proposal 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 Architect or the Architect's consultants, (2) between the Owner and the Construction Manager or the Construction Manager's consultants, (3) between the Owner and the Architect or the Architect's consultants, (4) between the Contractor and the Construction Manager or the Construction Manager's consultants, (5) between the Owner and a Subcontractor or Sub-subcontractor (6) between the Construction Manager and the Architect, or (7) between any persons or entities other than the Owner and Contractor. The Construction Manager and Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of their 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 other Contractors, and by the Owner's own forces and Separate Contractors.

§ 1.1.5 Contractors. Contractors are persons or entities, other than the Contractor or Separate Contractors, who perform Work under contracts with the Owner that are administered by the Architect and Construction Manager.

§ 1.1.6 Separate Contractors. Separate Contractors are persons or entities who perform construction under separate contracts with the Owner not administered by the Architect and Construction Manager.

§ 1.1.7 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.

§ 1.1.8 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.

§ 1.1.9 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 Architect and the Architect'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.

§ 1.1.10 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. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

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§ 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.

§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 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 Architects.

§ 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 Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, sub-subcontractors, and 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 the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, 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 suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.7 Digital Data Use and Transmission

The parties shall agree upon written protocols governing the transmission and use of, and reliance on, Instruments of Service or any other information or documentation in digital form.

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§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to written protocols governing the use of, and reliance on, the information contained in the model shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

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 in Section 4.2.1, the Construction Manager and the Architect do not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 Evidence of the Owner's Financial Arrangements

§ 2.2.1 Prior to commencement of the Work, and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the Contract Time shall be extended appropriately.

§ 2.2.2 Following commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due; or (3) a change in the Work materially changes the Contract Sum. If the Owner fails to provide such evidence, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall notify the Owner that the Work has stopped. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change until reasonable evidence is provided. If the Work is stopped under this Section 2.2.2, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided in the Contract Documents.

§ 2.2.3 After the Owner furnishes evidence of financial arrangements under this Section 2.2, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.4 Where the Owner has designated information furnished under this Section 2.2 as "confidential," the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 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. Unless otherwise provided under the Contract Documents, the Owner, assisted by the Construction Manager, shall secure and pay for the building permit.

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§ 2.3.2 The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.3 The Owner shall retain a construction manager adviser lawfully practicing construction management in the jurisdiction where the Project is located. That person or entity is identified as the Construction Manager in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.4 If the employment of the Construction Manager or Architect terminates, the Owner shall employ a successor construction manager or architect to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Construction Manager or Architect, respectively.

§ 2.3.5 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations 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.

§ 2.3.6 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.

§ 2.3.7 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.

§ 2.3.8 The Owner shall forward all communications to the Contractor through the Construction Manager. Other communication shall be made as set forth in Section 4.2.6.

§ 2.4 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 Section 12.2 or repeatedly 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 6.1.3.

§ 2.5 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 ten-day period after receipt of 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 default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to review by the Construction Manager and prior approval of the Architect, and the Construction Manager or Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Construction Manager's and Architect's and their respective consultants' additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

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. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

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§ 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 its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Construction Manager or Architect in their 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 2.3.5, 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 Construction Manager and Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information submitted to the Construction Manager in such form as the Construction Manager and Architect 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 Construction Manager and Architect any nonconformity discovered by or made known to the Contractor as a request for information submitted to Construction Manager in such form as the Construction Manager and Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect 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 submit 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, subject to section 15.1.7, 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 Architect 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. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be 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 notice to the Owner, the Construction Manager, and the Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. The Construction Manager shall review the proposed alternative for sequencing, constructability, and coordination impacts on the other Contractors. Unless the Architect or the Construction Manager objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative 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.

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§ 3.3.3 The Contractor shall be responsible for inspection of portions of the Project 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 approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect, in consultation with the Construction Manager, 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

§ 3.5.1 The Contractor warrants to the Owner, Construction Manager, and Architect 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 Construction Manager or Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work or portions thereof 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 Owner, assisted by the Construction Manager, shall secure and pay for the building permit. The Contractor shall secure and pay 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, Construction Manager, and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect and Construction Manager will promptly investigate such conditions and, if the Architect, in consultation with the

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Construction Manager, 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 that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect, in consultation with the Construction Manager, 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 Architect shall promptly notify the Owner, Construction Manager, and Contractor, stating the reasons. If the Owner or Contractor disputes the Architect's determination or recommendation, either party may submit a Claim 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, Construction Manager, and Architect. 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, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 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.

§ 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 notify the Owner and Architect, through the Construction Manager, of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Construction Manager may notify the Contractor, stating whether the Owner, the Construction Manager, or the Architect (1) has reasonable objection to the proposed superintendent or (2) require additional time for review. Failure of the Construction Manager to provide notice 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, Construction Manager, or Architect 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 and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information, and the Construction Manager's use in developing the Project schedule, a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the

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Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project. The Contractor shall cooperate with the Construction Manager in scheduling and performing the Contractor's Work to avoid conflict with, and as to cause no delay in, the work or activities of other Contractors, or the construction or operations of the Owner's own forces or Separate Contractors.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Construction Manager's and Architect's approval. The Architect and Construction Manager's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Construction Manager and Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved 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 participate with other Contractors, the Construction Manager, and the Owner in reviewing and coordinating all schedules for incorporation into the Project schedule that is prepared by the Construction Manager. The Contractor shall make revisions to the construction schedule and submittal schedule as deemed necessary by the Construction Manager to conform to the Project schedule.

§ 3.10.4 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner, Construction Manager, and Architect, and incorporated into the approved Project schedule.

§ 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Construction Manager, Architect, and Owner, and delivered to the Construction Manager 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 how 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 Architect and Construction Manager is subject to the limitations of Sections 4.2.10 through 4.2.12. Informational submittals upon which the Construction Manager and Architect are 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 Construction Manager or Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Construction Manager, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the Project submittal schedule approved by the Construction Manager and Architect or, in the absence of an approved Project submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of other Contractors, Separate Contractors, or the Owner's own forces. The Contractor shall cooperate with the Construction Manager in the coordination of the Contractor's Shop Drawings, Product Data, Samples, and similar submittals with related documents submitted by other Contractors.

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§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner, Construction Manager, and Architect, 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 reviewed and approved by the Architect.

§ 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 the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Construction Manager and Architect of such deviation at the time of submittal and (1) the Architect 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 Architect'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 Construction Manager and Architect on previous submittals. In the absence of such notice, the Architect'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 architecture 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.

§ 3.12.10.1 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 Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately 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 Architect. The Owner, the Architect, and the Construction Manager shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and 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 Construction Manager shall review submittals for sequencing, constructability, and coordination impacts on other Contractors.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Construction Manager and Architect at the time and in the form specified by the Architect.

§ 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, 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 Construction Manager before using any portion of the site.

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§ 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, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner, Separate Contractors, or of other Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner, Separate Contractors, or by other Contractors except with written consent of the Construction Manager, Owner, and such other Contractors or Separate Contractors. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Separate Contractors, other Contractors, or the Owner, its 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 and 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, or Construction Manager with the Owner's approval, may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner, Construction Manager, and Architect with 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, Construction Manager, and Architect harmless from loss on account thereof, but shall not be responsible for 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, Architect, or Construction Manager. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect through the Construction Manager.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Construction Manager, Architect, Construction Manager's and Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, 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), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 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.

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ARTICLE 4 ARCHITECT AND CONSTRUCTION MANAGER

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 4.1.2 The Construction Manager is the person or entity retained by the Owner pursuant to Section 2.3.3 and identified as such in the Agreement.

§ 4.1.3 Duties, responsibilities, and limitations of authority of the Construction Manager and Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Construction Manager, Architect, and Contractor. Consent shall not be unreasonably withheld.

§ 4.2 Administration of the Contract

§ 4.2.1 The Construction Manager and Architect will provide administration of the Contract as described in the Contract Documents and will be the Owner's representatives during construction until the date the Architect issues the final Certificate for Payment. The Construction Manager and Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect 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. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. On the basis of the site visits, the Architect will keep the Owner and the Construction Manager reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner and Construction Manager known deviations from the Contract Documents and defects and deficiencies observed in the Work.

§ 4.2.3 The Construction Manager shall provide one or more representatives who shall be in attendance at the Project site whenever the Work is being performed. The Construction Manager will determine in general if the Work observed is being performed in accordance with the Contract Documents, will keep the Owner and Architect reasonably informed of the progress of the Work, and will promptly report to the Owner and Architect known deviations from the Contract Documents and the most recent Project schedule, and defects and deficiencies observed in the Work.

§ 4.2.4 The Construction Manager will schedule and coordinate the activities of the Contractor and other Contractors in accordance with the latest approved Project schedule.

§ 4.2.5 The Construction Manager, except to the extent required by Section 4.2.4, and Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, and neither will be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. Neither the Construction Manager nor the Architect will have control over or charge of, or be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or of any other persons or entities performing portions of the Work.

§ 4.2.6 Communications. The Owner shall communicate with the Contractor and the Construction Manager's consultants through the Construction Manager about matters arising out of or relating to the Contract Documents. The Owner and Construction Manager shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Construction Manager otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with other Contractors shall be through the Construction Manager. Communications by and with the Owner's own forces and Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.7 The Construction Manager and Architect will review and certify all Applications for Payment by the Contractor, in accordance with the provisions of Article 9.

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§ 4.2.8 The Architect and Construction Manager have authority to reject Work that does not conform to the Contract Documents, and will notify each other about the rejection. Whenever the Construction Manager considers it necessary or advisable, the Construction Manager will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, upon written authorization of the Owner, whether or not the Work is fabricated, installed or completed. The foregoing authority of the Construction Manager will be subject to the provisions of Sections 4.2.18 through 4.2.20 inclusive, with respect to interpretations and decisions of the Architect. However, neither the Architect's nor the Construction Manager's authority to act under this Section 4.2.8 nor a decision made by either of them in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect or the Construction Manager to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons performing any of the Work.

§ 4.2.9 Utilizing the submittal schedule provided by the Contractor, the Construction Manager shall prepare, and revise as necessary, a Project submittal schedule incorporating information from other Contractors, the Owner, Owner's consultants, Owner's Separate Contractors and vendors, governmental agencies, and participants in the Project under the management of the Construction Manager. The Project submittal schedule and any revisions shall be submitted to the Architect for approval.

§ 4.2.10 The Construction Manager will receive and promptly review for conformance with the submittal requirements of the Contract Documents, all submittals from the Contractor such as Shop Drawings, Product Data, and Samples. Where there are other Contractors, the Construction Manager will also check and coordinate the information contained within each submittal received from the Contractor and other Contractors, and transmit to the Architect those recommended for approval. By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Construction Manager represents to the Owner and Architect that the Construction Manager has reviewed and recommended them for approval. The Construction Manager's actions will be taken in accordance with the Project submittal schedule approved by the Architect or, in the absence of an approved Project submittal schedule, with reasonable promptness while allowing sufficient time to permit adequate review by the Architect.

§ 4.2.11 The Architect 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 Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Upon the Architect's completed review, the Architect shall transmit its submittal review to the Construction Manager.

§ 4.2.12 Review of the Contractor's submittals by the Construction Manager and Architect 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 Construction Manager and Architect'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 Construction Manager and Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.13 The Construction Manager will prepare Change Orders and Construction Change Directives.

§ 4.2.14 The Construction Manager and the Architect will take appropriate action on Change Orders or Construction Change Directives in accordance with Article 7, and the Architect will have authority to order minor changes in the Work as provided in Section 7.4. The Architect, in consultation with the Construction Manager, will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.15 Utilizing the documents provided by the Contractor, the Construction Manager will maintain at the site for the Owner one copy of all Contract Documents, approved Shop Drawings, Product Data, Samples, and similar required submittals, in good order and marked currently to record all changes and selections made during construction. These will be available to the Architect and the Contractor, and will be delivered to the Owner upon completion of the Project.

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§ 4.2.16 The Construction Manager will assist the Architect in conducting inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion in conjunction with the Architect pursuant to Section 9.8; and receive and forward to the Owner written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10. The Construction Manager will forward to the Architect a final Application and Certificate for Payment or final Project Application and Project Certificate for Payment upon the Contractor's compliance with the requirements of the Contract Documents.

§ 4.2.17 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Construction Manager of any change in the duties, responsibilities and limitations of authority of the Project representatives.

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

§ 4.2.19 Interpretations and decisions of the Architect 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 Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions so rendered in good faith.

§ 4.2.20 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.21 The Construction Manager will receive and review requests for information from the Contractor, and forward each request for information to the Architect, with the Construction Manager's recommendation. The Architect will review and respond in writing, through the Construction Manager, to requests for information about the Contract Documents. The Construction Manager's recommendation and the Architect's response to each request will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect 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 other Contractors or Separate Contractors or the subcontractors of other Contractors or Separate Contractors.

§ 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 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Construction Manager, for review by the Owner, Construction Manager and Architect, of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Construction Manager may notify the Contractor whether the Owner, the Construction Manager or the Architect (1) has reasonable objection to any such proposed person or entity or, (2) requires additional time for review. Failure of the Construction Manager to provide notice within the 14-day period shall constitute notice of no reasonable objection.

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§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner, Construction Manager or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner, Construction Manager or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner, Construction Manager or Architect 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.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner, Construction Manager or Architect makes reasonable objection to such substitution.

§ 5.3 Subcontractual Relations

By appropriate written agreement, 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, that the Contractor, by these Contract Documents, assumes toward the Owner, Construction Manager and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner, Construction Manager and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-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; and
- **.2** assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor Contractor or other entity. If the Owner assigns the subcontract to a successor Contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor Contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction with Own Forces and to Award Other 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 with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

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§ 6.1.2 When the Owner performs construction or operations with the Owner's own forces or Separate Contractors, the Owner shall provide for coordination of such forces and Separate Contractors with the Work of the Contractor, who shall cooperate with them.

§ 6.1.3 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner's own forces, Separate Contractors, Construction Manager and other 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's own forces, Separate Contractors or other Contractors, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Construction Manager and Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor or other Contractors that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Construction Manager and the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's or other Contractors' completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractors or other Contractors that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs, including costs that are payable to a Separate Contractors or to other Contractors, 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 delays, improperly timed activities, damage to the Work or defective construction by the Owner's own forces, Separate Contractors, or other Contractors.

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction, or to property of the Owner, Separate Contractors, or other Contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner, Separate Contractors, and other Contractors 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, other 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 Construction Manager, with notice to the Architect, will allocate the cost among 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.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Construction Manager, Architect and Contractor. A Construction Change Directive requires agreement by the Owner, Construction Manager and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone.

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

§ 7.2 Change Orders

A Change Order is a written instrument prepared by the Construction Manager and signed by the Owner, Construction Manager, Architect, and Contractor, 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.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Construction Manager and signed by the Owner, Construction Manager and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. 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 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Construction Manager shall determine 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 Construction Manager may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

.1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Construction Manager and Architect;
.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;
.4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and
.5 Costs of supervision and field office personnel directly attributable to the change.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Construction Manager 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.

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§ 7.3.7 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.

§ 7.3.8 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 Construction Manager and Architect. 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.

§ 7.3.9 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 Construction Manager and Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Construction Manager and Architect determine to be reasonably justified. The 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.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Construction Manager and Architect 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 Construction Manager shall prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Construction Manager and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Construction Manager that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

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.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 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.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 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 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner, Architect, Construction Manager, or an employee of any of them, or of the Owner's own forces, Separate Contractors, or other Contractors; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section

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15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts and the Architect, based on the recommendation of the Construction Manager, determines justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine.

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

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 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.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

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

§ 9.3 Applications for Payment

§ 9.3.1 At least fifteen days before the date established for each progress payment, the Contractor shall submit to the Construction Manager an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner, Construction Manager or Architect require, such as copies of requisitions, and releases of waivers of lien from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Construction Manager and Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 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

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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, suppliers, or other persons or entities that provided labor, materials and equipment relating to the Work.

§ 9.4 Certificates for Payment

§ 9.4.1 Where there is only one Contractor, the Construction Manager will, within seven days after the Construction Manager's receipt of the Contractor's Application for Payment, review the Application, certify the amount the Construction Manager determines is due the Contractor, and forward the Contractor's Application and Certificate for Payment to the Architect. Within seven days after the Architect receives the Contractor's Application for Payment from the Construction Manager, the Architect will either (1) issue to the Owner a Certificate for Payment, in the full amount of the Application for Payment, with a copy to the Construction Manager; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Construction Manager and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Construction Manager and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1. The Construction Manager will promptly forward to the Contractor the Architect's notice of withholding certification.

§ 9.4.2 Where there is more than one Contractor performing portions of the Project, the Construction Manager will, within seven days after the Construction Manager receives all of the Contractors' Applications for Payment: (1) review the Applications and certify the amount the Construction Manager determines is due each of the Contractors; (2) prepare a Summary of Contractors' Applications for Payment by combining information from each Contractor's application with information from similar applications for progress payments from the other Contractors; (3) prepare a Project Application and Certificate for Payment; (4) certify the amount the Construction Manager determines is due all Contractors; and (5) forward the Summary of Contractors' Applications for Payment and Project Application and Certificate for Payment to the Architect.

§ 9.4.2.1 Within seven days after the Architect receives the Project Application and Project Certificate for Payment and the Summary of Contractors' Applications for Payment from the Construction Manager, the Architect will either (1) issue to the Owner a Project Certificate for Payment, with a copy to the Construction Manager; or (2) issue to the Owner a Project Certificate for Payment for such amount as the Architect determines is properly due, and notify the Construction Manager and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Project Application for Payment, and notify the Construction Manager and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1. The Construction Manager will promptly forward the Architect's notice of withholding certification to the Contractors.

§ 9.4.3 The Construction Manager's certification of an Application for Payment or, in the case of more than one Contractor, a Project Application and Certificate for Payment, shall be based upon the Construction Manager's evaluation of the Work and the data in the Application or Applications for Payment. The Construction Manager's certification will constitute a representation that, to the best of the Construction Manager's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is, or Contractors are, entitled to payment in the amount certified.

§ 9.4.4 The Architect's issuance of a Certificate for Payment or, in the case of more than one Contractor, Project Application and Certificate for Payment, shall be based upon the Architect's evaluation of the Work, the recommendation of the Construction Manager, and data in the Application for Payment or Project Application for Payment. The Architect's certification will constitute a representation that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is, or Contractors are, entitled to payment in the amount certified.

§ 9.4.5 The representations made pursuant to Sections 9.4.3 and 9.4.4 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 correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Construction Manager or Architect.

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§ 9.4.6 The issuance of a Certificate for Payment or a Project Certificate for Payment will not be a representation that the Construction Manager or Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and 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.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Construction Manager or Architect may withhold a Certificate for Payment or Project Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Construction Manager's or Architect's opinion the representations to the Owner required by Section 9.4.3 and 9.4.4 cannot be made. If the Construction Manager or Architect is unable to certify payment in the amount of the Application, the Construction Manager will notify the Contractor and Owner as provided in Section 9.4.1 and 9.4.2. If the Contractor, Construction Manager and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment or a Project Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Construction Manager or Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment or Project Certificate for Payment previously issued, to such extent as may be necessary in the Construction Manager's or Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from the acts and omissions described in Section 3.3.2 because of

- **.1** defective Work not remedied;
- **.2** third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- **.3** failure of the Contractor to make payments properly to Subcontractors or suppliers 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 a Separate Contractor or other 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; or
- **.7** repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.4 If the Architect or Construction Manager withholds certification for payment under Section 9.5.1, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Construction Manager, and both will reflect such payment on the next Certificate for Payment.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment or Project 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 Construction Manager and Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, 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. 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 Construction Manager 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, Construction Manager and Architect on account of portions of the Work done by such Subcontractor.

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§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner, Construction Manager nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

§ 9.7 Failure of Payment

If the Construction Manager and Architect do not issue a Certificate for Payment or a Project Certificate for Payment, through no fault of the Contractor, within fourteen days after the Construction Manager's 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 Construction Manager and Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner, Construction Manager and Architect, 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 shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

§ 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 the Owner can occupy or utilize the Work for its intended use.

§ 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 Contractor shall notify the Construction Manager, and the Contractor and Construction Manager shall jointly prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. 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.

§ 9.8.3 Upon receipt of the list, the Architect, assisted by the Construction Manager, will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect, assisted by the Construction Manager, to determine Substantial Completion.

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§ 9.8.4 When the Architect, assisted by the Construction Manager, determines that the Work of all of the Contractors, or designated portion thereof, is substantially complete, the Construction Manager will prepare, and the Construction Manager and Architect shall execute, a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and 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.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 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, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor and Construction Manager shall jointly prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect after consultation with the Construction Manager.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Construction Manager, Contractor, and Architect 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.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon completion of the Work, the Contractor shall forward to the Construction Manager a notice that the Work is ready for final inspection and acceptance, and shall also forward to the Construction Manager a final Contractor's Application for Payment. Upon receipt, the Construction Manager shall perform an inspection to confirm the completion of Work of the Contractor. The Construction Manager shall make recommendations to the Architect when the Work of all of the Contractors is ready for final inspection, and shall then forward the Contractors' notices and Application for Payment or Project Application for Payment, to the Architect, who will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Construction Manager and Architect will promptly issue a final Certificate for Payment or Project Certificate for Payment stating that to the best of their knowledge, information and belief, and on the basis of their on-site visits and inspections, the Work has been completed in accordance with 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 Construction Manager's and Architect's final Certificate for Payment or Project 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 submits to the Architect through the Construction Manager (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, (3) a written statement that the Contractor knows of no 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 (5) documentation of any special

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warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and 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, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance 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 the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Construction Manager and Architect so confirm, the Owner shall, upon application by the Contractor and certification by the Construction Manager and Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect through the Construction Manager prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- **.1** liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- **.2** failure of the Work to comply with the requirements of the Contract Documents;
- **.3** terms of special warranties required by the Contract Documents; or
- **.4** audits performed by the Owner, if permitted by the Contract Documents, after final payment.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

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 Construction Manager for review and coordination with the safety programs of other Contractors. The Construction Manager's responsibilities for review and coordination of safety programs shall not extend to direct control over or charge of the acts or omissions of the Contractors, Subcontractors, agents or employees of the Contractors or Subcontractors, or any other persons performing portions of the Work and not directly employed by the Construction Manager.

§ 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, a Subcontractor, or a Sub-subcontractor;
- **.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; and
- **.4** construction or operations by the Owner, Separate Contractors, 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 implement, 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

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against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 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. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner, Construction Manager or Architect or anyone directly or indirectly employed by any of them, or by anyone for whose acts any 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, Construction Manager and Architect.

§ 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, notice of the 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 or substances. 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 notify the Owner, Construction Manager and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's 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, Construction Manager and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor, the Construction Manager and the Architect will promptly reply to the Owner in writing stating whether or not any of them has reasonable objection to the persons or entities proposed by the Owner. If the Contractor, Construction Manager or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor, the Construction Manager and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Construction Manager, Architect, their consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of

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bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, 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), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous 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 hazardous 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 reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances 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 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred.

§ 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 Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Construction Manager and Construction Manager's consultants, and the Architect and Architect's consultants, shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.

§ 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 11.1.3 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 furnished.

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice directly to the Owner, and separately to the Construction Manager, of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 11.2 Owner's Insurance

§ 11.2.1 The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.

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§ 11.2.2 Failure to Purchase Required Property Insurance. If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform both the Contractor and the Construction Manager, separately and in writing, prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto.

§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Property Insurance. Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice directly to the Contractor, and separately to the Construction Manager, of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

§ 11.3 Waivers of Subrogation

§ 11.3.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Construction Manager and Construction Manager's consultants; (3) the Architect and Architect's consultants; (4) other Contractors and any of their subcontractors, sub-subcontractors, agents, and employees; and (5) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Construction Manager, Construction Manager's consultants, Architect, Architect's consultants, other Contractors, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this Section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

§ 11.3.2 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance

The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor, Architect, and Construction Manager for loss of use of the Owner's property, due to fire or other hazards however caused.

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§ 11.5 Adjustment and Settlement of Insured Loss

§ 11.5.1 A loss insured under the property insurance required by the Agreement 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 mortgagee clause and of Section 11.5.2. The Owner shall pay the Construction Manager, Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Construction Manager, Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

§ 11.5.2 Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

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

§ 12.1.2 If a portion of the Work has been covered that the Construction Manager or Architect has not specifically requested to examine prior to its being covered, the Construction Manager or Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Construction Manager or Architect or failing to conform to the requirements of the Contract Documents, discovered before 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 Construction Manager's and Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 After Substantial Completion

§ 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 any 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 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. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner, Construction Manager or Architect, the Owner may correct it in accordance with Section 2.5.

§ 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.

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§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 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 construction of the Owner, Separate Contractors, or other Contractors, whether completed or partially completed, 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.

§ 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.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 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. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

§ 13.3 Rights and Remedies

§ 13.3.1 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.

§ 13.3.2 No action or failure to act by the Owner, Construction Manager, Architect, 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 thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 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 Construction Manager and Architect timely notice of when and where tests and inspections are to be made so that the Construction Manager and Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded.

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The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Construction Manager, Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Construction Manager and Architect 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 Construction Manager and Architect of when and where tests and inspections are to be made so that the Construction Manager and Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 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 Construction Manager's and Architect's services and expenses, shall be at the Contractor's expense.

§ 13.4.4 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 Construction Manager for transmittal to the Architect.

§ 13.4.5 If the Construction Manager or Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Construction Manager or Architect will do so promptly and, where practicable, at the normal place of testing.

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

§ 13.5 Interest

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

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, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, 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;
- **.3** Because the Construction Manager has not certified or the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- **.4** The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner, Construction Manager and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.

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§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees, or any other persons performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner, Construction Manager and Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- **.1** repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- **.2** fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- **.3** repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- **.4** otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, after consultation with the Construction Manager, and upon certification by the Architect that sufficient cause exists to justify such action, the Owner 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' 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. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 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.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Construction Manager's and Architect'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, upon application, be certified by the Initial Decision Maker after consultation with the Construction Manager, 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 The Contract Sum and the Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent:

- **.1** that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
- **.2** that an equitable adjustment is made or denied under another provision of this Contract.

§ 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 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

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.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 Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.

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, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Claims

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Construction Manager and Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

§ 15.1.5 Claims for Additional Cost. If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay only one Claim is necessary.

§ 15.1.6.2 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.

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§ 15.1.7 Waiver of Claims for Consequential Damages. The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

.1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and

.2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Decision

§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and binding dispute resolution without a decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties, the Construction Manager, and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of receipt of an initial decision, demand in writing that the other party file for mediation. If such a demand is made and the party receiving the demand fails to file for mediation within 30 days of receipt thereof, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

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§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 Mediation

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.

§ 15.3.4 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 Arbitration

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

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§ 15.4.4 Consolidation or Joinder

§ 15.4.4.1 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as those of the Owner and Contractor under this Agreement.

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Warinanco Park Baseball Field Improvements
Roselle, New Jersey

SUPPLEMENTARY CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

CONSTRUCTION MANAGEMENT EDITION

ARTICLE 16

MODIFICATION OF THE GENERAL CONDITIONS
OF AIA DOCUMENT A232-2019 - GENERAL CONDITIONS OF THE CONTRACT
FOR CONSTRUCTION, CONSTRUCTION MANAGER AS ADVISER EDITION
(the "GENERAL CONDITIONS")

16.1 PRECEDENCE

16.1.1 Wherever these Supplementary Conditions make deletions, revisions. and insertions to the General Conditions, the Supplementary Conditions shall take precedence over the General Conditions.

16.2 MODIFICATIONS OF ARTICLE 1. CONTRACT DOCUMENTS

16.2.1 Add the following under Paragraph 1.1:

1.1.9 ENUMERATION OF THE DRAWINGS, SPECIFICATIONS AND ADDENDA

The Drawings and Specifications which form a part of this Contract are enumerated in the Index of Drawings, found on the plan set Title Sheet, and the List of Contents of the Specifications. The Addenda which form a part of this Contract are enumerated in Article 9 of the Owner-Contractor Agreement.

16.2.2 Add the following under Paragraph 1.4:

1.4.1 The Engineer shall be the sole interpreter of the plans and specifications and the Contractor's performance therewith. It is the intent of these plans and specifications to provide materials of a quality consistent with the average of those provided under similar circumstances in the same general geographical area. The Engineer shall be the sole authority in making such determination.

16.3 MODIFICATIONS OF ARTICLE 2. OWNER

16.3.1 Delete Subparagraph 2.2.3 in its entirety.

1.6.3.2 Delete Subparagraph 2.2.5 in its entirety and insert the following:

2.2.5 The Engineer shall furnish the Contractor, without charge, the following number of sets (black line prints) of drawings and specifications. The Contractor shall make his own additional sets at their expense.

General Contractor - 3 sets

16.4 MODIFICATIONS OF ARTICLE 3. CONTRACTOR

16.4.1 Add the following under Paragraph 3.2:

3.2.5 The Contractor shall forward, through the Construction Manager, to the Engineer written request for supplementary drawings and data needed by him to carry on his work. Such request shall be timed so as to enable the Construction Manager and the Engineer to properly act well in advance of need at the site.

16.4.2 Add the following under Paragraph 3.6

3.6.1 All Contractors, subcontractors, suppliers, etc. are required to pay all applicable taxes as required by law, outside of those taxes for which the Union County Improvement Authority is exempt.

16.4.3 Delete Subparagraph 3.7.1 and substitute the following:

3.7.1.1. All fees and charges, including Engineer review charges are the responsibility of the Contractor for the Work in question. The Contractor is responsible for procuring all permits required by the Bidding and Contract Requirements and by law.

3.7.1.2 If a permit fee is required, the Contractor shall pay the fees and be reimbursed by the Owner upon presentation of receipt for same for the cost of the fee only.

3.7.1.3 If a fee is required for any utility connection, the Contractor shall pay the fee and be reimbursed by the Owner upon presentation of a receipt for same for the fee only.

16.4.5 Add the following under Subparagraph 3.12.8:

3.12.8.1 Work performed contrary to this procedure shall be at the risk and expense of the Contractor. All shop drawings used for fabrication and erection shall be those approved by the Engineer, without change. If change is found to be necessary on any approved shop drawing, product data or sample, it shall be resubmitted for record purposes only.

Add the following under Paragraph 3.12.6

3.12.6.1 All shop drawings shall be submitted within 90 calendar days of the Notice to Proceed, unless required earlier for the progress of the project. No monthly Applications for Payment will be processed thereafter until all shop drawings have been submitted.

16.5 INTENTIONALLY OMITTED

16.6 MODIFICATIONS OF ARTICLE 5. SUBCONTRACTORS

16.6.1 Delete Subparagraph 5.2.1 in its entirety and insert the following:

5.2.1 Within 15 days after Notice to Proceed, the Contractor shall furnish to the Construction Manager in writing for review by the Owner, Construction Manager, and the Engineer, a list of the names of all Subcontractors, Sub-subcontractors, fabricators, manufacturers, sources of supply, articles, devices, fixtures, pieces of equipment, materials and processes proposed for each item of Work on List of Subcontractors, AIA Document G805. The Construction Manager will promptly notify the Contractor in writing if either the Owner, Construction Manager or Engineer, after due investigation, has reasonable objection to any names on such list. Failure of the Owner, Construction Manager, and Engineer to make objection within 10 working days to any name on the list shall constitute acceptance of such name.

5.2.1.1 In submitting the names of Subcontractors, the Contractor shall list 1) the extent or limitations of the trades or work included by Specifications paragraph number, 2) the name and address of the Subcontractor, 3) the name and address of all Sub-subcontractors for each significant subdivision of the trade or work, and if required by the Construction Manager, 4) reference in the form of a list of at least 3 jobs similar in size and quality to this Project performed in the last 5 years, with name and location of work, dollar value and names of the Owner and Engineer.

5.2.1.2 In submitting sources of supply of materials, articles and pieces of equipment including those under subcontracts and sub-subcontracts, the Contractor shall list 1) the extent or limitations of the trades or work included by Specifications paragraph number 2) the name and address of the source of supply 3) the name of the manufacturer of the items.

16.7 MODIFICATION OF ARTICLE 8. TIME

16.7.1 Add the following Paragraph under Article 8:

8.3 DELAYS AND EXTENSIONS OF TIME

8.3.1 The Owner shall have right to defer the beginning or to suspend the whole or any part of the Work herein Contracted to be done whenever, in the opinion of the Engineer /Construction Manager, it may be necessary or expedient for the Owner to do so. If the Contractor is delayed in completion of the Work by any act or neglect or default of the Owner or of any other Contractor employed by the Owner, or by changes ordered in the Work, or by strikes, lockouts, fire, unusual delay by common carriers, unavoidable casualties, or any cause beyond the Contractor's control or by any cause which the Engineer /Construction Manager shall decide to justify the delay, then for all such delays and suspensions the Contractor shall be allowed one day additional to the time limitations herein stated for each and every day of such delay so caused in the completion of the Work, the same to be ascertained solely by the Engineer /Construction Manager, and a similar allowance of extra time will be made for such delays as the Engineer /Construction Manager may find to have been caused by the Owner.

(1) No such extensions of time shall be made for any one or more delays unless within 24 hours after the beginning of such delays a written request for additional time shall be filed with the Engineer/Construction Manager. In case of a continuing cause of delay, only one request is necessary.

(2) No claim for damages or any claim other than for extensions for time as herein provided shall be made or asserted against the Owner/ Engineer/Construction Manager by reason of any of the delays herein mentioned.

(3) Anything contained in the Contract to the contrary notwithstanding, the Contractor shall not be entitled to damages or extra compensation.

8.3.4 Where the cause of delay is due to weather conditions, extension of time shall be granted only for unusually severe weather, as determined by reference to historical data. The term "historical data" as used in the preceding sentence shall be construed according to this formula: Average rainfall (or snow or low temperature) for the past five years for the month in question, plus 10 percent. In other words, weather is not deemed to be unusually severe unless it is 10 percent worse than the average for that month over the last five years.

8.3.5. Apart from extension of time, and notwithstanding anything to the contrary in the General Conditions, no payment or allowance of any kind shall be made to the Contractor as compensation for damages on account of hindrance or delay from any cause in the progress of the Work, whether such delay be avoidable or unavoidable, ,unless such delay is caused solely by the act(s) of the Owner. The Contractor agrees that he will make no claim for compensation, damages for any such delays, and will accept in full satisfaction for such delays said extension of time.

8.4 COMPLETION AND LIQUIDATED DAMAGES

8.4.1 The Contractor shall substantially complete all the Work included in the Contract Documents ready for the Owner's utilization and occupancy as defined in Subparagraphs 8.1.3 of the General Conditions within the time stated in these Documents subject to extensions of Contract time as provided in Paragraph 8.3 of the General Conditions.

8.4.2 Pursuant to the provisions of Subparagraph 8.4.1, for each calendar day delay in said completion, the Contractor shall pay to the Owner as liquidated damages, and not as a penalty, the sum noted in Section 1.32 of the Request for Bids, and each Contractor and his surety shall be liable for the amount thereof.

8.4.3 Any delay attributable to lack of coordination or cooperation by or between the Contractor and his Subcontractors will not be recognized by the Owner as the basis for any claim for increase in the Contract Sum, but shall be settled as provided in Paragraph 6.2 of the General and Supplementary Conditions.

8.4.4 In the event of the failure of the Contractor to complete the said Work within the time stated in his

proposal, the Contractor shall be liable to the Owner in the sum listed in these documents for each calendar day that the Work shall be and remain in an incomplete state of construction, alteration or repair, as the case may be, and for added administrative and inspection costs to the Owner on account of delay. The liquidated damages provided for herein shall not prevent the Owner, in the alternative, from seeking other consequential losses or damages that the Owner may incur by reason of such delay, such as, but not limited to, added costs of the project and the cost of furnishing temporary services , if any. Any such sums for which the Contractor is liable may be deducted by the Owner from any monies owed to the Contractor.

8.4.5 It is hereby understood and mutually agreed, by and between the Contractor and the Owner, that the date of beginning and the time for completion of the Contract are ESSENTIAL CONDITIONS of this Contract; and it is further mutually understood and agreed that the Work embraced in this Contract shall be commenced on a date to be specified in the "Notice to Proceed".

8.4.5.1 The Contractor agrees that the Work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will insure full completion thereof within the time stated in the Bidding and Contract Requirements and the Contractor's proposal.

8.4.6 If the Contractor shall neglect, fail or refuse to complete the Work within the time herein specified, or any proper extension thereof granted by the Owner, then the Contractor does hereby agree, as a part consideration for the awarding of this Contract, to pay to the Owner the amount specified, not as a penalty but as liquidated damages for such breach of Contract as hereinafter set forth, for each and every calendar day that the Contractor shall be in default after the time stipulated in the Contract for completing the Work.

8.4.6.1 Liquidated Damages in the amount set forth in the Bidding and Contract Requirements is fixed and agreed upon by and between the Contractor and the Owner because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the Owner would sustain for such breach, , and said amount is agreed to be the amount of damages the Owner would sustain. Liquidated Damaged shall be retained from time to time by the Owner from current periodical estimates.

8.4.6.2 The Contractor shall not be charged with liquidated damages or any excess cost if the Owner has determined that the Contractor is without fault and the Contractor's reasons for a request for an extension of time are acceptable to the Owner. The Contractor shall not be charged with liquidated damages of any excess cost when the delay in the completion of the Work is due to:

a. any preference, priority or allocation order duly issued by the Owner;

b. unforeseeable cause beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God, or the public enemy, acts of the Owner, acts of another contractor in the performance of a contract with the Owner which acts are contrary to the terms of such contract, fires, floods, epidemics, quarantine restrictions, freight embargoes, and severe weather; as defined herein, and

c. any delays of Subcontractors or suppliers occasioned by any of the causes specified in subsections (a) and (b) of this article:

d. provided, further, that the Contractor shall, within 24 hours from the beginning of such delay, unless the Owner shall grant a further period of time prior to the date of final settlement of the Contract, notify the Owner, in writing of the causes of the delay. The Owner shall first ascertain the facts and extent of the delay and notify the Contractor within a reasonable time that good cause has been shown to warrant the granting of an extension.

8.4.7. It is further agreed that time is of the essence of each and every portion of this Contract and the specifications wherein a definite and certain length of time is fixed for performance of any act whatsoever. In the event additional time is allowed for the completion of any Work, the new time limit fixed by such extension shall be of the essence of this Contract.

8.4.7.1 If job progress has been adversely affected by the unexcused non-attendance of the Contractor at a scheduled job meeting of which he has been duly notified, such adverse effect shall be considered as job delay, the Contractor shall be subject to payment of damages to the Owner in an amount not to exceed $100.00 for each occurrence.

16.8 MODIFICATIONS OF ARTICLE 9. PAYMENTS AND COMPLETION

16.8.1 Delete Subparagraph 9.3.2 in its entirety and insert the following:

9.3.2 Payments on account of materials or equipment not incorporated in the Work but delivered and suitably stored at the site, or at some other location agreed upon in writing, will be made by the Owner subject to the following conditions:

9.3.2.1 Such materials or equipment shall have been fabricated or assembled specifically for the Project and delivered to storage no earlier than needed for the orderly progress of the Work as demonstrated by the Progress Schedule.

9.3.2.2 Title to such materials or equipment shall pass to the Owner pursuant to the Contractor's bill of sale which shall contain guarantee of replacement thereof in the event of damage thereto or disappearance thereof due to any cause. The Contractor shall also affirm that he will pay for such materials or equipment immediately upon receipt of payment therefor from the Owner.

9.3.2.3 In the case of offsite storage, the Contractor shall also provide consent of Surety to such payment and insurance of such materials or equipment against the perils set forth in Subparagraph 11.3.1 of the General Conditions both while storage and during transportation to the site.

9.3.2.4 Raw materials or other materials or equipment readily duplicated or usable on other projects will be paid for only after the materials are incorporated in the construction.

16.8.2 Add the following under Subparagraph to 9.4.1.

9.4.1.1 Until final completion of the entire Project, the Owner shall retain 2% of the amount due to Contractor on account of progress payments, until all Releases, Guarantees, Warranties, Record Documents, Certificates of Inspection of Governing Authorities, Maintenance Manuals, Certifications, etc., are delivered to the Architect at the end of the entire Contract.

16.8.3 Add the following under Subparagraph t 9.9.1

9.9.1.1 The Owner reserves the right to occupy any portion of the Project which is ready for occupancy prior to completion and acceptance of the Project, so long as all required governmental permits have been obtained.
.

9.9.1.2 The occupancy of any portion of the Project does not waive the Owner's right to liquidated damages or constitute the Owner’s acceptance of any Work, as the Project will be accepted as a whole and not in units. Prior to partial occupancy, the Engineer, a representative of the Owner, and the Contractor shall fully inspect the portions of the Project to be occupied, and prepare a complete list of omissions of materials, faulty workmanship, and items to be repaired, torn out, or replaced. The Owner shall assume responsibility for damage to the premises so occupied of any items not on the aforesaid list when such damage is due to greater than normal wear and tear; however, the Owner shall not assume responsibility for improper, omitted, or defective workmanship or materials.

16.9 MODIFICATIONS OF ARTICLE 11. INSURANCE AND BONDS

ARTICLE 11 – INSURANCE AND BONDS

Delete 11.1, 11.2, 11.3, and 11.4 in their entirety and substitute the following:

Note: 1.5, Bonding, in AIA Document A20, should be retained unless the Owner wishes to use alternative wording.

11.1 - General Insurance Requirements

11.1.1 The Contractor shall not commence the Work until the Contractor has obtained, at the Contractor's own expense, all of the insurance required hereunder and such insurance has been approved by the Owner; nor shall the Contractor allow any Subcontractor to commence work on any subcontract until all insurance required of the Subcontractor has been obtained and approved by the Contractor. The Owner shall approve the insurance required of the Contractor only upon the Contractor's submission to the Owner of original certificates of insurance signed by authorized representatives of the insurers or, at the Owner's request, certified copies of the required insurance policies.

11.1.2 Insurance as required hereunder shall be in force throughout the term of the Contract and for one year after final acceptance of the Project by Owner in accordance with 11.3.1.1.iv hereof. Original certificates signed by authorized representatives of the insurers or, at the Owner's request, certified copies of insurance policies, evidencing that the required insurance is in effect, shall be maintained with the Owner throughout the term of the Contract and for one year after final acceptance of the Project by Owner.

11.1.3 During the term of the Contract, the Contractor shall require all Subcontractors to maintain Contractor commercial general liability insurance, business auto liability insurance, workers compensation insurance, and employers liability insurance, (and umbrella excess or excess liability insurance) to the same extent required of the Contractor in 11.3.1.1, 11.3.1.2 and 11.3.1.3 (and 11.3.1.4) unless any such requirement is expressly waived or amended by the Owner in writing. The Contractor shall furnish Subcontractors' certificates of insurance to the Owner immediately upon request.

11.1.4 All insurance policies required hereunder shall be endorsed to provide that the policy may not be cancelled, non-renewed or materially reduced in coverage until sixty (60) days prior written notice has been given to the Owner. Accordingly, the phrases "endeavor to" and "…but failure to mail such notice shall impose no obligation or liability of any kind upon the company, its agents or representatives" are to be eliminated from the cancellation provision of standard ACORD certificates of insurance.

11.1.5 No acceptance and/or approval of any insurance by the Owner shall be construed as relieving or excusing the Contractor or the Contractor's Surety from any liability or obligation imposed upon either or both of them by the provisions of this Contract.

11.1.6 Not used.

11.1.7 All required insurance coverage must be underwritten by insurers allowed to do business in the State of New Jersey and acceptable to the Owner. The insurers must also have a policyholders' rating of "A" or better, and a financial size of "Class VII" or better in the latest evaluation by A. M. Best Company, unless Owner grants specific approval for an exception.

11.1.8 Any deductibles or retentions in excess of $10,000 shall be disclosed by the Contractor, and are subject to Owner's written approval. Any deductible or retention amounts elected by the Contractor or imposed by the Contractor's insurer(s) shall be the sole responsibility of the Contractor.

11.1.9 Any and all return premiums and/or dividends for insurance coverage directly charged to the Owner by the Contractor in connection with this Contract shall belong to and be payable to the Owner.

11.1.10 If the Owner is damaged by the failure or neglect of the Contractor to purchase and maintain insurance as described and required herein, without so notifying the Owner, then the Contractor shall bear all costs properly attributable thereto.

11.2 - Owner's Liability Insurance

11.2.1 The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance. In the alternative, and solely at the Owner's option, the Owner may self-insure its liability exposures.

11.3 - Contractor's Liability Insurance

11.3.1 The Contractor shall purchase and maintain the following insurance coverage to insure against claims which may arise out of or result from the Contractor's operations under the Contract, and for which the Contractor may be legally liable, whether such operations be by the Contractor or a Subcontractor or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable. Insurance shall be written for not less than the limits specified below or required by law, whichever is greater.

11.3.1.1 Commercial general liability insurance or its equivalent for bodily injury, personal injury and property damage including loss of use, with minimum limits of:

$1,000,000 each occurrence;
$1,000,000 personal and advertising injury;
$2,000,000 general aggregate per project;
$2,000,000 products/completed operations aggregate.

This insurance shall include coverage for all of the following:

i. General aggregate limit applying on a per project basis;

ii. Liability arising from premises and operations;

iii. Liability arising from the actions of independent contractors;

iv. Liability arising from products and completed operations with such coverage to be maintained for two years after completion of the Work;

v. Contractual liability including protection for the Contractor from bodily injury and property damage claims arising out of liability assumed under this Contract; and

vi. Liability arising from the explosion, collapse, or underground (XCU) hazards.

11.3.1.2 Business auto liability insurance or its equivalent with a minimum limit of $1,000,000 per accident and including coverage for all of the following:

i. Liability arising out of the ownership, maintenance or use of any auto; and

ii. Automobile Contractual liability.

11.3.1.3 Workers compensation insurance or its equivalent with statutory benefits as required by any state or federal law, including "other states" coverage; employers liability insurance with minimum limits of:

$100,000 each accident for bodily injury by accident;
$100,000 each employee for bodily injury by disease; and
$500,000 policy limit for bodily injury by disease.

11.3.1.4 Umbrella excess liability to be purchased by the Prime Contractors and Sub-Contractors

with minimum limits:

Contractors:
($5,000,000) per occurrence:
($5,000,000) aggregate for other than products/completed operations and auto liability and
($5,000,000) products/completed operations aggregate.

Sub-contractor:
($1,000,000) per occurrence:
($1,000,000) aggregated for other than products/completed operations and auto liability and
($1,000,000) products/completed operations aggregate

and including all of the following coverage on the applicable schedule of underlying insurance:

i. Commercial general liability;

ii. Business auto liability; and

iii Employers liability.

11.3.1.5 Owner, Union County Improvement Authority, and the County of Union, and their elected and appointed officials, officers, consultants, agents and employees (the "Insured Parties") shall be named as additional insured on the Contractors commercial general liability insured and umbrella excess or excess liability insurance policies with respect to liability arising out of the Contractors products, installation, and/or services products provided under this Contract. Such coverage shall extend to cover the additional insured for liability arising out of the following:

i Ongoing operations;

ii Owner's general supervision and/or services as provided by the Contractor under this Contract; and

iii Products and completed operations.

The commercial general liability policy and the umbrella liability or excess liability policies, if required herein, must include additional insured language in i., ii. and iii. as follows:

"This policy is amended to include as insured Owner (Union County Improvement Authority), the County of Union, and their elected and appointed officials, officers, consultants, agents and employees, but only for liability arising out of "your product" or "your work" for the Union County Improvement Authority by or for you."

Special Note: ISO forms GC 2009 and CG 2010 entitled, "Additional Insured - Owners, Lessees or Contractors - Scheduled Person or Organization" (previously Forms A and B respectively) and CG 2033 entitled, "Additional Insured - Owners, Lessees or Contractors - Automatic Status When Required in Construction Agreement with You" are not acceptable. A manuscript endorsement with the above wording is required. Copy of the endorsement is to be included with all certificates of insurance.

11.3.1.6 Insurance or self-insurance provided to the Insured Parties under any Contractor's liability insurance or self-insurance required herein, including, but not limited to, umbrella or excess liability policies, shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of insurance or self-insurance. (Any cross suits or cross liability exclusion shall be deleted from Contractor's liability insurance policies required herein.)

11.3.1.7 Insurance or self-insurance provided to the Insured Parties shall be primary, and any other insurance, self-insurance, coverage or indemnity available to the Owner and Owner's elected and appointed officials, officers, consultants, agents and employees shall be excess of and non-contributory with insurance or self-insurance provided to the Owner and Owner's elected and appointed officials, officers, consultants, agents and employees as specified herein.

11.3.1.8 Installation Floater All Risk form, on a replacement cost basis for supplies and materials until they have been inspected and approved by the Owner.

11.3.2 If any liability insurance purchased by the Contractor has been issued on a "claims made" basis, the Contractor must comply with the following additional conditions:

11.3.2.1 The Contractor shall agree to provide certificates of insurance evidencing the above coverage for a period of one year after final payment of the Contract. Such certificates shall evidence a retroactive date no later than the beginning of the Work under this Contract; or

11.3.2.2 The Contractor shall purchase, at its own expense, an extended (minimum two years) reporting period endorsement for each "claims made" policy in force as of the date of final acceptance. The Contractor shall provide evidence the purchase of an extended reporting period endorsement by means of certificate of insurance or a copy of the endorsement itself, which . shall state a retroactive date no later than the beginning of the Work under this Contract.

11.3.3 Certificates of Insurance shall show the Certificate Holder as follows:

THE UNION COUNTY IMPROVEMENT AUTHORITY

10 Elizabethtown Plaza 5th Floor
Elizabeth, New Jersey 07202

Certificates of Insurance that do not contain the above-stated Certificate Holder information will not be accepted by the Owner and may delay Contract approval.

INSURANCE SPECIFICATION ADDENDUM

Prior to Contractor submitting a Certificate of Insurance to the Owner, it is suggested that the Contractor check with their insurance agent to assure that the insurance company shown on their Certificate has a proper spread of risk, soundness of reinsurance, quality of assets, adequacy of loss reserves and experience of management which qualifies it to receive the A.M. Best Rate as described herein.

The insurance should be furnished by insurance companies with an "A:VII" or better as published in the most recent edition of Best Insurance Key Ratings and shall be authorized to conduct business in the State of New Jersey.

11.4 - Builders Risk Insurance (Owner to Purchase)

11.4.1 The insurance required by this Paragraph 11.4 is not intended to cover machinery, tools or equipment owned or rented by the Contractor, or its Subcontractors, which are utilized in the performance of the Work but not incorporated into the permanent improvements. The Contractor and its Subcontractors, shall, at their own expense, purchase and maintain property insurance coverage for owned, leased or rented machinery, tools or equipment. The Contractor, and its Subcontractors, hereby waive all rights against the Owner and its elected and appointed officials, officers, agents, employees and consultants for property damage to or loss of use of such machinery, tools or equipment to the extent that such property damage or loss of use is covered by the Contractor's or Subcontractor's property or equipment floater insurance or other similar property insurance maintained by the Contractor or its Subcontractors. The policies shall provide such waivers of subrogation by endorsement or otherwise.

Note: 11.5, Bonding is to be retained unless the Owner wishes to use alternative means

16.9.2 Change paragraph 11.4 Performance Bond and Payment Bond to 11.5, change subparagraph 11.4.1 to 11.5.1, change subparagraph 11.4.2 to 11.5.2

16.9.3 Add the following under Paragraph 11.5:

11.5.3 The Contractor shall require the attorney in fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of his power of attorney indicating the monetary limit of such power.

16.10 MODIFICATIONS OF ARTICLE 12. UNCOVERING AND CORRECTION OF WORK

16.10.1 Delete Subparagraph 12.1.1 in its entirety and insert the following:

12.1.1 If any portion of Work should be covered contrary to the instruction of the Engineer or the Construction Manager, or to requirements specifically expressed in the Contract Documents, it shall, if required by the Owner, the Engineer and the Construction Manager, be uncovered for observation, inspection, testing or approval, and the Work shall be replaced, as the case may be, at the Contractor's expense.

16.10.2 Add the following Subparagraph under Paragraph 12.2:

12.2.6 If, in the opinion of the Engineer and the Construction Manager, the Contractor delays final completion of his work beyond a reasonable time after the Date of Substantial Completion of the Project to such extent that the period between the Date of Substantial Completion of the Project and the end of the guarantee period becomes less than eleven months, the start of the guarantee period shall be the date of the final Project Certificate of Payment in lieu of the Date of Substantial Completion of the Project.

16.11 MODIFICATIONS OF ARTICLE 13. MISCELLANEOUS PROVISIONS

16.11.1 Delete Subparagraph 13.5.1 in its entirety and insert the following:

13.5.1 The Owner, through a licensed independent testing agent and laboratory, shall conduct all tests, inspections and approvals of portions of the Work, as required by the Contract Documents and applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Except as provided in Section 13.5.1.1, and Section 15.2.1, the Owner shall bear the costs of such testing.

13.5.1.1 When Work has been installed contrary to any Contract requirement and the Contractor requests the privilege of testing in lieu of removal, such testing shall be at the Contractor's expense.

Delete Subparagraph 13.5.2. in its entirety

Subparagraph 13.5.3 becomes new Subparagraph 13.5.2.

Delete Subparagraphs 13.5.4., 13.5.5 and 13.5.6 in their entirety

16.12 MODIFICATIONS OF ARTICLE 15 CLAIMS AND DISPUTES

The following will take precedence over Article 15 CLAIMS AND DISPUTES:

1 General. All Claims asserted by the Contractor against the Authority shall be subject to the New Jersey Tort Claims Act, N.J.S.A. 59: I - I ct seq.

2 Notice of Claim. The Contractor shall file notice of its Claim on a form provided by the Authority, which form shall be completed in its entirety and signed by the Contractor. Incomplete forms will be rejected and have no effect.

3 False Claims Liability. The Contractor shall be held liable and subject to all penalties and damages under the New Jersey False Claims Act. N.J.S.A. 2A:32C- I et seq., for any false or fraudulent Claim submitted to the Authority.

4 Review of Claims. The administrative process for review of Claims is sequential in nature and mandatory. The Authority's Claims procedure is composed of the following steps:
Step One: Review by the Authority
Step Two: Non-binding Mediation

Completion of the two (2) steps of Claims review is a mandatory prerequisite to the initiation of litigation by e ither Party.

5 Compliance with Claim Review Procedure. Each Claim will begin its review at Step One. A Claim will not proceed to the next step unless the Contractor submits a written objection to the prior step and requests that its Claim proceeds to the next step. If at any step in the process a Claim is resolved, the Contractor must sign a full and final release as to any and all matters arising from the Claim.

6 Step One: The Authority's Review.

6.1 The Contractor must provide to the CM and the Authority the required forms as required by this Section in order to begin the Authority's administrative process for the review of Claims. The Contractor shall also submit to the Authority all documentation supporting the Contractor's Claim. The documentation provided to the Authority will serve as the basis for evaluation of the Contractor's position regarding the Claim throughout Step One of the administrative process. the Contractor shall submit additional information upon request by the Authority. No formal action will be taken by the Authority unless and until the Authority receives complete Claim documentation front the Contractor.

6.2 Authority Review and Decision. At the option of the Authority, a meeting may be scheduled with the Contractor, the Authority and the CM to discuss the Claim. The Authority shall render its decision regarding the Claim in writing within thirty (30) Days of the receipt of the required forms and all supporting documentation or within thirty (30) Days of any meeting with the Contractor, the Authority and the CM, whichever is later. This time limit may be extended by mutual agreement of the Parties. the Contractor, within fifteen (15) Days of the receipt of the decision by the Authority, shall accept or reject the Authority's decision in writing. If the Contractor neither accepts nor rejects in writing the Authority's decision within fifteen (I5) Days, the Claim will be considered withdrawn from the administrative process and there will be no further administrative remedy available to the Contractor for the subject Claim.

7 Step Two: Non-Binding Mediation. If the Contractor rejects in writing the decision of the Authority, there is no further automatic administrative review of the Claim. Within fifteen (l5) Days after issuance of a Certificate of Occupancy or Certificate of Acceptance for this Project, the Contractor may request in writing that any or all outstanding Claims regarding this Project, which include any or all Claims that have been processed through Step One of the Claim resolution process, and that were neither withdrawn nor considered withdrawn from the process be submitted to Step Two, non-binding mediation. Such request shall be sent to the Authority and shall specifically identify which Claim(s) are to be submitted to Step Two. Any Claim not specifically identified shall be deemed withdrawn. No Claim will proceed automatically to Step Two and the Contractor must make a specific written request that the Claim be elevated to Step Two. Step Two will not be available until after the issuance of a Certificate of Occupancy or Certificate of Acceptance, unless an earlier time for submission of the Claim to Step Two is agreed to by the Contractor and the Authority. The cost of non-binding mediation shall be shared equally by the Contractor and the Authority. The mediator shall be selected by the Authority, with the concurrence of the Contractor. The rules for the mediation shall be agreed to by the Authority, the Contractor and the mediator prior to the start of the mediation. The mediation will not proceed, however, if the Parties fail to agree on the rules for the mediation, in which case Step Two will be deemed complete.

16.12.1 Delete Paragraph 15.3.2 in its entirety and insert the following:

15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties agree otherwise, shall be conducted by a mediator chosen by the parties. The mediator shall conduct the mediation in accordance with the rules of the American Arbitration Association, unless the parties agree otherwise. A party's request for mediation shall be made in writing to the other party.

16.12.2 Delete Paragraph 15.4 in its entirety and add the following:

15.3.4 In the event the parties are unable to mediate a Claim(s) to conclusion, either party may proceed to litigate the Claim(s) in any court of competent jurisdiction in the State of New Jersey.

END OF SUPPLEMENTARY CONDITIONS

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 <u>not</u> 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**

	03/07/25
Journeyman (Mechanic)	W46.23 B31.42 T77.65

Craft: Air Conditioning & Refrigeration - Service and Repair **APPRENTICE RATE SCHEDULE**

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

Ratio of Apprentices to Journeymen - 1:4

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**

	01/12/24
Foreman	W54.11 B47.08 T101.19
General Foreman	W56.11 B48.14 T104.25
Journeyman	W49.11 B45.31 T94.42

Craft: Boilermaker **APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
1000 Hours	65%	70%	75%	80%	85%	90%	95%			
Benefit =	38.33	39.30	40.32	41.31	42.32	43.32	44.30			

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 7.5 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, hoilday or any other circumstances beyond the employer's control.

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

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**

	01/12/24
Foreman	W35.88 B17.89 T53.77
General Foreman	W36.38 B17.89 T54.27
Mechanic	W34.38 B17.89 T52.27

Craft: Boilermaker - Minor Repairs **COMMENTS/NOTES**

NOTE: These rates apply to MINOR REPAIR WORK ONLY (repair work in the field for which the contract amount does not exceed $125,000.00), for boilers that do not produce electric or are not used in the heating of petroleum products.

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

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

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Bricklayer, Stone Mason **PREVAILING WAGE RATE**

	05/13/25
Deputy Foreman	W52.60 B38.68 T91.28
Foreman	W57.35 B38.68 T96.03
Journeyman	W49.60 B38.68 T88.28

Craft: Bricklayer, Stone Mason **APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
6 Months	40%	50%	55%	60%	65%	70%	75%	80%		
Benefits	4.66	5.83	6.41	6.99	25.90	27.73	29.57	31.38		

Ratio of Apprentices to Journeymen - 1:5

Craft: Bricklayer, Stone Mason **COMMENTS/NOTES**

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

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

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

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Memorial Day, July 4th, Labor 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**

	06/03/25
Foreman	W66.03 B39.70 T105.73
General Foreman	W74.65 B44.81 T119.46
Journeyman	W57.42 B34.60 T92.02

Craft: Carpenter **APPRENTICE RATE SCHEDULE**

INTERVAL	**PERIOD AND RATES**									
Yearly	40%	55%	65%	80%	90%					
Benefit	59.25% of	Appren	tice	Wage Rate	for all	intervals	+ $0.58			

Ratio of Apprentices to Journeymen - 1:3

For Solar installation- all work on solar projects that fall under the jurisdiction of the carpenters, and does not require an electrician, the ratio of Apprentices to Journeymen shall be 1:1.

Craft: Carpenter **COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES REGISTERED AS OF 5-1-19:

INTERVAL PERIOD AND RATES
Yearly 40% 55% 65% 80%
Benefits 59.25% of apprentice wage rate for all intervals + $0.58

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.
- When there are 36 or more Carpenters on a job, there shall be 1 General Foreman and 2 Foremen. Thereafter, an additional Foreman shall be required for each additional 10 Carpenters on a job.

The regular workday shall consist 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 rate plus 10%, inclusive of benefits.
- When a three shift schedule is established, the first shift shall be established on an 8 hour basis, the second shift on a 7.5 hour basis, and the third shift on a 7 hour basis. The first shift shall receive the regular hourly rate, the second shift shall receive the regular rate plus 10% and the third shift shall receive the regular rate plus 15%, inclusive of benefits.
- When there is no day shift, and a second or third shift is established, it shall be established on an 8 hour basis. The second shift shall receive the regular rate plus 10% and the third shift shall receive the regular rate plus 15%, inclusive of benefits.
- When an irregular shift must be established, this shift shall receive the regular rate plus 15%, inclusive of benefits.
- All time worked before and after a regularly established shift shall be paid at the applicable overtime rate. When a portion

of the regularly established shift works into Saturday, Sunday or a holiday, that time worked shall be paid at the established shift rate.

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, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. 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: Carpenter - Resilient Flooring **PREVAILING WAGE RATE**

	05/01/25
Foreman	W66.03 B39.62 T105.65
Journeyman	W57.42 B34.52 T91.94

Craft: Carpenter - Resilient Flooring **APPRENTICE RATE SCHEDULE**

INTERVAL	**PERIOD AND RATES**									
Yearly	40%	55%	65%	80%	90%					
Benefit	59.25%	of	Appren	tice	Wage Rate	for all	intervals	+ $0.50		

Ratio of Apprentices to Journeymen - *

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

Craft: Carpenter - Resilient Flooring **COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES REGISTERED AS OF 5-1-19:

INTERVAL PERIOD AND RATES
Yearly 40% 55% 65% 80%
Benefits 59.25% of apprentice wage rate for all intervals + $0.50.

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 10%.
- 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 10% and the third shift shall receive the regular wage rate plus 15%.
- 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 10% and the third shift shall receive the regular wage rate plus 15%.
- When an irregular shift must be established, this shift shall receive the regular rate plus 15%, inclusive of benefits.

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.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday. 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: Cement Mason **PREVAILING WAGE RATE**

See "Bricklayer, Stone Mason" Rates

Craft: Cement Mason **APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									

Ratio of Apprentices to Journeymen - 1:4

Craft: Cement Mason **COMMENTS/NOTES**

See "Bricklayer, Stone Mason" Rates

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Commercial Painter **PREVAILING WAGE RATE**

	05/01/25
Foreman	W50.11 B31.61 T81.72
General Foreman	W54.66 B31.61 T86.27
Journeyman	W45.55 B31.61 T77.16

Craft: Commercial Painter **APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
6 Months	40%	45%	55%	65%	70%	75%	80%	80%		
Benefits	9.84	9.84	12.55	12.55	13.65	13.65	16.55	16.55		

Ratio of Apprentices to Journeymen - 1:4

Craft: Commercial Painter **COMMENTS/NOTES**

* Commercial Painters perform work on all commercial structures such as offices, schools, hotels, shopping malls, restaurants, condominiums, etc.

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

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

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

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

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

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Memorial Day, July 4th, Labor Day, General Election Day,

Veterans' Day, Thanksgiving Day, Christmas Day.

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Diver **PREVAILING WAGE RATE**

	05/01/25
Diver	W65.97 B53.74 T119.71
Tender	W54.23 B53.74 T107.97

Craft: Diver **COMMENTS/NOTES**

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

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

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

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

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

SHIFT DIFFERENTIAL:
- 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 an additional 113% of the wage rate.
- When a three shift schedule is established, all three shifts shall be established on an 8 hour basis, but the second and third shifts shall receive an additional 113% of the wage rate.
- Benefits on shift work shall be paid at the straight-time rate.

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

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

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Dockbuilder/Pile Driver **PREVAILING WAGE RATE**

	05/01/25
Foreman	W62.36 B53.74 T116.10
Foreman (Concrete Form Work)	W61.26 B40.39 T101.65
Journeyman	W54.23 B53.74 T107.97
Journeyman (Concrete Form Work)	W53.27 B40.39 T93.66

Craft: Dockbuilder/Pile Driver **APPRENTICE RATE SCHEDULE**

INTERVAL	**PERIOD AND RATES**									
Yearly	21.69	27.12	35.25	43.38						
Benefits	35.34	for all	intervals							

Ratio of Apprentices to Journeymen - *

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

Craft: Dockbuilder/Pile Driver **COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE FOR CONCRETE FORM WORK ONLY:

INTERVAL PERIOD AND RATES
Yearly 21.31 26.64 34.63 42.62
Benefits 27.41 for all intervals

NOTE: The following shall be required for type of work indicated-
- There shall be one foreman and four journeymen on all land pile driving rigs. As part of the crew, one may be an apprentice.
- There shall be one foreman and two journeymen on self-contained hydraulic driving rigs. As part of the crew, one may be an apprentice.
- There shall be one foreman and two journeymen when driving sheeting with an excavator. As part of the crew, one may be an appprentice.
- When utilizing a drill rig to install Auger cast piles there shall be one foreman and two journeymen. As part of the crew , one may be an apprentice.
- There shall be one foreman and one journeyman on drilled or bored soldier piles.
- There shall be one foreman and not less than one journeyman per rig on all drilled shaft and caissons.
- There shall be one foreman and not less than one journeyman per rig on all earth retention tie-back and anchors.
- There shall be one foreman and three joruneymen for driving of piles 60 feet or less. As part of the crew, one may be an apprentice.

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/Pile Driver on the job shall be designated a Foreman.

SHIFT DIFFERENTIAL:
- 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 an additional 113% of the wage rate.
- When a three shift schedule is established, all three shifts shall be established on an 8 hour basis, but the second and third shifts shall receive an additional 113% of the wage rate.
- Benefits on shift work shall be paid at the straight-time rate.

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

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

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Drywall Finisher **PREVAILING WAGE RATE**

	05/13/25
Foreman	W49.36 B31.65 T81.01
General Foreman	W51.60 B31.65 T83.25
Journeyman	W44.87 B31.65 T76.52

Craft: Drywall Finisher **APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	22.44	29.17	35.90	40.38						
Benefits	17.98	17.98	17.98	17.98						

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**

	06/02/25	06/01/26	05/31/27
Cable Splicer	W71.97 B47.29 T119.26	W74.71 B49.10 T123.81	W77.32 B50.81 T128.13
Foreman (11-20 Journeymen)	W76.55 B50.31 T126.86	W79.47 B52.21 T131.68	W82.24 B54.05 T136.29
Foreman (1-3 Journeymen)	W71.97 B47.29 T119.26	W74.71 B49.10 T123.81	W77.32 B50.81 T128.13
Foreman (4-10 Journeymen)	W75.24 B49.44 T124.68	W78.11 B51.33 T129.44	W80.83 B53.12 T133.95
General Foreman (21-30 Journeymen)	W78.52 B51.59 T130.11	W81.51 B53.56 T135.07	W84.35 B55.43 T139.78
General Foreman (31-60 Journeymen)	W85.06 B55.89 T140.95	W88.30 B58.02 T146.32	W91.38 B60.05 T151.43
General Foreman (61+ Journeymen)	W86.37 B56.75 T143.12	W89.65 B58.92 T148.57	W92.78 B60.97 T153.75
Journeyman	W65.43 B43.00 T108.43	W67.92 B44.64 T112.56	W70.29 B46.19 T116.48
Sub-Foreman	W74.59 B49.02 T123.61	W77.43 B50.88 T128.31	W80.13 B52.66 T132.79

Craft: Electrician **APPRENTICE RATE SCHEDULE**

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

Ratio of Apprentices to Journeymen - 2:3

Craft: Electrician **COMMENTS/NOTES**

THESE RATES ALSO APPLY TO THE FOLLOWING:
-All burglar and fire alarm work.
-All fiber optic work.
-Teledata work in new construction.
-Teledata work involving 16 Voice/Data Lines or more.

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

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

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

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

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

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

County - UNION

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

	12/02/24
Journeyman Technician (1-2 Workers on Job)	W48.21 B28.45 T76.66
Master Tech/General Foreman (26 + Workers on Job)	W62.67 B36.99 T99.66
Senior Technician/Lead Foreman (16-25 Workers on Job)	W57.37 B33.86 T91.23
Technician A/Foreman (9-15 Workers on Job)	W54.96 B32.43 T87.39
Technician B/Working Foreman (4-8 Workers on Job)	W52.55 B31.01 T83.56
Technician C/Foreman (3 Workers on Job)	W50.14 B29.59 T79.73

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

INTERVAL	**PERIOD AND RATES**									
6 Months	35%	35%	40%	43%	48%	54%	61%	67%	74%	81%
Benefits	7.45	7.45	8.51	9.15	10.22	11.49	12.98	14.26	15.76	17.24

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 11-28-22:

NTERVAL PERIOD AND RATES
6 Months 35% 35% 40% 43% 48% 54% 61% 67% 74% 81%
Benefits 7.67 7.67 8.76 9.43 10.52 11.84 13.38 14.69 16.22 17.76

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES ENTERING PROGRAM AFTER 12-4-23:

NTERVAL PERIOD AND RATES
6 Months 35% 35% 40% 43% 48% 54% 61% 67% 74% 81%
Benefits 7.88 7.88 9.00 9.68 10.80 12.15 13.73 15.09 16.66 18.23

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES ENTERING PROGRAM AFTER 12-2-24:

NTERVAL	PERIOD AND RATES									
6 Months	35%	35%	40%	43%	48%	54%	61%	67%	74%	81%
Benefits	8.07	8.07	9.22	9.91	11.07	12.45	14.06	15.44	17.06	18.68

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 7:00 AM and 5:30 PM.

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 before or after 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. Hours in excess of 10 on Saturday and all hours on Sunday and holidays shall be paid at double the regular rate, inclusive of benefits.
- Four 10-hour days may be worked Monday through Friday, between the hours of 7:00 AM and 5:30 PM. A make-up day may be used for a day not being worked during the four 10-hour day schedule if a holiday occurs during the week or for any other conditions that prevent an employee from working the four 10-hour day schedule.

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. Saturday holidays will be observed the preceding Friday.

County - UNION

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

See "Electrician" Rates

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

See ELECTRICIAN Rates

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Electrician- Outside Commercial **PREVAILING WAGE RATE**

	06/03/25	06/01/26	05/31/27
Cable Splicer	W72.30 B46.96 T119.26	W75.05 B48.75 T123.80	W77.67 B50.45 T128.12
Certified Welder	W69.01 B44.83 T113.84	W71.65 B46.54 T118.19	W74.14 B48.16 T122.30
Equipment Operator	W65.73 B42.70 T108.43	W68.23 B44.32 T112.55	W70.61 B45.87 T116.48
Foreman (11-20 Journeymen workers on job)	W76.90 B49.95 T126.85	W79.83 B51.85 T131.68	W82.62 B53.67 T136.29
Foreman (1-3 Journeymen workers on job)	W72.30 B46.96 T119.26	W75.05 B48.75 T123.80	W77.67 B50.45 T128.12
Foreman (4-10 Journeymen workers on job)	W75.58 B49.09 T124.67	W78.47 B50.97 T129.44	W81.21 B52.75 T133.96
General Foreman (21-30 Journeymen workers on job)	W78.88 B51.24 T130.12	W81.88 B53.19 T135.07	W84.74 B55.04 T139.78
General Foreman (31-60 Journeymen workers on job)	W85.45 B55.50 T140.95	W88.70 B57.62 T146.32	W91.80 B59.63 T151.43
General Foreman (61+ Journeymen workers on job)	W86.76 B56.36 T143.12	W90.06 B58.50 T148.56	W93.21 B60.54 T153.75
Groundman	W39.44 B25.62 T65.06	W40.94 B26.60 T67.54	W42.37 B27.52 T69.89
Journeyman Lineman/Technician	W65.73 B42.70 T108.43	W68.23 B44.32 T112.55	W70.61 B45.87 T116.48
Sub-Foreman	W74.93 B48.67 T123.60	W77.79 B50.53 T128.32	W80.50 B52.29 T132.79

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	64.95% of	Journey	man	wage	+ $.01					

Craft: Electrician- Outside Commercial **COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE AS OF 6-1-26:

Interval Period and Rates
1000 Hours 60% 65% 70% 75% 80% 85% 90%
Benefits 64.95% of the Journeyman wage + $.01

APPRENTICE RATE SCHEDULE AS OF 5-31-27:

Interval Period and Rates
1000 Hours 60% 65% 70% 75% 80% 85% 90%
Benefits 64.95% of the Journeyman wage + $.01

* FOR UTILITY WORK PLEASE SEE STATEWIDE RATES

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

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

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

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

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

Thanksgiving Day and Christmas Day.

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Electrician-Utility Work (North) **PREVAILING WAGE RATE**

Rates are located in the "Statewide" rate package

Craft: Electrician-Utility Work (North) **APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
* 6 Months	60%	65%	70%	75%	80%	85%	90%			
Benefits	69% of	Appren	tice	Wage	Rate	for all	intervals			

Craft: Electrician-Utility Work (North) **COMMENTS/NOTES**

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

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

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

County - UNION

Craft: Electrician-Utility Work (South) **PREVAILING WAGE RATE**

Rates are located in the "Statewide" rate package

Craft: Electrician-Utility Work (South) **APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
6 Months	33.69	36.50	39.31	42.11	44.92	47.73	50.54			
Benefits	29.97	31.72	33.46	35.21	36.96	38.71	40.45			

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**

	08/26/25	03/17/26	03/17/27	03/17/28
Journeyman	W83.27 B47.65 T130.92	W86.43 B48.96 T135.39	W89.76 B50.27 T140.03	W92.93 B51.92 T144.85

Craft: Elevator Constructor **APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	35.73	45.80	54.13	62.45						
Benefits	36.90	37.99	39.70	41.40						

Ratio of Apprentices to Journeymen - 1:1

Craft: Elevator Constructor **COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE AS OF 3-17-26:

INTERVAL	PERIOD AND RATES			
Yearly	37.10	47.54	56.18	64.82
Benefits	37.66	38.80	40.60	42.39

APPRENTICE RATE SCHEDULE AS OF 3-17-27:

INTERVAL	PERIOD AND RATES			
Yearly	38.54	49.37	58.34	67.32
Benefits	38.42	39.62	41.50	43.39

APPRENTICE RATE SCHEDULE AS OF 3-17-28:

INTERVAL	PERIOD AND RATES			
Yearly	39.90	51.11	60.41	69.70
Benefits	39.67	40.91	42.86	44.81

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**

	08/26/25	03/17/26	03/17/27	03/17/28
Journeyman	W65.54 B46.47 T112.01	W68.06 B47.73 T115.79	W70.72 B49.00 T119.72	W73.20 B50.61 T123.81

Craft: Elevator Modernization & Service **APPRENTICE RATE SCHEDULE**

INTERVAL	**PERIOD AND RATES**									
Yearly	35.73	36.05	42.60	49.16						
Benefits	36.88	37.58	39.20	40.83						

Ratio of Apprentices to Journeymen - 1:1

Craft: Elevator Modernization & Service **COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE AS OF 3-17-26:

INTERVAL	PERIOD AND RATES			
Yearly	37.10	37.43	44.24	51.05
Benefits	37.63	38.37	40.09	41.81

APPRENTICE RATE SCHEDULE AS OF 3-17-27:

INTERVAL	PERIOD AND RATES			
Yearly	38.54	38.90	45.97	53.04
Benefits	38.39	39.17	40.98	42.79

APPRENTICE RATE SCHEDULE AS OF 3-17-28:

INTERVAL	PERIOD AND RATES			
Yearly	39.90	40.26	47.58	54.90
Benefits	39.65	40.45	42.32	44.18

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

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

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

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

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

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

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

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Glazier **PREVAILING WAGE RATE**

	05/01/25
* Leadman	W54.68 B33.23 T87.91
Foreman	W56.68 B33.47 T90.15
General Foreman	W58.68 B33.71 T92.39
Journeyman	W52.68 B32.99 T85.67

Craft: Glazier **APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
6 Months	46%	46%	55%	55%	61%	61%	70%	70%		
Benefits	13.67	13.67	15.45	15.45	18.92	18.92	20.65	20.65		

Ratio of Apprentices to Journeymen - 1:4

Craft: Glazier **COMMENTS/NOTES**

Hazard/Height Pay: +$1.00 per hour

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

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

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

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

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

rate.

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

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Heat & Frost Insulator **PREVAILING WAGE RATE**

	09/25/24
Foreman	W61.97 B39.22 T101.19
General Foreman	W64.31 B40.33 T104.64
Journeyman	W59.44 B38.66 T98.10

Craft: Heat & Frost Insulator **APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	27.89	33.09	39.84	46.51						
Benefits	22.35	26.53	29.50	32.61						

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 7:00 AM and 3:30 PM. In addition, the regular workday may also be 8 hours between 6:00 AM and 2:30 PM.

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

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

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

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Heat & Frost Insulator - Asbestos Worker **PREVAILING WAGE RATE**

	09/25/24
Asbestos Helper Abatement	W36.89 B24.92 T61.81

Craft: Heat & Frost Insulator - Asbestos Worker **APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	SEE	HEAT &	FROST	INSULATOR						

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 7:00 AM and 3:30 PM. In addition, the regular workday may also be 8 hours between 6:00 AM and 2:30 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: Industrial Painter- Bridges **PREVAILING WAGE RATE**

	02/07/25	02/01/26
Foreman	W64.80 B37.40 T102.20	W0.00 B0.00 T104.20
General Foreman	W67.30 B37.40 T104.70	W0.00 B0.00 T106.70
Journeyman	W59.80 B37.40 T97.20	W0.00 B0.00 T99.20

Craft: Industrial Painter- Bridges **APPRENTICE RATE SCHEDULE**

INTERVAL	**PERIOD AND RATES**									
6 Months	50%	70%	90%							
Benefits	14.62	21.61	28.11							

Ratio of Apprentices to Journeymen - 1:3

Craft: Industrial Painter- Bridges **COMMENTS/NOTES**

* Industrial Painters perform work on all industrial structures, such as bridges.

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, except Veterans Day, which shall be paid at time and one-half the regular rate.
- During a regular work week schedule, Saturday may be used as a make-up day lost to inclement weather, paid at the regular rate.
- Four 10-hour days may be worked, at the regular rate, Monday through Thursday. When the four 10-hour day schedule is used, the 11th and 12th hours shall be paid at time and one-half the regular rate. After the 12th hour, a worker shall be paid at double the regular rate. Friday may be used as a make-up day lost to inclement weather, paid at 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: Industrial Painter- Structural Steel **PREVAILING WAGE RATE**

	02/07/25	02/01/26
Foreman	W53.54 B35.05 T88.59	W0.00 B0.00 T90.59
General Foreman	W56.04 B35.05 T91.09	W0.00 B0.00 T93.09
Journeyman	W48.54 B35.05 T83.59	W0.00 B0.00 T85.59

Craft: Industrial Painter- Structural Steel **APPRENTICE RATE SCHEDULE**

INTERVAL	**PERIOD AND RATES**									
	SEE	INDUST	RIAL	PAINTER	BRIDGES					

Ratio of Apprentices to Journeymen - 1:3

Craft: Industrial Painter- Structural Steel **COMMENTS/NOTES**

* Industrial Painters perform work on all industrial structures, such as water tanks, waste water facilitites, refineries, any structural steel work, etc.

These rates apply to: All work in power plants (any aspect). On steeples, on dams, on hangers, transformers, substations, on all open steel, in refineries, tank farms, water/sewerage treatment facilities and on pipelines.

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

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

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

OVERTIME:
- Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays and Sundays shall be paid at time and one-half the regular rate. All hours on holidays shall be paid at double the regular rate, except for Veterans Day, which shall be paid at time and one-half the regular rate.
- During the regular work week schedule, Saturday may be used to make-up a day lost to inclement weather, paid at the regular rate.
- Four 10-hour days may be worked, at the regular rate, Monday through Thursday. When the four 10-hour day schedule is used, the 11th and 12th hours shall be paid at time and one-half the regular rate. After the 12th hour, a worker shall be paid at double the regular rate. Friday may be used as a make-up day lost to inclement weather, paid at 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: Industrial Painter- Water Tanks **PREVAILING WAGE RATE**

	02/07/25	02/01/26
Foreman	W54.59 B34.70 T89.29	W0.00 B0.00 T91.29
General Foreman	W57.09 B34.70 T91.79	W0.00 B0.00 T93.79
Journeyman	W49.59 B34.70 T84.29	W0.00 B0.00 T86.29

Craft: Industrial Painter- Water Tanks **APPRENTICE RATE SCHEDULE**

INTERVAL	**PERIOD AND RATES**									
6 Months	50%	70%	90%							
Benefits	14.62	21.61	28.11							

Ratio of Apprentices to Journeymen - 1:3

Craft: Industrial Painter- Water Tanks **COMMENTS/NOTES**

* Industrial Painters perform work on all industrial structures, such as water tanks, waste water facilitites, refineries, any structural steel work, etc.

These rates apply to: All new and repaint 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, except Veterans Day, which shall be paid at time and one-half the regular rate.
- During a regular work week schedule, Saturday may be used to make-up a day lost to inclement weather, paid at the regular rate.
- Four 10-hour days may be worked, at the regular rate, Monday through Thursday. When the four 10-hour day schedule is used, the 11th and 12th hours shall be paid at time and one-half the regular rate. After the 12th hour, a worker shall be paid at double the regular rate. Friday may be used as a make-up day lost to inclement weather, paid at 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: Ironworker **PREVAILING WAGE RATE**

	07/01/25
Rod /Fence Foreman	W54.94 B51.87 T106.81
Rod/Fence Journeyman	W49.94 B51.87 T101.81
Structural Foreman	W57.47 B51.87 T109.34
Structural Journeyman	W52.24 B51.87 T104.11

Craft: Ironworker **APPRENTICE RATE SCHEDULE**

INTERVAL	**PERIOD AND RATES**									
6 Months	50%	60%		Yearly	70%	80%	90%			
Benefits	same as	journeyman	amount							

Ratio of Apprentices to Journeymen - 1:4

Craft: Ironworker **COMMENTS/NOTES**

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

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

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

SHIFT DIFFERENTIALS:
- When a 2 shift schedule is established, the first, or day shift , shall be established on an 8 hour basis .The second shift shall be established on an 8 hour basis, and receive the regular rate plus 15%.
- When a three shift schedule is established, the first shift shall be established on an 8 hour basis, the second shift on a 7.5 hour basis, and the third shift on a 7 hour basis. The first shift shall receive the regular hourly rate, the second shift shall receive the regular rate plus 15%, and the third shift shall receive the regular rate plus 20%.
- When there is no day shift, and a second or third shift is established, it shall be established on an 8 hour basis.
- When an irregular shift is established for the Ironworker (Structural) classification, the rate shall be paid at time and one-half the regular rate, inclusive of benefits. When an irregular shift is established for the Rod /Fence classification, the shift shall be established on an 8 hour basis and receive the regular rate, plus 20%.

OVERTIME:

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

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

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Laborer - Asbestos & Hazardous Waste Removal **PREVAILING WAGE RATE**

	08/01/25
Foreman	W46.44 B26.21 T72.65
Journeyman (Handler)	W41.28 B26.21 T67.49

Craft: Laborer - Asbestos & Hazardous Waste Removal **APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	22.47	28.55	32.62	36.70						
Benefits	22.31	for	all	intervals						

Ratio of Apprentices to Journeymen - *

* Ratio of apprentices to journeymen shall not be more than one apprentice for the first journeyman and no more than (1) apprentice for each additional three (3) journeymen.

Craft: Laborer - Asbestos & Hazardous Waste Removal **COMMENTS/NOTES**

NOTE: These rates apply to work in connection with Asbestos, Radiation, Hazardous Waste, Lead, Chemical, Biological, Mold Remediation and Abatement.

The regular workday shall be 8 hours.

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

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

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Laborer - Building **PREVAILING WAGE RATE**

	06/18/25
Class A Journeyman	W40.25 B33.87 T74.12
Class B Journeyman	W39.25 B33.87 T73.12
Class C Journeyman	W33.36 B33.87 T67.23
Foreman	W45.28 B33.87 T79.15
General Foreman	W50.31 B33.87 T84.18

Craft: Laborer - Building **APPRENTICE RATE SCHEDULE**

INTERVAL	**PERIOD AND RATES**									
6 Months	60%	70%	80%	90%	of Class B	wage rate				
Benefit	30.62	30.62	30.62	30.62						

Ratio of Apprentices to Journeymen - *

* Ratio of apprentices to journeymen shall not be more than one apprentice for the first journeyman and no more than (1) apprentice for each additional three (3) journeymen.

Craft: Laborer - Building **COMMENTS/NOTES**

CLASS A: Specialist laborer including mason tender or concrete pour crew; scaffold builder (scaffolds up to 14 feet in height); operator of forklifts, Bobcats (or equivalent machinery), jack hammers, tampers, motorized tampers and compactors, vibrators, street cleaning machines, hydro demolition equipment, riding motor buggies, conveyors, burners; and nozzlemen on gunite work.
CLASS B: Basic laborer - includes all laborer work not listed in Class A or Class C.
CLASS C: Janitorial-type light clean-up work associated with the TURNOVER of a project, or part of a project, to the owner. All other clean-up work is Class B.

The regular workday shall be 8 hours between 6:00 AM and 6:00 PM.

SHIFT DIFFERENTIALS:
- Shift work must run for a minimum of 5 consecutive workdays.
- When a 2-shift schedule is worked, including a day shift, both shifts shall be established on the basis of 8 hours pay for 8 hours worked. The second shift shall receive the regular rate plus an additional 10%.
- When a 3-shift schedule is worked, the day shift shall be established on the basis of 8 hours pay for 8 hours worked, the second shift shall be established on the basis of 8 hours pay for 7.5 hours worked, and the third shift shall be established

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%.
- When an irregular shift must be established this shift shall receive the regular rate plus an additional 10%.

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

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

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Laborer - Heavy & General **PREVAILING WAGE RATE**

Rates are located in the
"Statewide" rate package

Craft: Laborer - Heavy & General **APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
1000 Hours	60%	70%	80%	90%						
Benefit	25.08	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.

As of 3-1-25, benefits shall be 26.13.
As of 3-1-26, benefits shall be 27.13.

Craft: Laborer - Heavy & General **COMMENTS/NOTES**

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

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Laborer-Residential and Modular Construction **PREVAILING WAGE RATE**

	04/01/25	04/01/26	04/01/27
* Skilled Tradesman (only applies to Modular Construction)	W36.00 B5.45 T41.45	W36.50 B5.45 T41.95	W37.00 B5.45 T42.45
Foreman (person directing crew, regardless of his skill classification)	W38.00 B5.45 T43.45	W38.50 B5.45 T43.95	W39.00 B5.45 T44.45
Residential and Modular Construction Laborer	W32.00 B5.45 T37.45	W32.50 B5.45 T37.95	W33.00 B5.45 T38.45

Craft: Laborer-Residential and Modular Construction **APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
As shown	800 hours	600 hours	600 hours							
wage & benefit	70%	80%	90%							

Ratio of Apprentices to Journeymen-

One (1) apprentice shall be allowed for the first journeyman on site and no more than one (1) additional apprentice for each additional three (3) journeymen on site.

Craft: Laborer-Residential and Modular Construction **COMMENTS/NOTES**

* SKILLED TRADESMAN-
any worker doing work not typically done by a Building Laborer. Some examples are installing interior doors, sheet rock, hooking up appliances, installing light fixtures, installing railing systems, etc. Please note where local building codes require that certain work be performed under the supervision of a licensed tradesman (i.e. Plumber, Electrician, etc.) Laborers shall work under such supervision.

RESIDENTIAL CONSTRUCTION- All residential construction (not commercial), single-family, stand-alone duplex houses, townhouses and multi-family buildings of not more than four (4) floors. Each housing unit must be fully and independently functional; each housing unit must have its own kitchen and bathroom. The definition includes all incidental items such as site work, parking areas, utilities, streets and sidewalks. Please note the construction must be Residential in nature. A First Floor at or below grade may contain commercial space not to exceed 50% square footage of the floor; at least 50% of the First Floor must contain living accommodations or related nonresidential uses (e.g. laundry space, recreation/hobby rooms, and/or corridor space). Basement stories below grade used for storage, parking, mechanical systems/equipment, etc., are considered basement stories which are not used in determining the building's height. An attic is an unfinished space located immediately below the roof. Such space is not used in determining a building's height even if used for storage purposes. In addition, barracks and dormitories are not considered residential projects.

MODULAR RESIDENTIAL CONSTRUCTION- all aspects of modular residential construction (not commercial) at the site of installation of structures of no more than four (4) stories, including all excavation and site preparation, footings and foundation systems whether poured on-site or prefabricated, all underground waterproofing, underground utilities, concrete slabs, sidewalks, driveways, paving, hardscape and landscaping. Please note the construction must be Residential as defined above. All work performed by the Set Crew (the crew of workers who set the modular boxes on the foundation), including the rigging, setting, attaching and assembly of all modules and structural members, preparation of the foundation

to accept modules, such as sill plates, connection of all in-module and under-module connections including, but not limited to, plumbing, electrical, HVAC, fire suppression, CAT5, telephone, television/internet, and fiber optic, the building or installation of any porches or decks regardless of material or method of construction, the on-site installation of, or completion of any roof system, doors, windows and fenestrations, including flashing, gutter and soffit systems, waterproofing, insulation and interior and exterior trim work, and painting. Please note that modular construction does not include on-site stick built construction, tip up construction or panel built construction.

The regular workday shall be 8 hours between 6:00 AM and 6:00 PM.

OVERTIME:
Hours worked in excess of 8 per day/40 per week, Monday through Saturday, and all hours worked on Sunday and holidays shall be paid at time and one-half the hourly rate.

RECOGNIZED HOILDAYS:
New Year's Day, Martin Luther King Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day and Christmas Day.

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Millwright **PREVAILING WAGE RATE**

	05/01/25
Foreman	W67.67 B40.72 T108.39
Journeyman	W58.84 B35.49 T94.33

Craft: Millwright **APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
6 Months	40%	55%	65%	80%	90%					
Benefits	59.25% of	Appren	tice	Wage	Rate	for all	intervals	+ $0.63		

Ratio of Apprentices to Journeymen - 1:3

Craft: Millwright **COMMENTS/NOTES**

FOREMAN REQUIREMENTS:
- When there are 2 or more Millwrights on a job, 1 shall be designated as a Foreman.

The regular workday shall consist 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 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.
- When an irregular shift must be established, this shift shall receive the regular rate plus 15%, 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, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday. 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: Operating Engineer **PREVAILING WAGE RATE**

Rates are located in the
"Statewide" rate package

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

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 - Line Striping **PREVAILING WAGE RATE**

	12/03/24
Apprentice (1st year)	W31.33 B16.18 T47.51
Apprentice (2nd year)	W35.74 B27.13 T62.87
Foreman (Charge Person)	W45.12 B27.91 T73.03
Journeyman 1 (at least 1 year of working exp. as a journeyman)	W40.35 B27.91 T68.26
Journeyman 2 (at least 2 years of working exp. as a journeyman)	W44.12 B27.91 T72.03

Craft: Painter - Line Striping **APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									

Ratio of Apprentices to Journeymen - 1:1

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: Paperhanger **PREVAILING WAGE RATE**

	05/01/25
Foreman	W55.12 B31.61 T86.73
Journeyman	W50.11 B31.61 T81.72

Craft: Paperhanger **APPRENTICE RATE SCHEDULE**

INTERVAL	**PERIOD AND RATES**									
	SEE	COMMER	CIAL	PAINTER						

Craft: Paperhanger **COMMENTS/NOTES**

FOREMEN REQUIREMENTS:
- When there are 4 or more Paperhangers on a job, 1 shall be designated a Foreman.

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

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

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

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

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Pipefitter **PREVAILING WAGE RATE**

	05/06/25
Foreman	W60.59 B54.63 T115.22
Journeyman	W56.34 B50.80 T107.14

Craft: Pipefitter **APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	35%	45%	55%	65%	75%					
Benefit	28.73	32.11	35.49	38.87	42.25					

Ratio of Apprentices to Journeymen - 1:5

Craft: Pipefitter **COMMENTS/NOTES**

FOREMAN REQUIREMENTS:
- When there are 2 or more Journeyman Pipefitters on a job, 1 shall be designated a Foreman.
- There shall be a Foreman for every 8 Journeyman Pipefitters on a job.

The regular workday shall be 8 hours between 7:00 AM and 3:30 PM.

SHIFT DIFFERENTIAL:
- 2nd Shift (3:30 PM-11:30 PM) shall work 7.5 hours and receive 8 hours pay at the regular rate, plus 10% per hour on the total rate.
- 3rd Shift (11:30 PM-7:00 AM) shall work 7 hours and receive 8 hours pay at the regular rate, plus 15% per hour on the total rate.

OVERTIME:
- All hours worked in excess of 8 per day, Monday through Friday, and all hours worked on Saturday, shall be paid at time and one-half, inclusive of benefits. All hours on Sunday and holidays shall be paid at double time, inclusive of benefits.
- By mutual agreement, employees may work four 10-hour days, Monday to Thursday, at straight time rate. Friday may be used as a make-up day for a day lost to inclement weather, and may be paid at straight time. If Friday is not a make-up day, the first 8 hours shall be paid at time and one-half, inclusive of benefits; hours in excess of 8 shall be paid at double time, inclusive of benefits.

SHIFT DIFFERENTIAL (Maintenance Work Only):
- 2nd Shift (3:30 PM-11:30 PM) shall work 7.5 hours and receive 8 hours pay at the regular rate, plus 10% per hour on the total rate.
- 3rd Shift (11:30 PM-7:00 AM) shall work 7 hours and receive 8 hours pay at the regular rate, plus 15% per hour on the total rate.

OVERTIME (Maintenance Work Only):
- All hours in excess of 8 per day, Monday through Saturday, shall be paid at time and one-half, inclusive of benefits. All

hours on Sundays and holidays shall be paid at double time, inclusive of benefits.

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

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

County - UNION

Craft: Plasterer **PREVAILING WAGE RATE**

See Bricklayer, Stone Mason Rates

Craft: Plasterer **COMMENTS/NOTES**

See BRICKLAYER, STONE MASON Rates

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Plumber **PREVAILING WAGE RATE**

	05/01/25
Foreman	W67.06 B45.40 T112.46
General Foreman	W71.40 B45.40 T116.80
Journeyman	W62.09 B45.40 T107.49

Craft: Plumber **APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	35%	45%	55%	65%	75%					
Benefits	19.23	25.20	27.57	29.95	32.32					

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 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**

	06/01/25
Foreman	W48.77 B33.34 T82.11
Journeyman	W45.77 B33.34 T79.11

Craft: Roofer **APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
6 Months	17.80	22.26	26.71	28.94	31.16	33.39	35.62	40.07		
Benefits	2.19	2.19	28.34	28.34	28.34	28.34	28.34	28.34		

Ratio of Apprentices to Journeymen - *

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

Craft: Roofer **COMMENTS/NOTES**

APPRENTICE RATE SCHEDULE AS OF 6-1-25:

INTERVAL	PERIOD AND RATES							
6 Months	18.30	22.88	27.46	29.75	32.03	34.33	36.62	41.19
Benefits	2.44	2.44	29.09	29.09	29.09	29.09	29.09	29.09

Pitch: +.50 per hour

Mop Man: +.30 per hour

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

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

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

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Sheet Metal Sign Installation **PREVAILING WAGE RATE**

	04/03/25
Foreman	W46.50 B46.30 T92.80
Journeyman	W43.50 B46.30 T89.80

Craft: Sheet Metal Sign Installation **APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
1000 hours	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%
Benefits	15.35	17.52	19.67	21.83	24.51	26.71	28.93	31.12	33.34	35.53

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 though 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**

	07/02/25
Foreman	W63.84 B51.93 T115.77
General Foreman	W64.84 B51.93 T116.77
Journeyman	W59.84 B51.93 T111.77

Craft: Sheet Metal Worker **APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	45%	48%	52%	65%	of	Journey	man	Wage	Rate	
Benefit	45%	48%	52%	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**

	07/01/25
Foreman	W74.77 B42.30 T117.07
General Foreman	W78.36 B42.30 T120.66
Journeyman	W69.97 B42.30 T112.27

Craft: Sprinkler Fitter **APPRENTICE RATE SCHEDULE**

INTERVAL	**PERIOD AND RATES**									
1000 Hours									80%	85%
Benefits							Intervals	9 to 10	Jourymn	Ben.

Craft: Sprinkler Fitter **COMMENTS/NOTES**

Apprentice rate schedule for those apprentices registered as of 7-1-13:

Interval Period and Rates
1000 Hrs. 25% 30% 40% 45% 55% 60% 70% 75% 85% 90%
Ben. 14.90 14.90 32.30 32.30 32.30 32.30 Intervals 7-10 Journy. Ben.

Apprentice rate schedule for those apprentices registered as of 7-1-22:

Interval Period and Rates
1000 Hrs. 30% 35% 40% 45% 50% 55% 60% 70% 85% 95%
Ben. 14.90 14.90 32.30 32.30 32.30 32.30 Intervals 7-10 Journy. Ben.

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

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

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

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

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, 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: Tile Finisher-Marble **PREVAILING WAGE RATE**

	07/08/25
Finisher	W50.44 B38.15 T88.59

Craft: Tile Finisher-Marble **APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
750 Hours	27.60	41.50	44.98	48.45	51.94	54.81	64.66			
Benefits	27.01	30.11	30.88	31.66	32.43	38.66	40.97			

Ratio of Apprentices to Journeymen - 1:4

Craft: Tile Finisher-Marble **COMMENTS/NOTES**

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

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

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Tile Setter - Ceramic **PREVAILING WAGE RATE**

	06/19/25
Finisher	W50.05 B33.90 T83.95
Setter	W64.90 B37.28 T102.18

Craft: Tile Setter - Ceramic **APPRENTICE RATE SCHEDULE**

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

Ratio of Apprentices to Journeymen - 1:4

Craft: Tile Setter - Ceramic **COMMENTS/NOTES**

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

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

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Tile Setter - Marble **PREVAILING WAGE RATE**

	07/08/25
Tile Setter	W64.66 B40.97 T105.63

Craft: Tile Setter - Marble **APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
750 Hours	27.60	41.50	44.98	48.45	51.94	54.81	64.66			
Benefits	27.01	30.11	30.88	31.66	32.43	38.66	40.97			

Ratio of Apprentices to Journeymen - 1:4

Craft: Tile Setter - Marble **COMMENTS/NOTES**

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

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

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Tile Setter - Mosaic & Terrazzo **PREVAILING WAGE RATE**

	07/01/25
Grinder or Assistant	W60.17 B42.80 T102.97
Mechanic	W61.77 B42.82 T104.59
Terrazzo Resinous Worker	W51.28 B35.12 T86.40

Craft: Tile Setter - Mosaic & Terrazzo **APPRENTICE RATE SCHEDULE**

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

Ratio of Apprentices to Journeymen - 1:5

Craft: Tile Setter - Mosaic & Terrazzo **COMMENTS/NOTES**

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

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

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

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Truck Driver **PREVAILING WAGE RATE**

	05/16/25	05/01/26	05/01/27
Bucket, Utility, Pick-up, Fuel Delivery trucks	W46.41 B45.28 T91.69	W47.41 B47.28 T94.69	W48.41 B49.03 T97.44
Dump truck, Asphalt Distributor, Tack Spreader	W46.41 B45.28 T91.69	W47.41 B47.28 T94.69	W48.41 B49.03 T97.44
Euclid-type vehicles (large, off-road equipment)	W46.51 B45.28 T91.79	W47.51 B47.28 T94.79	W48.51 B49.03 T97.54
Helper on Asphalt Distributor truck	W46.41 B45.28 T91.69	W47.41 B47.28 T94.69	W48.41 B49.03 T97.44
Low Boy Driver	W48.51 B45.28 T93.79	W49.51 B47.28 T96.79	W50.51 B49.03 T99.54
Slurry Seal, Seeding/Fertilizing/ Mulching truck	W46.41 B45.28 T91.69	W47.41 B47.28 T94.69	W48.41 B49.03 T97.44
Straight 3-axle truck	W46.41 B45.28 T91.69	W47.41 B47.28 T94.69	W48.41 B49.03 T97.44
Tractor Trailer (all types)	W46.51 B45.28 T91.79	W47.51 B47.28 T94.79	W48.51 B49.03 T97.54
Vacuum or Vac-All truck (entire unit)	W46.41 B45.28 T91.69	W47.41 B47.28 T94.69	W48.41 B49.03 T97.44
Winch Trailer	W46.61 B45.28 T91.89	W47.61 B47.28 T94.89	W48.61 B49.03 T97.64

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: $1.00 per hour above regular rate. Overtime shall be increased accordingly.

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): + $5.00 per hour.
- Shifts starting at 12:00 AM (midnight/3rd Shift): time and one-half the hourly rate.
- Shifts starting at a time other than from 6:00 AM to 8:00 AM, when such hours are mandated by the project owner: + $5.00 per hour.

OVERTIME:
- Hours in excess of 8 per day, or before or after the regular workday, Monday through Friday, that are not shift work, and all hours on Saturdays shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Employees may work four 10-hour days at straight time, Monday through Thursday, with Friday used as a make-up day for a lost day. If Friday is not a make-up day, then all hours on Friday shall be paid at time and one-half the hourly rate.
-Benefits on overtime shall be $45.03.
-Benefits on overtime on 5-1-26 shall be $47.03.
-Benefits on overtime on 5-1-27 shall be $48.78.

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Memorial Day (Decoration Day), July 4th, Labor Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday. The day after Thanksgiving may be substituted for Veteran's Day.

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Truck Driver-Material Delivery Driver **PREVAILING WAGE RATE**

	05/16/25	05/01/26	05/01/27
Driver	W37.12 B45.28 T82.40	W37.82 B47.28 T85.10	W38.72 B49.03 T87.75

Craft: Truck Driver-Material Delivery Driver **COMMENTS/NOTES**

BLENDED RATE:
When a truck driver is performing work on the site and also serving as a material delivery driver, the driver shall be paid a "blended rate". See the "Truck Driver" craft for the blended rates.

Truck Foreman/Shop Steward: +$0.25 per hour

SHIFT DIFFERENTIALS:
- 2nd Shift shall receive an additional $0.50 per hour
- 3rd Shift shall receive time and one-half the hourly rate.

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

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Memorial Day (Decoration Day), July 4th, Labor Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday. The day after Thanksgiving may be substituted for Veterans Day.

Craft: Welder **PREVAILING WAGE RATE**

Welder

Craft: Welder **COMMENTS/NOTES**

Welders rate is the same as the craft to which the welding is incidental.

STATEWIDE RATES

TERRITORY

ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

OPERATING ENGINEERS **Rates Expiration Date :**

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

The regular workday consists of 8 hours, Monday to Friday, between 6:00 AM and 5:30 PM.

SHIFT DIFFERENTIALS:
- Shift work must be established for 5 consecutive workdays.
- Any work started outside of the allowed start time, 6:00 AM to 9:00 AM, except for * tidal work, shall be considered an irregular shift and paid at straight time, plus 15% for the first eight hours, inclusive of benefits.
- * FOR TIDAL WORK- a contractor can start their job according to tide schedules (tide schedules are the various high and low tides related to this work), providing the eight hour shift is completed between the hours of 5:00 AM and 6:30 PM.
- All time worked in excess of an established shift (an established shift is a shift that is determined at the time of the bid) shall be paid at the applicable overtime rate. When a portion of an established shift works into Saturday, Sunday or a holiday, that time worked shall be paid at the established shift rate.
- When working with other trades who receive a higher irregular shift differential, these employees shall also receive the higher differential 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 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 regular rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with all hours on Friday paid at time and one-half the regular rate, inclusive of benefits.

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

For projects bid after April 1, 2020, on hazardous waste removal work of any kind, including a state or federally designated site, where the operating engineer is required to wear level A, B, or C personal protection, the operating engineer shall receive an hourly wage rate of his regular hourly wage plus $5.00 per hour.
- An operating engineer working at a hazardous waste removal project or site at a task requiring hazardous waste related certification, but who is not working in a zone requiring level A, B, or C personal protection, shall receive an hourly wage rate of his regular rate plus $1.00 per hour.

OPERATING ENGINEERS **Rates Expiration Date :**

Effective Dates:

07/01/2025

Rate	Fringe	Total
60.13	40.40	100.53

CLASSIFICATIONS:

A-Frame

Backhoe (combination)

Boom Attachment on loaders (Except pipehook)

Boring & Drilling Machine

Brush Chopper, Brush Shredder, Tree Shredder, Tree Shearer

Bulldozer, finish grade

Cableway

Carryall

Concrete Pump

Concrete Pumping System (Pumpcrete & similar types)

Conveyor, 125 feet or longer

Drill Doctor (Duties include dust collector and maintenance)

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

Grader, finish

Groove Cutting Machine (ride-on type)

Heater Planer

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

Hydraulic Crane (10 tons & under)

Hydraulic Dredge

Hydro-Axe

Hydro-Blaster

OPERATING ENGINEERS **Rates Expiration Date :**

Effective Dates:

07/01/2025

Rate	Fringe	Total
60.13	40.40	100.53

CLASSIFICATIONS:

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

Log Skidder

Pan

Paver, concrete

Plate & Frame Filter Press

Pumpcrete (unit type)

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

Scraper

Side Boom

Straddle Carrier (Ross and similar types)

Whiphammer

Winch Truck (hoisting)

OPERATING ENGINEERS **Rates Expiration Date :**

Effective Dates:

07/01/2025

Rate	Fringe	Total
58.22	40.40	98.62

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 (Hetzel, Rexomatic & similar types)

Concrete Vibrator

OPERATING ENGINEERS **Rates Expiration Date :**

Effective Dates:

07/01/2025

Rate	Fringe	Total
58.22	40.40	98.62

CLASSIFICATIONS:

Conveyors - under 125 feet

Crane Signalman

Crushing Machine

Directional Boring Machine

Ditching Machine - Small (Ditchwitch, Vermeer or similar types)

Dope Pot - Mechanical (with or without pump)

Dumpster

Elevator

Fireman

Fork Lift (Economobile, Lull & similar types)

Front End Loader (1 cu. yd. and over but less than 2 cu. yds.)

Generator (2 or 3 battery)

Giraffe Grinder

Goldhofer/Hydraulic Jacking Trailer

Grader & Motor Patrols

Grout Pump

Gunnite Machine (Excluding nozzle)

Hammer - Vibratory (in conjunction with generator)

Heavy Equipment Robotics - Operator/Technician

Hoist (roof, tugger, aerial platform hoist, house car)

Hopper

Hopper Doors (power operated)

Ladder (motorized)

OPERATING ENGINEERS **Rates Expiration Date :**

Effective Dates:

07/01/2025

Rate	Fringe	Total
58.22	40.40	98.62

CLASSIFICATIONS:

Laddervator

Locomotive (Dinky-type)

Maintenance Utility Man

Master Environmental Maintenance Technician

Mechanic

Mixer (Except paving mixers)

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

Pavement Breaker - maintenance of compressor or hydraulic unit

Pipe Bending Machine (power)

Pitch Pump

Plaster Pump (regardless of size)

Post Hole Digger (post pounder, auger)

Rod Bending Machines

Roller (black top)

Scale (power)

Seamen Pulverizing Mixer

Shoulder Widener

Silo

Skimmmer Machine (boom type)

Steel Cutting Machine (service & maintenance)

Tamrock Drill

Tractor

Transfer Machines

OPERATING ENGINEERS **Rates Expiration Date :**

Effective Dates:

07/01/2025

Rate	Fringe	Total
58.22	40.40	98.62

CLASSIFICATIONS:

Tug Captains

Tug Master (Power Boats)

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

Vacuum Blasting Machine - Operator/Maintenance Technician

Vibrating Plant (used with unloading)

Welder & Repair Mechanic

Effective Dates:

07/01/2025

Rate	Fringe	Total
52.88	40.40	93.28

CLASSIFICATIONS:

Assistant Engineer/Oiler

Driller's Helper

Field Engineer - Transit man or Instrument man

Maintenance Apprentice (Deckhand)

Maintenance Apprentice (Oiler)

Mechanic's Helper

Off Road Back Dump

Tire Repair & Maintenance

Effective Dates:

07/01/2025

Rate	Fringe	Total
50.30	40.40	90.70

CLASSIFICATIONS:

Field Engineer - Rodman or Chainman

OPERATING ENGINEERS **Rates Expiration Date :**

Effective Dates:

07/01/2025

Rate	Fringe	Total
60.46	40.40	100.86

CLASSIFICATIONS:

Lead Engineer, Foreman Engineer, Safety Engineer (minimum)

OPERATING ENGINEERS **Rates Expiration Date :**

Effective Dates:

07/01/2025

Rate	Fringe	Total
61.72	40.40	102.12

CLASSIFICATIONS:

Autograde Pavement Profiler (CMI & similar types)

Autograde Pavement Profiler - Recycle Type (CMI & similar types)

Autograde Placer/Trimmer/Spreader Combination (CMI & similar types)

Autograde Slipform Paver (CMI & similar types)

Backhoe (Excavator)

Central Power Plant

Concrete Paving Machine

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

Draglines

Drill, Bauer, AMI and similar types

Drillmaster, Quarrymaster

Drillmaster/Quarrymaster (down-the-hole drill), rotary drill, self-propelled hydraulic drill, self-powered drill

Elevator Grader

Field Engineer-Chief of Party

Front End Loader (5 cu. yards or larger)

Gradall

Grader, Rago

Helicoptor Co-Pilot

Helicoptor Communications Engineer

Juntann Pile Driver

Locomotive (large)

Mucking Machine

OPERATING ENGINEERS **Rates Expiration Date :**

Effective Dates:

07/01/2025

Rate	Fringe	Total
61.72	40.40	102.12

CLASSIFICATIONS:

Pavement & Concrete Breaker (Superhammer & Hoe Ram)

Pile Driver

Prentice Truck

Roadway Surface Grinder

Scooper (loader & shovel)

Shovel (Excavator)

Trackhoe (Excavator)

Tree Chopper with boom

Trenching Machine (cable plow)

Tunnel Boring Machine

Vacuum Truck

OPERATING ENGINEERS **Rates Expiration Date :**

Effective Dates:

07/01/2025

Rate	Fringe	Total
56.59	40.40	96.99

CLASSIFICATIONS:

Chipper

Compressor (single)

Concrete Spreader (small type)

Conveyor Loader (Except elevator graders)

Engines, Large Diesel (1620 HP) & Staging Pump

Farm Tractor

Fertilizing Equipment (operation & maintenance)

Fine Grade Machine (small type)

Form Line Grader (small type)

Front End Loader (under 1 cubic yard)

Generator (single)

Grease, Gas, Fuel, & Oil Supply Trucks

Heaters (Nelson or other type)

Lights - portable generating light plant

Mixer, Concrete (small)

Mulching Equipment (operation & maintenance)

Power Broom or Sweeper

Pump (diesel engine & hydraulic - regardless of power)

Pump (larger than 2 inch suction, including submersible pumps)

Road Finishing Machine (small type)

Roller - grade, fill, or stone base

Seeding Equipment (operation & maintenance)

Sprinkler & Water Pump Trucks

OPERATING ENGINEERS **Rates Expiration Date :**

Effective Dates:

07/01/2025

Rate	Fringe	Total
56.59	40.40	96.99

CLASSIFICATIONS:

Steam Generator or Boiler

Stone Spreader

Tamping Machine (vibrating ride-on type)

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

Water or Sprinkler Truck

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

Welding System - Multiple (rectifier transformer type)

Wellpoint Systems (including installation by bull gang and maintenance)

Effective Dates:

07/01/2025

Rate	Fringe	Total
63.54	40.40	103.94

CLASSIFICATIONS:

Helicoptor Pilot/Engineer

Effective Dates:

07/01/2025

Rate	Fringe	Total
68.22	40.40	108.62

CLASSIFICATIONS:

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

Effective Dates:

07/01/2025

Rate	Fringe	Total
67.22	40.40	107.62

CLASSIFICATIONS:

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

OPERATING ENGINEERS **Rates Expiration Date :**

Effective Dates:

07/01/2025

Rate	Fringe	Total
63.72	40.40	104.12

CLASSIFICATIONS:

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

Effective Dates:

07/01/2025

Rate	Fringe	Total
66.22	40.40	106.62

CLASSIFICATIONS:

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

Effective Dates:

07/01/2025

Rate	Fringe	Total
62.72	40.40	103.12

CLASSIFICATIONS:

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

STRUCTURAL STEEL ERECTION **Rates Expiration Date :**

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

The regular workday consists of 8 hours, Monday to Friday, between 6:00 AM and 5:30 PM.

SHIFT DIFFERENTIALS:
- Shift work must be established for 5 consecutive workdays.
- Any work started outside of the allowed start time, 6:00 AM to 9:00 AM, except for * tidal work, shall be considered an irregular shift and paid at straight time, plus 15% for the first eight hours, inclusive of benefits.
- * FOR TIDAL WORK- a contractor can start their job according to tide schedules (tide schedules are the various high and low tides related to this work), providing the eight hour shift is completed between the hours of 5:00 AM and 6:30 PM.
- All time worked in excess of an established shift (an established shift is a shift that is determined at the time of the bid) shall be paid at the applicable overtime rate. When a portion of an established shift works into Saturday, Sunday or a holiday, that time worked shall be paid at the established shift rate.
- When working with other trades who receive a higher irregular shift differential, these employees shall also receive the higher differential 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 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 regular rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with all hours on Friday paid at time and one-half the regular rate, inclusive of benefits.

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

For projects bid after April 1, 2020, on hazardous waste removal work of any kind, including a state or federally designated site, where the operating engineer is required to wear level A, B, or C personal protection, the operating engineer shall receive an hourly wage rate of his regular hourly wage plus $5.00 per hour.
- An operating engineer working at a hazardous waste removal project or site at a task requiring hazardous waste related certification, but who is not working in a zone requiring level A, B, or C personal protection, shall receive an hourly wage rate of his regular rate plus $1.00 per hour.

Effective Dates:

07/01/2025

Rate	Fringe	Total
65.35	40.40	105.75

CLASSIFICATIONS:

Helicopter Co-Pilot & Communications Engineer

STRUCTURAL STEEL ERECTION **Rates Expiration Date :**

Effective Dates:

07/01/2025

Rate	Fringe	Total
61.29	40.40	101.69

CLASSIFICATIONS:

A-Frame

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

Hoist (all types Except Chicago-boom)

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

Side Boom

Straddle Carrier

STRUCTURAL STEEL ERECTION **Rates Expiration Date :**

Effective Dates:

07/01/2025

Rate	Fringe	Total
58.63	40.40	99.03

CLASSIFICATIONS:

Aerial Platform Used On Hoists

Apprentice Engineer/Oiler with Compressor or Welding Machine

Captain (Power Boats)

Compressor (2 or 3 in battery)

Concrete Cleaning/Decontamination Machine Operator

Conveyor or Tugger Hoist

Directional Boring Machine

Elevator or House Car

Fireman

Forklift

Generator (2 or 3)

Heavy Equipment Robotics, Operator/Technician

Maintenance Utility Man

Master Environmental Maintenance Technician

Tug Master (Power Boats)

Ultra High Pressure Waterjet Cutting Tool System Operator/Maintenance Technician

Vacuum Blasting Machine Operator/Maintenance Technician

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

STRUCTURAL STEEL ERECTION **Rates Expiration Date :**

Effective Dates:

07/01/2025

Rate	Fringe	Total
57.10	40.40	97.50

CLASSIFICATIONS:

Compressor (Single)

Generators

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

Welding System, Multiple (Rectifier Transformer Type)

Effective Dates:

07/01/2025

Rate	Fringe	Total
53.34	40.40	93.74

CLASSIFICATIONS:

Assistant Engineer/Oiler

Drillers Helper

Field Engineer - Transit/Instrument Man

Maintenance Apprentice (Deckhand)

Maintenance Apprentice (Oiler)

Off Road Back Dump

Effective Dates:

07/01/2025

Rate	Fringe	Total
60.91	40.40	101.31

CLASSIFICATIONS:

Lead Engineer, Foreman Engineer, Safety Engineer (Minimum)

Effective Dates:

07/01/2025

Rate	Fringe	Total
50.30	40.40	90.70

CLASSIFICATIONS:

Field Engineer - Rodman or Chainman

STRUCTURAL STEEL ERECTION **Rates Expiration Date :**

Effective Dates:

07/01/2025

Rate	Fringe	Total
62.05	40.40	102.45

CLASSIFICATIONS:

Field Engineer-Chief of Party

Vacuum Truck

Effective Dates:

07/01/2025

Rate	Fringe	Total
70.24	40.40	110.64

CLASSIFICATIONS:

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

Effective Dates:

07/01/2025

Rate	Fringe	Total
68.58	40.40	108.98

CLASSIFICATIONS:

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

Effective Dates:

07/01/2025

Rate	Fringe	Total
65.74	40.40	106.14

CLASSIFICATIONS:

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

Effective Dates:

07/01/2025

Rate	Fringe	Total
64.08	40.40	104.48

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.

STRUCTURAL STEEL ERECTION **Rates Expiration Date :**

Effective Dates:

07/01/2025

Rate	Fringe	Total
65.74	40.40	106.14

CLASSIFICATIONS:

Helicopter Pilot & Engineer

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

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

The regular workday consists of 8 hours, Monday to Friday, between 6:00 AM and 5:30 PM.

SHIFT DIFFERENTIALS:
- Shift work must be established for 5 consecutive workdays.
- Any work started outside of the allowed start time, 6:00 AM to 9:00 AM, except for * tidal work, shall be considered an irregular shift and paid at straight time, plus 15% for the first eight hours, inclusive of benefits.
- * FOR TIDAL WORK- a contractor can start their job according to tide schedules (tide schedules are the various high and low tides related to this work), providing the eight hour shift is completed between the hours of 5:00 AM and 6:30 PM.
- All time worked in excess of an established shift (an established shift is a shift that is determined at the time of the bid) shall be paid at the applicable overtime rate. When a portion of an established shift works into Saturday, Sunday or a holiday, that time worked shall be paid at the established shift rate.
- When working with other trades who receive a higher irregular shift differential, these employees shall also receive the higher differential 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 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 regular rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with all hours on Friday paid at time and one-half the regular rate, inclusive of benefits.

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

For projects bid after April 1, 2020, on hazardous waste removal work of any kind, including a state or federally designated site, where the operating engineer is required to wear level A, B, or C personal protection, the operating engineer shall receive an hourly wage rate of his regular hourly wage plus $5.00 per hour.
- An operating engineer working at a hazardous waste removal project or site at a task requiring hazardous waste related certification, but who is not working in a zone requiring level A, B, or C personal protection, shall receive an hourly wage rate of his regular rate plus $1.00 per hour.

Effective Dates:

07/01/2025

Rate	Fringe	Total
61.72	40.40	102.12

CLASSIFICATIONS:

Driller

Effective Dates:

07/01/2025

Rate	Fringe	Total
54.88	40.40	95.28

CLASSIFICATIONS:

Driller's Helper

FREE AIR TUNNEL JOBS **Rates Expiration Date :**

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

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

SHIFT DIFFERENTIALS:
- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional $3.00 per hour.

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

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

Hazardous Waste Work:
-where Level A, B, or C protection is required: + $5.00/hr
-other Hazardous Waste site: + $1.00/hr

Traffic Control Coordinator: When either of the work classifications found below are working as a Traffic Control Coordinator they are to receive $.75 above their current rate of pay.

Effective Dates:

	03/01/2025		**03/01/2026**
Rate	Fringe	Total	Total
67.13	39.13	106.26	109.94

CLASSIFICATIONS:

Walking Boss & Superintendent

Effective Dates:

	03/01/2025		**03/01/2026**
Rate	Fringe	Total	Total
66.75	39.13	105.88	109.57

CLASSIFICATIONS:

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

FREE AIR TUNNEL JOBS **Rates Expiration Date :**

Effective Dates:

	03/01/2025		03/01/2026
Rate	Fringe	Total	Total
66.13	39.13	105.26	108.94

CLASSIFICATIONS:

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

Effective Dates:

	03/01/2025		03/01/2026
Rate	Fringe	Total	Total
69.25	39.13	108.38	112.07

CLASSIFICATIONS:

Blaster

Effective Dates:

	03/01/2025		03/01/2026
Rate	Fringe	Total	Total
65.44	39.13	104.57	108.26

CLASSIFICATIONS:

Top Labor Foreman

Effective Dates:

	03/01/2025		03/01/2026
Rate	Fringe	Total	Total
65.00	39.13	104.13	107.82

CLASSIFICATIONS:

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

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

Effective Dates:

	03/01/2025		03/01/2026
Rate	Fringe	Total	Total
64.81	39.13	103.94	107.63

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)

FREE AIR TUNNEL JOBS **Rates Expiration Date :**

Effective Dates:

03/01/2025			03/01/2026
Rate	Fringe	Total	Total
64.31	39.13	103.44	107.13

CLASSIFICATIONS:

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

DRILL FOR GROUND WATER SUPPLY **Rates Expiration Date :**

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

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

Effective Dates:

07/01/2025

Rate	Fringe	Total
60.47	40.40	100.87

CLASSIFICATIONS:

Driller

Effective Dates:

07/01/2025

Rate	Fringe	Total
53.63	40.40	94.03

CLASSIFICATIONS:

Driller's Helper

OPERATING ENGINEERS MARINE-DREDGING **Rates Expiration Date :**

NOTE: These wage rates only apply to dredging and other marine construction activities occurring in navigable waters and their tributaries.
Boat crews carrying explosive material (dynamite, pourfex, and other similar materials) shall be paid at 120% of the hourly wage rate for hours engaged in handling of said materials. Employees required to possess a Hazardous Material Certification as a condition of employment shall be compensated at 120% of the hourly wage rate.
OVERTIME:
Hours in excess of 40 per week, and all hours on Saturdays and Sundays, shall be paid at time and one-half the hourly rate. All hours on holidays shall be paid at double the hourly rate.
RECOGNIZED HOLIDAYS: New Year's Day, Martin Luther King Day, Good Friday, Memorial Day, July 4th, Labor Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday.

Effective Dates:

10/03/2024			10/01/2025	10/01/2026
Rate	Fringe	Total	Total	Total
47.07	15.34	62.41	63.92	65.74

CLASSIFICATIONS:

Lead Dredgerman, Operator, Leverman

Licensed Tug Operator with MOTV, Deck Captain

Effective Dates:

10/03/2024			10/01/2025	10/01/2026
Rate	Fringe	Total	Total	Total
40.71	14.90	55.61	56.92	58.47

CLASSIFICATIONS:

Derrick Operator, Spider/Spill Barge Operator

Engineer, Electrician, Chief Welder, Chief Mate

Fill Placer, Operator II

Licensed Boat Operator

Maintenance Engineer

Effective Dates:

10/03/2024			10/01/2025	10/01/2026
Rate	Fringe	Total	Total	Total
38.31	14.73	53.04	54.27	55.75

CLASSIFICATIONS:

Certified Welder

OPERATING ENGINEERS MARINE-DREDGING **Rates Expiration Date :**

Effective Dates:

10/03/2024			10/01/2025	10/01/2026
Rate	Fringe	Total	Total	Total
37.26	14.66	51.92	53.12	54.54

CLASSIFICATIONS:

Mate, Drag Barge Operator, Steward, Assistant Fill Placer

Welder

Effective Dates:

10/03/2024			10/01/2025	10/01/2026
Rate	Fringe	Total	Total	Total
36.07	14.57	50.64	51.80	53.18

CLASSIFICATIONS:

Boat Operator

Effective Dates:

10/03/2024			10/01/2025	10/01/2026
Rate	Fringe	Total	Total	Total
29.96	14.15	44.11	45.07	46.22

CLASSIFICATIONS:

Shoreman, Deckhand, Rodman, Scowman

Effective Dates:

10/03/2024			10/01/2025	10/01/2026
Rate	Fringe	Total	Total	Total
41.94	14.99	56.93	58.27	59.89

CLASSIFICATIONS:

Crane Operator

MICROSURFACING/SLURRY SEAL **Rates Expiration Date :**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:
Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer, Ocean, Salem
IN ALL OTHER COUNTIES use the Heavy and General Laborers - North "Slurry Seal Laborer" rates.

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

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

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

Effective Dates:

08/26/2025			03/01/2026
Rate	Fringe	Total	Total
52.05	28.95	81.00	83.75

CLASSIFICATIONS:

Foreman

Effective Dates:

08/26/2025			03/01/2026
Rate	Fringe	Total	Total
50.10	28.95	79.05	81.80

CLASSIFICATIONS:

Box man, Hopper, CM Controller

Effective Dates:

08/26/2025			03/01/2026
Rate	Fringe	Total	Total
48.40	28.95	77.35	80.10

CLASSIFICATIONS:

Microsurface/Slurry Preparation

Effective Dates:

08/26/2025			03/01/2026
Rate	Fringe	Total	Total
49.05	28.95	78.00	80.75

CLASSIFICATIONS:

Squeegee man

MICROSURFACING/SLURRY SEAL **Rates Expiration Date :**

Effective Dates:

08/26/2025			03/01/2026
Rate	Fringe	Total	Total
46.95	28.95	75.90	78.65

CLASSIFICATIONS:

Cleaner, Taper

ASPHALT LABORERS - SOUTH **Rates Expiration Date :**

"THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY: Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer, Ocean, Salem
{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}
The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.
SHIFT DIFFERENTIALS:
- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional $3.00 per hour.
OVERTIME:
- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.
RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.
Hazardous Waste Work:
-where Level A, B, or C protection is required: + $5.00/hr
-other Hazardous Waste site: + $1.00/hr
FOR TIDE WORK (pertains to tidal water): A contractor can start their job according to tide schedules (tide schedules are the various high and low tides related to this work) providing the eight (8) hour shift is completed between the hours of 5:00 AM and 6:30 PM.

Effective Dates:

	03/01/2025		03/01/2026
Rate	Fringe	Total	Total
55.20	39.13	94.33	97.58

CLASSIFICATIONS:

Paving Foreman

Effective Dates:

	03/01/2025		03/01/2026
Rate	Fringe	Total	Total
51.75	39.13	90.88	94.13

CLASSIFICATIONS:

Head Raker

Effective Dates:

	03/01/2025		03/01/2026
Rate	Fringe	Total	Total
51.90	39.13	91.03	94.28

CLASSIFICATIONS:

Screedman

ASPHALT LABORERS - SOUTH **Rates Expiration Date :**

Effective Dates:

03/01/2025			03/01/2026
Rate	Fringe	Total	Total
51.35	39.13	90.48	93.73

CLASSIFICATIONS:

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

Effective Dates:

03/01/2025			03/01/2026
Rate	Fringe	Total	Total
51.45	39.13	90.58	93.83

CLASSIFICATIONS:

Milling Controller

Effective Dates:

03/01/2025			03/01/2026
Rate	Fringe	Total	Total
51.65	39.13	90.78	94.03

CLASSIFICATIONS:

Traffic Control Coordinator

Effective Dates:

03/01/2025			03/01/2026
Rate	Fringe	Total	Total
51.60	39.13	90.73	93.98

CLASSIFICATIONS:

Raker, Luteman

Effective Dates:

Rate	Fringe	Total

CLASSIFICATIONS:

Certified Paving Foreman

TEST BORING PRELIMINARY TO CONSTRUCTION-NORTH **Rates Expiration Date :**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:
Bergen, Essex, Hudson, Middlesex, Morris, Passaic, Somerset, Union

SHIFT DIFFERENTIAL:
Employees on a shift other than between the hours of 8:00 AM and 5:00 PM shall receive an additional $2.00 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 15% of the hourly rate, per hour.

A newly hired Helper with no experience in the industry shall be paid as follows:
1st year on the job - 70% of Helper wage rate
2nd year on the job - 80% of Helper wage rate
3rd year on the job - 90% of Helper wage rate
All helpers receive full fringe benefit rate.

Effective Dates:

10/18/2024

Rate	Fringe	Total
37.58	34.49	72.07

CLASSIFICATIONS:

Helper (4th year helper)

Effective Dates:

10/18/2024

Rate	Fringe	Total
47.88	34.49	82.37

CLASSIFICATIONS:

Driller

Effective Dates:

10/18/2024

Rate	Fringe	Total
54.50	34.49	88.99

CLASSIFICATIONS:

Foreman

HEAVY & GENERAL LABORERS - NORTH **Rates Expiration Date :**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:
Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Passaic, Somerset, Sussex, Union, Warren

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

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

SHIFT DIFFERENTIALS:
- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional $3.00 per hour.
FOR TIDE WORK (pertains to tidal water): A contractor can start their job according to tide schedules (tide schedules are the various high and low tides related to this work) providing the eight (8) hour shift is completed between the hours of 5:00 AM and 6:30 PM.

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: + $5.00/hr
-other Hazardous Waste site: + $1.00/hr

Effective Dates:

	03/01/2025		**03/01/2026**
Rate	Fringe	Total	Total
50.95	39.13	90.08	93.33

CLASSIFICATIONS:

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

Effective Dates:

	03/01/2025		**03/01/2026**
Rate	Fringe	Total	Total
51.65	39.13	90.78	94.03

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; asphalt raker or lute man

HEAVY & GENERAL LABORERS - NORTH **Rates Expiration Date :**

Effective Dates:

	03/01/2025		03/01/2026
Rate	Fringe	Total	Total
51.90	39.13	91.03	94.28

CLASSIFICATIONS:

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

Effective Dates:

	03/01/2025		03/01/2026
Rate	Fringe	Total	Total
55.45	39.13	94.58	97.83

CLASSIFICATIONS:

"A" Rate:
blaster

Effective Dates:

	03/01/2025		03/01/2026
Rate	Fringe	Total	Total
55.20	39.13	94.33	97.58

CLASSIFICATIONS:

"FOREMAN" Rate:
labor foreman, asphalt foreman, drill foreman, pipe foreman, grade foreman, finisher foreman, concrete foreman

Effective Dates:

	03/01/2025		03/01/2026
Rate	Fringe	Total	Total
56.20	39.13	95.33	98.58

CLASSIFICATIONS:

"GENERAL FOREMAN" Rate

Effective Dates:

	03/01/2025		03/01/2026
Rate	Fringe	Total	Total
52.40	39.13	91.53	94.78

CLASSIFICATIONS:

TRAFFIC CONTROL COORDINATOR Rate

HEAVY & GENERAL LABORERS - NORTH **Rates Expiration Date :**

Effective Dates:

	03/01/2025		**03/01/2026**
Rate	Fringe	Total	Total
56.70	39.13	95.83	100.08

CLASSIFICATIONS:

" CERTIFIED FOREMAN Rate" :

Effective Dates:

	03/01/2025		**03/01/2026**
Rate	Fringe	Total	Total
57.70	39.13	96.83	101.08

CLASSIFICATIONS:

" CERTIFIED GENERAL FOREMAN Rate" :

HEAVY & GENERAL LABORERS - SOUTH **Rates Expiration Date :**

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

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

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

SHIFT DIFFERENTIALS:
- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional $3.00 per hour.

FOR TIDE WORK (pertains to tidal water): A contractor can start their job according to tide schedules (tide schedules are the various high and low tides related to this work) providing the eight (8) hour shift is completed between the hours of 5:00 AM and 6:30 PM.

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: + $5.00/hr
-other Hazardous Waste site: + $1.00/hr

Effective Dates:

	03/01/2025		**03/01/2026**
Rate	Fringe	Total	Total
50.95	39.13	90.08	93.33

CLASSIFICATIONS:

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

Effective Dates:

	03/01/2025		**03/01/2026**
Rate	Fringe	Total	Total
51.65	39.13	90.78	94.03

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; asphalt raker or lute man

HEAVY & GENERAL LABORERS - SOUTH **Rates Expiration Date :**

Effective Dates:

	03/01/2025		03/01/2026
Rate	Fringe	Total	Total
55.45	39.13	94.58	97.83

CLASSIFICATIONS:

"A" Rate:
blaster

Effective Dates:

	03/01/2025		03/01/2026
Rate	Fringe	Total	Total
55.20	39.13	94.33	97.58

CLASSIFICATIONS:

"FOREMAN" Rate:
labor foreman, asphalt foreman, drill foreman, pipe foreman, grade foreman, finisher foreman, concrete foreman

Effective Dates:

	03/01/2025		03/01/2026
Rate	Fringe	Total	Total
56.20	39.13	95.33	98.58

CLASSIFICATIONS:

"GENERAL FOREMAN" Rate

Effective Dates:

	03/01/2025		03/01/2026
Rate	Fringe	Total	Total
52.40	39.13	91.53	94.78

CLASSIFICATIONS:

TRAFFIC CONTROL COORDINATOR Rate

Effective Dates:

	03/01/2025		03/01/2026
Rate	Fringe	Total	Total
57.70	39.13	96.83	101.08

CLASSIFICATIONS:

" CERTIFIED GENERAL FOREMAN Rate" :

HEAVY & GENERAL LABORERS - SOUTH **Rates Expiration Date :**

Effective Dates:

	03/01/2025		**03/03/2026**
Rate	Fringe	Total	Total
56.70	39.13	95.83	100.08

CLASSIFICATIONS:

" CERTIFIED FOREMAN Rate" :

Effective Dates:

	03/01/2025		**03/01/2026**
Rate	Fringe	Total	Total
51.90	39.13	91.03	94.28

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

PIPELINE - MAINLINE TRANSMISSION **Rates Expiration Date :**

These rates apply to the following: welding on Transportation Mainline pipe lines (cross-country pipe lines, or any segments thereof, transporting coal, gas, oil, water or other transportable materials, vapors or liquids, including portions of such pipe lines within private property boundaries up to the final metering station or connection - the point where a valve, consumer connection, or town border station divides mainline transmission lines or higher pressure lateral and branch lines from lower pressure distribution systems).

PER DIEM PAYMENT:
In addition to the total wage rate paid for each craft, the following per diem (per day) amounts must also be paid - Pipeline Journeyman: $80.50; Pipeline Journeyman Welder: $140.50; and Pipeline Helper: $64.50. 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:

06/18/2025

Rate	Fringe	Total
58.89	36.35	95.24

CLASSIFICATIONS:

Pipeline Journeyman Welder

Effective Dates:

06/18/2025

Rate	Fringe	Total
58.89	36.35	95.24

CLASSIFICATIONS:

Pipeline Journeyman

PIPELINE - MAINLINE TRANSMISSION **Rates Expiration Date :**

Effective Dates:

06/18/2025

Rate	Fringe	Total
33.84	25.47	59.31

CLASSIFICATIONS:

Pipeline Helper

PIPELINE - GAS DISTRIBUTION **Rates Expiration Date :**

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

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

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

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

Effective Dates:

11/04/2024

Rate	Fringe	Total
64.70	34.74	99.44

CLASSIFICATIONS:

Pipeline Journeyman Welder

Effective Dates:

11/04/2024

Rate	Fringe	Total
64.70	34.74	99.44

CLASSIFICATIONS:

Pipeline Journeyman

Effective Dates:

11/04/2024

Rate	Fringe	Total
41.73	24.77	66.50

CLASSIFICATIONS:

Pipeline Helper

ASPHALT LABORERS- NORTH **Rates Expiration Date :**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:
Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Passaic, Somerset, Sussex, Union, Warren
{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}
The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.
SHIFT DIFFERENTIALS:
- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional $3.00 per hour.
OVERTIME:
- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.
RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.
Hazardous Waste Work:
-where Level A, B, or C protection is required: + $5.00/hr
-other Hazardous Waste site: + $1.00/hr
FOR TIDE WORK (pertains to tidal water): A contractor can start their job according to tide schedules (tide schedules are the various high and low tides related to this work) providing the eight (8) hour shift is completed between the hours of 5:00 AM and 6:30 PM.

Effective Dates:

	03/01/2025		03/01/2026
Rate	Fringe	Total	Total
55.20	39.13	94.33	97.58

CLASSIFICATIONS:

Asphalt Foreman

Effective Dates:

	03/01/2025		03/01/2026
Rate	Fringe	Total	Total
51.90	39.13	91.03	94.28

CLASSIFICATIONS:

Asphalt Screedman

Effective Dates:

	03/01/2025		03/01/2026
Rate	Fringe	Total	Total
51.65	39.13	90.78	94.03

CLASSIFICATIONS:

Asphalt Raker or Lute Man

ASPHALT LABORERS- NORTH **Rates Expiration Date :**

Effective Dates:

	03/01/2025		**03/01/2026**
Rate	Fringe	Total	Total
50.95	39.13	90.08	93.33

CLASSIFICATIONS:

Asphalt Laborer

Effective Dates:

	03/01/2025		**03/01/2026**
Rate	Fringe	Total	Total
56.70	39.13	95.83	100.08

CLASSIFICATIONS:

Certified Asphalt Foreman

ELECTRICIAN- UTILITY WORK (NORTH) **Rates Expiration Date :**

Electrician-Utility Work (North)
(For apprentice rates refer to Electrician-Utility Work (North) in any county rate package).
These rates apply to work contracted for by the following utility companies:
Public Service Electric & Gas Co. of NJ, GPU Energy, Borough of Madison Electric Department, Sussex Rural Electric Cooperative, Rockland Utilities, and Butler Municipal Electric Co.
These rates do not apply to work on substations or switching stations.
For Utility work contracted for by a utility company other than those listed above or those listed under "Electrician-Utility Work (South), see the "Outside Commercial Rates" for the county in which the jobsite is located.

* FOR OUTSIDE COMMERCIAL RATES PLEASE SEE COUNTY RATES

The regular workday is 8 hours, between 6:00 AM and 6:00 PM.
FOR EMERGENCY WORK ONLY: (emergency work is defined as work caused by storm, catastrophe, act of god, and circumstances beyond the control of the employer)-all hours of work shall be paid at double the hourly rate.
SHIFT DIFFERENTIALS:
Shift work must run for a minimum of 5 consecutive workdays.
2nd shift (between the hours of 4:30 PM and 1:00 AM): 8 hours of work + 17.3% of the regular rate, inclusive of benefits.
3rd shift (between the hours of 12:30 AM and 9:00 AM): 8 hours of work + 31.4% of the regular rate per hour, inclusive of benefits.

OVERTIME:
Hours in excess of 8 per day, or before or after the regular wokday 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 6:00 AM and 6:00 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:

12/01/2024

Rate	Fringe	Total
64.83	44.73	109.56

CLASSIFICATIONS:

Chief Lineman

Effective Dates:

12/01/2024

Rate	Fringe	Total
61.16	42.20	103.36

CLASSIFICATIONS:

Journeyman Lineman

Effective Dates:

12/01/2024

Rate	Fringe	Total
61.16	42.20	103.36

CLASSIFICATIONS:

Special License Operator

ELECTRICIAN- UTILITY WORK (NORTH) **Rates Expiration Date :**

Effective Dates:

12/01/2024

Rate	Fringe	Total
60.55	41.77	102.32

CLASSIFICATIONS:

Transit Man

Effective Dates:

12/01/2024

Rate	Fringe	Total
58.71	40.50	99.21

CLASSIFICATIONS:

Line Equipment Operator

Effective Dates:

12/01/2024

Rate	Fringe	Total
51.37	35.44	86.81

CLASSIFICATIONS:

Dynamite Man

Effective Dates:

12/01/2024

Rate	Fringe	Total
76.45	52.75	129.20

CLASSIFICATIONS:

General Foreman

Effective Dates:

12/01/2024

Rate	Fringe	Total
70.33	48.52	118.85

CLASSIFICATIONS:

Assistant General Foreman

Effective Dates:

12/01/2024

Rate	Fringe	Total
68.50	47.26	115.76

CLASSIFICATIONS:

Line Foreman

ELECTRICIAN- UTILITY WORK (NORTH) **Rates Expiration Date :**

Effective Dates:

12/01/2024

Rate	Fringe	Total
49.54	34.18	83.72

CLASSIFICATIONS:

Street Light Mechanical Leader

Effective Dates:

12/01/2024

Rate	Fringe	Total
47.09	32.49	79.58

CLASSIFICATIONS:

Groundman Winch Operator

Effective Dates:

12/01/2024

Rate	Fringe	Total
47.09	32.49	79.58

CLASSIFICATIONS:

Groundman Truck Operator

Effective Dates:

12/01/2024

Rate	Fringe	Total
46.48	32.07	78.55

CLASSIFICATIONS:

Street Light Mechanic

Effective Dates:

12/01/2024

Rate	Fringe	Total
46.48	32.07	78.55

CLASSIFICATIONS:

Line Equipment Mechanic

Effective Dates:

12/01/2024

Rate	Fringe	Total
39.75	27.42	67.17

CLASSIFICATIONS:

Groundman 2nd Year

ELECTRICIAN- UTILITY WORK (NORTH) **Rates Expiration Date :**

Effective Dates:

12/01/2024

Rate	Fringe	Total
36.70	25.32	62.02

CLASSIFICATIONS:

Groundman 1st Year

Effective Dates:

12/01/2024

Rate	Fringe	Total
60.55	41.77	102.32

CLASSIFICATIONS:

Line Equipment Foreman

ELECTRICIAN- UTILITY WORK (SOUTH) **Rates Expiration Date :**

Electrician-Utility Work (South)
(For apprentice rates refer to Electrician-Utility Work (South) in any county rate package).
These rates apply to work contracted for by the following utility company:
Atlantic City Electric.
These rates do not apply to work on substations or switching stations.
For utility work contracted for by a utility company other than the one listed above or those listed under "Electrician-Utility Work (North), see the "Outside Commercial Rates" for the county in which the jobsite is located.

* FOR OUTSIDE COMMERCIAL RATES PLEASE SEE COUNTY RATES

The regular workday is 8 hours, between 7:00 AM and 4:30 PM.
FOR EMERGENCY WORK ONLY: (emergency work is defined as work caused by storm, catastrophe, act of god, and circumstances beyond the control of the employer)- all hours of work shall be paid at double the hourly rate.
SHIFT DIFFERENTIALS:
Shift work must run for a minimum of 5 consecutive workdays.
When two (2) or three (3) shifts are worked the following shall apply:
1st shift (between the hours of 8:00 AM and 4:30 PM)
2nd shift (between the hours of 4:30 PM and 12:30 AM): 8 hours of work + 10% of the regular rate of pay for 7.5 hours worked.

3rd shift (between the hours of 12:30 AM and 8:00 AM): 8 hours of work + 15% of the regular rate of pay for 7 hours worked.

OVERTIME:
Hours in excess of 8 per day, or before or after the regular wokday 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 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:

12/01/2024

Rate	Fringe	Total
71.87	59.12	130.99

CLASSIFICATIONS:

General Foreman

ELECTRICIAN- UTILITY WORK (SOUTH) **Rates Expiration Date :**

Effective Dates:

12/01/2024

Rate	Fringe	Total
64.01	54.22	118.23

CLASSIFICATIONS:

Foreman

Effective Dates:

12/01/2024

Rate	Fringe	Total
60.64	52.12	112.76

CLASSIFICATIONS:

Small Job Foreman

Effective Dates:

12/01/2024

Rate	Fringe	Total
56.15	49.33	105.48

CLASSIFICATIONS:

Heavy Equipment Operator

Effective Dates:

12/01/2024

Rate	Fringe	Total
56.15	49.33	105.48

CLASSIFICATIONS:

Cable Splicer

Effective Dates:

12/01/2024

Rate	Fringe	Total
56.15	49.33	105.48

CLASSIFICATIONS:

Journeyman Lineman

Effective Dates:

12/01/2024

Rate	Fringe	Total
56.15	49.33	105.48

CLASSIFICATIONS:

Journeyman Welder

ELECTRICIAN- UTILITY WORK (SOUTH) **Rates Expiration Date :**

Effective Dates:

12/01/2024

Rate	Fringe	Total
56.15	49.33	105.48

CLASSIFICATIONS:

Journeyman Painter

Effective Dates:

12/01/2024

Rate	Fringe	Total
44.92	42.36	87.28

CLASSIFICATIONS:

Light Equipment Operator

Effective Dates:

12/01/2024

Rate	Fringe	Total
39.31	38.86	78.17

CLASSIFICATIONS:

Groundman Truck Driver

Effective Dates:

12/01/2024

Rate	Fringe	Total
36.50	37.12	73.62

CLASSIFICATIONS:

Groundman 3rd Year

Effective Dates:

12/01/2024

Rate	Fringe	Total
33.69	35.37	69.06

CLASSIFICATIONS:

Groundman 2nd Year

Effective Dates:

12/01/2024

Rate	Fringe	Total
30.88	33.62	64.50

CLASSIFICATIONS:

Groundman 1st Year

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

ELECTRICIAN- UTILITY WORK (SOUTH) **Rates Expiration Date :**

Effective Dates:

12/01/2024

Rate	Fringe	Total
24.71	29.80	54.51

CLASSIFICATIONS:

Flagman

HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS **Rates Expiration Date :**

THESE RATES APPLY TO CONSTRUCTION ON NEW TRANS HUDSON TUNNELS ONLY

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

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

SHIFT DIFFERENTIALS:
- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional $3.00 per hour.

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

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

Hazardous Waste Work:
-where Level A, B, or C protection is required: + $5.00/hr
-other Hazardous Waste site: + $1.00/hr

Traffic Control Coordinator: When either of the work classifications found below are working as a Traffic Control Coordinator they are to receive $.75 above their current rate of pay.

Effective Dates:

	03/01/2025		03/01/2026
Rate	Fringe	Total	Total
80.55	39.13	119.68	123.81

CLASSIFICATIONS:

Walking Boss & Superintendent

Effective Dates:

	03/01/2025		03/01/2026
Rate	Fringe	Total	Total
80.10	39.13	119.23	123.36

CLASSIFICATIONS:

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

HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS **Rates Expiration Date :**

Effective Dates:

03/01/2025			03/01/2026
Rate	Fringe	Total	Total
79.35	39.13	118.48	122.61

CLASSIFICATIONS:

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

Effective Dates:

03/01/2025			03/01/2026
Rate	Fringe	Total	Total
83.10	39.13	122.23	126.36

CLASSIFICATIONS:

Blaster

Effective Dates:

03/01/2025			03/01/2026
Rate	Fringe	Total	Total
78.53	39.13	117.66	121.78

CLASSIFICATIONS:

Top Labor Foreman

Effective Dates:

03/01/2025			03/01/2026
Rate	Fringe	Total	Total
78.00	39.13	117.13	121.26

CLASSIFICATIONS:

Skilled Men (including Caulker, Powder Carrier, all other skilled men)
Skilled Men (including Miner, Drill Runner, Iron Man, Conveyor Man, Maintenance Man, Safety Miner, Rigger, Block Layer, Cement Finisher, Rod Man)

Effective Dates:

03/01/2025			03/01/2026
Rate	Fringe	Total	Total
77.78	39.13	116.91	121.03

CLASSIFICATIONS:

Semi-Skilled Men (including Bell or Signal Man top or bottom, Form Worker & Mover, Concrete Worker, Shaft Man, Tunnel Laborer, Caulker's Helper, all other semi-skilled)
Semi-Skilled Men (including Miner's Helper, Chuck Tender, Track Man, Nipper, Brake Man, Derail Man, Cable Man, Hose Man,
Gravel Man, Form Man)

TERRITORY

ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

PREVAILING WAGE RATE DETERMINATION

HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS **Rates Expiration Date :**

Effective Dates:

	03/01/2025		**03/01/2026**
Rate	Fringe	Total	Total
77.18	39.13	116.31	120.43

CLASSIFICATIONS:

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

GENERAL SPECIFICATIONS

1. LABOR AND MATERIALS

The prices shall 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 UCIA from sales or use taxes and should not be included in the prices provided on the Bid Form.

When applicable, The New Jersey Department of Transportation Standard Specifications for Road and Bridge Construction, as amended, and Supplemental Specifications for State Aid Projects (if applicable), 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 the foregoing specifications are given herein for the purpose of aiding in the rapid location of the description of the various items herein specified.

2. GUARANTEE AGAINST DEFECTIVE WORK

Prior to final payment being made or before the release of the Performance/Payment Bond required by Section 1.10 of the Request for Bids, the Contractor and Surety shall execute and deliver to the UCIA 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 UCIA. 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 UCIA. If the Contractor refuses or neglects to do such Work in the time specified, the UCIA may have the Work done by others and the Contractor or his Surety thereof will pay the cost.

The Contractor will furnish the UCIA 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 UCIA. Final payment is conditional on the receipt of a maintenance bond in a form acceptable to the UCIA.

3. 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.

4. 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 contract 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 next scheduled public meeting of the UCIA following 20 calendar days of the billing date as defined in the statute.

2. If the billing is approved at such meeting, said bill shall be paid in the UCIA's subsequent payment cycle.

5. 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 manufacturer's product data installation requirements.

6. ACCESS FOR OTHER CONTRACTORS

The Contractor for this Work shall 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.

7. REJECTED MATERIALS AND WORK

Any materials and or part of the Work that may be rejected by the UCIA shall be removed and replaced by the Contractor or otherwise rectified, as may be directed by the UCIA. 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.

8. 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 UCIA, 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.

9. 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, shall be carried out as shown on said plan.

10. PERMITS

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

11. PROGRESS PAYMENTS

In the event of any conflict between this Paragraph 11 of the General Specifications and Section 01290 – PAYMENT PROCEDURES, the latter shall control. 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.

In accordance with N.J.S.A. 40A:11-16.3, Contractor agrees that UCIA shall withhold 2% of the amount due on each progress payment pending completion of the contract.

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.

All Applications shall require the Certified Payroll to be uploaded to the "NJ Wage Hub" and hard copies supplied to the UCIA in support of each Payment Application submitted.

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

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.

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; b) Certification of Compliance, New Jersey Prevailing Wage Act; and c) General Release in a form satisfactory to UCIA 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, and must comply with the Final Payment Application requirements under Section 01290, "Payment Procedures. "

12. INSPECTION

The Work must be done in accordance with the plans and specifications, and will be inspected by the UCIA. An inspector may be placed upon the Work at any time by the UCIA to see that the plans, specifications, and instructions of the UCIA are carried out.

13. 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 UCIA and the bidder is advised to ascertain for itself all the facts concerning the location of these and other utilities.

The Contractor shall not proceed with his/her/its Work until he/she/it 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 shall notify utility owners not less than ten (10) days in advance of the time he/she/it 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 UCIA. The Contractor shall, 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 UCIA to furnish such materials, equipment, or services. If directed by the UCIA 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 Article 7, Changes in the Work, of the General Conditions of the Contract (AIA Document A232 – 2009). The corporations, companies, agencies or municipalities owning or controlling the utilities, and the name, and telephone numbers are listed on the coversheet of the Drawings.

14. MATERIAL COMPLIANCE AND SHOP DRAWINGS

The Contractor shall require the manufacturer or supplier to furnish three (3) copies of manufacturer's product data with each delivery of materials, components and manufactured items for the Project. Two (2) copies will be furnished to the UCIA; one copy will be retained by the Contractor. Manufacturer's product data shall be accompanied by 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 shall submit to the UCIA for its approval five (5) copies of complete and fully detailed shop or working drawings for those work items requiring submission as identified in each of the Divisions of work within the technical specifications.

Each drawing shall identify the name of the job, location and Contractor. Contractor is referred to Section 01330, Article 2.1C, SHOP DRAWINGS, for specific requirements. In the event of a conflict between this Paragraph 14 of the General Specifications and Section 01330, Article 2.1C, the latter shall control.

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

15. PRECONSTRUCTION

In order to provide full coordination of this Project among the parties concerned, the UCIA will arrange for a preconstruction meeting between the Contractor, UCIA, and the UCIA's consultants 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 UCIA through its designated representatives.

16. 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).

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END OF GENERAL SPECIFICATIONS

UNION COUNTY IMPROVEMENT AUTHORITY
Warinanco Park Baseball Field Improvements
Roselle, New Jersey

SPECIAL CONDITIONS

1. DEFINITIONS

a) OWNER: Union County Improvement Authority (UCIA)

b) PROJECT SITE: Warinanco Park
Roselle, New Jersey

c) PROJECT TITLE: Warinanco Park Baseball Field Improvements

d) CONSTRUCTION MANAGER: RSC Architects
3 University Plaza Drive, Suite 600
Hackensack, NJ 07601

e) ENGINEER: CME Associates
1 Tower Center Blvd., 20th Floor
East Brunswick, NJ 08816
Telephone: (732) 727-8000

f) EXECUTIVE DIRECTOR: Dr. Bibi Taylor

g) INSPECTOR: An authorized representative of the UCIA Executive Director assigned to make all necessary inspections of the work performed by the Contractor.

h) PRONOUNS: The masculine pronoun shall include the feminine and neuter and the singular shall include the plural.

i) PERSON: Any individual, partnership, society, association, joint company, corporation, estate, receiver, trustee, assignee, referee, or capacity, whether appointed by a court or otherwise, and any combination of individuals.

j) OR EQUAL: Whenever in the technical specifications and Plans, any particular brand, make of materials, device, or piece of equipment is shown or specified, such brand make of material or device or piece of equipment shall be regarded merely as a standard and the expression "or equal" shall apply to the same extent as if it is being written therein in full. If two or more brands, make of materials, devices, or pieces of equipment are shown as specified, each is to be regarded as the equal of the other. Any other brand, make of material, device or piece of equipment which, in the opinion of the Engineer, is the recognized equal of that specified, considering quality, workmanship, economy of operation, and suitability for the purpose intended, will be accepted, subject to the submission process described at Section 01600.

k) BIDDER: Any person who submits a Proposal upon the project described in the Invitation for Bids

l) BID DOCUMENTS: The Bid Documents, sometimes referred to as the "plans and specifications," shall mean and include the following:
1. Legal Documents (Notice to Bidders; Instructions to

Bidders; Bid Forms; AIA Standard Contract; AIA General Conditions of Contract; Supplementary Conditions of the Contract; NJ Prevailing Wage Determination

2. General Specifications
3. Special Conditions
4. Special Provisions
5. Division 01 General Requirements
6. Division 02, 13 and 16 Specifications
7. Addenda, if any
8. Plans and Drawings
9. Clarifications to Plans or Specifications

l) CONTRACTOR: The person whose proposal shall be accepted by the Owner and who shall thereafter enter into a formal Contract with the Owner to furnish the materials and do the work as bid upon.

m) SUBCONTRACTOR: A person supplying material, labor, equipment and appurtenances for work at the site of the project. Such person has contractual relations with the Contractor, but not with the Owner.

n) PRINCIPAL: When used in the Bid Bond, the word Principal means the same as the word Bidder. When used in the Performance Bond, the word Principal means the same as the word Contractor.

o) SURETY: The corporation or individual, bound by the Performance Bond, with and for the Contractor and who is primarily liable and engages to be responsible for the Contractor's acceptable performance of the Work for which the Contract has been made, and for his payment of all debts pertaining thereto.

p) CONTRACT The Contract Documents shall be those documents enumerated in the Standard Form of Agreement (AIA Document A132-2019 CMa), and shall include the Bid Documents and the successful bidder's proposal:

q) WORK: All the work to be performed by the Contractor in the fulfillment of the contract, including all necessary materials, labor, equipment and transportation, as described in the Contract Documents for the contemplated improvement.

r) SCOPE OF WORK: The specified work, improvement or job, to which these Contract Documents apply, as described in the Contract.

s) PLANS: The prints of the drawings which show the location, character, dimensions and details of the Work to be done and which are to be considered part of the Contract Documents, the same as though attached thereto.

t) NOTICE TO PROCEED: The official letter from the Owner to the successful Bidder, notifying him that he has been awarded the Contract.

u)	SUBSTANTIAL	Date when all essential requirements of the Contract Documents have been performed so that the purpose of the Contract Documents is accomplished, a Punchlist has been created, the project is ready for occupancy in accordance with its intended use.
v)	DATE OF FINAL ACCEPTANCE:	The date the Owner accepts the completed Work and authorizes final payment therefor.

2. CORRELATION, INTENT AND INTERPRETATION OF THE CONTRACT DOCUMENTS

The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor for the benefit of the Owner. The Contract Documents are complementary, and what is required by one shall be binding as if required by all. Performance by the Contractor (and its sub-contractors, consultants, agents and those acting on the Contractor's behalf), 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, and in accordance with the priority established by Paragraph 10 of these Special Conditions. Any ambiguities in or conflicts between any of the Contract Documents shall be resolved in favor of the Owner, including, without limitation, Owner's design intent, and the rights, remedies and protections to which the Owner is entitled. In the event of a discrepancy and/or ambiguity between or among any Contract Documents, the document that provides greater rights, remedies or protections to the Owner shall govern, as determined by the Owner.

3. INTENT OF CONTRACT

The contract includes, but is not necessarily limited to, General Construction work, Concrete Work, and Electrical Work. All labor and equipment shall be provided as necessary to satisfactorily complete all work within the project as specified within the Contract Documents. All new systems shall be made fully operational in a first class workmanship manner and guaranteed for one year from the date of the Certificate of Occupancy. The contractor shall be responsible for investigating existing conditions on the site and shall be responsible for doing whatever is required to keep the site fully operational without any adverse impact on the existing facilities on site.

This is a lump sum contract for all work. Each **contractor** or **subcontractor** shall refer to **ALL** drawings to completely familiarize him/herself with the work.

4. NO PRODUCT OR MANUFACTURER SPECIFIED

Whenever in the Division specifications a manufacturer or product is listed, it shall mean that it includes but is not limited to such manufacturer or product

5. TEMPORARY FIELD OFFICE

The Contractor shall set up a field office on site as specified in Division 01 Section “Temporary Facilities.”

6. PROJECT COORDINATION

Throughout the project, the Contractor shall coordinate all activities with the CM as well as the UCIA staff and with department heads affected by the work taking place, in an effort to cause the least amount of disturbance to the daily operations of those departments.

7. PROJECT SITE, BUILDING LIMITATIONS AND JOB CONDITIONS

The Contractor shall cause the least amount of disruption to the operations, the facility operations, the personnel and visitors to the Project Site and existing facilities on the Project Site.

The Contractor shall be aware that the existing **Warinanco Park** will be occupied during the entire construction period and Contractor shall maintain security during construction. Construction operations shall not impact in any way operations and the ability to quickly respond to emergencies. Proper security shall be coordinated with CM.

Phasing of the project must be coordinated with the **CM** as well as the Engineer and Owner.

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 Owner.

With respect to pedestrian traffic, the Contractor shall install signs restricting access of the general public 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 Owner.

8. TRAFFIC AND STREET MAINTENANCE

The Work must be started and performed by the Contractor in such a manner as to minimize delays to traffic and pedestrians. 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. Contractor shall pay for all required police safety officers during road construction work.

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 Owner.

Contractor shall coordinate the use of cranes or other hoisting equipment with Owner and local authorities so as to minimize disruptions on Project Site and adjoining streets. If use or blocking of streets is necessary, Contractor shall obtain and pay for required permits or approvals and pay all fees and police security officer/flagmen as required. Contractor shall provide all of the materials, tools, equipment and labor for cleaning the public streets, public sidewalks, roadways, alleys, driveways, etc., which are affected and/or disturbed by the Work.
Use of Traffic Control Officers shall be determined by the Owner in accordance with the provisions of N.J.S.A. 40A:11-23.1(c). If applicable to the Project, the Owner shall have provided an allowance for same as set forth in the Bid Form.

9. CONSTRUCTION SIGNS

The contractor shall install signs restricting access of the general public to the area of construction. As a minimum, they should state "**CONSTRUCTION AREA – NO ADMITTANCE**". Restricted areas, however, shall not block public exit ways. Provide temporary signs as required where work is being phased.

10. GUARANTEES AND WARRANTEES:

All guarantees and warrantees shall start at the time a Certificate of Occupancy is issued, not at the time of start up of equipment. This applies to **ALL** equipment, systems and services of the building.

11. PRECEDENCE OF LARGE SCALE DETAILS AND DOCUMENTS

A. The general character of the detail work is shown on the drawings, but minor modifications may be made in large-scale details. Where the word "similar" occurs on the drawings, it shall be used in its general sense and not as meaning identical. All details shall be worked out in relation to their location and their connection to other parts of the work. On any drawings where a portion of the work is drawn out and the remainder is indicated in outline, the parts indicated in outline shall also apply to other like portions of the work. Where details are indicated by starting only, such details shall be continued throughout the courses or parts where it occurs and shall also apply to all other similar parts in the work unless otherwise noted. In case of differences between small and large- scale drawings, the larger scale drawings shall take precedence. Any discrepancies shall be referred to the Architect/Engineer before any work affected thereby has been performed.

B. Work specified but not shown on the drawings, or shown on the drawings but not specified, shall be considered as if indicated in both. In the event of conflict between various parts of the plans and specifications, the document shall take precedence in the following order: (1) for extent, sizes, quantity of work, and design intent, drawings shall govern over specifications; and (2) for quality of materials and workmanship, specifications shall govern over drawings. If there are conflicts between drawings, the Engineer shall render a decision, which shall be final. The Contractor shall not increase the Contract price due to any interpretations made by the Engineer.

12. THE BIDDER SHALL ALSO THOROUGHLY EXAMINE AND BECOME FAMILIAR WITH ALL BID DOCUMENTS.

The Bidder shall review all drawings for the project and not limit his/her/its bid to only work that is shown on drawings referenced for a Prime Contractor. The drawings are done so for ease of reference only and not intended to limit the work of the Contractor. If work is shown to be done on one drawing that usually requires work of another contractor or trade and is standard in the industry as such, then the contractor whose trade it is shall include the work in his/her/its bid. It is assumed to be reasonable since the contractor whose trade must do the work has reviewed and familiarized itself with the entire set of drawings and specifications, and therefore knew that it had to be furnished or hooked up and installed. Also if equipment is shown on one drawing but not shown as being hooked up on other drawings, the contractor whose trade usually does the hook up shall do so at no additional charge since he/she/it reviewed and familiarized himself/herself/itself with the entire set of drawings and therefore knew the equipment was there and it had to be hooked up. If steel work is shown on the architectural, but not on the structural, it still shall be provided since the steel subcontractor reviewed the entire set of drawings. By submitting a proposal, the Bidder covenants that he/she/it has carefully examined the complete set of Bid Documents, Addenda, if any, and the Site; and that from Bidder's investigation Bidder has satisfied himself/herself/itself as to the nature and location of the work, the phasing required for the work, the general and local conditions and all matters that may in any way affect the work or its performance and that as a result of such examination,

Bidder fully understands the intent and purpose thereof, Bidder's obligations thereunder, and that Bidder will not make any claim for, or have any right to damages, because of a lack of any information.

13. CONSTRUCTION START AND DURATION

The Contractor shall begin construction and shall complete the work in/or before the time of completion set forth in the Bid Form (B-40). Failure of the Contractor to begin construction activities within 20 days for any reason not approved by the Owner shall constitute a Contractor default for which the owner may take whatever action that is deemed appropriate under the contract. The Contractor shall include within his bid all costs associated with the coordination required between the various subcontractors to meet these dates.

END OF SPECIAL CONDITIONS SECTION

WARINANCO PARK BASEBALL FIELD IMPROVEMENTS
LOCATED IN THE BOROUGH OF ROSELLE
COUNTY OF UNION, NEW JERSEY

SPECIAL PROVISIONS

1. Existing Utilities

The Contractor shall coordinate all work with the utility companies in the area of construction. Information regarding existing utilities have been collected from various sources and the Contractor is advised that underground object locations, elevations, or types are not warranted to be approximately correct, nor can they be assumed to be the only subsurface objects, proposed or existing, which may be encountered during the excavation of the work. The Contractor shall make all necessary investigations prior to bidding to satisfy himself as to the existing conditions.

According to the Underground Facility Protection Act (N.J.S.A. 48:2-73/N.J.A.C. 14:2-1.1), Contractor must give notice of impending construction not less than three business days or more than ten business days prior to the start of excavation. This is accomplished by calling the New Jersey "One-Call" system at 1-800-272-1000. This procedure must be done so that all underground facilities can be marked out in the field. Any excavation within 24 inches of a gas facility mark out must be done by hand. Any damage done to gas facilities, however minor, must be reported to Elizabethtown Gas immediately by calling 1-800-492-4009.

2. Construction Contingencies

The Contractor's attention is specifically directed to the fact that various items and extra quantities have been included in the bid form for contingency purposes due to the nature of the work to be performed in conjunction with this project.

Accordingly, the Contractor is hereby advised prior to submitting their bid that they shall take into account the fact that contingencies have been included in the items and that portions of certain items or entire items may not be utilized by the UCIA, depending upon the conditions encountered during the work.

To that end, the initial contract award amount may be significantly higher than the final contract amount, depending upon the actual conditions encountered.

The Contractor must satisfy himself by personal examination of location of the proposed work and surroundings thereof, and by such other means that they prefer, and shall not at any time after submission of the bid, dispute the original estimate of the work, nor assert that there was any misunderstanding in regard to the contingencies included in the quantities.

3. Construction Access

The Contractor will be required to coordinate traffic safety provisions with the local Police Department prior to construction. The Contractor shall provide a traffic plan to the local Police Department for review and approval.

During construction operations, the Contractor may utilize the local Police Department to provide assistance in maintenance and protection of traffic. The inclusion of local police does not relieve the Contractor of its duties with regard to traffic control on the project. The Contractor shall be fully responsible for the set-up and maintenance of the Traffic Control Patterns (TCP) except as required by Local and State law or as specifically set forth in the contract. The use of police in the providing of traffic safety services is supplemental to the TCP and their presence shall not relieve the Contractor of its responsibility to maintain the TCP and safety on the Project.

The contractor is herein advised that the existing park access roads will be open to the public for the duration of the project. Accordingly, the contractor shall be responsible to provide routine sweeping, maintenance and restoration of the access roads, especially as it relates to the tracking of mud and/or soil onto the access roads, and shall allow for the passage of public traffic at all times during the performance of the work. At a minimum, all access roadways shall be swept once a week.

4. Project Meetings

The Contractor shall prepare for and participate in weekly team meetings throughout the duration of the work, in addition to the project kick-off and close-out meetings. The meetings may be held by teleconference at the discretion of the Owner. The Contractor's on-site foreman shall attend each meeting and the Contractor's representative with responsibility for procuring and allocating resources to the project shall be available to attend every other meeting. Said meetings shall address, but are not limited to, the current status of the work, planning future work, as well as adjustment of timing or work practices, if needed. Any unforeseen matters or developments affecting the nature, timing, cost of the work, etc. shall be raised as soon as they are known and shall not be saved to address at the weekly meeting.

5. Notice of Construction

The Contractor shall provide a minimum of 48 hours notice to the Owner and Engineer prior to the start of construction and prior to implementing any changes that affect existing traffic patterns along the surrounding roadway network.

6. Contractor's Progress Schedule and Schedule of Values

The Contractor shall submit a proposed program of operation for the project prior to commencement of construction which clearly indicates how they propose to conduct the work to bring about the completion of the project.

The Contractor is specifically advised of the accelerated contract time for the project. Accordingly, the Contractor shall be prepared to provide the necessary materials and manpower in order to complete the project within the contract time period. The program of operation will clearly indicate how the Contractor intends to conduct the work to guarantee meeting this requirement.

The Contractor shall also provide a Schedule of Values detailing an itemized breakdown of all lump sum bid items for progress payment purposes. Said Schedule shall be submitted to and approved by the Engineer prior to the first request for payment submittal.

7. Shop and Working Drawings

The Contractor shall provide shop drawings, working drawings, submissions and certifications as required for all materials to be provided under this contract.

8. Tree Preservation and Removal

During the site clearing operations, the Contractor shall make every effort possible to preserve existing trees. The Contractor shall not remove, cut, injure or destroy trees outside the limits of site clearing without authority of the Engineer.

The Contractor is specifically advised that special care during tree removal, trimming and clearing is required to ensure tree saving as directed by the Owner or Engineer. Clearing limits shall be flagged for observation by the Engineer for approval a minimum of 48 hours prior to the start of clearing operations.

The Contractor shall provide a New Jersey certified Forester or New Jersey certified Tree Expert during the construction of the improvements to examine, prune and protect the branch and/or root systems of all trees and shrubs to remain or be relocated on the project.

The name and certifications of this person will be provided to the engineer prior to the commencement of work on the project. All trees to be removed shall be done so by persons certified in New Jersey to work adjacent to overhead electrical lines.

The Contractor must contact the Owner and the engineer prior to beginning tree removal work.

9. Utility Installation Fees

The Contractor shall be responsible for any utility connection fees with the proposed installations.

10. Private Property

During the construction operations at the work site, the Contractor, their employees, equipment or materials shall not enter onto private property without first obtaining the written consent of the property Owner.

11. Protection of Property

The Contractor shall take reasonable care and caution to preserve and protect all existing pavements, stripes and markings, grass areas, landscaping, sidewalks, structures, private and public property along and adjacent to the lines of work. Any damage or destruction to the above, beyond the limits of work, or caused by careless construction procedures, shall be replaced at the Contractor's own expense.

12. Vandalism

The Contractor is advised that there is a potential for vandalism at the work site and is advised to consider the same during the construction of the improvements and when storing equipment. The Owner accepts no responsibility for any damages to construction equipment, newly placed concrete or other improvements.

It is recommended that concrete pours be scheduled during the morning hours to allow for the adequate curing prior to the Contractor leaving the site.

The Contractor shall provide, install and maintain (on a daily basis) fencing, barricades or other suitable materials to protect all active construction areas and/or damage during the contract time.

Separate payment for said protection measures will not be made. Cost of same shall be included in all contract items requiring protection.

Vandalized improvements will immediately be replaced at no additional cost to the Owner.

13. Site Grading

The Contractor shall prepare and grade the site as required by the site plan and grading plan and as necessary to construct the entire project, including, lighting, utilities, storm sewer system, topsoil areas, cut/fill areas, swales, slopes, and all other necessary site improvements. The Contractor shall grade the site in a manner to accept surface treatments or to the bottom course of structural subbase material, and topsoiling within the project site.

14. Maintenance of Existing Drainage Flows

The Contractor will be responsible to maintain existing drainage systems, drainage patterns and future overland flows throughout the construction of this project. At no time during the course of construction shall the Owners of the property adjacent to the subject improvements be affected by flooding, soil erosion and/or other damage caused by in-active storm sewer facilities or inadequate grading.

Should it become necessary to disrupt the function of the existing drainage facilities during construction, the Contractor will be required to provide a temporary drainage system to maintain storm sewer flows as approved by the Engineer. The Contractor will be responsible for the video inspection and flushing, as necessary, of the existing storm drainage pipe that the proposed drainage system will be connecting into and utilizing as the primary means of stormwater conveyance to the existing outfall for this project.

15. Record "As-Built" Drawings

Three (3) copies of detailed utility, drainage system and irrigation system "As-Built" reproducible drawings shall be provided to and approved by the Owner prior to the issuance of final payment for the project. During the progress of the project work, the Contractor shall keep an accurate record of all deviations, changes and corrections from the layouts shown on the construction drawings and/or approved shop drawings. After completion of work, submit the drawings to the Engineer for review, comment and approval; upon the Engineer's written authorization, the Contractor shall prepare at their own expense, a set of reproducible drawings on mylar, indicating thereon a complete record of all of the changes or revisions which exist in the completed work. Payment for record drawings shall be included in the prices bid for all items associated with same.

16. Maintenance Manuals

Three (3) paper copies and two (2) electronic copies on CD of operation and maintenance manuals shall be provided to Union County prior to the issuance of final payment. Maintenance manuals shall be composed of instructions and other data from manufacturer's furnishing materials and equipment for this project. Include complete table of contents and arrange the manuals in systematic order for easy reference.

Provide maintenance data for all electrical, stormwater and park facility equipment and/or systems. Provide the operation and maintenance manuals in heavy three-ring loose-leaf binders, indexed and arranged for easy reference, after approval by the Engineer for form and contents.

17. Soil Borings

The Contractor is advised that the results of the soil borings and any other subsurface investigations which the Owner has caused to be made are for design purposes only. The Owner and the Engineer accept no responsibility for any inaccuracies in the soil conditions as represented by the boring logs and the corresponding boring location plan. The Contractor may, at their own expense, make the necessary soil borings, or by other adequate measures, satisfy himself regarding the character, groundwater elevations and amount of the various classes of material to be encountered in the work to be performed prior to submitting a bid.

18. Structural Design-Build Items

The Contractor is herein advised that these drawings contain preliminary design layouts, sections and/or details for certain indicated structures or structural elements that are to be classified as "design-build items" on this project. These items include but are not limited to: flagpole foundation, sports lighting foundations, dugout roof support foundations, and fence foundations.

The details for these design-build items provide for minimum dimensions and minimum requirements for the foundation support system of these structures and structural elements that are to be designed. As a part of the bid for this project, the Contractor will be required to retain the services of a Licensed Professional Engineer registered in the State of New Jersey to design the foundation support system for these structures and structural elements.

The Contractor's Engineer will be required to review the preliminary design layouts, sections and details for structural design loads, code compliance and constructability and to perform a geotechnical interpretation of the boring logs provided in the project specifications to develop soil design properties for the design of the foundation support system of these structures and structural elements. The proposed soil design properties developed by the Contractor's Engineer must be submitted to the owner's engineer for review and approval prior to proceeding to the design of the foundation support systems.

The Contractor's Engineer will be required to submit signed and sealed detailed design calculations, shop drawings and/or catalog cuts to the Owner's Engineer for review and approval for the foundation support system for these structures and structural elements. The Contractor's Engineer's layout shall be based on the preliminary layout shown on these drawings, whenever possible. If the Contractor's Engineer recommends that a more conservative foundation support system is required (i.e., a pile-supported foundation in lieu of an indicated spread footing foundation), then the Owner's Engineer must be notified by the Contractor's Engineer in writing immediately for review and approval prior to fabrication and/or construction.

The construction of the foundation support system of these structures and structural elements will not be permitted without approved signed and sealed calculations and shop drawings.

Upon approval by the Owner's Engineer, the Contractor's Licensed Professional Engineer shall provide six (6) sets of signed and sealed detailed documents to the Owner's Engineer for use by the contractor during construction. The costs associated with retaining a Licensed Professional Engineer, including providing the required documents, shall be included in the price bid for the foundation support system for these structures and structural elements, including all appurtenances, as described.

20. Timber Shed

The project includes the design / build and erection of a fully functional and operational Timber Shed on site.

The Timber Shed shall be a 12'x20' Cape Cod Style Storage Shed in accordance with South Jersey Sheds and Gazebos, 749 Ramah Road, Millville, New Jersey 08332, 856-447-5150 or approved equal. The Owner may also consider Sheds prepared and submitted by other companies that may request approval as "approved equal", however, in order to be considered, the "approved equal" shed manufacturers and their proposed equivalent sheds must comply with the bid specifications and plans or be subject to post bid rejection.

The Contractor will be responsible for the installation of the Timber Shed under this contract including: the design/build of the electrical required within the shed in order to furnish and install a fully functional and operational shed on site, the submission of signed and sealed plans as necessary to obtain all required building permits, site evaluation, site preparation, bulk excavation and/or importation of certified clean structural fill material as needed, site grading, construction of the reinforced concrete mat that the shed will be connected to in accordance with the design plans, and the installation of all required utility connections to the building as indicated on the drawings.

When the Contractor has independently confirmed that he is in compliance with all the requirements of the reinforced concrete mat construction for the Timber Shed in accordance with the technical specifications including: elevation verified by a licensed surveyor and compaction and gradation verified by the specified tests, he shall schedule a final inspection by the Engineer. During this final inspection the Contractor shall make available an orbital laser system for checking grades. Any deficiencies uncovered during this inspection must be remedied to the satisfaction of the Engineer before the prepared conditions will be considered acceptable for shed installation.

The Contractor shall be responsible for the coordination efforts required with the shed company, and the subconsultants and subcontractors retained by the Contractor to design/build and erect a fully functional and operational Timber Shed on site complete with all necessary electrical service as indicated on the drawings to facilitate the effective erection and installation of the Timber Shed in accordance with the project completion schedule.

WARINANCO PARK BASEBALL FIELD IMPROVEMENTS
LOCATED IN THE BOROUGH OF ROSELLE
COUNTY OF UNION, NEW JERSEY

SPECIAL PROVISIONS - PERMITS

The Contractor is herein advised that the UCIA has applied for and received the following permits:

Somerset Union Soil Conservation District Plan Certification

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

The Contractor is advised that any deviation from the certified plans may require recertification from the Somerset Union Soil Conservation District.

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

The Contractor shall schedule construction operations such that no work associated with the above items are started or scheduled to be started until they have been informed by the Engineer or UCIA that the necessary permits and approvals have been received.

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

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

The Contractor shall not commence any work affected by the pending permits until such time that said permits are received.

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Permits
4. Work restrictions.
5. Specification and Drawing conventions.

B. Related Requirements:

1. Division 01 Section "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.3 DEFINITIONS

A. Work Package: A group of specifications, drawings, and schedules prepared by the design team to describe a portion of the Project Work for pricing, permitting, and construction.

1.4 PROJECT INFORMATION

A. Project Identification: Warinanco Park Baseball Field Improvements.

1. Project Location: Roselle, New Jersey.

B. Owner: Union County Improvement Authority

1. Owner’s Representative: Dr. Bibi Taylor, Executive Director

C. Construction Manager: RSC Architects LLC

1. Representative: Timothy Hennessy
3 University Plaza Drive
Hackensack, NJ 07601
Telephone:201-941-3040

D. Civil Engineer: CME Associates

1. Representative: Lyra Knust
1 Tower Center Blvd., 20th Floor
East Brunswick, NJ 08816
Telephone:732-727-8000

1.5 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of Project is defined by the Contract Documents and includes, but is not limited to, the following:

1. The Project generally consists of the conversion of one of the baseball fields in Warinanco park from natural grass to synthetic turf. The conversion includes all of the necessary grading, earthwork, underdrains, underground detention and base improvements. Additional improvements include athletic field sports lighting, perimeter fence, backstop, covered dugouts and shaded bleachers.

2. Other Work indicated in the Contract Documents.
   a. Contractor is responsible for coordination with utility companies (such as PSE&G) and shall be responsible to schedule within the project contract duration.

B. Type of Contract:

1. Project will be constructed under a single prime contract.

1.6 PERMITS

A. The Contractor is advised that the Owner has applied for and obtained permits for the work including:

1. Somerset-Union Soil Conservation District

B. The Contractor shall be responsible for obtaining all local construction department permits as may be applicable.

1.7 WORK RESTRICTIONS

A. Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets, work on public streets, rights of way, and other requirements of authorities having jurisdiction.

B. Smoking and Controlled Substance Restrictions: Use of tobacco products, alcoholic beverages, and other controlled substances on Owner’s property is not permitted.

C. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.

1.8 SPECIFICATION AND DRAWING CONVENTIONS

A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
2. References made to “Architect” in the specifications shall be understood to mean “Engineer”.
3. Text Color: Text used in the Specifications, including units of measure, manufacturer and product names, and other text may appear in multiple colors or underlined as part of a hyperlink; no emphasis is implied by text with these characteristics.
4. Hypertext: Text used in the Specifications may contain hyperlinks. Hyperlinks may allow for access to linked information that is not residing in the Specifications. Unless otherwise indicated, linked information is not part of the Contract Documents.

5. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

B. Division 00 Contracting Requirements: General provisions of the Contract, including General and Supplementary Conditions, apply to all Sections of the Specifications.

C. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

D. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:

1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings.
3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012100 - ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements governing allowances.

B. Types of allowances include the following:

1. Contingency allowances.

C. Related Requirements:

1. Division 01 Section "Quality Requirements" for procedures governing the use of allowances for field testing by an independent testing agency.

D. The work included in any accepted allowance is to be completed within the original activity milestone dates stated in these documents, as accepted at time of award. No additional time will be awarded to the Contractor as the result of an allowance being utilized.

1.3 DEFINITIONS

A. Allowance is a quantity of work or dollar amount established in lieu of additional requirements, used to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.

B. It is to be clearly understood that the Allowances are to be used for work beyond the Contractor’s base scope of work and at the sole option of the Owner. It is the Contractor’s responsibility to perform all work required to comply with the requirements of the Contract Documents and to deliver a complete project without the use of any allowances.

1.4 SELECTION AND PURCHASE

A. At the earliest practical date after award of the Contract, advise Engineer of the date when final selection, or purchase and delivery, of each product or system described by an allowance must be completed by the Owner to avoid delaying the Work.

B. At Engineer's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.

C. Purchase products and systems selected by Engineer from the designated supplier.

1.5 ACTION SUBMITTALS

A. Submit proposals for purchase of products or systems included in allowances in the form specified for Change Orders.

1.6 INFORMATIONAL SUBMITTALS

A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.

C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.7 CONTINGENCY ALLOWANCES

A. Use the contingency allowance only as directed by Engineer for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.

B. Contractor's overhead, profit, and related costs for products and equipment ordered by Owner under the contingency allowance are included in the allowance and are not part of the Contract Sum. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.

C. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit.

D. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

1.8 ADJUSTMENT OF ALLOWANCES

A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.

1. Include installation costs in purchase amount only where indicated as part of the allowance.
2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other markups.
3. Submit substantiation of a change in scope of Work, if any, claimed in Change Orders related to unit-cost allowances.
4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.

B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.

1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of Work has changed from what could have been foreseen from information in the Contract Documents.
2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

A. Allowance No. 1: Owner’s contingency allowance of $100,000.00.

END OF SECTION 012100

SECTION 012200 – UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for unit prices.
B. Related Requirements:
   1. Section 012100 “Allowances” for procedures for using unit prices to adjust quantity allowances.

1.2 DEFINITIONS

A. Unit price: An amount incorporated into the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.3 PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead, and profit.

B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.

C. Owner reserves the right to reject Contractor’s measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner’s expense, by an independent surveyor acceptable to Contractor.

D. List of Unit Prices: A schedule of unit prices is included in the Bid Form. Technical Specification Sections contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 UNIT PRICES

A. The Bid Form stipulates the unit price schedule for payment. Unit price items are measured by unit, weight, volume, area, linear means, etc. as specified in the measurement and payment section of the Technical Specification Sections.

3.2 UNIT QUANTITIES

A. Quantities and measurements indicated on the Bid Form are for Contract purposes only. Actual quantities provided shall determine payment.

   1. When actual Work requires more or fewer quantities than those quantities indicated, provide required quantities at contracted unit sum/prices.

END OF SECTION 012300

SECTION 012500 – SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for the acceptance of substitutions.

1.3 DEFINITIONS

A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

1.4 ACTION SUBMITTALS

A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Substitution Request Form: S ee this section
2. Documentation: Show compliance with all specified requirements for substitutions and the following, as applicable:

a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by contractors that will be necessary to accommodate proposed substitution.
c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
e. Samples, where applicable or requested.
f. Certificates and qualification data, where applicable or requested.

g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
i. Research reports evidencing compliance with current IBCNJ.
j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
k. Cost information, including a proposal of change, if any, in the Contract Sum.
l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents.
m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

4. Architect or his consultant will evaluate and render only one (1) decision on any “Or Equal” Substitution. Re-evaluation of any “Or Equal” Substitution will be paid for by the Contractor at a rate of $155.00 dollars an hour for reimbursement to the Architect.

1.5 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. If a product or material requires testing to evidence that it is an equivalent, engage a qualified testing agency to perform compatibility tests recommended by Architect/Engineer.

1.6 PROCEDURES

A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.

1. Conditions: Architect/Engineer will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:

a. Requested substitution is consistent with the Contract Documents and will produce indicated results.

b. The contractor is responsible for all system accessories and required components necessary for the installation of requested “or equals” or substitutions.
c. Substitution request is fully documented and properly submitted.
d. Requested substitution will not adversely affect Contractor's construction schedule.
e. Requested substitution has received necessary approvals of authorities having jurisdiction.
f. Requested substitution is compatible with other portions of the Work.
g. Requested substitution has been coordinated with other portions of the Work.
h. Requested substitution provides specified warranty.
i. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

2. Additional Responsibilities: Contractor shall be responsible to compensate the Owner for Architect/Engineer redesign and evaluation services, increased cost of other construction by Owner, and similar considerations due to Contractor’s requests for substitution.

B. “Or Equal” Substitutions: Architect/Engineer will consider requests for substitution if received within 21 days after the Notice of Contract Award. Requests received after the 21 days will be rejected by the Architect.

1. Conditions: Architect/Engineer will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
   a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
   b. Requested substitution provides sustainable design characteristics that specified product provided for achieving sustainable design prerequisites and credits.
   c. Substitution request is fully documented and properly submitted. Requested substitution will not adversely affect Contractor's construction schedule.
   d. Requested substitution has received necessary approvals of authorities having jurisdiction.
   e. Requested substitution is compatible with other portions of the Work.
   f. Requested substitution has been coordinated with other portions of the Work.
   g. Requested substitution provides specified warranty.
   h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

PART 3 - COMPENSATION (Not used)

END OF SECTION 012500

PROJECT NAME: _____

RSC PROJECT #: _____

CONTRACT NO. _____

SUBSTITUTION NO. _____

REQUEST FOR SUBSTITUTION / "OR EQUAL"

Submit a copy of this form for each requested substitution within 21 days after Notice of Contract Award. Fill in all blanks, check all boxes that apply and attach all necessary supporting data.

Specified Item: _____

Specification Section(s)/Paragraph(s): _____

Drawing Number(s): _____

Proposed Substitute: _____

(include, as applicable, manufacturer's name & address, trade name & model number of product and name of fabricator or supplier)

Reason for Proposed Substitution: _____

_____

_____

Net Change to Contract Sum: ☐ No Change ☐ Deduct $_____ ☐ Add $ _____

Change to Contract Time: ☐ No Change ☐ _____ Days ☐

The following required supporting documents are attached (Check all that apply):

☐ Complete Product Data

☐ Detailed Itemized comparison of all properties of proposed product vs. the specified product. All information required is the responsibility of the contractor.

☐ List of other projects on which proposed has been used, with project name, design professionals name and owner contact.

☐ List of maintenance services and replacement materials available.

☐ Statement of effect of substitution on construction schedule.

☐ Description of change that will be required in other work or products if substitute product is approved.

FOR SUBSTITUTION REQUEST

The undersigned testifies that he/she:

- Is submitting this substitution request within the limits set forth in the Contract Documents.
- Has investigated the proposed product and determined that it is equal or better than the specified product.
- Will provide the same warranty for the proposed product as for the specified product.
- Will coordinate installation and make other changes as required for the work to be complete in all respects, including: (a) redesign and (b) additional components and capacity required by other work affected by the change.
- Waives all claims for additional costs for evaluation of the substitution request, redesign if required, and reapproval by authorities having jurisdiction, if required.
- Will reimburse the Architect for additional costs for evaluation of the substitution request, redesign if required, and reapproval by authorities having jurisdiction, if required.

Contractor's Signature: _____

Typed or Printed Name: _____

Title: _____

Company: _____

Address: _____

Phone Number: _____

Owner Approval: _____ Date: _____

RSC Architects Approval: _____ Date: _____

Consulting Engineer Approval: _____ Date: _____

END OF SECTION 012500

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

1.3 MINOR CHANGES IN THE WORK

A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

1.4 CHANGE ORDER PROCEDURES

A. On Owner's approval of a Work Changes Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.5 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

1.6 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
2. Within time specified in Proposal Request or 20 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

    a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
    b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
    c. Include costs of labor and supervision directly attributable to the change.
    d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in Division 01 Section "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.

C. Contractor Fee: The maximum Contractor’s fee and other charges related to approved change orders is as follows:
1. Work performed by the Contractors subcontractors: 10% of the cost of the work for the Subcontractor and 5% of that cost (subcontractor plus 10%) for the Contractor.
2. Work performed by the Contractor: 15% of the cost of the work for the Contractor.
3. Insurance cost shall be at the percentage included in the approved schedule of values.
4. Bond Cost shall be at the percentage included in the approved schedule of values.
5. When changed work is funded through base bid Contract Allowances, there shall be no payment for insurance and bond cost as they are included in the base bid amount.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Related Requirements:

1. Division 01 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.

1.3 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.

1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:

a. Application for Payment forms with continuation sheets.
b. Submittal schedule.
c. Items required to be indicated as separate activities in Contractor's construction schedule.

2. Submit the schedule of values to Architect at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.

B. Format and Content: Use the Bid Form to establish line items for the schedule of values. Provide at least one line item for each Bid Item and relevant Attachments.

1. Identification: Include the following Project identification on the schedule of values:

a. Project name and location.
b. Name of Architect.
c. Contractor's name and address.
d. Date of submittal.

2. Arrange schedule of values consistent with format of AIA Document G703.
3. Arrange the schedule of values in tabular form with separate columns to indicate the following for each item listed:

    a. Description of the Work.
    b. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.

        1) Labor.
        2) Materials.
        3) Equipment.

4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
5. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

    a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.

6. Schedule Updating: Update and resubmit the schedule before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.

1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
2. Payment will be made based on the percentage completed of the phase contract amount plus allowable reimbursable expenses per the schedule submitted.

B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.

C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.

D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.

1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.

2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.

E. Stored Materials: At the sole option of the Owner, payments may be made for materials stored off site. If this billing is permitted, include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored on-site, but not yet installed.

1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
3. Provide summary documentation for stored materials indicating the following:

    a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
    b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
    c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.

F. Transmittal: Submit three signed and notarized original copies of each Application for Payment to Architect/Engineer by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

G. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.

1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
2. When an application shows completion of an item, submit conditional final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
4. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.

H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
2. Schedule of values.
3. Contractor’s construction schedule (preliminary if not final).

I. Application for Payment at Substantial Completion: After Architect/Engineer issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.

2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

J. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required
3. Updated final statement, accounting for final changes to the Contract Sum
4. AIA Document G706A, "Contractor's Affidavit of Release of Liens."

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. General project coordination procedures.
2. Administrative and supervisory personnel.
3. Coordination drawings.
4. Requests for Information (RFIs).
5. Project meetings.

B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.

C. Related Sections:

1. Division 01 Section "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
2. Division 01 Section "Closeout Procedures" for coordinating closeout of the Contract.

1.3 DEFINITIONS

A. RFI: Request from Owner’s Representative, Architect, or Contractor seeking information from each other during construction.

1.4 COORDINATION

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for Owner's Representative and separate contractors if coordination of their Work is required.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's construction schedule.
2. Preparation of the schedule of values.
3. Installation and removal of temporary facilities and controls.
4. Progress meetings.
5. Project closeout activities.

D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections for disposition of salvaged materials that are designated as Owner's Representative property.

1.4 COORDINATION DRAWINGS

A. Coordination Drawings, General: Prepare coordination drawings in accordance with requirements in individual Sections, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.

1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:

a. Use applicable Drawings as a basis for preparation of demolition coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
b. Provide a plan that shows the project site logistics including staging and work areas, traffic routes, crane access, contract limits, entry/exit points, contractor parking, temporary fencing, signage, phasing, etc.
c. Coordinate the addition of trade-specific information to the demolition coordination drawings by multiple contractors in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.

B. Coordination Digital Data Files: Prepare coordination digital data files in accordance with the following requirements:

1. File Preparation Format: Same digital data software program, version, and operating system as the original Drawings.
2. File Preparation Format: DWG, Version AutoCad, operating in Microsoft Windows operating system.

3. File Submittal Format: Submit or post coordination drawing files using format same as file preparation format and Portable Data File (PDF) format.

1.5 KEY PERSONNEL

A. Key Personnel Names: Within twenty (20) days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and email addresses. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1. Post copies of list in project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.6 REQUESTS FOR INFORMATION (RFIs)

A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.

1. Architect/Engineer will return RFIs submitted to Architect/Engineer by other entities controlled by Contractor with no response.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

1. Project name.
2. Project number.
3. Date.
4. Name of Contractor.
5. Name of Architect.
6. RFI number, numbered sequentially.
7. RFI subject.
8. Specification Section number and title and related paragraphs, as appropriate.
9. Drawing number and detail references, as appropriate.
10. Field dimensions and conditions, as appropriate.
11. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
12. Contractor's signature.
13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.

    a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.

C. Architect's/Engineer’s Action: Architect/Engineer will review each RFI, determine action required, and respond. Allow seven (7) working days for Architect's.Engineer’s response for each RFI. RFIs received by Architect/Engineer after 1:00 p.m. will be considered as received the following working day.

1. The following RFIs will be returned without action:

a. Requests for approval of submittals.
b. Requests for approval of substitutions.
c. Requests for coordination information already indicated in the Contract Documents.
d. Requests for adjustments in the Contract Time or the Contract Sum.
e. Requests for interpretation of Architect's/Engineer's actions on submittals.
f. Incomplete RFIs or inaccurately prepared RFIs.

2. Architect's/Engineer's action may include a request for additional information, in which case Architect's/Engineer's time for response will date from time of receipt of additional information.
3. Architect's/Engineer's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 01 Section "Contract Modification Procedures."

a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect/Engineer in writing within five (5) days of receipt of the RFI response.

D. On receipt of Architect's/Engineer's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect/Engineer within five (5) days if Contractor disagrees with response.

E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Use software log to keep track of RFI's is required. Include the following: [Software log with not less than the following:]

1. Project name.
2. Name and address of Contractor.
3. Name and address of Architect.
4. RFI number including RFIs that were dropped and not submitted.
5. RFI description.
6. Date the RFI was submitted.
7. Date Architect's response was received.
8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
9. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

1.7 PROJECT MEETINGS

A. General: Contractor will schedule and conduct meetings and conferences at Project site, unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect/Engineer of scheduled meeting dates and times.
2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner, and Architect/Engineer, within four (4) days of the meeting.

B. Preconstruction Conference: Contractor will schedule and conduct, a preconstruction conference before starting construction, at a time convenient to Owner and Architect/Engineer, but no later than fifteen (15) days after execution of the Agreement.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect/Engineer of scheduled meeting dates and times.

2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

C. Project Closeout Conference: Contractor will schedule and conduct a Project closeout conference, at a time convenient to Owner's Representative and Architect/Engineer, but no later than ninety (90) days prior to the scheduled date of Substantial Completion.

1. Conduct the conference to review requirements and responsibilities related to Project closeout.
2. Attendees: Authorized representatives of Owner, Architect/Engineer, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:

    a. Preparation of record documents.
    b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
    c. Requirements for demonstration and training.
    d. Preparation of Contractor's punch list.
    e. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
    f. Submittal procedures.
    g. Responsibility for removing temporary facilities and controls.

4. Minutes: Entity conducting meeting will record and distribute meeting minutes.

D. Progress Meetings: Contractor will conduct progress meetings at bi-monthly intervals.

1. Coordinate dates of meetings with preparation of payment requests.
2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
3. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.

    a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

1. Start-up construction schedule.
2. Contractor's construction schedule.
3. Daily construction reports.
4. Material location reports.
5. Field condition reports.
6. Special reports.

1.3 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.

1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
2. Predecessor Activity: An activity that precedes another activity in the network.
3. Successor Activity: An activity that follows another activity in the network.

1.4 INFORMATIONAL SUBMITTALS

A. Format for Submittals: Submit required submittals in the following format:

1. PDF electronic file.

B. Start-up construction schedule.

C. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.

1. Submit a working electronic copy of schedule, using software indicated, and labeled to comply with requirements for submittals. Include type of schedule (initial or updated) and date on label.

D. Daily Construction Reports: Submit at weekly intervals.

E. Field Condition Reports: Submit at time of discovery of differing conditions.

F. Special Reports: Submit at time of unusual event.

1.5 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Substantial Completion and final completion.

1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

B. Activities: Treat each separate area as a separate numbered activity for each principal element of the Work. Comply with the following:

1. Procurement Activities: Include procurement process activities for long lead items and major items, requiring a cycle of more than 60 days, as separate activities in the schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication and delivery.
2. Submittal Review Time: Include review and resubmittal times indicated in Division 01 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
3. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's/Engineer’s administrative procedures necessary for certification of Substantial Completion.
4. Punch List and Final Completion: Include not more than 30 days for punch list and final completion.

C. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed and Substantial, with Punchlist and Final Completion.

D. Recovery Schedule: When periodic update indicates the Work is fourteen (14) or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.

2.2 START-UP CONSTRUCTION SCHEDULE

A. Bar-Chart Schedule: Submit start-up horizontal bar-chart-type construction schedule within 14 days of date established for the Notice to Proceed.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first 90 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's construction schedule within 30 days of date established for the Noticed to Proceed. Base schedule on the start-up construction schedule and additional information received since the start of Project.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in ten (10) percent increments within time bar.

2.4 REPORTS

A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:

1. List of subcontractors at Project site.
2. List of separate contractors at Project site.
3. Approximate count of personnel at Project site.
4. Equipment at Project site.
5. Material deliveries.
6. High and low temperatures and general weather conditions, including presence of rain or snow.
7. Testing and inspection.
8. Accidents.
9. Meetings and significant decisions.
10. Unusual events (refer to special reports).
11. Stoppages, delays, shortages, and losses.
12. Meter readings and similar recordings.
13. Emergency procedures.
14. Orders and requests of authorities having jurisdiction.
15. Change Orders received and implemented.
16. Construction Change Directives received and implemented.
17. Services connected and disconnected.
18. Equipment or system tests and startups.
19. Substantial Completions authorized.

B. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.

2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
3. As the Work progresses, indicate final completion percentage for each activity.

B. Distribution: Distribute copies of approved schedule to Architect/Engineer, Owner's Representative, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

1. Post copies in Project meeting rooms and temporary field offices.
2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200

SECTION 013233 - PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for the following:

1. Preconstruction photographs.
2. Monthly photographs.
3. Final completion photographs.

B. Related Sections:

1. Division 01 Section "Closeout Procedures" for submitting photographic documentation as project record documents at Project closeout.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For photographer and Web-based photographic documentation service provider.

B. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each photograph. Indicate elevation or story of construction. Include same information as corresponding photographic documentation.

C. Digital Photographs: Submit image files within three (3) days of taking photographs.

1. Digital Camera: Minimum sensor resolution of ten (10) megapixels.
2. Format: Minimum 1600 by 1200 pixels, 400 dpi minimum, in unaltered original files, with same aspect ratio as the sensor, uncropped, date- and time- stamped, in folder named by date of photograph, accompanied by key plan file.
3. Identification: Provide the following information with each image description in file metadata tag:

a. Name of Project.
b. Name and contact information for photographer.
c. Name of Architect/Engineer.
d. Name of Contractor.
e. Date photograph was taken.
f. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
g. Unique sequential identifier keyed to accompanying key plan.

D. Demolition Construction Photographs: Submit two (2) prints of each photographic view within seven (7) days of taking photographs.

1. Format: 8-by-10-inch smooth-surface matte prints on single-weight commercial-grade photographic paper, [mounted on linen or card stock to allow a 1-inch- wide margin and enclosed back to back in clear plastic sleeves that are punched for standard three-ring binder.
2. Identification: On back of each print, provide an applied label or rubber-stamped impression with the following information:

    a. Name of Project.
    b. Name and contact information for photographer.
    c. Name of Architect/Engineer
    d. Name of Contractor.
    e. Date photograph was taken if not date stamped by camera.
    f. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
    g. Unique sequential identifier keyed to accompanying key plan.

1.4 COORDINATION

A. Auxiliary Services: Cooperate with photographer and provide auxiliary services requested, including access to Project site and use of temporary facilities, including temporary lighting required to produce clear, well-lit photographs.

1.5 USAGE RIGHTS

A. Obtain and transfer copyright usage rights from photographer to Owner for unlimited reproduction of photographic documentation.

PART 2 - PRODUCTS (NOT REQUIRED)

PART 3 - EXECUTION

3.1 DEMOLITION PHOTOGRAPHS

A. Pre-demolition Photographs: Before starting construction, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by the Architect/Engineer.
    1. Take twenty-five [25] photographs to show existing conditions adjacent to property before starting the Work.

B. Periodic Photographs: Take twenty-five [25] photographs monthly, with the cutoff date associated with each Application for Payment. Select vantage points to show status of work and progress since last photographs were taken.

C. Final Completion Photographs: Take fifty [50] color photographs after date of Substantial Completion for submission as project record documents. Architect/Engineer will inform photographer of desired vantage points.

END OF SECTION 013233

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Submittal schedule requirements.
2. Administrative and procedural requirements for submittals.

B. Related Requirements:

1. Division 01 Section "Project Management and Coordination" for submitting coordination drawings and subcontract list and for requirements for web-based Project software.
2. Division 01 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
3. Division 01 Section "Closeout Procedures" for submitting closeout submittals and maintenance material submittals.
4. Division 01 Section "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.

1.3 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Engineer's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."

B. Informational Submittals: Written and graphic information and physical samples that do not require Engineer's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

1.4 SUBMITTAL SCHEDULE

A. Submittal Schedule: Submit, as an action submittal, a list of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Engineer and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.

2. Initial Submittal Schedule: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
3. Final Submittal Schedule: Submit concurrently with the first complete submittal of Contractor's construction schedule.
    a. Submit revised submittal schedule as required to reflect changes in current status and timing for submittals.
4. Format: Arrange the following information in a tabular format:
    a. Scheduled date for first submittal.
    b. Specification Section number and title.
    c. Submittal Category: Action; informational.
    d. Name of subcontractor.
    e. Description of the Work covered.
    f. Scheduled date for Architect's/Engineer's final release or approval.
    g. Scheduled dates for purchasing.
    h. Scheduled date of fabrication.
    i. Scheduled dates for installation.
    j. Activity or event number.

1.1 SUBMITTAL FORMATS

A. Submittal Information: Include the following information in each submittal:

1. Project name.
2. Date.
3. Name of Architect/Engineer.
4. Name of Contractor.
5. Name of firm or entity that prepared submittal.
6. Names of subcontractor, manufacturer, and supplier.
7. Category and type of submittal.
8. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
9. Drawing number and detail references, as appropriate.

B. Options: Identify options requiring selection by Architect/Engineer.

C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Architect/Engineer on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.

D. Electronic Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.

1.2 SUBMITTAL PROCEDURES

A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

1. Email: Prepare submittals as PDF package and transmit to Architect/Engineer by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Architect/Engineer.

a. Architect/Engineer will return annotated file. Annotate and retain one copy of file as a digital Project Record Document file.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
4. Coordinate transmittal of submittals for related parts of the Work specified in different Sections, so processing will not be delayed because of need to review submittals concurrently for coordination.
   a. Architect/Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's/Engineer's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect/Engineer will advise Contractor when a submittal being processed must be delayed for coordination.
2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Resubmittal Review: Allow 15 days for review of each resubmittal.

D. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.
2. Note date and content of revision in label or title block, and clearly indicate extent of revision.
3. Resubmit submittals until they are marked with approval notation from Architect's/Engineer's action stamp.

E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's/Engineer's action stamp.

1.3 SUBMITTAL REQUIREMENTS

A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are unsuitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:
   a. Manufacturer's catalog cuts.

b. Manufacturer's product specifications.
c. Standard color charts.
d. Statement of compliance with specified referenced standards.
e. Testing by recognized testing agency.
f. Availability and delivery time information.

4. For equipment, include the following in addition to the above, as applicable:
   a. Wiring diagrams that show factory-installed wiring.
   b. Printed performance curves
   c. Operational range diagrams
   d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
5. Submit Product Data before Shop Drawings, and before or concurrently with Samples.

B. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
   a. Identification of products.
   b. Notation of coordination requirements.
   c. Relationship and attachment to adjoining construction clearly indicated.
   d. Seal and signature of professional engineer if specified.

C. Samples: Submit Samples for review of type, color, pattern, and texture for a check of these characteristics with other materials.

1. Transmit Samples that contain multiple, related components, such as accessories together in one submittal package.
2. Identification: Permanently attach label on unexposed side of Samples that includes the following:
   a. Project name and submittal number.
   b. Generic description of Sample.
   c. Product name and name of manufacturer.
   d. Sample source.
   e. Number and title of applicable Specification Section.
   f. Specification paragraph number and generic name of each item.
3. Email Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics and identification information for record.
4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
   a. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units, showing the full range of colors, textures, and patterns available.
   a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect/Engineer will return submittal with options selected.
6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

D. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.

E. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.

F. Certificates:
1. Certificates and Certifications Submittals: Submit a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity. Provide a notarized signature where indicated.
2. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
3. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
4. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
5. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
6. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.

G. Test and Research Reports:

1. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
2. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
3. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
   a. Name of evaluation organization.
   b. Date of evaluation.
   c. Time period when report is in effect.
   d. Product and manufacturers' names.
   e. Description of product.
   f. Test procedures and results.
   g. Limitations of use.

1.4 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are insufficient to perform services or certification required, submit a written request for additional information to Architect/Engineer.

B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF file and three (3) paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be

designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

1.5 CONTRACTOR'S REVIEW

A. Action Submittals and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect/Engineer.

B. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp. Include name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

1. Architect/Engineer will not review submittals received from Contractor that do not have Contractor's review and approval.

1.6 ARCHITECT'S/ENGINEER'S REVIEW

A. Action Submittals: Architect/Engineer will review each submittal, indicate corrections or revisions required, and return.

1. PDF Submittals: Architect/Engineer will indicate, via markup on each submittal, the appropriate action.
   a. NO EXCEPTIONS TAKEN: Where the submittal is marked "NO EXCEPTIONS TAKEN," the Work covered by the submittal may proceed, provided it complies with the Contract Documents. Final acceptance will depend on that compliance.
   b. EXCEPTIONS AS NOTED: Where the submittal is marked "EXCEPTIONS AS NOTED," the Work covered by the submittal may proceed, provided it complies both with Engineer's notations and corrections on the submittal and the Contract Documents. Final acceptance will depend on that compliance.
   c. REVISE AND RESUBMIT: Where the submittal is marked, "REVISE AND RESUBMIT," do not proceed with the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity for the product submitted. Revise or prepare a new submittal according to Engineer's notation and corrections.
   d. REJECTED: Where the submittal is marked, "REJECTED," do not proceed with the Work covered by the submittal. Prepare a new submittal for a product that complies with the Contract Documents.

B. Informational Submittals: Architect/Engineer will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect/Engineer will forward each submittal to appropriate party.

C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect/Engineer.

D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

E. Architect/Engineer will return without review or discard submittals received from sources other than Contractor.

F. Submittals not required by the Contract Documents will be returned by Architect/Engineer without action.

G. Continued submission of revised rejected submittals is not allowed. Architect/Engineer will review a maximum of two re-submittals of a previously rejected submittal. Additional submissions will require

compensation to Owner.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013300

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
3. Requirements for Contractor to provide quality-assurance and -control services required by Architect/Engineer, Owner or authorities having jurisdiction are not limited by provisions of this Section.

C. Related Sections:

1. Division 01 Section "Construction Progress Documentation" for developing a schedule of required tests and inspections.

1.3 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect/Engineer.

C. Preconstruction Testing: Tests and inspections performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.

D. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

E. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

F. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.4 CONFLICTING REQUIREMENTS

A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to the Architect/Engineer for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect/Engineer for a decision before proceeding.

1.5 INFORMATIONAL SUBMITTALS

A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.

B. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

C. Schedule of Tests and Inspections: Prepare in tabular form and include the following:

1. Specification Section number and title.
2. Entity responsible for performing tests and inspections.
3. Description of test and inspection.
4. Identification of applicable standards.
5. Identification of test and inspection methods.
6. Number of tests and inspections required.
7. Time schedule or time span for tests and inspections.
8. Requirements for obtaining samples.
9. Unique characteristics of each quality-control service.

1.6 REPORTS AND DOCUMENTS

A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections.

C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's test and inspections specified in other Sections.

D. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.7 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

C. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.

1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
3. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

1.8 QUALITY CONTROL

A. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.

1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

B. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

C. Testing Agency Responsibilities: Cooperate with Architect/Engineer and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Architect/Engineer and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
6. Do not perform any duties of Contractor.

D. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspecting equipment at Project site.

E. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

F. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents as a component of the Contractor's quality-control plan. Coordinate and submit concurrently with Contractor's construction schedule. Update as the Work progresses. .

1. Distribution: Distribute schedule to Owner, Architect/Engineer testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

A. Prepare a record of tests and inspections. Include the following:

1. Date test or inspection was conducted.
2. Description of the Work tested or inspected.
3. Date test or inspection results were transmitted to Architect/Engineer.
4. Identification of testing agency or special inspector conducting test or inspection.

B. Maintain log at Project site. Post changes and modifications as they occur. Provide access to test and inspection log for Architect's/Engineer’s reference during normal working hours.

1. Submit log at Project closeout as part of Project Record Documents

3.2 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Division 01 Section "Execution."

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Architect's/Engineer’s action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's/Engineer’s duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": A command or instruction by Architect/Engineer. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

E. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

F. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.

G. "Provide": Furnish and install, complete and ready for the intended use.

H. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

1. For standards referenced by applicable building codes, comply with dates of standards as listed in building codes.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

B. Related Sections:

1. Division 01 Section "Summary" for work restrictions and limitations on utility interruptions.

1.3 USE CHARGES

A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's forces, Architect/Engineer, testing agencies, and authorities having jurisdiction.

B. Water Service from Existing System: Provide connections and extensions of services as required for construction operations.
1. Pay water-service use charges for water used by all entities for construction operations.

C. Electric Power Service from Existing System: Provide connections and extensions of services as required for construction operations.
1. Pay electric-power-service use charges for electricity used by all entities for construction operations.

1.4 INFORMATIONAL SUBMITTALS

A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

B. Erosion- and Sedimentation-Control Plan: Show compliance with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.

1.5 QUALITY ASSURANCE

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Chain-Link Fencing: Minimum 2-inch , 0.148-inch- thick, galvanized steel, chain-link fabric fencing; minimum 6 feet high with galvanized steel pipe posts; minimum 2-3/8-inch- OD line posts and 2-7/8-inch-OD corner and pull posts.

B. Portable Chain-Link Fencing: Minimum 2-inch, 0.148-inch- thick, galvanized steel, chain-link fabric fencing; minimum 6 feet high with galvanized steel pipe posts; minimum 2-3/8-inch- OD line posts and 2-7/8-inch- OD corner and pull posts, with 1-5/8-inch- OD top and bottom rails. Provide concrete bases for supporting posts.

2.2 TEMPORARY FACILITIES

A. Definition: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.

B. Field Office: The Contractor shall provide and maintain in good condition (1) one field office

C. Availability: Make the field office and its facilities available to the Architect/Engineer, the Owner and other Prime
Contractors throughout the entire construction period. One (1) complete set of Contract Documents including Addenda and Change Orders shall be kept in the field office at all times.

D. Additional Field Offices: The General Contractor shall provide a separate trailer or shed for use of his workmen, or the storage of tools and materials.

2.3 EQUIPMENT

A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

B. HVAC Equipment: Provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

3.2 TEMPORARY UTILITY INSTALLATION

A. General: Install temporary service or connect to existing service.

1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

B. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

C. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

D. Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.

E. Data Service: Computer and phone lines can be provided to site trailers by the Owner, but the costs for such installations and monthly usage costs must be reimbursed to the Owner.

F. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

3.3 SUPPORT FACILITIES INSTALLATION

A. Traffic Controls: Comply with requirements of authorities having jurisdiction.

1. Protect existing site improvements to remain including curbs, pavement, and utilities.
2. Maintain access for fire-fighting equipment and access to fire hydrants.

B. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.

1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties nor endanger permanent Work or temporary facilities.
2. Remove snow and ice as required to minimize accumulations.

C. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.

1. Identification Signs: Provide Project identification signs as indicated.
2. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.

D. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with Division 01 Section "Execution" for progress cleaning requirements.

E. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

C. Temporary Erosion and Sedimentation Control:

1. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross tree- or plant- protection zones.
2. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
3. Clean, repair, and restore adjoining properties and roads affected by erosion and sedimentation from the project site during the course of the project.
4. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

D. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.

E. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.

F. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates.

1. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations.

G. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

H. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.

1. Prohibit smoking in construction areas.
2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
4. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

3.5 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

C. Operate Project-identification-sign lighting daily from dusk until 12:00 midnight.

D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.

END OF SECTION 015000

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products and special warranties.

B. Related Requirements:

1. Division 01 Section "References" for applicable industry standards for products specified.
2. Division 01 Section "Closeout Procedures" for submitting warranties.
3. Division 01 Section “Substitution Procedures” for requests for substitutions.

1.3 DEFINITIONS

A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
2. New Products: Items that have not previously been incorporated into another project or facility. Salvaged items or items reused from other projects are not considered new products. Items that are manufactured or fabricated to include recycled content materials are considered new products, unless indicated otherwise.
3. Comparable Product: Product by named manufacturer that is demonstrated and approved through the comparable product submittal process described in “Comparable Products” Article, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

B. Basis-of-Design Product Specification: A specification in which a single manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation. Published attributes and characteristics of basis-of-design product establish salient characteristics of products.

C. Subject to Compliance with Requirements: Where the phrase "Subject to compliance with requirements" introduces a product selection procedure in an individual Specification Section, provide products qualified under the specified product procedure. In the event that a named product or product by a named manufacturer does not meet the other requirements of the specifications, select another named product or product from another named manufacturer that does meet the requirements of the specifications.

D. Basis-of-Design Product Specification Submittal: An action submittal complying with requirements in

Division 01 Section "Submittal Procedures."

1.4 QUALITY ASSURANCE

A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1.5 COORDINATION

A. Modify or adjust affected work as necessary to integrate work of approved equal products.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products, using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.

B. Delivery and Handling:

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products on delivery to determine compliance with the Contract Documents and that products are undamaged and properly protected.

C. Storage:

1. Provide a secure location and enclosure at Project site for storage of materials and equipment.
2. Store products to allow for inspection and measurement of quantity or counting of units.
3. Store materials in a manner that will not endanger Project structure.
4. Store products that are subject to damage by the elements under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation and with adequate protection from wind.
5. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
7. Protect stored products from damage and liquids from freezing.
8. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.7 PRODUCT WARRANTIES

A. Warranties specified in other Sections are to be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer’s disclaimers and limitations on product warranties do no relieve Contractor of obligations under requirements of the Contract Documents.

PART 2 - PRODUCTS

2.2 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.

1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
3. Where products are accompanied by the term "as selected," Engineer will make selection.
4. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
5. Or Equal: For products specified by name and accompanied by the terms "or equal," "or approved equal," or "or approved," comply with requirements in "Or Equal" Article to obtain approval for use of an unnamed product.
    a. Submit additional documentation required by Architect/Engineer in order to establish equivalency of proposed products. Unless otherwise indicated, evaluation of "or equal" product status is by the Architect/Engineer, whose determination is final.

B. Product Selection Procedures:

1. Non-Limited List of Products: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed or an unnamed product that complies with requirements.
    a. Non-limited list of products is indicated by the phrase "Subject to compliance with requirements, available products that may be incorporated in the Work include, but are not limited to, the following."
    b. Provision of an unnamed product is not considered a substitution, if the product complies with requirements.
2. Non-Limited List of Manufacturers: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed or a product by an unnamed manufacturer that complies with requirements.
    a. Non-limited list of manufacturers is indicated by the phrase "Subject to compliance with requirements, available manufacturers whose products may be incorporated in the Work include, but are not limited to, the following."
    b. Provision of products of an unnamed manufacturer is not considered a substitution, if the product complies with requirements.
3. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or an equal product by one of the other named manufacturers. Drawings and Specifications may additionally indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Or Equal" Article for consideration of an unnamed product by one of the other named manufacturers.

C. Sustainable Product Selection: Where Specifications require product to meet sustainable product characteristics, select products complying with indicated requirements. Comply with requirements in Division 01 sustainability requirements Section and individual Specification Sections.

1. Select products for which sustainable design documentation submittals are available from manufacturer.

2.3 "OR EQUAL" PRODUCTS

A. Conditions for Consideration of "Or Equal" Products: Architect/Engineer will consider Contractor's request for an equivalent product when the following conditions are satisfied. If the following conditions are not satisfied, Architect/Engineer may return requests without action, except to record noncompliance with the

following requirements:

1. Evidence that proposed equivalent product does not require revisions to the Contract Documents, is consistent with the Contract Documents, will produce the indicated results, and is compatible with other portions of the Work.
2. Contractors detailed evaluation of significant qualities of proposed equivalent product with those of the named basis-of-design product. Significant product qualities include attributes, such as type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other specific features and requirements.
3. Evidence that proposed equivalent product provides specified warranty.
4. List of similar installations for completed projects, with project names and addresses and names and addresses of architect/engineers and owners, if requested.
5. Samples of proposed equivalent product, if requested.

B. Architect's/Engineer's Action on "Or Equal" Products Submittal: If necessary, Architect/Engineer will request additional information or documentation for evaluation, as specified in Division 01 Section "Submittal Procedures."

1. Form of Approval of Submittal: As specified in Division 01 Section "Submittal Procedures."
2. Use product specified if Architect/Engineer does not issue a decision on use of a proposed equivalent product request within time allocated.

C. Submittal Requirements, Two-Step Process: Approval by the Architect/Engineer of Contractor's request for use of a proposed equivalent is not intended to satisfy other submittal requirements. Comply with specified submittal requirements.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:

1. Construction layout.
2. Field engineering and surveying.
3. Progress cleaning.
4. Installation.

1.3 INFORMATIONAL SUBMITTALS

A. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

B. Final Property Survey: Submit 10 copies showing the Work performed and record survey data.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning site work, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.

1. Prior to performing any excavation work, the contractor shall call for a utility mark out and notify the Owner’s Project Manager.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for

compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

C. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect/Engineer according to requirements in Division 01 Section "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmark and existing conditions. If discrepancies are discovered, notify Architect/Engineer promptly.

B. General: Engage a land surveyor to lay out the Work using accepted surveying practices.

C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.

D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work.

E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect/Engineer.

3.4 FIELD ENGINEERING

A. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

B. Final Property Survey: Engage a land surveyor to prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by land surveyor, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.

1. Show boundary lines, monuments, streets, site improvements and utilities, existing improvements and significant vegetation, adjoining properties, acreage, grade contours, and the distance and bearing from a site corner to a legal point.
2. Recording: At Substantial Completion, have the final property survey recorded by or with authorities having jurisdiction as the official "property survey."

3.5 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

    a. Use containers intended for holding waste materials of type to be stored.

4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.

B. Site: Maintain Project site free of waste materials and debris.

C. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways.

D. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure.

3.6 INSTALLATION

A. Locate the Work and components of the Work accurately, in correct alignment and elevation as indicated.
B. Comply with manufacturer’s written instructions and recommendations for installing products in applications indicated.
C. Install products at the time and under conditions that will ensure satisfactory results as judged by Engineer. Maintain conditions required for product performance until Substantial Completion.
D. Conduct construction operations, so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy of type expected for Project.
E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on-site and placement in permanent locations.
F. Tools and Equipment: Select tools or equipment that minimize production of excessive noise levels.
G. Templates: Obtain and distribute to the parties involved templates for Work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

END OF SECTION 017300

SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for the following:

1. Recycling nonhazardous and construction waste.

B. Related Requirements:

N/A

1.3 DEFINITIONS

A. Construction Waste: Building, structure, and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

B. Disposal: Removal of demolition or construction waste and subsequent salvage, sale, recycling, or deposit in landfill, incinerator acceptable to authorities having jurisdiction, or designated spoil areas on Owner’s property.

C. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.

1.4 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition and construction waste becomes property of Contractor.

1.5 ACTION SUBMITTALS

A. Waste Management Plan: Submit plan within 7 days of date established for commencement of the Work.

1.6 INFORMATIONAL SUBMITTALS

B. Owner requires a legible copy of weight tickets/receipts for recyclable materials (concrete, asphalt, metals, wood, gypsum, brick, insulation etc.). Whenever possible, Owner prefers materials which are scheduled for demolition, to be recycled.

1.7 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with transportation and disposal regulations of authorities having jurisdiction.

PART 2 - PRODUCTS

1.1 RECYCLING CONSTRUCTION WASTE, GENERAL

A. General: Recycle paper and beverage containers used by on-site workers.

B. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.

C. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.

1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
   a. Inspect containers and bins for contamination and remove contaminated materials if found.
2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
3. Remove recyclable waste from Owner's property and transport to recycling receiver or processor as often as required to prevent overfilling bins.

1.2 RECYCLING CONSTRUCTION WASTE

A. Packaging:

1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
2. Polystyrene Packaging: Separate and bag materials.
3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

B. Wood Materials:

1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.

C. Paint: Seal containers and store by type.

END OF SECTION 017419

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Substantial Completion procedures.
2. Final completion procedures.

B. Related Requirements:

1. Division 01 Section "Photographic Documentation" for submitting final completion construction photographic documentation.
2. Division 01 Section "Execution" for progress cleaning of Project site.

1.3 ACTION SUBMITTALS

A. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.

B. Certified List of Incomplete Items: Final submittal at Final Completion.

1.4 CLOSEOUT SUBMITTALS

A. Certificates of Release: From authorities having jurisdiction.

B. Certificate of Insurance: For continuing coverage.

1.5 SUBSTANTIAL COMPLETION PROCEDURES

A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.

B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
2. Submit closeout submittals specified in other Division 01 Sections, including Project Record Documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
3. Submit closeout submittals specified in individual Specification Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certification, and similar documents.
4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Engineer. Label with manufacturer's name and model number.
5. Submit testing, adjusting and balancing records as applicable.

C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Participate with Owner's representative in conducting inspection and walkthrough.
2. Complete final cleaning requirements.

D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Engineer, that must be completed or corrected before certificate will be issued.

1.6 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Division 01 Section "Payment Procedures."
2. Certified List of Incomplete Items: Submit certified copy of Engineer's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Engineer. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.

B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.7 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by

Contractor that are outside the limits of construction. Use CSI Form 14.1A.

1. Include the following information at the top of each page:

    a. Project name.
    b. Date.
    c. Name of Architect/Engineer.
    d. Name of Contractor.
    e. Page number.

2. Submit list of incomplete items in the following format:

    a. MS Excel electronic file. Architect/Engineer will return annotated file.
    b. Three paper copies.

PART 2 - PRODUCTS (NOT REQUIRED)

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:

    a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
    b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
    d. Remove tools, construction equipment, machinery, and surplus material from Project site.
    e. Test electrical systems for operation.

B. Construction Waste Disposal: Comply with waste disposal requirements in Division 01 Section "Temporary Facilities and Controls."

END OF SECTION 017700

SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:

1. Operation and maintenance documentation directory manuals.
2. Systems and equipment operation manuals.
3. Systems and equipment maintenance manuals.
4. Product maintenance manuals.

B. Related Requirements:

1. Division 01Section "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.

1.3 DEFINITIONS

A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.

B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 CLOSEOUT SUBMITTALS

A. Submit operation and maintenance manuals indicated. Provide content for each manual as specified in individual Specification Sections, and as reviewed and approved at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.

1. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.

B. Format: Submit operation and maintenance manuals in the following format:

1. Submit on digital media acceptable to Architect/Engineer. Enable reviewer comments on draft submittals.
2. Submit three sets of Operation and Maintenance manuals, bound in 3-ring binders, for all equipment and products installed in the project for Owner.

C. Comply with Division 01Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

1.5 FORMAT OF OPERATION AND MAINTENANCE MANUALS

A. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.

1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
2. File Names and Bookmarks: Bookmark individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.

1.6 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

A. Organization of Manuals: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:

1. Title page.
2. Table of contents.
3. Manual contents.

B. Title Page: Include the following information:

1. Subject matter included in manual.
2. Name and address of Project.
3. Name and address of Owner.
4. Date of submittal.
5. Name and contact information for Contractor.

C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.

E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

1.7 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY MANUAL

A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals. List items and their location to facilitate ready access to desired information. Include the following:

1. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
2. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.

3. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.

1.8 SYSTEMS AND EQUIPMENT OPERATION MANUALS

A. Systems and Equipment Operation Manual: Assemble a complete set of data indicating operation of each system, subsystem, and piece of equipment not part of a system. Include information required for daily operation and management, operating standards, and routine and special operating procedures.

1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.

B. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:

1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
2. Operating procedures.
3. Wiring diagrams.
4. Control diagrams.

C. Descriptions: Include the following:

1. Product name and model number. Use designations for products indicated on Contract Documents.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Engineering data and tests.
6. Complete nomenclature and number of replacement parts.

D. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Routine and normal operating instructions.
3. Instructions on stopping.

E. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

F. Piped Systems: Diagram piping as installed, and identify color coding where required for identification.

1.9 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

A. Systems and Equipment Maintenance Manuals: Assemble a complete set of data indicating maintenance of each system, subsystem, and piece of equipment not part of a system. Include manufacturers' maintenance documentation, preventive maintenance procedures and frequency, repair procedures, wiring and systems diagrams, lists of spare parts, and warranty information.

1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.

2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.

B. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranties and bonds as described below.

C. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.

D. Manufacturers' Maintenance Documentation: Include the following information for each component part or piece of equipment:

1. Standard maintenance instructions and bulletins; include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
   a. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
3. Identification and nomenclature of parts and components.
4. List of items recommended to be stocked as spare parts.

E. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:

1. Test and inspection instructions.
2. Troubleshooting guide.
3. Disassembly; component removal, repair, and replacement; and reassembly instructions.
4. Aligning, adjusting, and checking instructions.

F. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.

1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.

G. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

H. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

I. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

J. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.

1. Do not use original project record documents as part of maintenance manuals.

1.10 PRODUCT MAINTENANCE MANUALS

A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.

B. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

C. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.

D. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Reordering information for specially manufactured products.

E. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. Schedule for routine cleaning and maintenance.
4. Repair instructions.

F. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

G. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 017823

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for Project Record Documents, including the following:

1. Record Drawings.
2. Record Specifications.
3. Record Product Data.

B. Related Requirements:

1. Division 01 Section "Execution" for final property survey.
2. Division 01 Section "Closeout Procedures" for general closeout procedures.
3. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.

1.3 CLOSEOUT SUBMITTALS

A. Record Drawings: Comply with the following:

1. Number of Copies: Submit one set(s) of marked-up record prints.
2. Number of Copies: Submit copies of Record Drawings as follows:
   a. Final Submittal:
      1) Submit PDF electronic files of scanned Record Prints and three set(s) of file prints.
      2) Print each drawing, whether or not changes and additional information were recorded.

B. Record Specifications: Submit annotated PDF electronic files of Project's Specifications, including addenda and Contract modifications.

C. Record Documents:

1. Maintenance Bond
2. AIA document G706 - Contractor’s Affidavit of Payment of Debts and Claims
3. AIA document G706A - Contractor’s Affidavit of Release of Liens
4. AIA document G707 - Consent of Surety to Final Payment
5. Manufacturer’s warranties
6. Certified payroll reports
7. Final monthly project manning report

1.4 RECORD DRAWINGS

A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.

1. Preparation: Mark record prints to show the actual installation, where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
   a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
   b. Accurately record information in an acceptable drawing technique.
   c. Record data as soon as possible after obtaining it.
   d. Record and check the markup before enclosing concealed installations.
   e. Cross-reference record prints to corresponding photographic documentation.
2. Content: Types of items requiring marking include, but are not limited to, the following:
   a. Dimensional changes to Drawings.
   b. Revisions to details shown on Drawings.
   c. Depths of foundations.
   d. Locations and depths of underground utilities.
   e. Revisions to routing of piping and conduits.
   f. Revisions to electrical circuitry.
   g. Actual equipment locations.
   h. Changes made by Change Order or Change Directive.
   i. Changes made following Engineer's written orders.
   j. Details not on the original Contract Drawings.
   k. Field records for variable and concealed conditions.
   l. Record information on the Work that is shown only schematically.
3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
4. Mark record prints with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.
6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

B. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Format: Annotated PDF electronic and Auto CAD files as follows:
   a. Provide a complete set of updated as-built mylar drawings.
   b. Provide an electronic copy of the drawings in AutoCAD 2014, including title blocks, names, and logos. It may be restricted by the consultant to prevent revisions.
      1) This shall be used by owner for its record archives and for printing additional copies as required.
   c. Provide a second electronic copy of the drawings in AutoCAD 2014. It may be provided with the consultants' name, title block, logo, and other such information removed in order to protect the consultant from future liability due to drawing revisions by others.
      1) This shall be provided with unlocked layers, including all "X-REF's" in a format that will allow owner to make revisions in order to update facility drawings.
3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
4. Identification: As follows:

a. Project name.
b. Date.
c. Designation "PROJECT RECORD DRAWINGS."
d. Name of Architect/Engineer.
e. Name of Contractor.

1.5 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation, where installation varies from that indicated in Specifications, addenda, and Contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. Note related Change Orders and Record Drawings where applicable.

B. Format: Submit record specifications as annotated PDF electronic file, paper copy or scanned PDF electronic file(s) of marked-up paper copy of Specifications.

1.6 RECORD PRODUCT DATA

A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and revisions to Project Record Documents as they occur; do not wait until end of Project.

B. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders, Record Specifications, and Record Drawings where applicable.

C. Format: Submit Record Product Data as annotated PDF electronic file, paper copy or scanned PDF electronic file(s) of marked-up paper copy of Product Data.

1. Include Record Product Data directory organized by Specification Section number and title, electronically linked to each item of Record Product Data.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 017839

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SECTION 154 - MOBILIZATION

154.01 DESCRIPTION

154.02 MATERIALS

154.03 PROCEDURE

154.04 MEASUREMENT AND PAYMENT

This article of the standard specifications is amended as follows:

Delete the entire text of this Article and substitute the following:

Measurement and payment will be made under:

Pay Item	*Pay Unit*
MOBILIZATION	LUMP SUM

The following is added:

Payment for mobilization will be made on a lump sum basis regardless of the fact that the Contractor may have, for any reason, shut down its work on the project or moved equipment away from the project and back again.

Payment will be made in accordance with the following schedule:

1. When five percent of the work is completed, and the progress schedule is submitted to the engineer, 25 percent of the lump sum bid for mobilization or 2.5 percent of the total contract price, whichever is less, will be paid.

2. When ten percent of the work is completed, and required project schedule updates are submitted to the engineer, 50 percent of the lump sum bid for mobilization or five percent of the total contract price, whichever is less, will be paid.

3. When 15 percent of the work is completed, and required project schedule updates are submitted to the engineer, 75 percent of the lump sum bid for mobilization or 7.5 percent of the total contract price, whichever is less, will be paid.

4. When 20 percent of the work is completed, and required project schedule updates are submitted to the engineer, 100 percent of the lump sum bid for mobilization or ten percent of the total contract price, whichever is less, will be paid.

5. When all work on the project is complete, payment for the lump sum bid for mobilization in excess of ten percent of the total contract price will be made.

6. 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, if any.

7. No payments will be made for mobilization until a progress schedule is submitted, except when all work on the project is complete, then 50 percent of the lump sum bid for mobilization will be paid and no further payment(s) will be made for the lump sum bid for mobilization.

   If mobilization is not included in the proposal, include the costs in the various items scheduled in the proposal.

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

158.01 DESCRIPTION

The following is added to this subsection:

"Soil Erosion and Sediment Control and Water Quality Control" shall include the furnishing and maintenance of all materials, labor and equipment necessary for implementing proper measures to reasonably control soil erosion from construction operations and prevent excessive flow of sediment from the construction site. Such work may include the installation of water diversion structures, diversion ditches and sediment basins, seeding and mulching and sodding critical areas to provide temporary protection. All work shall be performed in accordance with the approved soil erosion plan and detail sheets. The work shall also include the relocation of soil erosion and sediment control measures including relocating them as required for stage construction.

158.02 MATERIALS

The following is added to this subsection:

Materials shall conform to the requirements of appropriate articles of "Standard for Soil Erosion and Sediment Control in New Jersey" as revised and adopted September 9, 1974, and the Standard Specification for Road and Bridge Construction of the New Jersey Department of Transportation, 2019 as added to and amended.

Embankment shall be Zone 3 conforming to Section 203.

Pipe for temporary slope drains shall be a minimum size of 8 inches and shall conform to Section 909.02. End sections and elbows shall be of the same material as the pipe to which they are to be joined.

Other materials shall conform to the following subsections:

Topsoil Stabilization Matting 917.06

158.03 CONSTRUCTION

The following is added to this subsection:

In the event that temporary soil erosion and sediment control measures are required due to the contractor's failure, for any reason, to install or maintain soil erosion and sediment controls, either as part of the work or as directed, such work shall be performed by the contractor at no cost to the Owner.

The work on soil erosion and sediment controls shall also include, but not be limited to, the following:

1. All soil erosion and sediment control practices on this project shall be constructed in accordance with the "Standards for Soil

Erosion and Sediment Control in New Jersey", or as approved for this project.

2. The smallest practicable area of land shall be exposed at any one time during the project and wherever feasible, natural vegetation shall be retained and protected. Stripping of vegetation, grading or other soil disturbance shall be done in a manner which will minimize soil erosion.

3. Schedule of construction operations shall be submitted to the Engineer for his approval.

4. A 72-hour notice shall be given to the Engineer and appropriate Soil Conservation District Office prior to the start of construction or grading. This notice can be verbal but must be followed by a written statement not less than forty-eight (48) hours prior to start-up.

5. All soil erosion and sediment control devices shall be in place prior to any major soil disturbance or installed and removed in their proper sequence to allow for further operations on the site.

6. All sediment control structures shall be checked and maintained on a regular basis and all basins shall be cleaned periodically when storage capacity is affected by siltation.

7. During construction, any additional control measures as deemed necessary to prevent erosion or sediment beyond those measures shown on the approved plans shall be installed or employed at the direction of the Engineer.

8. After completion of construction, soil and sediment controls shall be left in place until all disturbed areas are stabilized.

9. Disturbed areas including roadway embankments shall be maintained in a rough graded condition and temporarily seeded and/or mulched until proper weather conditions exist for the establishment of permanent vegetative cover.

10. All areas disturbed by grading on which permanent or semi-permanent seeding or temporary seeding have not been made and all slopes with a grade steeper than 2:1 shall be treated by mulching. The mulch shall be applied at a rate of 2 tons per acre or equivalent measure, according to State standards.

11. All areas disturbed by grading including soil stockpiles, which will not be used or constructed upon a period greater than thirty (30) days shall be temporarily seeded and protected as required.

12. All areas disturbed by grading which will not be constructed upon within six (6) months are to be stabilized with a permanent type seeding and fertilizing.

13. All disturbed areas shall be topsoiled, limed and fertilized prior to both temporary and permanent seeding in conformance with charts and tables as set forth in the "Standards for Soil Erosion and Sediment Control in New Jersey".

14. Hay bales shall be deemed unacceptable filter material in areas greater than one-half (1/2) acre.

15. Access and haul roads shall be protected with stone access strips and coarse stone filters in appropriate locations.

16. Fording of streams shall be kept to a minimum and where frequent crossings are contemplated, temporary bridges or culverts shall be constructed.

17. Storm drainage inlets are to be either capped or protected by temporary filter devices to prevent the entry of sediment carried by runoff water until vegetation and/or paving is established as planned.

18. Wherever well points, pumps or other dewatering methods are used, care shall be taken to provide for the elimination of said dewatering.

19. All drainage swales shall be parabolic in shape unless otherwise noted and shall conform to SCS design and standards.

20. Drainage swales and other structures shall be located in the field so as to retain as much of the original vegetation as possible, especially in the case of large trees.

21. Soils having a pH of 4 or less or containing iron sulfide shall be covered with a minimum of 12 inches of soil having a pH of 5 or more before seedbed preparation. The added soil shall be limed.

22. Roadways shall be swept at the end of each working day by the contractor. When deemed necessary by the Engineer, the contractor shall have the roadways swept by a mechanical sweeper. Same shall be provided at no additional cost to the Owner.

23. All soil erosion and sediment control devices shall be removed at the completion of the construction project or at such time when all disturbed areas are stabilized.

24. The contractor is advised that the proposed soil erosion and sediment control measures are subject to the Engineer's review and approval and shall be verified prior to the installation of the same.

Should the construction driveway fail to minimize the tracking of soils onto existing roadways, alternate methods acceptable to the Owner, local police department and/or engineer shall be immediately implemented by the contractor.

The amount of surface area of erodible earth material exposed at one time by clearing and grubbing, excavation, borrow or fill operations, without stabilization, shall not exceed 750,000 square feet for clearing and grubbing operations, or 750,000 for grading operations without prior approval. The engineer may increase or decrease these amounts commensurate with the contractor's capability and progress in keeping the construction current with the approved progress schedule.

158.04 MEASUREMENT AND PAYMENT

This article of the standard specifications is amended as follows:
Delete the entire text of this Article and substitute the following:

Separate measurement shall not be made for soil erosion and sediment control.

Separate payment will not be made for soil erosion and sediment control.

Separate measurement and payment will not be made for stabilized construction entrance; rather the cost thereof shall be included in the unit prices of the various bid items in the proposal.

Payment for soil erosion and sediment controls, including all work and materials as detailed above and including the removal of such measures at completion of the construction project or at such time when all disturbed areas are stabilized, shall be included in the prices bid for all items requiring same.

SECTION 159 - TRAFFIC CONTROL

159.01 DESCRIPTION

159.02 MATERIALS

159.03 PROCEDURE

159.03.01 Traffic Control Coordinator

The following is added to the first paragraph:

Prior to the start of construction, the engineer shall be notified of the single supervisory level individual, trained in the principles of safe traffic control, who, along with the direction of the Police Department's Traffic Safety Division, will be assigned the responsibility and authority for the implementation and maintenance of the traffic control.

The following is added:

The person assigned shall make a check of all traffic control devices in use on the entire project at least twice a day on working days and once a day on non-working days. Contractor shall file the name and a 24-hour telephone number of the person assigned to provide services.

Separate payment will not be made for Traffic Control Coordinator under any specific item but the cost thereof shall be included in the prices bid for the maintenance and protection of traffic related items as listed in the bid form.

159.03.02 Traffic Control Devices

This Article of the Standard Specifications is amended as follows:

Add the following:

Traffic Control Devices shall be kept clean and maintained in good condition including replacement if lost, stolen, or damaged until no longer required for the Project. All traffic control devices shall comply with the details shown on the plans, supplementary specifications, and standard details for traffic control devices as developed by the New Jersey Department of Transportation.

Reflective sheeting for breakaway barricades, drums, vertical panels, cones, barricades Type III and delineator guide posts shall conform to the requirements specified for Type II sheeting in Subsection 911.01.01.

1. Construction Signs.

The following is added:

Construction signs shall be installed as required by the Police Department as the first order of work for construction signs for projects and shall be maintained so as to provide maximum visibility and legibility at all time.

159.03.03 Removable Black Line Masking Tape

159.03.04 Temporary Pavement Markers

159.03.05 Temporary Pavement Marking Tape

159.03.06 Traffic Stripes, Latex, Traffic Markings Lines, Latex and Traffic Markings Symbols, Latex

159.03.07 HMA Patch

The following subpart is added is to this subsection:

The contractor shall not be responsible for removal of ice or snow from sections of roadways opened to traffic. The engineer may direct the contractor to construct HMA patch in accordance with Section 401 in order to maintain sections of traveled way and shoulders in a smooth riding condition at all times, including seasonal shutdowns.

159.03.08 Traffic Direction

The following subpart is added to this subsection:

c. Traffic Directors.

Traffic safety services shall consist of the use of the local police in the enforcement of the approved TCP, if any, and applicable laws to provide a safe worksite for both construction personnel, and the traveling vehicular and pedestrian public. Where a TCP is not provided the requirements of the MUTCD shall govern.

Police providing traffic safety services shall be off-duty police officers from the municipality within which the Work of the Project is to be accomplished.

Police will be assigned during construction hours at locations and times designated by the Contractor. The Contractor agrees that it shall make no claims against the Owner for extra costs resulting from any delays or interruptions to its operations attributable to the actions or inactions of police in the performance of traffic safety services. The Contractor further agrees that it has incorporated in its Proposal any costs that maybe incurred by the Contractor as a result of delays attributable for the actions or inactions of police in the performance of traffic safety services, and agrees to bear the risk of loss for any costs not included in its Proposal.

The use of police on the Project will be as determined by the Contractor and the Police Department. Assignment of police to the Project will be on the basis of the Contractor’s operations, and the needs of the worksite, and will be made solely by the local police.

The Contractor’s failure to give complete, detailed, timely and proper notice of its operations shall not be cause for claims for extra costs by the Contractor, nor shall the number of police assigned to a project

constitute a valid basis for a claim by the Contractor. The Contractor agrees that the TCP is a stand-alone document, and that the Contractor is solely responsible for the safety of the Project, the continuity of movement of traffic through the worksite, and the impact of traffic on its work.

The Contractor is advised that there may be emergency situations when police are not available, or when police do not arrive at the job site until after the scheduled arrival time or leave before the scheduled departure time. The Contractor agrees that it shall make no claims against the Owner for any costs associated with failure of police to be on the job site at a scheduled time. The Contractor further agrees that it shall assume risk of the possibility of such occurrences and shall factor the associated costs into the Proposal.

The Contractor shall be fully responsible for the set-up and maintenance of the TCP except as required by Local and State law or as specifically set forth in the Contract. The use of police in the providing of traffic safety services is supplemental to the TCP and their presence shall not relieve the Contractor of its responsibility to maintain the TCP and safety on the Project.

The Contractor shall notify the Resident Engineer of any work cancellations at least 24 hours before start of work with the sole exception of unforeseen weather cancellations that occur after the start of work or less than 24 hours before the start of work.

When police have been assigned to a project by the Contractor, it is the Contractor's obligation to notify the Engineer of all cancellations of projected or scheduled operations. Police reporting for work will be reimbursed for a minimum of four hours. If projected work has been canceled, for whatever reason, including but not limited to foreseen weather conditions, and the Resident Engineer was not notified of the cancellations at least 24 hours before by the Contractor, except as noted above, the police will each be reimbursed for four hours of work.

These payments will be made by the Contractor and the amount will be deducted from Contractor invoices for the reason of his failure to notify.

159.03.09 Emergency Towing Service

The following subsection is added to this section:

159.03.10 Construction Staging Plan

The construction staging plan is based on the minimum requirements provided in the current Manual on Uniform Traffic Control Devices (MUTCD). The contractor shall work in accordance with the provisions of the construction staging plan and shall only deviate from the plan after approval. If a construction staging plan is not included in the construction plans or specifications, then the requirements of the MUTCD shall apply.

The following subsection is added to this section:

159.03.11 General

TRAFFIC CONTROL IS TO BE COORDINATED WITH LOCAL AUTHORITIES. It is the intention of this contract that vehicle and pedestrian traffic be maintained within the limits of the project at all times.

Final responsibility for the installation of adequate precautions and for the protection of the traveling public and his own personnel, shall rest with the contractor.

Alternate one-way traffic control may be required during construction operations. Permission for complete stoppage of one direction of traffic must be obtained from the Local Police and the Engineer at least three (3) days prior to the stoppage. Alternate one-way traffic control will be affected by two Uniform Traffic directors, one at each end of the work area. All temporary traffic lanes shall have a minimum unobstructed width of 11 feet.

Reduction of the number of lanes available for traffic or construction of existing widths of traveled way will not be permitted until after 9:00 a.m. and shall be removed prior to 4:00 p.m. unless otherwise directed by the Engineer.

Work which will interfere with traffic or restrict the width of traveled way available for traffic shall not be performed on Saturdays, Sundays, or legal holidays unless otherwise directed by the Engineer.

Sites for the storage of equipment and materials during the progress of the work shall be subject to the approval of the Engineer.

Compliance with all prescribed safety precautions contained herein shall not relieve the contractor of this primary responsibility to take all necessary measures to protect and safeguard the public nor relieve him of any responsibilities described in the contract agreements.

If the Local Police Department notifies the contractor or his superintendent or the Engineer of any hazardous condition or violation of traffic control in the work area regulations, all operations shall be immediately discontinued and immediate remedial action will be taken to the satisfaction of the Local Police before work is resumed. All costs incurred as a result of such action shall be borne by the contractor without recourse against the Owner.

Prior to beginning a seasonal shutdown or any other prolonged work stoppage, or when work is suspended by the Engineer, all excavated areas within the traveled way or adjacent thereto shall be brought to a grade compatible with the existing traveled way or to finished grade, as approved.

The contractor shall be responsible for maintenance within the project limits until acceptance. This maintenance shall consist of continuous and effective work prosecuted day by day, with adequate equipment and forces to the end that the roadway is kept in satisfactory condition at all times.

In the case of a contract requiring the placing of a course upon a course or subgrade previously constructed, the contractor shall maintain the previous course or subgrade during all construction operations.

On any section opened to traffic, whether provided for in the contract documents or opened as directed, any damage to the roadway due to the contractor's operations shall be repaired at no cost to the Owner.

The contractor shall backfill all excavated areas within the roadway to a grade compatible with the existing traveled way at such times he is not actively working. This shall include nights, weekends, and periods of shut downs.

Competent, trained, Police Traffic Directors shall be employed at every point where Contractor's equipment is working immediately adjacent to, or is entering, leaving or crossing active traffic lanes. Police Traffic Directors shall be employed continuously for the full time such conditions exist as determined by the Engineer.

159.04 MEASUREMENT AND PAYMENT

This article of the standard specifications is amended as follows:

Delete the entire text of this Article and substitute the following:

Measurement and payment will be made under:

Pay Item	*Pay Unit*
CONSTRUCTION SIGNS (IF AND WHERE ORDERED)	SQUARE FOOT
BREAKAWAY BARRICADE (IF AND WHERE ORDERED)	UNIT
DRUM (IF AND WHERE ORDERED)	UNIT
TRAFFIC CONE (IF AND WHERE ORDERED)	UNIT
PORTABLE VARIABLE MESSAGE SIGN (IF AND WHERE ORDERED)	DAY
TRAFFIC DIRECTOR, MUNICIPAL POLICE ALLOWANCE	ALLOWANCE

Traffic directors, flaggers will not be measured. Police Traffic Directors, for the traffic safety services will be measured by the man-hour. All Police Traffic Director fees, including Municipal Administration, Police car fees etc. will be considered a direct expense and the amount requested by the Contractor shall not exceed the amount paid to the municipalities. Excess "Traffic Director, Municipal Police Allowance" monies shall not be used by the Contractor for any other purpose. Only the amount paid to the Municipality, as supported by the appropriate receipts, shall be reimbursed to the Contractor. Payment for

overhead and profit for this item will not be made directly. These costs shall be included in the various other items in the proposal.

Emergency Towing Service will not be measured.

The contractor is advised that payment for police traffic directors and vehicles will be considered only if approved by the engineer prior to scheduling.

Compensation for maintenance and protection of traffic related items shall be made commensurate with the percentage of work completed and shall include compensation for all necessary traffic control devices, traffic directors, traffic coordinators, and all else necessary and incidental to the proper maintenance and protection of traffic throughout the course of the project in accordance with the MUTCD and local authorities having jurisdiction in these matters.

Separate payment will not be made for escape ramps provided at the edges of pavement lifts or at excavations, but all costs, thereof, shall be included in the price bid for the various pay items in the proposal. Control devices as required or as directed.

Separate payment will not be made for furnishing or relocating traffic control devices as required or as directed.

Separate payment will not be made for construction sign posts.

If the contractor fails to deliver to the jobsite or provide the traffic control devices indicated on the construction staging plan, payment is subject to being withheld. The traffic control devices indicated on the construction staging plan will be the minimum amount required for the project and may be increased if and where directed by the Engineer.

For traffic control devices measured by the linear foot or unit basis that are specified in 159.03.02, the Department will make payment for the maximum quantity in service at one time as required by the Contract. For CONSTRUCTION SIGNS, the Department will make payment for the maximum quantity of specific sign types in service at one time as required by the Contract. If a particular sign type has more than one unique text, each sign with a unique text will be considered to be a specific sign type. The Department will make payment for 50 percent of the Contract bid price for traffic control devices specified in 159.03.02 that are measured on a linear foot, square foot or unit basis upon approved placement. The Department will prorate the balance of payment over the duration of the Contract.

SECTION 201 - CLEARING SITE

201.01 DESCRIPTION

This article of the Standard Specification is amended as follows:

Add the following to this Article:

All tree stumps shall be grubbed out within the limits of the project.

Clearing Site shall also include the demolition and removal of the existing sports lighting, utility transformer, electrical "baseball" panel and all associated conduit, bleachers, benches, backstop, concrete pads, trimming of trees; removal of all trees, brush, weeds, roots, matted leaves, small structures, debris, walkways, fence, curb, and other objectionable material, vegetation and growth and the relocation of existing fences where directed.

Clearing site shall also include the removal of all obstructions either standing or fallen within the limit of construction and for which payment is not provided for in the contract.

Clearing site shall also include the removal and salvaging of existing inlet or manhole frames, covers, or grates, benches, as well as the delivery of any of these items not utilized in this construction contract to the Owner.

The removal of existing storm drains where required on the plan and backfilling with suitable excavated materials from the project site shall be performed in accordance with the provisions of Sections 202, 203 and 601 of the Standard Specifications.

The contractor shall notify the utility companies prior to the start of construction and shall schedule his work so as not to be unnecessarily delayed by the utility companies, nor should he unnecessarily delay the utility companies from performing their work.

Clearing site shall also include restoration of all grassed areas, driveways, pavement areas, and all else disturbed outside the limit of work and the cleaning of existing inlets, manholes, and storm sewers to provide positive flow from proposed storm sewer discharges into the existing storm sewer system.

Clearing site shall also include relocating regulatory and warning signs, miscellaneous signs and any other structures shown on the contract plans to be relocated or that may be in conflict with the proposed improvements during construction.

201.02 MATERIALS

201.03 CONSTRUCTION

201.03.01 Clearing Site

A. Preparation.

B. Clearing and Grubbing.

The following is added:

All trees to be removed shall be done so by persons certified in New Jersey to work adjacent to overhead electrical lines.

C. Mailbox and Sign Relocation.

The following is added:

Clearing site shall also include the removal, salvaging, and delivering to the owner of existing regulatory, warning and ground mounted directional signs which are being removed, replaced or relocated in this contract, or as directed by the Engineer. These signs shall not be removed until the new signs have been installed, temporary traffic control signs for stage construction have been placed or they are determined no longer needed, as directed by the Engineer.

D. Plugging Pipe.

E. Removing Pipe, Inlets, and Manholes.

This article of the Standard Specifications is amended as follows:

Inlet and manhole castings shall be salvaged and delivered to the Owner as directed.

Add the following paragraphs to this Article of the Standard Specifications:

If the area where pipes, inlets, or manholes lay outside of proposed pavements, backfill shall be with suitable excavated materials from the project. Backfill of excavated areas within proposed pavement areas shall be made with suitable excavated materials from the site, dense graded aggregate base course or soil aggregate Type I-3, as directed by the Engineer.

No payment will be made for backfill with suitable excavated materials from the job site. Payment for backfill with soil aggregate Type I-3 and quarry dense graded aggregate base course, where directed, will be

made at the unit price bid for these items in the proposal.

F. Removing Sidewalks, Driveways, Curbs, and Gutters.

The following is added:

Where existing concrete curbing is monolithic with the existing concrete pavement, payment for removal shall include the sawcutting of the pavement at a distance of two feet maximum from the gutterline and removal of the existing curbing and pavement in order that full depth curbing may be constructed in its place.

Payment for removal of existing concrete curb or curb and gutter adjacent to bituminous concrete pavement to remain shall include the sawcutting and removal of 24" of the existing adjacent pavement.

G. Removing Electrical Material and Equipment.

H. Disposal of Materials.

The following subsections are added to the standard specification:

I. Removing Existing Fire Hydrant Assemblies.

Existing hydrant assemblies shall be removed where indicated on the plans and as directed by the Engineer. The work shall include the excavation, removal of the existing hydrant and valve, capping of the existing remaining open pipe end with a mechanical joint cap and thrust block, backfilling and the salvaging and delivery of the existing hydrant and valve to the owner.

201.03.02 Clearing Site, Bridge and Clearing Site, Structure

201.03.03 Clearing Site, Tank Removal

201.03.04 Disposing and Recycling of Contaminated Soil – Tanks

201.03.05 Monitoring Well

201.03.06 Sealing Abandoned Wells (NOT INCLUDED IN CONTRACT)

201.03.07 Demolition (NOT INCLUDED IN CONTRACT)

201.03.08 Removal of Asbestos

201.03.09 Temporary Shielding

201.04 MEASUREMENT AND PAYMENT

This article of the standard specifications is amended as follows:

Delete the entire text of this Article and substitute the following:

Measurement and payment will be made under:

Pay Item	Pay Unit
CLEARING SITE	LUMP SUM

Add the following:

The bidder is advised that the modification of the lump sum prices indicated for site clearing will not be permitted. Payment for any and all items associated with clearing site in excess of the lump sum prices indicated shall be included in the prices bid for all items requiring the same.

Separate measurement and payment will not be made for the items associated with clearing site for which individual pay items have not been provided in the contract. Payment shall be included in the Lump Sum price indicated in the bid form for clearing site, and/or the prices bid for all items requiring the same.

Separate measurement and payment will not be made for restoration of all grassed areas, driveways, pavement areas, and all else disturbed outside the limit of work and the cleaning of existing inlets, manholes, and storm sewers to provide positive flow from proposed storm sewer discharges into the existing storm sewer system.

Separate measurement and payment will not be made for the removal and disposal of curb and sidewalk. Compensation for the same shall be included in the lump sum price indicated in the bid form for clearing site and/or the prices bid for all items requiring the same.

Separate measurement and payment will not be made for the removal of trees indicated to be removed on the construction plans, nor for the use of persons certified to work adjacent to electrical lines. Compensation for the same shall be included in the lump sum price indicated in the bid form for clearing site and/or the prices bid for all items requiring the same.

Separate measurement and payment will not be made for the relocating and resetting of signs, benches, and mailboxes. The relocation shall be completed in the manner acceptable to the private and public authorities having jurisdiction thereof.

Separate measurement and payment will not be made for the delivery of salvaged signs, castings, and hydrant assemblies to their respective owners.

Separate measurement and payment will not be made for removal and relocation of Underground Sprinkler Heads, Piping and Zone Valves where required or directed within the limit of construction. Compensation for the same shall be included in the lump sum prices indicated in the bid form for clearing site and/or the prices bid for all items requiring the same.

Separate measurement and payment will not be made for the removal and disposal of existing street name sign assemblies. Compensation for the same shall be included in the lump sum price indicated in the bid form for clearing site and/or the prices bid for all items requiring the same.

Separate payment will not be made for the installation of snow fencing around trees to be saved.

Separate measurement and payment will not be made for clearing site with exception to the following:

Payment for the removal of trees not indicated to be removed on the plans but required to construct the improvements or ordered by the Engineer to be removed shall be made based on the prices bid for the removal of additional trees as listed in the bid form.

Payment for clearing site shall be made commensurate with the total value of work completed on the project as determined by the engineer.

Separate measurement and payment will not be made for the removal of existing storm sewer pipe and structures. Compensation for the same shall be included in the lump sum price indicated in the bid form for clearing site and/or the prices bid for all items requiring the same.

SECTION 202 - EXCAVATION

202.01 DESCRIPTION

The following is added to this Article of the Standard Specifications:

All construction site related work including excavations, backfilling and stockpiling under the bid pay item "Site Grading and Earthwork including import and disposal of soils" as described in Section 205 shall comply with this Section.

The excavations shall be made to conform with the lines of the finished structures wherever practical. The excavations shall not be carried below the required grades by machine and back-filled to the grade of foundations, bottom slabs, footings, or pipelines. The trench in which pipe, manholes, or inlets are to be constructed shall be excavated from the surface and to such depths and widths (not less than 12 inches greater than the maximum external dimension of the structure) as will give suitable room for bracing and supporting, pumping and draining, and for removing from the excavation any material which the Engineer may deem inadequate for foundation. All excavations shall be of sufficient width to permit work to be done completely, in the manner intended and of the size specified and/or shown on the plans.

The length of the trench to be opened or the area of the surface to be disturbed and restored at any time will be limited by the Engineer with regard both to expeditious construction, and convenience to the Owner. New trenches will not be excavated if previous trenches are in need of back-filling or labor is needed to restore the surface of the ground to a safe and proper condition.

Trenches for pipes shall be a minimum of 2' wider at the bottom than the outside diameter of the pipe and shall not remain open in excess of 50' in length nor remain open overnight.

Excavation for subsurface structure shall also include the excavation required to provide compacted granular bedding as shown in the Construction Details. Whenever the material at the bottom of a bedding or other subsurface structure excavation is soft or otherwise unsuitable, it shall be removed to such depth as the Engineer may require and the space back-filled with Quarry Coarse Aggregate Type 57 as shown in the contract plans.

All excavations for pipelines shall be clear of boulders, rock, masonry, or other similar material which shall be excavated to a level at least six inches below the bottom of the pipe, and carefully refilled with approved material mechanically compacted to provide a stable subbase. Rock or boulders shall be removed from sides of trenches to 12 inches outside the wall of the pipe, unless permission to do otherwise is expressly given. Gravel or stone bedding shall be provided, placed and compacted to the minimum depths when indicated on the plans. The bottom of the trench shall be excavated where the earth is suitable for good foundation to the form and size of the lower portion of the pipe or other structure, so that there shall be full and adequate support for the structure which is to be built on it. Ample excavation shall be made under and around the pipe joints for jointing and to relieve the bell of shearing forces.

Excavation, unclassified, shall also include removal of hot mix asphalt pavement overlay, hot mix asphalt pavement, and reinforced and non-reinforced concrete pavement.

In addition, excavation, unclassified, shall include the sawcutting of the existing pavement. This shall be at a distance of one foot from the edge of the existing pavement that is to remain in place to form a proper bond between the new pavement and the existing pavement, or as directed by the Engineer.

Excavation, unclassified, shall also include, as required, the separation and temporary stockpiling of suitable earth materials from excavation and the rehandling of the stockpiled materials for the construction of the roadway embankments, subbase, base courses and backfill if and where directed by the Engineer.

Excavation, unclassified, shall also include removal of unsuitable material in cut sections disclosed by proof rolling.

Where rock is encountered at the locations of the proposed inlets, manholes, and headwalls, the rock shall be dressed to level beds as directed by the Engineer.

If during construction, the contractor encounters buried debris, the contractor will be responsible to remove the same to limits approved by the Engineer.

Disposal of the excavated debris shall be the sole responsibility of the contractor.

The disposal of unsuitable and/or regulated materials as determined by the Engineer at offsite locations shall be in conformance with the NJDEP Bureau of Solid Waste Management regulations and Section 207. Suspected regulated soil and debris will be segregated and stockpiled separately from non-regulated material as directed by the Engineer.

The work also includes the furnishing, placement, and removal of any shoring, bracing, or sheeting required, the drainage and pumping of all excavations, the protection of existing utilities, pipelines, and structures, and the finish grading of the site.

Unauthorized Excavation

Special care will be taken with the final six inches of all excavations. In no case shall the excavation be carried below grade by machine and backfill used to establish the required grade. Where the excavation has been carried below grade through error or because of slides or cave-ins, the contractor shall at his own expense restore such areas with 3/4 inch graded gravel or crushed stone or as directed by the Engineer. If the Contractor excavates below the required grade for structures, the overexcavation shall be filled with material subject to the requirements of the Engineer. The material may include 2000 psi concrete if so ordered by the Engineer.

Sheeting and Bracing

Where necessary for safety or to prevent disturbance, damage, or settlement of adjacent structures, pipelines, utilities, improvements, or paving, excavations shall be sheeted and braced. Any damage to new or existing structures occurring through settlement, water or earth pressure, or other causes due to inadequate construction procedures performed by the Contractor, shall be repaired by the Contractor at his own expense. Sheeting and bracing of all excavation shall comply with New Jersey Construction and Safety Code Re: P.L., 1962, Chapter 45 and the Federal Occupational Safety and Health Act of 1970.

Dewatering and Protection from Flooding

The Contractor shall dewater the excavations promptly and continuously throughout the progress of the work and shall keep the excavations dry at all times until the structures to be built therein, are completed. Where work is to be performed below groundwater level, the Contractor shall provide, operate and maintain dewatering facilities sufficient to maintain the excavation free from groundwater for the time required to complete the work in the proper workmanlike manner.

The Contractor shall protect uncompleted work from flooding during storms or from other causes. All pipelines or structures not stable against uplift during construction or prior to completion shall be thoroughly braced or otherwise protected.

All necessary precautions shall be taken to prevent disturbance of, and to properly drain, the areas upon which concrete is poured, and upon which pipe is to be laid. All concrete shall be kept dry for one month after pouring except curing.

All water pumped and bailed from the trench or other excavation shall be conveyed in a proper manner through an approved settling basin and to a suitable point of discharge by the Contractor at his own expense.

Construction Safety

The Contractor shall follow the various requirements contained in the Construction Safety Code, latest edition, as prepared by the State of New Jersey, Department of Labor and Industry, Bureau of Engineering and Safety. In addition, the Contractor shall comply with the "Construction Safety and Health Regulations" of the Occupational Safety and Health Administration, Title 29, Chapter XVII, Part 1926 or latest revision.

The Contractor shall, by his own inspection, test pits, borings, or other adequate methods, confirm and determine to his satisfaction the character of the soils and other subsurface material to be encountered in the work to be performed, including groundwater elevation. The Contractor may refer to the results of previous soil investigations, but the Owner and the Engineer accept no responsibility for any inaccuracies in the soil conditions as represented by data in the Appendix provided herein.

Protection of Existing Pipelines and Structures

Care shall be taken not to relocate without the consent of the Engineer any sewers, drains, culverts, water or gas pipes or structures near them that could affect their stability. All utilities shall be securely hung, braced, or supported in place until the work is completed. Whenever it is necessary to interfere with said structures or pipelines, the Contractor shall maintain their services at his own expense and repair all damages caused by his act or neglect of work. The integrity of all pipelines and structures shall be maintained throughout the construction and same shall be left in an equivalent condition or improved condition after completion of construction.

Adequate precautions shall be taken to prevent settlement of existing improvements.

In case water pipes, gas pipes, conduits, or other utilities become damaged or broken in the prosecution of the work, the Contractor shall give immediate notice to the proper authorities and shall be responsible for any damage to persons or property caused by such breaks. Failure to give prompt notice to the authorities shall make the Contractor responsible for any needless loss of water or gas, or for interruption of services.

When house connections or service pipes supplying water or gas as well as underground sprinkler systems are broken during construction, the Contractor shall repair them at his own expense. Delays, such as would result in adjoining buildings having to do without water or gas for a needlessly long period, will not be tolerated. The Municipality reserves the right to remedy such delays by ordering outside parties to make such repairs at the expense of the Contractor.

If so directed in writing, the Contractor shall make permanent changes in the location of water mains if they are obstructing the new structures to be built. The cost of such changes will be paid for as extra work based on the valuation made by the Engineer and depend on his decision as to whether the work done is or is not included in the work required and bid for by the Contractor under the contract. In rendering all such accounts, the Contractor shall itemize both the labor and materials involved and provide other information as may be required by the Engineer.

Underground Objects and Utilities

Information as to the location of existing utilities has been collected from various sources, but the results of such investigations are shown on the contract drawings and are not guaranteed as to accuracy. The Contractor is particularly directed to the fact that underground objects or material location, elevation, or type is not warranted to be approximately correct (nor can they be assumed to be the only subsurface objects or materials which may be encountered in the work). The Contractor shall make all necessary investigations to satisfy himself as to the existing conditions prior to bidding work, including the locating of existing underground sprinkler systems.

Overburden Separation

The Contractor shall remove and separately stockpile pavement in the excavation areas. If directed by the Engineer, the Contractor shall saw cut the excavation limits. If applicable, the Contractor shall remove and separately stockpile non-impacted soil overburden for reuse as backfill, as directed by the Engineer.

202.02 MATERIALS

202.03 CONSTRUCTION

202.03.01 Stripping

This Article of the Standard Specifications is amended as follows:

Strip vegetation and underlying soil to a depth of 4 to 6 inches below the existing ground surface. Topsoil must be stored on the job site in a manner and at a location acceptable to the Engineer. The removal of excess topsoil from the project must not be done until completion of all topsoiling work and upon the approval of the Engineer. Topsoil may, as directed by the Engineer, be suitable for reuse.

Before trench excavation, strip the existing topsoil and store for future use.

202.03.02 Excavation, Test Pit

202.03.03 Excavation, Unclassified

A. Excavating.

The following is added to this Article of the Standard Specifications:

Excavation shall be carried out to the elevations or depths shown on the plans prior to proofrolling.

The contractor shall take special precautions necessary to prevent damaging any existing utilities. He shall be held liable for repairs of any damage done to these utilities.

1. Wet Areas.

2. Foundation and Bridge Areas.

3. Rock Areas.

This Article of the Standard Specifications is amended as follows:

Delete the third paragraph of this article and substitute the following:

If it is determined that in-place stabilization is required, use rock bolting or other stabilization techniques as directed. Blasting is prohibited.

The following is added to this subsection:

4. Sawcut.

This work shall consist of making longitudinal and transverse cuts in existing pavement as directed by the engineer.

Sawcuts shall be made with an approved power saw full depth in order to prevent damage to the existing pavement, sidewalk, driveways or curbs and to provide a neat edge for the adjacent proposed sidewalk, driveways or curbs as shown on the plans or as directed by the engineer.

B. Temporarily Storing.

The following is added to this Article of the Standard Specifications:

The Contractor shall be responsible for phasing his operation in order to use suitable excavated materials in the embankment areas. Regulated materials shall not be stored off-site.

C. Reuse or Disposal of Excess Material.

This subsection of the standard specifications is amended as follows:

Excess excavated earth may be permitted to be reused to widen or flatten slopes of embankment, or to fade embankments into cuts, or reuse as approved at other locations or disposed of, subject to the provisions of Section 207.

Excess rock excavation may be permitted to be used along slopes adjacent to streams for slope protection in accordance with Sections 207 and 603.

Excess broken concrete and bituminous concrete may be permitted to be used in the construction of embankments in accordance with Section 203 and 207.

Excess material other than earth or rock not used as specified above shall be recycled or disposed of in accordance with Section 207.

If the disposal of excess material results in a violation notice from any governmental authority, the contractor shall immediately pursue corrective action. The contractor shall hold harmless the County for any violations incurred as the result of improper disposal of materials. If the contractor fails to correct the violation to the satisfaction of the governmental authority which issued the violation notice, the County may initiate measures to eliminate the violation and all costs incurred by the County will be deducted from any monies due or that may become due the contractor.

Unsuitable material shall be disposed of offsite at locations secured by the Contractor.

D. Measuring Elevation.

202.03.04 Presplitting

202.03.05 Excavation, Regulated Material

202.03.06 Excavation, Acid Producing Soil

202.03.07 Acid Producing Soil Remediation

202.03.08 Removal of Pavement

202.03.09 Disposal of Regulated Material

202.03.10 Disposal of Regulated Material, Hazardous

The following subsections are added to this Article of the Standard Specifications:

202.03.10.01 Removal of Existing Sanitary Sewer

The contractor shall remove all sanitary sewer mains, manholes, laterals, risers, and cleanouts as indicated on the plans or as directed. Manholes, mains and laterals shall be flushed clean of all sewage prior to removal. The manholes, mains, laterals and all debris shall be disposed of in accordance with Subsection 201.03.01-H. All manhole castings shall be delivered to the Owner, as directed.

Asbestos cement pipe, if encountered and removed, shall be removed and disposed of in accordance with Section 202.03.10.02, as well as all applicable federal, state, and local requirements, including, but not limited to, current USEPA regulations (NESHAP, 40 CFR 61 Subpart M); OSHA regulations (29 CFR 192658);, the current New Jersey asbestos hazard abatement subcode (N.J.A.C. 5:23-8); the current NJDEP regulations (N.J.A.C. 7:26-1 et. seq.); and notification regulations (N.J.A.C. 5:23-8.6, 40 CFR 61 Subpart M, and N.J.A.C. 7:26-2:12), as well as applicable health and safety monitoring requirements.

202.03.10.02 Removal and Disposal of Asbestos Cement Pipe

The contractor shall comply with all applicable Federal, State and local regulations, do all excavation, disconnect from existing structures, cut, remove, handle, wrap, transport and dispose of asbestos-cement (transite) pipe in accordance with the local health jurisdiction regarding general safety, security, insurance, pollution and asbestos related requirements.

The Contractor's work shall include all excavation, transportation, procedures backfill, labor, tools, materials and equipment required for the safe removal and disposal of the asbestos-cement (transite) pipe. Asbestos cement pipe shall include all such pipe encountered, including, but not limited to, sanitary sewer and water mains, laterals, risers, and cleanouts.

The Contractor shall be responsible for fully informing himself of all regulations that may apply to the above specified activities. Neither the Owner nor its representatives are responsible for informing the Contractor of his legal responsibilities. All references to codes and standards within this specification are

made for informational purposes only. They are not intended, nor shall be interpreted, as all inclusive. The Owner and its representatives shall not be liable for the Contractor's negligence in complying with any applicable codes, laws, or regulations not cited in this specification.

In cases of conflict between this specification and any applicable codes, law and/or regulation, the stricter coding shall apply and shall be enforced.

The contractor is responsible for securing a hazardous waste landfill, or other approved disposal facility subject to NJDEP requirements, outside the state which will accept the pipe.

All asbestos removal work shall comply with: the current United States Environmental Protection Agency (USEPA) regulations (NESHAP, 40 CFR 61 Subpart M), National Emission Standards for Asbestos; the current Occupational Safety and Health Administration (OSHA) regulations concerning construction (29 CFR 1926.58); the current New Jersey Asbestos Hazard Abatement Subcode (NJAC 5:23-8); and the current New Jersey Department of Environmental Protection regulations concerning waste transport (NJAC 7:26 - 1 et. seq.).

The Contractor shall be responsible for all proper notification, including, but not limited to those required by NJAC 5:23-8.6, 40 CFR 61, Subpart M, and NJAC 7:26-2:12.

A copy of the waste manifest indicating the chain of custody and disposal site and date shall be provided for each waste container or truck within five working days of the job completion.

Prior to the commencement of the work, the Contractor shall submit the following:

1. Work schedule including the hours to be worked on a daily basis, and the Contractor's plans for completing the work.

2. Copies of all notifications as required by this specification including, identification of the Contractor's waste hauler, the hauler's NJDEP identification number, and intended disposal site of contaminated wastes.

3. The name of the testing laboratory providing the Contractor's OSHA compliance monitoring.

4. The name and qualifications of the individual who will act as the project supervisor during the asbestos removal portion of the project.

The Contractor is required to provide a fluent English- speaking individual to act as a full-time representative of the Contractor's organization (i.e. project supervisor) during all activities at the work site. This individual must be authorized to make decisions concerning Scope of Work situations. The name and qualifications of the individual must be submitted at the pre-construction meeting, and be approved by the Owner and their representatives.

The Contractor shall also provide health and safety monitoring during the course of the work and shall prepare a health and safety plan in accordance with all appropriate OSHA requirements prior to starting work. The health and safety plan must be implemented by the contractor's site safety officer.

The Contractor is responsible for providing OSHA required air monitoring for his personnel.

The Contractor shall submit documentation indicating that all on-site personnel have satisfactorily passed the 40-hour OSHA Basic Health and Safety Training Course and have had the current annual refresher course.

The Contractor shall be responsible for all asbestos removal and disposal. The Contractor shall hold a valid New Jersey Class "A" Asbestos Removal License or employ a subcontractor who does.

The asbestos removal processes are to be performed by competent persons trained, knowledgeable, and qualified in the techniques of abatement, handling and disposal of asbestos-containing materials. All asbestos removal workers and supervisors shall possess a current, valid permit from the New Jersey Department of Labor.

Transportation and disposal of asbestos-containing and asbestos-contaminated waste shall be in accordance with the requirements of the Department of Health of the County, in addition to any federal and state requirements. A copy of these requirements may be obtained by contacting the Department of Health during business hours.

The Contractor will be required to contact the County Health Department upon encountering transite pipe and prior to transport and disposal. The Contractor shall retain a firm to act as the Asbestos Safety Control Monitor (ASCM) during all abatement activities specified herein. The Contractor's designated individual responsible for coordination of the asbestos removal shall maintain continuous contact with the ASCM's Asbestos Safety Technician (AST) and is expected to respond to requests made by the AST or other representatives of the ASCM on matters concerning the abatement work.

During excavation in areas where asbestos cement pipe may exist, the Contractor shall have a crew sufficient to implement the work procedures described below, on- call, and able to respond and mobilize at the site within 24 hours.

The area surrounding each location shall be secured by erecting barriers or warning tape a minimum of ten feet in all directions. OSHA approved asbestos hazard warning signs shall be posted at the perimeter of the secured area. The Contractor shall be responsible for controlling access into the secured area to properly trained and protected personnel only. The area surrounding the asbestos cement pipe to be removed shall be excavated by hand shovel methods to a depth sufficient to remove the pipe.

The asbestos cement (transite) pipe shall be excavated and removed from the ground. The exterior of the pipe shall be treated with encapsulant and then the pipe shall be removed as intact as possible. If cutting is required to remove the pipe, it shall be kept to a minimum and accomplished using a cutting tool equipped with a local vacuum attachment fitted with a HEPA filter. Once the pipe is removed, all newly exposed surfaces of the pipe shall be treated with encapsulant and it shall be placed in a double 6 mil plastic bag with OSHA approved warning labels printed on the outside of the bag. The bag shall then be secured with duct tape. This procedure is known as "double bagging." An OSHA approved asbestos-waste warning label shall be affixed to the outside of the wrapping.

The wrapped pipe shall be disposed of in accordance with NJAC 7:26.

Reference to encapsulant shall mean a commercially available removal encapsulant such as EPA 55 as manufactured by Arpin Products, or equivalent.

It is suggested that the contractor consult with the disposal facility in order to determine the maximum length of pipe it will accept.

The Contractor must provide proof of insurance as required by the State of New Jersey and any and all other applicable insurance requirements.

Ten days prior to the intended disposal, a notification letter should be sent to the NJDEP. This letter should include the following:

1. Location of job
2. Amount of pipe
3. Type of pipe
4. Name and NJDEP # of hauler
5. Destination of pipe
6. Intended date of disposal

This notification letter is to be sent to the three (3) agencies below:

NJ Department of Labor and Workforce Development
Asbestos Control and Licensing
1 John Fitch Plaza, 3rd Floor
PO Box 949
Trenton, NJ 08625

EPA Region 2
290 Broadway – 21st Floor
New York, NY 10007-1866

Department of Health
Environmental & Occupational Health Assessment Program
135 E. State Street
Trenton, NJ 08625

202.03.11 Disposal of Acid Producing Soil

The following subsection is added to this article of the standard specifications:

202.03.12 Remove and Replace Roadway Base

Remove and replace roadway base, if ordered, shall consist of the removal of unsuitable roadway base materials of whatever nature encountered to a depth of at least 6" uncovered after milling or visible prior to milling or resurfacing and the installation of at least 6" of hot mixed asphalt base course. The excavation shall conform to section 202 and the hot mixed asphalt base shall conform to Section 401.

202.03.13 DEWATERING AND PROTECTION FROM FLOODING

If necessary and directed by the Engineer, the Contractor shall provide, operate and maintain dewatering systems sufficient to maintain the excavations free from groundwater for the time required to complete the work in a proper workmanlike manner. At all times the groundwater level shall be maintained below the prevailing excavation bottom during the excavation work and backfilling.

The Contractor shall notify the Engineer immediately if Dewatering of excavations are required or discovered and provide in writing for an approval of method of dewatering prior to implementing dewatering operations.

The contractor shall protect open excavations from flooding during storms or from other causes.

202.03.14 EXCAVATION BACKFILLING

The Contractor shall backfill excavations to grade with suitable onsite excavated material and/or compacted granular backfill as directed by Engineer. All backfill material shall be suitable onsite material or certified clean and must be approved by the Engineer. Any imported backfill material must be approved prior to shipment to the work site. Imported Fill material shall be uncontaminated pursuant to any applicable remediation standard and free of extraneous debris or solid waste.

All boulders, rocks, trees, stumps, vegetation, or other unsuitable material shall be removed from the backfill material and properly disposed offsite at the Contractor’s expense. Any imported fill material must be soil from a virgin site or commercial quarry product. Recycled materials are not acceptable for use as backfill.

All excavation supports, debris, and rubbish shall be removed from excavations prior to backfilling.

If directed by the Engineer, backfill below the water table shall consist of ¾” Clean Stone or No 57 Stone. Suitable geotextile shall be placed above the stone to prevent settling of fines from the upper backfill

material.

The Contractor shall utilize approved mechanical vibratory compaction equipment to thoroughly compact backfill. The backfill shall be installed in approved lifts and compacted to achieve maximum consolidation and minimize subsequent settlement. Fill material shall be spread in uniform horizontal layers that when compacted shall not exceed 6 inches in thickness. All backfill shall be thoroughly compacted by rollers of approved size, type and weight for the particular fill materials as deemed acceptable by the Engineer.

Backfill shall not be placed on ground that is frozen, nor shall backfill material be permitted to freeze during placing and compaction.

The backfill shall be compacted to 95% of its modified proctor density determined in accordance with ASTM Specifications D-1557. The Contractor shall have all backfill material, including any onsite soil to be re-used, tested for its maximum modified proctor density, and provide in-place compaction testing with results thereof certified by a professional engineer. The moisture content of the fill material shall be changed when necessary to attain the specified density. Changing of the moisture content of the fill shall be accomplished by aerating and drying the soil or by adding water to the soil as required. If wetting or drying is required, each lift shall be thoroughly mixed to ensure a uniform distribution of moisture. Compaction shall be accomplished by equipment designed to compact the type of soil being used as approved by the Engineer. The Contractor shall establish operating procedures to obtain uniform coverage of the area being compacted. During construction, the surface of the fill shall be graded to permit runoff of surface water at all times.

202.04 MEASUREMENT AND PAYMENT

This article of the standard specifications is amended as follows:

Delete the entire text of this Article and substitute the following:

Measurement and payment will be made under:

Pay Item	*Pay Unit*
EXCAVATION UNCLASSIFIED	CUBIC YARD
EXCAVATION UNCLASSIFIED, TEST PIT (IF AND WHERE ORDERED)	CUBIC YARD

Payment for excavation includes all labor, equipment, materials, and fees for utility mark-outs, pavement removal, excavation, excavation support, ordered and satisfactorily completed as measured by the Engineer shall be paid under the various bid pay items.

Measurement and Payment for all site related grading including Excavation, Embankment, Stockpiling and Backfilling shall be included in the Bid Pay Item "Site Grading and Earthwork including Import and Disposal of Soils" in Section 205.

Measurement and Payment for the disposal of excavated material deemed to be unsuitable and/or regulated shall be paid under the bid pay item for "Load, haul and dispose of regulated, non-hazardous materials" in accordance with Section 207.

Stripping will not be measured and paid separately, but it shall be included in the various items requiring same.

The Contractor is specifically advised that no separate payment will be made for dewatering and the installation and operation of dewatering systems. Payment for dewatering and installation and operation of dewatering systems shall be included in the prices bid for the various items included in the Bid Form.

If the plans have been altered or when disagreement exists between the Contractor and the Engineer as to the accuracy of the plan quantities in any balance, or the entire project, either party shall have the right to request and cause the quantities involved to be measured as specified hereinafter.

When payment is made on a volume basis, all excavation will normally be measured into original position by using cross sectional measurements photogrammetry or electronic computing methods.

When cross sectional measurements are used, the preliminary or construction cross sections will be used as the base cross sections and the final cross sections plotted therein. Additional intermediary cross sections may be interpolated at points where necessary to more accurately determine the quantities.

Separate measurement and payment will not be made for saw cutting of any kind. The cost for this work shall be included in the unit price bid for each item requiring same.

Separate payment will not be made for escape ramps provided at the edges of pavement lifts or excavations but all costs thereof shall be included in the price bid for each item requiring same.

Unstable material disclosed in an embankment which was not constructed properly, in the Engineer's opinion, shall be removed and replaced at no additional cost to the owner.

Payment for excavation of unstable materials in cut sections disclosed by proofrolling and ordered by the Engineer shall be made based on the unit price bid for excavation, unclassified.

Payment for the removal of unsuitable material at the bottom of a bedding or other subsurface structure excavation shall be made based on the unit price bid for excavation, unclassified as listed in the bid form.

No separate payment will be made for the following but cost thereof shall be included in the respective unit prices submitted for the various items listed in the Proposal:

1. All excess and unsuitable excavation for which no use is shown on the plans or prescribed in the specifications shall be disposed of

by the Contractor at sites to be provided by the Contractor outside the contract limits of the project.

2. Providing sheeting, shoring, bracing which would be pulled away or left in place as per direction of the Engineer.

3. Dewatering, if necessary, of whatever means.

No separate payment will be made for excavation required to provide bedding for all subsurface structures but the cost thereof shall be included in the respective unit prices submitted for the various items of subsurface structures listed in the Proposal.

No separate payment will be made for Pipe Bedding; rather the cost thereof shall be included in the unit prices of the various pipes in the proposal.

Backfill for Excavation of Test Pits and in the trenches for the various pipes shall be with suitable excavated material from the site, with Quarry Dense Graded Aggregate or Quarry Coarse Aggregate NJDOT Type 57 granular backfill, as directed by the Engineer. Backfill with suitable excavated material from the site will not be measured for payment rather all costs thereof shall be included in the respective items in the proposal. The quantity for Quarry Dense Graded Aggregate and Quarry Coarse Aggregate NJDOT Type 57 granular backfill that will be paid for will be the amount of material placed as directed by the Engineer and shall be measured in place by the cubic yard and paid for as specified in Section 302 and 601.

SECTION 203 - EMBANKMENT

203.01 DESCRIPTION

This subsection is to be replaced in its entirety with the following:

This Section describes the requirements for constructing embankment and fill, and for preparing areas on which embankments and fills are to be placed as part of the site grading. Where the word embankment is used herein, shall also be construed as fill material.

203.02 MATERIALS

The following is added to this Article of the Standard Specifications:

Embankment will be Zone 3. Zone 3 Embankment shall be constructed of suitable excavated materials obtained from the work specified in Section 202 and 205, and/or certified clean quarry dense graded aggregate as directed by the Engineer. These materials shall be free from stumps, roots, branches, leaves, weeds, sods, rubbish, garbage, organic materials, or any other materials that may decay.

ON SITE BORROW-EMBANKMENT – Excavated on-site soil materials consisting of materials classified as Silts, Clayey Silts, Silt & Clay, Clay & Silt, Silty Clay under the Burmister Soil Classification System or ML, CL, CL-ML, SM, SC contain not more than 35 percent by weight of material passing the No. 200 sieve, and on-site materials conforming to the gradation I-14 shall be considered for use as embankment fills provided the following conditions are met:

1. The materials are free of organic material, rubble, debris, or boulders.
2. The materials are placed in the lower sections of embankment fills but above wet area excavations which shall be backfilled with select materials, and or coarse aggregate.
3. The materials are moisture conditioned and/or blended with soil aggregate as required to achieve the required degree of compaction. Requirements for blending are covered in Section 901.11 of the specification.

Where the work of subsurface structure excavation is performed within the existing site, the backfill material shall be in accordance with the plan detail and/or the direction of the Engineer. All backfill shall be suitable material approved by the Engineer.

203.03 CONSTRUCTION

The following is added to this Article of the Standard Specifications:

Bituminous and concrete materials shall be removed from all embankment areas.

Puddling of backfill will not be permitted.

Bedding material for pipe shall be compacted thoroughly to provide uniform support for the pipe barrel. The remainder of the sidefill and backfill shall be as indicated on the construction details.

The pipe shall be bedded in compacted granular material placed on a flat bottom trench. The bedding material shall have a minimum thickness as shown in Construction Details. Granular material shall be well graded crushed stone or crushed gravel meeting the requirements of A.S.T.M. Designation C 33, Gradation 57, in Table 901.03-1 of subsection 901.03 and shall be densely compacted and shall completely fill all voids under and around the pipe.

Backfill around inlets, manholes, and other subsurface structures shall be compacted by approved vibratory compactors or flat-faced mechanical tampers.

CLSM may be used as alternate backfill material when backfilling trenches for drainage pipe and utility conduit. Combining other backfill materials in the same trench as CLSM shall not be permitted. Mixing and placement of CLSM shall begin only when the ambient temperature is at least 30°F. During placement, the CLSM mixture shall have a temperature of at least 41°F and shall not be placed on frozen ground. The CLSM mixture shall be discharged directly from the truck into the trench to be filled with care taken to prevent the pipe from becoming displaced. After placement, the CLSM mixture shall be cured and protected to prevent damage from cold weather according to Subsection 405.14. CLSM shall not be used to replace pavement, base courses or drainage layers that form the structure of the roadway.

The Contractor shall place suitable on site material for all embankment and fill areas as directed by the Engineer, and shall be properly compacted to the satisfaction of the Engineer in accordance with the Technical Specifications. Where directed by the Engineer, imported fill material for proposed grading shall consist of suitable onsite materials and/or imported certified clean quarry process stone fill conforming to the gradational envelope of NJDOT dense graded aggregate for grading the site.

203.04 MEASUREMENT AND PAYMENT

This article of the standard specifications is amended as follows:

Delete the entire text of this Article and substitute the following:

No separate measurement or payment will be made for proof rolling or embankment.

Payment for the excavation of unstable material in a cut section disclosed during the course of the work or by proof rolling will be in accordance with Section 202.

Unstable material disclosed in an embankment during proof-rolling which was not constructed properly, in the Engineer's opinion, shall be removed by the Contractor, at no cost to the Owner provided said embankment was installed by the Contractor.

Payment for placement of embankment and fill at the site will be made under the bid pay item "Site Grading and Earthwork including Import and Disposal of Soils" as described in Section 205.

No separate payment will be made for embankment using imported clean fill material or for embankment with suitable excavated materials obtained from the work specified in Section 202 and 205 as necessary to meet the grades indicated on the plans.

Where additional fill material is ordered by the Engineer other than that which is necessary to construct the project to the lines and grades on the construction plan, payment will be made under:

Pay Item	*Pay Unit*
ADDITIONAL QUARRY DENSE GRADED AGGREGATE FOR EARTHWORK (IF AND WHERE ORDERED)	CUBIC YARD

The following section is added to the Standard Specifications:

SECTION 205 – SITE GRADING

205.01 DESCRIPTION

The Contractor shall prepare and grade the site as required by the site construction and grading plans and as necessary to construct the entire project, including the baseball field, utilities, cut/fill areas, underground detention basin / swales, slopes and all other necessary site improvements.

It is the intent of these specifications that the excavated material be reused to the fullest extent possible in the fill zones on-site. The excavated soils may need to be protected from softening because of exposure to wet and freezing weather and may require moisture conditioning to achieve the required degree of compaction and to preclude rutting or movement under construction equipment loadings. The contractor is required by these specifications to plan, schedule, and execute the work in order to permit moisture conditioning of excavated soils and exposed subgrades as necessary.

The Contractor shall remove and stockpile all topsoil prior to commencing site preparation and grading unless he can demonstrate that he can satisfactorily separate the topsoil from other soils during the work. Existing topsoil conforming to the topsoil materials specifications contained herein shall be utilized to restore the site after grading operations. The disposal of any excess topsoil soil shall be in accordance with Section 207 of these specifications.

Nothing in these specifications shall be used to infer that the existing quantities of topsoil are sufficient to meet the restoration requirements. The Contractor will be required to import topsoil in such quantities so as to restore the site in conformance with the Contract Plans and Specifications.

The work of this Section consists of excavation, embankment construction, construction of soil stockpile areas of topsoil and suitable material including maintenance of the same, removal and disposal of excess and unsuitable material, furnishing and placing imported fill material and site grading in order to provide the final site grading as detailed on the grading plan as contained in the contract drawings.

All work necessary for excavation and site grading shall be satisfactorily completed in a first class manner acceptable to the Engineer.

PRELIMINARY SITE PREPARATION AND GRADING

The Contractor shall perform all preparatory grading as outlined in Sections 158 and 201 which are necessary for soil erosion and sediment control, clearing site, and special site preparation. After the preparatory work is completed and the underground pipelines and structures are installed, the Contractor shall grade the site in accordance with the Drawings. All areas, with exception to areas immediately affected by the construction, shall be fine graded. Those areas which can be disturbed by construction shall be rough graded.

After completion of the various improvements, the remainder of the site shall be graded and stabilized as detailed in other applicable sections of these Specifications.

To improve site access, working conditions and subbase stability, preliminary site preparation and grading including soil compaction shall be performed by the Contractor to promote drainage and consolidate the existing subgrade to a minimum of 90% of the maximum proctor density in turf and landscaped areas and 95% of the maximum proctor density in the paved areas. Soil compaction shall be performed with vibratory drum rollers or other acceptable means as determined by the Contractor's licensed Geotechnical Engineer who will also provide the required initial soil sampling and analysis and monitor the preliminary site preparation operations. The Contractor's licensed Geotechnical Engineer shall also submit a written report upon the completion of the activities, including testing results demonstrating that the required soil densities have been met throughout the site.

FINAL SITE GRADING

The work of this Section consists of excavation, embankment construction and site grading in order to provide the final site grading as detailed on the grading plan as contained in the contract drawings.

All work necessary for excavation and site grading shall be satisfactorily completed in a first class manner acceptable to the Engineer.

After the preparatory work is completed and the underground pipelines and structures are installed, the Contractor shall grade the site in accordance with the Drawings. Underground and surface improvements associated with the baseball field and underground detention basin construction shall be given priority so as to allow for the construction within the allotted time. All areas, with exception to areas immediately affected by the construction, shall be fine graded. Those areas which can be disturbed by construction shall be rough graded. Later, after completion of the structures, underground detention basin, pipelines, and/or other improvements, the remainder of the site shall be fine graded, topsoiled, seeded, for stabilization as detailed in other applicable sections of these Specifications.

The Contractor shall not be permitted to remove any excavated soils from the site, unsuitable or otherwise, prior to the completion of all grading operations unless same is approved by the Engineer or his representative.

Unsuitable soils, if any, as determined by the Engineer shall be loaded, hauled and disposed of in accordance with Section 207 of these Specifications.

This section of the Specifications also requires that a neat site is maintained throughout construction, no water ponding, no erosion, no dusty conditions prevail, and construction affected areas are minimized. The construction shall be coordinated in a manner that continually maintains a neat, orderly site that is presentable at all times. All areas disturbed by grading, excavation, or by other cause, prior to final seeding, shall be stabilized with seed or as specified within 30 days of disturbance with no additional compensation.

It is recommended that major grading operations take place at a time that would permit establishment of a grass area such as early Spring or early Fall, as required by other applicable sections of these Specifications.

Under no circumstances shall any silt laden water be directed to any storm sewer. All necessary soil erosion and sediment control measures shall be furnished, installed and maintained.

205.02 QUALITY ASSURANCE

Testing required to determine compliance of work to the required standard during execution and for final acceptance of the work shall be the responsibility of the Contractor. The Contractor’s geotechnical engineering testing agency and/or personnel will be approved in writing by the Engineer prior to testing. Tests shall be done by a state certified/licensed testing firm at the Contractor's expense. Test results will be given to the Engineer directly from lab with a copy to the Contractor. Engineer will be present when on site tests are performed and when samples of bedding, backfill and embankment materials are gathered for analysis and will designate the areas to be tested. Deficiencies shall be corrected before placing additional material.

All fill material, on-site or imported, should be placed in layers on the order of 8 to 12 inches in loose thickness and be uniformly compacted to at least 95 percent of its maximum dry density as determined by ASTM D-1557 Test Procedures. Backfill within confined areas should be placed in layers on the order of 6 to 8 inches in loose thickness and uniformly compacted to similar densities as previously mentioned, utilizing portable vibratory plate compaction equipment.

The Contractor’s testing firm shall provide progress reports and summaries of tests indicating the results. Areas failing tests must be moisture conditioned and compacted to achieve the required degree of compaction. He shall provide a final report indicating that all fills conform to the compaction requirements and proof rolling requirements of these specifications.

All workmanship and construction shall be of high quality and professionalism.

205.03 CLASSIFICATION

All excavation under this section shall be considered unclassified regardless of the nature of material encountered.

205.04 PROJECT CONDITIONS

Maintain fills, slopes, and ditches within the limits of the new construction until final acceptance. Repair areas damaged as a result of storms or construction. Take necessary precautions to prevent the entrance of soils and other materials into streambeds, lakes, or water courses.

205.05 PRODUCTS

A. All embankment and backfill material will be subject to approval by the Engineer.

B. Before importing borrow, moisture condition and use all suitable material, obtained from excavation, for embankment construction. Obtain approval from the Engineer before importing borrow and grading. On-site materials may be suitable for use as backfill material. All backfill material shall be less than 1 inch in size and free from deleterious substances. The Engineer will determine if on-site material is suitable for use.

C. Material for proposed grading and/or proposed fill shall be free from detrimental quantities of organic materials, and free of all debris and other unsuitable materials. Frozen material will not be permitted in embankment construction.

205.06 MATERIALS

Fill for proposed grading shall consist of on-site materials or imported quarry stone fill conforming to the gradational envelope of NJDOT dense graded aggregate.

205.07 CONSTRUCTION

GROUND SURFACE PREPARATION

A. Before excavating or placing proposed fill, complete all clearing and grubbing and scarify ground surface to provide ample bond between old and new material.

Sampling points in stockpile or borrow areas shall be as directed by Engineer. Additional tests shall be required if changes in material are observed.

B. During placement of the proposed fill, the following in-place tests shall be performed.

Test	Frequency
Density & Moisture Content of Soil in-place by Nuclear Methods ASTM D2922-91 and ASTM D3017-88 or by Sand Cone Method ASTM D1556-90	2 tests each type per 10,000 cu yds (a minimum of 2 tests per lift during fill operations)

C. A numbered grid shall be established on the compacted area. Sampling points shall be selected by random number as directed by the Engineer. Suspect areas shall be tested as directed by Engineer.

D. During placement of successive layers of fill, all testing required in any layer shall be completed before successive layers are installed.

205.08 MEASUREMENT AND PAYMENT

Payment for Site Grading and earthwork including the import and disposal of soils associated with the entire project including soil sampling and testing, site compaction, site monitoring, density testing, soil conditioning, grading associated with the construction of the baseball field, utilities, cut/fill areas, underground detention basin / swales, slopes and all other improvements, including excavating, loading and transporting of fill material, supplying the required site fill material, restoration of the affected property and all work as outlined above, as detailed on the plans and required to satisfactorily complete same shall be included in the lump sum price bid for site grading and earthwork including import and disposal of soils as listed in the Bid Form.

The contractor is herein advised that all additional fill required to be brought onto the site in order to reach the elevations provided on the Grading Plan will be included in the lump sum price bid for Site Grading and earthwork including import and disposal of soils as listed in the Bid Form.

Payment for this item will be made under:

Pay Item	Pay Unit
SITE GRADING AND EARTHWORK INCLUDING IMPORT AND DISPOSAL OF SOILS	LUMP SUM

Payment for imported additional quarry dense graded aggregate if and where ordered by the Engineer shall be made in accordance with Section 203 of the specifications.

The following section is added to the specification:

SECTION 207 – LOAD, HAUL AND DISPOSAL OF REGULATED MATERIALS

207.01 GENERAL

The specifications outlined herein are for the testing, removal and disposal of contaminated materials that may be encountered during the performance of the work. Materials that are to be disposed of and are suspected to contain contamination shall be tested, classified and disposed in accordance with the applicable local, State and Federal regulations. The number of waste classification samples analytical parameters, and analytical procedures shall be in accordance with the requirements of the waste disposal facility(ies) selected by the bidder and NJDEP sampling and analysis requirements. All necessary soil testing will be performed by the CONTRACTOR. The results will be provided to the ENGINEER for a determination of the proper handling and disposal of contaminated soils.

Where conflicts exist between this and other sections of the specifications, the requirements of this section shall govern.

207.02 Work Included

The CONTRACTOR shall designate a Project Manager as the primary contact for the work to be performed under this section.

It is the CONTRACTOR's responsibility to furnish all labor, permits, supplies, tools and logistical coordination necessary for the removal of all contaminated materials. The Contractor shall also provide to the Owner a written plan for compliance with this section prior to construction and provide an accurate verification of material quantities at the Site.

Suspected contaminated soils shall be characterized by the ENGINEER based upon testing performed by the CONTRACTOR according to the type and amount of contamination present in the soil.

All sampling procedures and analytical methods must conform to the most recent guidance in the Technical Requirements and the NJDEP Field Sampling Procedures Manual. Analyses shall also fulfill the requirements of the disposal facility.

Where excavations must be left opened and unattended until backfill due to associated testing requirements and where the same is approved by the ENGINEER, the excavations shall be suitably barricaded and other devices shall be employed as required to prevent unauthorized entry into the work area. Once excavated, the waste should be immediately returned to the excavation, placed in fill areas or stockpiled.

207.04 Health and Safety Requirements

The CONTRACTOR shall be responsible for developing, instituting and maintaining a site specific Health and Safety Plan (HASP) for all work to be performed at the site in accordance with 29 CFR Part 1910. The CONTRACTOR shall submit their HASP for review prior to the initiation of the work. The CONTRACTOR will be responsible for its own health and safety as well as that of its subcontractors. Neither the Owner nor the consultants will be responsible for the health and safety of the CONTRACTOR or any subcontractors. The CONTRACTOR will retain one copy of the HASP on site during the site activities. The CONTRACTOR shall also conduct health and safety meetings with all onsite personnel, including the consultants, at the start of work each day.

During the excavation/extraction and management of soil, debris, and other materials, the CONTRACTOR will be responsible for implementing proper health and safety procedures, including procedures that relate to the possibility of encountering hazardous waste as well as the mitigation of dust. The CONTRACTOR will be responsible for monitoring potential dust that may result from the removal of material and subsequently overseeing corrective actions to be implemented as related to PAMP monitoring goals.

All personnel performing WORK on site for the CONTRACTOR or subcontractors are required to have completed, and be current with, their OSHA 40-hour Hazardous Waste Operation and 8-hour refresher training. All other appropriate health and safety training, fit testing, and work practices, etc. required by State, local, and federal law must also be maintained and/or implemented through the course of the WORK. Copies of these records must be provided for all CONTRACTOR and subcontractor employees prior to the start of WORK. The CONTRACTOR will be required to provide its own personal protective equipment (PPE).

Based on the nature of the materials, Level D PPE will be acceptable for most of the tasks described in FRB. Level C PPE may be required for specific aspects of each task. Notwithstanding, it is the responsibility of the CONTRACTOR to determine the correct level of PPE in accordance with OSHA requirements.

The CONTRACTOR must maintain appropriate spill response equipment on site at all times and have appropriate procedures in place to handle spills.

207.02.01 Stockpiling of Excavated Materials

When stockpiling excavated materials, the CONTRACTOR shall create and properly maintain sufficient stockpile areas to allow for WORK to continue.

The CONTRACTOR shall construct stockpile cells as follows:

A chemically resistant impermeable geotextile liner free of holes and other damage shall be used to line the base of the stockpile cells. The base liner shall have a minimum thickness of 10 Mils. The ground surface on which the liner is to be placed shall be free of rocks greater than 2 inches in diameter and any other object that could damage the liner.

An impermeable geotextile cover, free of holes or other damage, shall be provided to prevent precipitation from entering the stockpile. The cover liner shall have a minimum thickness of 10 mils. The cover material shall be ballasted to prevent it from being removed or damaged by wind.

Stockpiled materials shall also be encircled by staked haybales or silt fence.

Where excavations must be left opened and unattended until backfill due to associated testing requirements and where the same is approved by the Engineer, the excavations shall be suitably barricaded and other devices shall be employed as required to prevent unauthorized entry into the work area.

Soils, backfill material, or other stockpiled materials shall be covered when not in use, and at a minimum, at the end for each workday. Stockpiles shall be properly maintained to prevent dust from impacting the public and the leakage/spillage of materials from the stockpile cell.

Materials designated for reuse shall not be stored in stockpile cells previously used to contain materials designated for disposal.

When each stockpile is deemed to no longer be needed by the ENGINEER, it shall be removed from the Site. Plastic liner material used to cover the stockpile, as well as line the base of the stockpile, along with any residual impacted material, shall be properly disposed of offsite.

207.09 Waste Transportation and Disposal

The CONTRACTOR will ensure that all wastes to be disposed of are transported for proper off-site permanent disposal by appropriately licensed/permitted transporters and received by appropriately licensed/permitted disposal facilities and in accordance with NJDEP/USEPA requirements. The CONTRACTOR will ensure that sufficient transportation has been arranged to dispose of materials or other wastes in a timely manner so that the WORK can proceed smoothly without appreciable delay.

Waste disposal methods and facilities are to be proposed by the CONTRACTOR. The ENGINEER, on behalf of the Owner, reserves the right to review the proposed disposal facility and determine if

the facility is appropriate for the disposal of material from the Site.

If the material being transported is classified as non-hazardous, it is legally considered a solid waste, (ID 27), and, as such, the transporter hauling the waste must be a New Jersey registered solid waste transporter in accordance with N.J.A.C. 7:26-1 et. seq.

207.29 MEASUREMENT AND PAYMENT

Measurement for additional load, haul and disposal of regulated materials, if and where ordered, shall be based on the actual number of cubic yards of regulated materials disposed of by the contractor as ordered by the Engineer.

No payment will be made under this item for disposal of materials covered in other sections of the Contract Documents.

Disposing of regulated materials characterized as ID-27 Non-Hazardous material will be measured by the cubic yard. Payment shall not be made until the CONTRACTOR has furnished the ENGINEER with a certificate from an approved disposal facility.

Payment will be made under:

Pay Item	*Pay Unit*
LOAD, HAUL AND DISPOSE OF REGULATED, NON-HAZARDOUS MATERIALS	CUBIC YARD

No separate payments will be made for stockpiling and reuse of the excavated materials.

No separate payment will be made for permits, fees, handling, stockpiling, transportation, testing, or any other costs associated with the disposal of the regulated materials characterized as ID-27 Non-Hazardous. All costs for same shall be included in the prices bid for all items requiring same.

No payment will be made for construction of stockpile areas. Any costs associated with aspects of grading, preparation, handling, placement, maintenance, removal, treatment, and disposal of stockpile cover materials and liner materials and all other items incidental to construction of stockpiles shall be included in the prices bid for all items requiring same.

SECTION 302 –AGGREGATE BASE COURSE

302.01 DESCRIPTION

The following is added to this Article of the Standard Specifications:

The contractor is herein advised that the use of imported recycled material as an alternate to quarry dense graded aggregate will not be considered.

302.02 MATERIALS

302.03 CONSTRUCTION

302.03.01 Soil Aggregate Base Course and Dense-Graded Aggregate Base Course

A. Preparing Subgrade or Subbase.
B. Density Control Strip.
C. Aggregate Base Course Placement.
D. Thickness Requirements.

This Article of the Standard Specifications is amended as follows:

Delete the first paragraph of this article and substitute the following:

The thickness will be measured at a frequency not exceeding 100 feet or as established by means of test holes or other methods. Test holes shall be refilled with the base course material and the material compacted in layers not more than 6 inches thick with a flat-face mechanical tamper.

E. Compaction Acceptance Testing.

The following subheading is added to these specifications:

F. Waiving Standard Compaction Requirements.

When the Special Provisions waive the requirements of Subheadings B and E above and no alternative method is specified, the base course shall be placed and compacted according to subsection 203.03.02.

The compaction requirements in subheadings B and E are waived.

The following subheading is added to these specifications:

G. Maintenance Under Traffic Control.

Traffic shall not be permitted to ride on the compacted base course.

302.04 MEASUREMENT AND PAYMENT

This article of the standard specifications is amended as follows:

Delete the entire text of this Article and substitute the following:

Measurement and payment will be made under:

Pay Item	*Pay Unit*
DENSE GRADED AGGREGATE FOR PIPE TRENCH	CUBIC YARD
COARSE AGGREGATE, NJDOT NO. 57 STONE, STORAGE COURSE, CLEAN AND WASHED	CUBIC YARD

Measurement by the cubic yard shall be based on the compacted thickness as determined in accordance with 302.03.1D.

The cost for the test holes described in 302.03.1D shall be included in the unit cost of the various aggregate base courses.

Payment for Coarse Aggregate, NJDOT NO. 57 Stone, Storage Course, Clean and Washed shall not include the volume of stone associated with the installation of the Base Construction for Synthetic Turf as specified in Section 827, the cost for the stone associated with the base construction shall be included in the bid item for same.

SECTION 601 – PIPE

601.01 DESCRIPTION

Add the following:

The work shall also include the extension, reconstruction, or construction of leader drains including outlets through curbing and connections to existing or proposed drainage structures and the construction of P.P.T. subbase outlet and pipe bedding drains.

This work shall also consist of the construction of corrugated perforated polyethylene tubing (P.P.T.) underdrains.

601.02 MATERIALS

This Article of the Standard Specifications is amended as follows:

Add the following to this article:

Dense Graded Aggregate	901.10
Geotextiles	919.01

601.03 CONSTRUCTION

The following is added to this Article:

Trench openings shall not remain open overnight under any circumstances. Backfill in roadways shall be made with dense graded aggregate. Backfill in other areas shall be with suitable previously excavated materials unless otherwise shown on the plans.

The contractor shall maintain the roadways where storm drains are installed in good serviceable condition, and all abrupt depressions shall be immediately repaired to the satisfaction of the Engineer.

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

Leader drain outlets in curbing shall be installed such that the invert shall be above the proposed roadway overlay or reconstruction.

Subbase outlet drains and pipe bedding drains will be installed where indicated on the plans, or where directed by the Engineer, and connected to existing or proposed storm sewer structures.

601.03.01 Pipe

A. Storing and Handling.

B. Excavating.

The following is added:

Pipe which is shown on the plans or directed by the Engineer to be removed and disposed of shall be excavated in accordance with Section 201 and 202.

C. Bedding.

The following is added:

Coarse Aggregate (Type 57) Quarry Stone Bedding shall be provided for all kinds, classes and sizes of storm drains in accordance with Section 201 and the construction details.

D. Installing Pipe.

The following is added:

All pipes shall be installed at the line, elevation and grades shown on the plans using offset stakes, string lines, or lasers, subject to the approval of the Engineer. Prior to the laying of pipe, the method to control alignment and grade shall be submitted for approval. The method shall be a laser system or grade board set up to establish a reference grade and alignment control directly above or in the pipe. In addition, cut sheets shall be prepared and shall include cuts at 100’ intervals and at all drainage structures.

Use of damaged pipes shall not be permitted, and shall be removed from the job site, unless a portion of intact pipe is to be used.

E. Joining Pipe.

The following is added:

Pipe joints and lift holes shall be grouted after the installation of gaskets.

Flexible watertight gaskets shall be used in concrete pipe and shall be installed in accordance with the recommendations of the manufacturer.

Couplings for connecting newly constructed leader drains to existing leader drains shall be Fernco couplings or equal and shall be completely encased in 2000 psi concrete.

Concrete collars shall be constructed when connecting a proposed pipe with an existing pipe.

F. Backfilling.

Delete the first paragraph and substitute the following:

Backfill around and over (P.P.T.) underdrains shall be coarse aggregate Type 57 quarry stone.

Backfill around and over storm sewer pipes shall be quarry dense graded aggregate.

The contractor shall cut, trim, etc. the filter fabric to meet the required dimensions with sufficient size to provide for an overlap of the filter fabric as shown on the plans.

601.03.02 Pipe Using Alternate Methods

601.03.03 End Section

601.03.04 Underdrain

601.03.05 Subbase Outlet Drain

601.03.06 Video Inspection of Pipe

601.03.07 Deflection Inspection of HDPE Pipe and Polypropylene (PP) Pipe

601.03.08 Cleaning Existing Pipe

601.04 MEASUREMENT AND PAYMENT

This article of the standard specifications is amended as follows:

Delete the entire text of this Article and substitute the following:

Measurement and payment will be made under:

Pay Item	*Pay Unit*
24" DIA. REINFORCED CONCRETE PIPE, CLASS V	LINEAR FOOT
36" DIA. REINFORCED CONCRETE PIPE, CLASS V	LINEAR FOOT
24” DIA. HIGH DENSITY POLYETHYLENE PIPE, SMOOTH WALL INTERIOR, CORRUGATED	LINEAR FOOT
6” DIA. PVC SDR-35, STORM SEWER	LINEAR FOOT
15” DIA. PERFORATED HIGH DENSITY POLYETHYLENE PIPE, SMOOTH WALL INTERIOR, CORRUGATED,	LINEAR FOOT

The unit prices bid in the Proposal for the various items of underdrains and storm drains shall also include all costs of materials and labor necessary to connect the pipes to existing and proposed drainage structures. This shall be done in a manner satisfactory to the Engineer.

Separate payment will not be made for pipe stone bedding, gaskets, excavation, type 57 quarry stone backfill to the spring line of the pipe, end caps, elbows, tees, couplings, and adapters or for ¾” clean stone and filter fabric. The cost thereof shall be included in the linear foot prices submitted for various sizes of underdrains and pipe listed in the proposal.

The unit prices bid for subbase outlet drains and pipe bedding drains shall include costs for all necessary fittings, end caps and connections to existing or proposed storm drainage structures.

PVC SDR-35 leader drain extension or reconstruction shall be measured by the unit. Separate payment shall not be made for connections to existing leader drains or storm drainage structures nor for the construction of outlets through proposed curbs.

SECTION 602 – DRAINAGE STRUCTURES

602.01 DESCRIPTION

The following is added to this subsection of the standard specifications:

The work may also include the construction of concrete block handholes and storm drainage diversion manholes.

The work may also include underground detention basins with impermeable liners.

602.02 MATERIALS

The following is added:

Impermeable liner shall conform to Subsection 919.05. Impermeable liner shall be waterproof, UV resistant and shall be 60 mils in thickness, or approved equal.

602.03 CONSTRUCTION

602.03.01 Culvert and Headwall

602.03.02 Inlet and Manhole

This Article of the Standard Specifications is amended as follows:

Delete subtitles **1** and **2** of this Article and the entire text and substitute the following:

1. Precast.

Precast concrete inlets and manholes will not be allowed unless specifically permitted by the engineer.

When precast concrete inlets and manholes are specifically permitted, shop drawings signed and sealed by a licensed New Jersey Professional Engineer including certification that the precast concrete inlets and manholes are able to withstand HS20 highway loading and are suitable for the intended use shall be submitted for approval prior to construction.

Precast bases may be supplied for inlets and manholes to facilitate construction; inverts must be poured in place.

All precast bases for inlets and manholes shall be set on a six (6") inch thick bed of coarse aggregate size No. 57.

2. Concrete Block Construction.

Concrete block shall be laid with staggered joints. All horizontal joints and all keyways of vertical joints shall be filled with

mortar. No horizontal joints shall be more than 3/8 inch wide. The inside and outside walls shall be plastered with a minimum of 1/2 inch thickness of mortar troweled to a smooth finish.

Inlet and outlet pipes shall extend through the walls of manholes and inlets for a sufficient distance beyond the outside surface to allow for connections, but shall be cut off flush with the wall on the inside surface.

The concrete block and mortar shall be so constructed around the pipes as to prevent leakage and form a neat connection.

Concrete block manholes and inlets shall be constructed on an 8" thick 4,500 psi concrete mat in accordance with the construction details.

602.03.03 Set Casting, Reset Casting, and Reconstructed Inlet and Manhole

When modifying less than 1 foot of an inlet or manhole, set or reset the casting. When modifying 1 foot or more of an inlet or manhole, reconstruct the inlet or manhole.

This article of the Standard Specifications is amended as follows:

The following is added:

Existing inlet and manhole castings which are no longer required, due to replacement or reconstruction, shall become the property of the Owner unless otherwise directed by the Engineer.

The work associated with the reconstruction of existing inlets and manholes shall include, but is not necessarily limited to, the removal and replacement of existing deteriorated ladder rungs, the replacement of missing bolts, the removal and reconstruction of deteriorated walls or portions of walls and walls constructed of materials other than concrete or concrete block and concrete brick, the disposal of deteriorated masonry, the grouting of all open joints and plastering of block walls, the filling of all block cells with concrete, the reconstruction of deteriorated channels and inverts, the trimming of pipes flush with walls, the resetting and regrouting of existing castings and backplates, the replacement of damaged castings, grates or covers where damaged or ordered, the removal of all sedimentation and debris and all else necessary to make the inlet water tight and structurally sound.

602.03.04 Inlet Converted to Manhole

602.03.05 Extension Frame and Extension Ring

602.03.06 Manhole Cover and Bicycle Safe Grate

602.03.07 Curb Piece

602.03.08 Cleaning Drainage Structure

The following subsections are added as follows:

602.03.09 Cleanout

Cleanouts shall be ADS Nyloplast drain basins with heavy duty solid cap, or approved equal.

602.03.10 Subsurface Detention System

1.0 General

1.1 This item shall be similar in all respects to the Permavoid System as manufactured by ABT, Inc. as indicated on the drainage plans.

1.2 Contractor shall furnish all labor, materials, equipment and incidentals necessary to install the detention system, appurtenances and incidentals in accordance with the Drawings and as specified herein.

1.3 The detention system shall be of a type that has been installed and in use for a minimum of five (5) consecutive years preceding the date of installation of the system. The Manufacturer shall have been, during the same consecutive five (5) year period, engaged in the engineering design and production of systems deployed for the treatment of stormwater runoff and which have a history of successful production, acceptable to the Engineer of Record and/or the approving Jurisdiction. The Manufacturer of the detention system should be:

ABT, Inc.
259 Murdock Rd
Troutman, North Carolina 28166
Tel: 1 704-528-9806

Or approved equal

1.4 Applicable provisions of any Division shall govern work in this section.

1.5 Reference Specifications

A. AASHTO: Standard Specifications for Highway Bridges – Seventh (7^{th}) Edition
B. ACI 318: Building Code Requirements for Structural Concrete
C. ASTM A615/A615M – Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
D. ASTM C857: Standard Practice for Minimum Structural Design Loading for Underground Precast Concrete Utility Structures

A. ASTM C858: Standard Specification of Underground Precast Concrete Utility Structures
B. ASTM C891: Standard Practice for Installation of Underground Precast Concrete Utility Structures
G. ASTM C990: Standard Specification for Joints for Precast Box Sections Using Preformed Flexible Joint Sealants
H. ASTM A1064: Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete

1.6 Manufacturer or authorized supplier to submit shop drawings for detention system and accessory equipment. Drawings shall include plans, elevation, sections, and details indicating layout, dimensions, foundation, cover and joints. Shop drawings shall also indicate the size and location of roof openings and inlet and outlet pipe openings as well as the sealing of joints.

A. Manufacturer or authorized supplier shall submit installation instructions to the contractor

B. Manufacturer or authorized supplier shall submit Operations and Maintenance Manual to the contractor

C. Before installation of the detention system, Contractor shall obtain the written approval of the Engineer of Record for the system drawings

1.7 No product substitutions shall be accepted unless submitted 10 days prior to project bid date, or as directed by the Engineer of Record. Submissions for substitutions require review and approval by the Engineer of Record, for hydraulic performance, impact to project designs, equivalent treatment performance, and any required project plan and report (hydrology/hydraulic, water quality, stormwater pollution) modifications that would be required by the approving jurisdictions/agencies. Contractor to coordinate with the Engineer of Record any applicable modifications to the project estimates of cost, bonding amount determinations, plan check fees for changes to approved documents, and/or any other regulatory requirements resulting from the product substitution.

2.0 Materials

2.1 All components of the detention system must be included and shall be provided by ABT, Inc. or approved equal unless stated otherwise. The concrete pad and impermeable liner will be provided separately by the Contractor.

2.2. Impermeable Liner Material shall be Layfield HDPE 60 Smooth as manufactured by Layfield Construction Products, or approved equal.

2.3 Concrete pad to be provided by the Contractor. The foundation shall have a 1-foot overhang. Concrete shall have a minimum compressive strength of 4000 psi at 28 days.

2.4 All contractor-provided components shall meet the requirements of this section, the plans specifications and contract documents. In the case of conflict, the more stringent specification shall apply.

A. Joint tape shall be 7/8" diameter, preformed butyl mastic joint sealer conforming to ASTM C990.

B. Joint wrap shall be 8" wide self-adhesive elastomeric resin bonded woven puncture resistant polymer wrap.

3.0 Execution

3.1 Install impermeable liner in accordance with liner manufacturer's written recommendations.

A. The prepared surface should be uniform, well compacted, and free of sharp rock fragments or stones, large stones and other deleterious matter such as tree roots, construction debris and metallic objects. The surface should not have any natural or foreign object that protrudes above the surface of the subgrade.
B. The liner should be installed with an appropriate amount of slack to account for thermal expansion in accordance with the Manufacturer's recommendations.
C. Adjacent liner sheets to be jointed by means of field welding by a skilled installer in accordance with manufacturer's specifications. Destructive field testing should be done to demonstrate acceptable results from field welding.

3.2 Install modules plumb, on line, and to proper elevation with a maximum space of ¾" between adjacent modules. If the space exceeds ¾", the modules shall be reset with appropriate adjustment made to line and grade to bring the space into compliance.

3.3 Place modules on level, cast-in-place concrete foundation with 1' overhang.

3.4 Prepare surfaces and seal perimeter horizontal joint between modules with joint tape in accordance with ASTM

C891, 8.8 and 8.12 and in accordance with manufacturer's instructions.

3.5 Prepare surfaces and seal exterior joints between adjacent modules with joint wrap in accordance with ASTM C891 and in accordance with manufacturer's instructions.

602.03.11 Outlet Control Structure

This work shall consist of the construction of the required Outlet Control Structure. The structure shall be constructed as specified in 602.03.02 and as shown in the details in the contract documents. The structure shall include all control plates, weir walls, hydrobrakes and orifice configurations depicted in the contract documents.

602.04 MEASUREMENT AND PAYMENT

This article of the standard specifications is amended as follows:

Delete the entire text of this Article and substitute the following:

Measurement and payment will be made under:

Pay Item	*Pay Unit*
CLEANOUT, 15" DIA., STORM SEWER	UNIT
CLEANOUT, 24" DIA., STORM SEWER	UNIT
MANHOLE, 4' SQUARE, STORM SEWER	UNIT
INLET, TYPE E	UNIT
INLET, TYPE B2 MODIFIED, OUTLET CONTROL STRUCTURE	UNIT
SUBSURFACE DETENTION SYSTEM, ABT, INC. PERMAVOID 85HD, OR APPROVED EQUAL INCLUDING NON-WOVEN GEOTEXTILE FABRIC, IMPERMEABLE LINER, PIPE COUPLINGS AND CONNECTIONS, AND ALL APPURTENANCES	LUMP SUM

Separate payment will not be made for coarse aggregate bedding under precast bases for inlets and manholes.

All inlets to be constructed and reconstructed will be with new casting and curb piece, and new bicycle safe grate. The curb piece will be "ECO" type with height as indicated on the plan. Payment for curb piece, bicycle safe grate and all else necessary will be included in the price bid for constructing and reconstructing the inlets.

All manholes to be constructed will be with new manhole casting and cover and in accordance with the details. Payment for manhole casting and cover and all else necessary will be included in the price bid for constructing the manholes.

All manholes, inlets and handholes to be reset will be paid under pay item "Reset existing casting". If required, new manhole casting, new manhole cover, new inlet casting, new inlet curb piece, new bicycle safe grate, and new handhole cover shall be installed as specified on the plan. Payment for new manhole casting, new manhole cover, new inlet casting, new inlet curb piece, new bicycle safe grate, and new handhole cover will be paid based on the unit bid prices as listed in the bid form.

Separate payment will not be made for the furnishing and installation of orifice plates in proposed diversion manholes. Payment shall be included in the unit price bid for diversion manholes. Orifice plates shall conform to the detail provided on the plans.

Separate payment will not be made for the furnishing and installation of brick, block, mortar and all else required to raise structures to grade when being reset or reconstructed. Payment for these items shall be included in the unit bid prices for the reset or reconstruction of the structure. Adjustable steel manhole risers shall not be utilized.

Separate payment will not be made for pipe connections or non-woven geotextile fabric associated with the subsurface detention system. Payment for these items shall be included in the unit price bid for subsurface detention system.

SECTION 605 - FENCES

605.01 DESCRIPTION

The following is added:

This work shall also consist of necessary excavation, backfill, clearing site and removal of debris where required along the fence alignment.

605.02 MATERIALS

This subsection is changed to:

CHAIN LINK FENCE:

1) FABRIC
Vinyl-Coated-Fused-to-Galvanized Steel chain link fabric shall be as manufactured by ANCHOR FENCE, INC. of Baltimore, Maryland or approved equal in accordance with ASTM #F668-Type 2B.
The steel core wire shall conform to the following table:

Core Wire Gage	Diameter of Core Wire	Break Test (Lb.)	Galvanizing (Oz Per Gauge Square Foot of Surface)
9	0.148 inch	1290#	0.30

CORE WIRE SHALL BE 9 GAGE PRIOR TO COATING WITH PVC.

The core wire shall be given a coating of zinc in accordance with ASTM A-641.

A polyvinyl chloride (PVC) compound of virgin PVC resins, plasticizers and stabilizers shall be fused and bonded to the zinc coated core wire in accordance with ASTM A-641.

The (PVC) coating shall be 7 mills (0.006 to 0.10 inches) thick, the finished wire with a fused-on (PVC) coating shall be smooth, uniform, free of pin holes and blisters. The (PVC) coating shall not peel, crack or shrink.

Mesh Size shall be 1-3/4 inches as measured between the wires with permissible variation of plus or minus 0.250 inches.

Fabric Gage shall be 9 gage.

Fabric shall be knuckled selvage top, knuckled selvage bottom and shall be the height specified in the proposal and on the plans.

The fabric shall be connected securely to all terminal posts by ¼" x ¾" tension bar with fasteners as detailed on the plans. Fabric connections to line posts and rails shall be made using 9 gauge tie wires and placed at locations shown on the plan.

Proposed fencing fabric shall be weaved into existing where proposed meets existing to avoid seems in the fencing as directed by the engineer.

2) COLOR

All fabric color shall be black.

3) FRAMEWORK

All framework shall be PVC coated as required for fence fabric.

A) Posts and Rails

Post and rail framework shall be as manufactured by ALLIED TUBE AND CONDUIT FENCE DIVISION OF HARVEY ILLINOIS or CENTURY TUBE OF PINE BLUFF, ARKANSAS or approved equal.

Pipe for posts and rails shall be manufactured from steel conforming to ASTM A 569, cold-formed, high frequency welded and having a minimum yield strength of 50,000 PSI. External surface triple coated with 1.0 ounce ± 0.1 ounce of zinc per square foot, 30 ± 15 micrograms of chromate per square inch and 0.5 ± 0.2 mils of clear, cross linked polyurethane. Internal surface coated, after welding, with a zinc-rich based organic coating having an 87% zinc powder loading capable of providing galvanic protection.

Pipe shall be straight and true to section.

B) End, Corner, Gate, Line Posts

End, corner, line posts; gate framework and gate posts shall be Schedule 40 galvanized steel pipe conforming to ASTM A120.

The sizes of the various component members shall be as follows:

(1) Line Posts: Line posts shall be 2.375" O.D. pipe weighing 3.117 pounds per foot with a sufficient length to allow installation to approximately 3’-6” below ground level, and shall be spaced on 10'-0" centers, unless otherwise shown on the plans.

(2) End, Corner Posts: End, corner posts shall be 4.000" O.D. pipe weighing 9.1 pounds per foot with a sufficient length to allow installation to a depth approximately 3’-6” feet below ground level. (Schedule 40 ASTM A120 pipe only will be allowed, no substitutions).

(3) Brace Rail: Brace Rail shall be 1.66" O.D. pipe weighing 1.836 pounds per foot.

A truss rod and turnbuckle arrangement shall be installed between each terminal, corner, or gate post and each adjacent line post above and below the brace rail.

(4) Top, Bottom Rails: Top and bottom rails shall be 1.66" O.D. pipe weighing 1.836 pounds per foot. Top rail shall be in

continuous lengths of 21 feet joined by 6" long sleeves and shall pass through openings provided in the post tops.

(5) Tension Bars, Bands, Post Tops: Tension Bars, Bands and post tops shall be aluminum alloy, galvanized pressed steel, cast or malleable steel as shown on the plans.

(6) Pedestrian Gate: Where specified, pedestrian gates shall have nominal clear opening as indicated on the plan, and shall be the same height as the surrounding fence. Fence fabric for pedestrian gate shall be the same as herein before specified. Gate posts shall be 4.000" O.D. pipe weighing 9.1 pounds per foot. Gate frame shall be fabricated from 2.000" O.D. pipe weighing 2.72 pounds per foot welded together to a rigid frame, matching the gate frame. Hinges, latches, fittings, etc. shall be provided as per manufacturer's recommendations and as approved by the Engineer. Galvanizing shall be replaced at all frames.

(7) Double Gates: Double Gates shall be provided where specified on the plans. Overall dimensions of each gate opening shall be as shown on the plans.

Fabric shall be the same as specified for the fence, stretcher bars, clips, tie rod and turnbuckle arrangements shall be as here in before specified, fabric shall be secured on all four sides. Frames for gates shall be 2.00" O.D. pipe weighing 2.71 pounds per foot welded together as shown on the plans. Vertical and horizontal intermediate members shall be provided and welded into the gate framework.

Gate posts for each gate leaf on the 10'-0" overall width double gates shall be 6.000" O.D. Schedule 40 pipes set as shown on the plans to support the gate frame as shown.

Double gates shall be provided with a positive locking latch of a type satisfactory to the Engineer.

(8) Tie Wires: Tie wires for fastening the fence fabric to the fence framework shall be 9 gauge galvanized steel wire, placed at the intervals and locations shown on the plans.

(9) Fittings: Fittings and other appurtenances shall be aluminum alloy, galvanized pressed steel, malleable or cast steel.

(10)Footings: No matter what is recommended by the fence manufacturer, footings shall be constructed of Class B 4,500 psi concrete as outlined in Section 903 and shall be constructed to the dimensions shown on the plans, for each type and size of post.

All posts shall be securely set in concrete with holes extending six (6) inches below finished ground surface. Tops of

footings shall be crowned to allow water to runoff. All posts must be within one (1) inch plumb.

605.03 CONSTRUCTION

The following language is added to this subsection:

1) Clearing
Clearing of the proposed fence alignment shall be as specified in Section 201 of the specifications and shall be kept to the minimum area necessary for fence construction.

Access routes to all fence construction areas shall be discussed with and approved by the Engineer prior to the start of construction. The contractor shall strictly adhere to the routes.

2) Shop Drawings for Fence and Gates
Prior to construction of any portion of the fencing, and gates, the Contractor shall submit shop drawings on fencing and gates to be constructed.

3) Excavation
All footing holes shall be excavated prior to any pouring of concrete and shall be approved by the Engineer prior to setting of any terminal, line, or gate posts. Undersized holes shall be enlarged by the Contractor to the proper dimensions.

Prior to any excavation for fence and gate footings, the Contractor shall carefully check and review with the Engineer the proposed fence and gate alignment in the field and the location of any underground utilities or installations.

4) Cleanup
The Contractor shall remove all excess fence materials and debris caused by his operations upon completion of the fence installation.

5) Damage
The contractor shall repair all areas damaged, disturbed, rutted, etc. due to his operations at no additional expense to the Owner. Whether an area has or has not been damaged, disturbed, rutted, etc. shall be determined solely by the Engineer.

605.03.01 Chain-Link Fence

The following language is added to this subsection:

1) Posts
Line posts, corner posts, terminal posts, gate posts, and pull posts shall be spaced as shown on the Plans or ten feet (10'-0") on center, if not shown on the Plans, with their tops properly aligned and all shall be plumb. The Engineer reserves the right to direct the removal and replacement of any post, not aligned properly, out of plumb, incorrectly spaced, or whose footing is of insufficient size, at no additional cost to the Owner.

2) Fabric
Rolls of vinyl coated chain line fabric shall be joined by weaving a single, diamond shaped strand into the ends of the roll to form a continuous mesh pattern, the location of the joint shall not be discernible after joining. The fabric shall be stretched taut and securely fastened to all terminal posts, pull posts, and gate posts. Fabric shall be placed on the side of the framework, facing away from the area to be enclosed, unless otherwise directed by the Engineer.

Steel wire ties shall be placed at 12" centers vertically on each post, and 24” centers horizontally on the top, bottom and brace rails.

605.03.02 Gates

Gates shall be the same height as the fence to which the gates are attached.

New fencing shall be hot dipped galvanized steel wire (chain link) No. 9 gauge woven in a 2” diamond mesh and shall be vinyl coated where indicated on the plans.

Where vinyl coated fencing is indicated on the plans, it shall include vinyl coating of all fabric, framework, posts, rails fittings and hardware.

Minimum sizes of post and rails shall be as follows:

4’ to 6' High Chain Link Fence	Diameter Inches	Nom. Wt. (lbs/ft)
Corner, Angle, End, and Pull Posts	3	5.79
Gate Posts	2-7/8	5.79
Line Posts	2-1/2	3.65
Gate Framing Members	2	2.27
Top Rails and Braces	1-5/8	2.27

8' to 10’ High Chain Link Fence	Diameter Inches	Nom. Wt. (lbs/ft)
Corner, Angle, End, and Pull Posts	4	9.1
Gate Posts	4	9.1
Line Posts	3	5.79
Gate Framing Members	2	2.27
Top Rails and Braces	1-5/8	2.27
Mid Rails and Bottom Rails	1-5/8	2.27

605.03.03 Repairing Chain-Link Fence

Delete the entire text of this subsection and substitute the following:

605.03.03 REMOVE, REFURBISH AND RESET EXISTING CHAIN LINK FENCE

WORK INCLUDED

Where directed by the Engineer, the contractor shall reset existing fence as shown on the drawings or as directed by the Engineer. The contractor shall utilize existing fence parts and straighten same where required and replace parts beyond repair with new materials. Fence posts shall be set in concrete as required.

605.03.04 Temporary Chain-Link Fence

The contractor shall furnish, install and maintain temporary chain link fence if and where ordered by the engineer as necessary to confine construction activities and limit access.

605.04 MEASUREMENT AND PAYMENT

Delete the entire text of this subsection and substitute the following:

Payment for the furnishing and installation of fences, including all labor, equipment and materials as described above and required to satisfactorily complete same, shall be included in the linear foot price bid for the fence items as listed in the bid form. Gates shall be measured by the unit.

Payment will be under:

Pay Unit	*Pay Item*
FURNISH AND INSTALL 4’ HIGH BLACK VINYL COATED CHAIN LINK FENCE	LINEAR FOOT
FURNISH AND INSTALL 8’ HIGH BLACK VINYL COATED CHAIN LINK FENCE	LINEAR FOOT
FURNISH AND INSTALL 4’ HIGH BY 12’ WIDE BLACK VINYL COATED CHAIN LINK FENCE DOUBLE GATE	UNIT
FURNISH AND INSTALL 8’ HIGH AND 5’ WIDE BLACK VINYL COATED CHAIN LINK FENCE GATE	UNIT

SECTION 606 – SIDEWALKS, DRIVEWAYS, AND ISLANDS

606.01 DESCRIPTION

This Article of the Standard Specifications is amended as follows:

General - The contractor is hereby notified that all concrete sidewalks and driveways shall be cured in accordance with Sections 606 and 504.

606.02 MATERIALS

This Article of the Standard Specifications is amended as follows:

Following is added to this subsection.

Coarse aggregate shall conform to Section 901.03.

Class A concrete aprons and driveways shall attain a strength of not less than 3000 psi in 48 hours.

606.03 CONSTRUCTION

606.03.01 HMA Sidewalks, Driveways, and Islands

The following is added to this Article:

Hot mix asphalt sidewalk shall consist of 2” of HMA 9.5M64 surface course and 4” of HMA 19M64 base course, over 4” of quarry dense graded aggregate base course.

606.03.02 Concrete Sidewalks, Driveways, and Islands

A. Underlayer Preparation.

The following is added to this Article:

Four inches (4") of quarry dense graded aggregate base course shall be provided under all sidewalks and driveway aprons.

B. Forms.

C. Sleeves.

D. Welded Wire Mesh.

E. Expansion Joints.

Following is added to this subsection.

Pre-formed expansion joints shall be provided where proposed concrete walks and driveways are to abut existing concrete walks and/or driveways.

Four inch (4") PVC sleeves shall be provided for all sign posts within proposed concrete sidewalks.

F. Placing Concrete.

G. Finishing Concrete.

H. Protection and Curing.

The following is added after the first paragraph:

Ambient temperatures below 40°F shall be considered cold weather.

I. Backfilling.

The following is added:

J. Curb Ramps

The Contractor shall be responsible for the construction of ADA compliant curb ramps in accordance with the NJDOT standard details and current applicable standards. The Contractor's New Jersey Licensed Land Surveyor shall provide the stakeout of the proposed ADA compliant curb ramps based upon a design and layout shown in the contract drawings, or as ordered by the Engineer.

The Contractor shall include the costs associated with the required Land Surveying services in the unit prices bid for all items requiring the same. Separate payment will not be made.

606.03.03 Detectable Warning Surfaces

The following is added to these specifications:

The Contractor shall provide the required cast in place Detectable Warning Surface plates at the locations shown on contract drawings, including furnishing and installation of detectable warning surface (cast in place) as per manufacturer's recommendations and in accordance with the details as contained on the contract drawings.

A. Description

The Vitrified Polymer Composite (VPC) Cast in Place Detectable/Tactile Warning Surface such as "Armor Tile" as distributed under license by Engineered Plastics Inc. (1-800-682-2525). Existing engineered and field tested products, which have been in successful service for a period of three (3) years are subject to compliance with requirements, may be incorporated in the work and shall meet or exceed the specified test criteria and characteristics.

The required Detectable Warning Surface shall be cast in place "Armor Tile" as distributed under licensed by Engineered Plastics Inc. (800) 682-2525, 300 International Drive, Williamsville NY 14221 or approved equal as described below:

ITEM	Model No.
Detectable Warning Surface (cast in place)	ADA-C-2448

B. Color

Color shall be homogeneous throughout the tile. Contractor shall supply color samples with 70% contrast to the Owner prior to ordering of materials and prior to construction.

C. Installation

- During Cast in Place Detectable/Tactile Warning Surface tile installation procedures, ensure adequate safety guidelines are in place and that they are in accordance with the applicable industry and government standards.
- Prior to placement of the Cast in Place Warning tile system, review manufacturer and contract drawings with the Contractor prior to the construction and refer any and all discrepancies to the Engineer.
- The specifications of the structural embedment flange system and related materials shall be in strict accordance with the contract documents and the guidelines set by their respective manufacturers. Not recommended for asphalt applications.
- The physical characteristics of the concrete shall be consistent with the contract specifications while maintaining a slump range of 4 – 7 inches to permit solid placement of the Cast in Place Warning tile system. An overly wet mix may cause the tile to float. Under these conditions, suitable weights such as 2 concrete blocks or 25 lb sandbags shall be placed on each tile.
- The concrete pouring and finishing operations require typical mason’s tools, however, a 4’ long level with electronic slope readout, 25 lb weights, and a large non-marring rubber mallet are specific to the installation of the Cast in Place Warning tile system. A vibrating mechanism such as that manufactured by Vibco can be employed, if desired. The vibrating unit should be fixed to a soft base such as wood, at least 1 foot square.
- The factory-installed plastic sheeting must remain in place during the entire installation process to prevent the splashing of concrete onto the finished surface of the tile.
- When preparing to set the tile, it is important that no concrete be removed in the area to accept the tile. It is imperative that the installation technique eliminates any air voids under the tile. Holes in the tile perimeter allow air to escape during the installation process. Concrete will flow through the large holes in each embedment flange on the underside of the tile. This will lock the tile solidly into the cured concrete.
- The concrete shall be poured and finished true and smooth to the required dimensions and slope prior to the tile placement. Immediately after finishing concrete, the electronic level should be used to check that the required slope is achieved. The tile shall be placed true and square to the curb edge in accordance with the contract drawings. The Cast in Place Warning tiles shall be tamped (or vibrated) into the fresh

concrete to ensure that the field level of the tile is flush to the adjacent concrete surface. The embedment process should not be accomplished by stepping on the tile as this may cause uneven setting which can result in air voids under the tile surface. The contract drawings indicate that the tile field level (base of truncated dome) is flush to adjacent surfaces to permit proper water drainage and eliminate tripping hazards between adjacent finishes.

- In cold weather climates it is recommended that the Cast In Place Warning tiles be set deeper such that the top of domes are level to the adjacent concrete on the top and sides of ramp and that the base of domes to allow water drainage. This installation will reduce the possibility of damage due to snow clearing operations.
- Immediately after placement, the tile elevation is to be checked to adjacent concrete. The elevation and slope should be set consistent with contract drawings to permit water drainage to curb as the design dictates. Ensure that the field surface of the tile is flush with the surrounding concrete and back of curb so that no ponding is possible on the tile at the back side of curb.
- While concrete is workable, a 3/8” radius edging tool shall be used to create a finished edge of concrete, then a steel trowel shall be used to finish the concrete around the tile’s perimeter, flush to the field level of the tile.
- During and after the tile installation and the concrete curing stage, it is imperative that there is no walking, leaning or external forces placed on the tile that may rock the tile causing a void between the underside of tile and concrete.
- Following tile placement, review installation tolerances to contract drawings and adjust tile before the concrete sets. Two suitable weights of 25 lb each may be required to be placed on each tile as necessary to ensure solid contact of the underside of tile to concrete.
- Following the concrete curing stage, protective plastic wrap is to be removed from the tile surface by cutting the plastic with a sharp knife, tight to the concrete/tile interface. If concrete bled under the plastic, a soft brass wire brush will clean the residue without damage to the tile surface.
- If desired, individual tiles can be bolted together using 1/4” or equivalent hardware. This can help to ensure that adjacent tiles are flush to each other during the installation process. Tape or caulking can be placed on the underside of the bolted butt joint to ensure that concrete does not rise up between the tiles during installation. Any protective plastic wrap which was peeled back to facilitate bolting or cutting, should be replaced and taped to ensure that the tile surface remains free of concrete during the installation process.

D. Cleaning, Protection and Maintenance

- Protect tiles against damage during construction period to comply with Warning tile manufacturer’s specification.
- Protect tiles against damage from rolling loads following installation by covering with plywood or hardwood.
- Clean tiles not more than four days prior to date scheduled for inspection intended to establish date of substantial

completion in each area of project. Clean tile by method specified by tile manufacturer.

- Comply with manufacturer's maintenance manual for cleaning and maintaining tile surface and it is recommended to perform annual inspections for safety and integrity.

606.04 MEASUREMENT AND PAYMENT

This article of the standard specifications is amended as follows:

Delete the entire text of this Article and substitute the following:

Measurement and payment will be made under:

Pay Item	*Pay Unit*
HOT MIX ASPHALT SIDEWALK, 6" THICK	SQUARE YARD

The following is added:

All new concrete driveways and aprons, and sidewalks shall include a concrete sealant to protect against road salt damage. Separate payment will not be made furnish and installation of the sealant.

Separate payment will not be made for welded steel wire fabric provided in concrete walks and driveways, or for the dense graded aggregate under the concrete and HMA driveways and sidewalks.

Payment for sidewalks shall also include all grading of adjacent turf areas necessary to provide a minimum slope of 2% and a maximum slope of 3:1.

Payment for removing, stockpiling, and replacing existing driveway aggregate where directed shall be made based on the unit price bid for aggregate driveway restoration.

Add the following to this Article:

Causes for Rejection of Concrete Walks, Driveways and Pads

Concrete walks, driveways and pads shall be rejected and ordered replaced by the Engineer if any or all of the following should occur or exist:

A. Staining or discoloration of concrete.

B. Walk, driveway or pad is out of alignment.

C. Walk, driveway or pad is out of grade.

D. Joints and surfaces are improperly finished.

E. Expansion joints protrude from concrete.

F. Cracks, chips, or other damages occur during construction or maintenance period.

G. Settlement of walk, driveway or pad.

H. Inspection not asked for prior to pouring of concrete.

I. Improper vibration of concrete.

J. Vandalism during initial setup of concrete.

K. Failure to comply with the 2010 ADA Standards for Accessible Design.

Payment for the removal and disposal of existing walks and driveways shall be made as specified in Sections 201 and 202.

Separate payment will not be made for removal, disposal, and replacement of walks, driveways and pads rejected due to the causes of rejection listed above.

SECTION 607 - CURB

607.01 DESCRIPTION

This Article of the Standard Specifications is amended as follows:

The first sentence is changed to:

The work shall consist of the construction of portland cement concrete curbs, portland cement concrete curbs with coloring additives, granite curbs, and granite block curbs and the resetting of granite curbs and granite block curbs and the installation of steel plate curb treatment at conflicts of trees and proposed curbs.

The contractor is hereby notified that all concrete curbs shall be cured in accordance with Sections 607 and 504.

All slab lengths shall conform to Subsection 607.03.

607.02 MATERIALS

The following is added:

Class A concrete curbs shall attain a strength of 3000 psi in 48 hours.

Steel plates shall be constructed of Cor-Ten weathering steel or approved equal.

607.03 CONSTRUCTION

607.03.01 Concrete Barrier Curb

607.03.02 Concrete Vertical Curb and Concrete Sloping Curb

The following is added to article **A** of this subsection:

Six inches (6") of compacted dense graded aggregate shall be provided under all proposed concrete curb, curb and gutter, granite and granite block curb, unless otherwise directed by the Engineer.

The following is added to article **C** of this subsection:

Expansion joints shall be provided at uniform intervals of 20'.

The following is added to article **D** of this subsection:

Concrete curb shall not be constructed from November 1 to March 15 except as permitted by the Engineer.

Concrete curbs shall have a uniform slab length of 10'.

The following is added to article **F** of this subsection:

Ambient temperatures below 40° F shall be considered cold weather

607.03.03 Concrete Barrier Curb, Dowelled

607.03.04 Concrete Vertical Curb and Concrete Sloping Curb, Dowelled

607.03.05 Granite Curb

Delete the title and entire text of this subsection and substitute the following:

Granite Block Curb

Granite block curb shall be constructed to the size shown on the Plan, the locations and to the prescribed lines and grades as indicated on the drawings or as ordered by the Engineer. The subgrade shall be smooth and even and compacted. Concrete for curbs shall have a minimum compressive strength of 4500 psi after twenty-eight (28) days and shall be manufactured in accordance with the latest revisions of ASTMC-94 "Specifications for Ready-Mixed Concrete" and shall originate in a ready-mixed plant that has been certified and approved by the National Ready-Mixed Concrete Association. The Contractor shall submit to the Engineer a copy of the certification prior to the delivery and placing of any concrete on the project. Coarse aggregate proportions shall conform to the latest revisions of ASTMC 33 "Concrete Aggregates Size No. 57 or 67". Concrete will be air-entrained and the amount of air shall be 5% plus or minus 1%. Granite blocks approved for use under this item shall be of uniform quality, structure and texture with percentage of wear not more than 5%. Blocks shall be dressed so that all faces are approximately rectangular, and shall be not less than 10" or more than 16" in length, not less than 5" or more than 7" in width and not less than 4" or more than 6" in depth. All blocks shall be from one quarry and the same color and texture. All edges shall be approximately parallel and at right angles to each other. Blocks shall be set in concrete with the greatest dimensions vertical and the least dimension perpendicular to the line of the curb.

The concrete foundation shall be suitably formed on both sides with approved form materials set true to line and grade and properly braced and supported so as to prevent displacement during pouring or setting. Block joint spacing shall not exceed 2" and all joints shall be "pointed up" with a 1:2 cement/sand mixture in an approved manner, after setting. All curbing shall be set accurately to line and grade and shall present an even and unbroken line for the entire length of the work. All blocks shall be set with the axis of each block perpendicular to the profile, and through vertical curve sections the axis of the block shall be set along radial lines.

Where shown on the plans or directed by the Engineer, the curb shall be lowered to within 2" of the proposed gutter to provide for driveway entrances. When set in final positions, the curb shall have a uniform batter, away from the gutter, of 1" per foot.

Where the work consists of the removal and replacement of existing block curbing, the contractor shall restore the curbing utilizing blocks of a size and type equivalent to those which are existing and the work may require the salvaging and reuse of the existing blocks, if so directed by the engineer.

607.03.06 Reset Granite Curb

607.03.07 Hot Mix Asphalt Curb

607.04 MEASUREMENT AND PAYMENT

This article of the standard specifications is amended as follows:

Delete the entire text of this Article and substitute the following:

Measurement and payment will be made under:

Pay Item	*Pay Unit*
9” x 16” CONCRETE VERTICAL CURB	LINEAR FOOT

Separate measurement and payment will not be made for steel plate curb treatment or for grinding roots where necessary in order to install curb whether or not steel plate curb treatment is ordered. The same shall be measured as concrete curb.

Separate measurement and payment will not be made for expansion joints nor for quarry dense graded aggregate base course provided under concrete curb and gutter sections.

Add the following to the Article:

Causes for Rejection of Curb

Concrete curb or curb and gutter shall be rejected and ordered replaced by the Engineer if any or all of the following should occur or exist:

A. Staining or discoloration of curb.

B. Curb is out of alignment.

C. Curb is out of grade.

D. Expansion joints are not perpendicular to roadway.

E. Joints and surfaces are improperly finished.

F. Expansion joints protrude from curb.

G. Cracks, chips, or other damage occur in construction or maintenance period.

H. Settlement of curb.

I. Inspection not asked for prior to pouring curb.

J. Improper vibration of concrete.

K. Vandalism during initial setup of concrete.

L. Excessive laitance or efflorescence

Payment for asphalt impregnated expansion joints in concrete curbing and along the face of concrete curbing abutting portland cement concrete pavement shall be included in the unit price bid for concrete curb as listed in the bid form.

Payment for the regrading of adjacent turf areas to provide a minimum slope of 2% and maximum slope of 3:1 shall be included in the unit prices bid for the various types of curb as listed in the bid form.

Separate payment will not be made for dense graded aggregate under proposed curb and/or curb and gutter sections.

Payment for the removal and disposal of existing curb shall be made as specified in Section 201.

Separate measurement and payment will not be made for concrete curb with cradle where necessary in order to install curb ramp. The same will be measured as concrete vertical curb of the size utilized adjacent to the concrete curb with cradle.

The following section is added to the standard specifications:

SECTION 631 - ROADWAY TRENCH REPAIR

631.01 DESCRIPTION

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

The contractor is herein advised that the use of imported recycled material as an alternate to quarry dense graded aggregate will not be considered.

631.02 CONSTRUCTION

Trench openings shall not remain open overnight under any circumstances. Backfill shall be made with quarry dense graded aggregate.

The contractor shall maintain the roadways where storm drains are installed in good serviceable condition, and all abrupt depressions shall be immediately repaired to the satisfaction of the Engineer.

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

The trench shall be mechanically compacted to the material's optimum density as shown on the construction detail drawings.

The contractor is herein advised that the Owner intends to utilize as much of the existing in-situ granular soils as possible and accordingly, the work shall consist of the segregation of portions of the excavated material to optimize the reuse of these granular soils.

The contractor is specifically directed not to backfill with clayey or silty soils. Where these soils are encountered, they shall be segregated from the granular material and disposed of at approved facilities.

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

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

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

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

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

631.02.01 Temporary Trench Repair

Temporary trench repair shall be constructed prior to the end of each working day following the installation of the proposed improvements in paved areas. Temporary trench repair shall consist of the construction of 2" of hot mix asphalt 9.5M64 surface course on top of the compacted trench backfill. The temporary trench repair shall be constructed such that the finished surface shall match the existing elevation of the adjacent pavement.

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

631.02.02 Roadway Trench Repair

Roadway trench repair shall consist of the construction of quarry dense graded aggregate base course and hot mix asphalt 19M64 base course, at the thicknesses indicated on the construction plans and details. The roadway trench repair shall be constructed on top of the compacted trench backfill, and the finished surface shall match the existing elevation of the adjacent pavement.

631.03 MEASUREMENT AND PAYMENT

Measurement and payment will be made under:

Pay Item	*Pay Unit*
ROADWAY TRENCH REPAIR	SQUARE YARD

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

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

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

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

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

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

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

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

The following section is added to the standard specifications:

SECTION 658 - MISCELLANEOUS CONCRETE

658.01 DESCRIPTION

This work shall consist of the construction of miscellaneous portland cement concrete items such as steps, saddles, valley gutters, support blocks and encasements.

658.02 MATERIALS

Concrete	903.03
Curing Materials	903.10
Preformed Joint Filler	914.01
Reinforcement Steel	905.01
Controlled Low Strength Material	903.09

The following is added:

All concrete shall be Class B, 4500 psi air entrained concrete.

658.03 CONSTRUCTION

653.03.01 Excavation and Backfilling

Excavation and backfilling shall be according to Section 202, 302, or 601.

653.03.02 Mixing, Placing, Finishing and Curing

Mixing, placing, finishing, protecting, and curing of concrete including placing of reinforcement steel shall be according to Section 504.

Place CLSM according to the limitations specified in section 504.03.02.C. Place CLSM to completely fill the pipe to be abandoned. Protect CLSM as specified in section 504.03.02.I.

658.04 MEASUREMENT AND PAYMENT

Measurement and payment will be made under:

Pay Item	*Pay Unit*
MISCELLANEOUS CONCRETE, CLASS B	CUBIC YARD

No separate payment will be made for any reinforcement steel but cost thereof shall be included in the unit price bid for each item requiring same.

SECTION 701 – ELECTRICAL

701.01 DESCRIPTION

The following is added:

The contractor shall be responsible for furnishing and installing Duplex WP, GFI receptacles within the proposed dugouts and the proposed storage shed including all conduit, junction boxes, handholes, wiring, hardware and all else necessary to be operational.

701.02 MATERIALS

701.03 CONSTRUCTION

701.03.01 Existing Systems

Deliver and unload salvaged materials to: if requested by Owner's representatives, a location provided by the Owner located within 4.0 miles of the site.

THE FOLLOWING IS ADDED:

If new cable or wire is designated to be installed into existing conduit systems, clean and swab the conduit system prior to installing the cable or wire. After cleaning, test each conduit by pulling through a metal ball with a diameter at least 85 percent of the nominal inside diameter of the conduit to ensure the conduit is free of any obstruction or foreign material. If the ball fails to pass through the conduit, repair or replace the defective conduit as directed by the RE. Restore disturbed areas to original condition.

701.03.05 Rigid Nonmetallic Conduit

B. Installation.

THE LAST PARAGRAPH IS CHANGED TO:

Install true tape marked in 1-foot increments for the length of the rigid non-metallic conduit. Install a tracer wire continuously for the entire run of conduit, including through the junction boxes, mounting it on the wall. Splice the tracer wire only in the junction box. Seal the ends of rigid nonmetallic conduit carrying the tracer wire. If wire or cable is not scheduled to be installed within 6 months of conduit installation, cap and seal the other conduits leaving the true tape inside. Install warning tape in the trench above the conduit.

701.03.07 Flexible Nonmetallic Conduit

B. Installation.

THE SECOND PARAGRAPH IS CHANGED TO:
Terminate flexible nonmetallic conduit according to manufacturer's recommendations.

THE LAST PARAGRAPH IS CHANGED TO:
Install true tape marked in 1-foot increments for the length of the flexible non-metallic conduit. Install a tracer wire continuously for the entire run of conduit, including through the junction boxes, mounting it on the wall. Splice the tracer wire only in the junction box. Seal the ends of flexible nonmetallic conduit carrying the tracer wire. If wire or cable is not scheduled to be installed within 6 months of conduit installation, cap and seal the other conduits leaving the true tape inside. Install warning tape in the trench above the conduit.

701.03.15 Cable and Wire

A. Installing.

THE FOLLOWING IS ADDED:

Test the existing tracer wire in the conduit for continuity. If there is no existing tracer wire in any of the conduits in the same trench, then install a continuous tracer wire between the adjacent junction boxes without any splice when installing the cable and wire as directed by the RE.

C. Connection and Coordination with Utility Services.

THE FOLLOWING IS ADDED TO THE FOURTH PARAGRAPH:

At Substantial Completion provide the RE with a letter requesting transfer of utility services providing the latest copy of the utility bill from each utility company. Such transfers are to be effective beginning the next monthly billing cycle after Substantial Completion or as directed by the Engineer.

701.04 MEASUREMENT AND PAYMENT

DELETE THE ENTIRE TEXT OF THIS SUBSECTION AND SUBSTITUTE THE FOLLOWING:

Measurement and payment will be made under:

Pay Item	Pay Unit
FURNISH AND INSTALL DUPLEX WEATHERPROOF GFI RECEPTACLE IN DUGOUT INCLUDING ALL NECESSARY WIRES, CONDUITS AND HANDHOLES	UNIT

FURNISH AND INSTALL DUPLEX WEATHERPROOF GFI RECEPTACLE IN SHED INCLUDING ALL NECESSARY WIRES, CONDUITS AND HANDHOLES UNIT

SECTION 706 – ATHLETIC FIELD LIGHTING

706.01 DESCRIPTION

A. Sports Lighting System to be manufactured by Musco Lighting (732-751-9114) or approved equal.

B. Work covered by this section of the specifications shall conform to the contract documents, engineering plans as well as state and local codes.

C. The purpose of these specifications is to define the lighting system performance and design standards for Warinanco Baseball Field located in Roselle, NJ. The manufacturer/contractor shall supply a lighting system using an LED light source to meet or exceed the standards set forth in these specifications.

D. The sports lighting will be for the following fields:

1. Baseball Field

E. 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, light levels are guaranteed to not drop below specified target values for a period of 25 years.

2. 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 for the duration of the warranty.

3. Control and Monitoring: 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. Fields should be proactively monitored to detect luminaire outages over a 25-year life cycle. All communication and monitoring costs for 25-year period shall be included in the bid.

4. Environmental Light Control: It is the primary goal of this project to minimize spill light to adjoining properties and glare to the players, spectators and neighbors.

706.02 MATERIALS

706.02.01 LIGHTING PERFORMANCE

A. Performance Requirements: Playing surfaces shall be lit to an average target illumination level and uniformity as specified in the chart below. Lighting calculations shall be developed and field measurements taken on the grid spacing with the minimum number of grid points specified below. Average illumination level shall be measured in accordance with the IESNA LM-5-04 (IESNA Guide for Photometric Measurements of Area and Sports Lighting Installations). Illumination levels shall not to drop below desired target values in accordance to IES RP-6-15, Page 2, Maintained Average Illuminance and shall be guaranteed for the full warranty period. Hours of usage shall comply with the following:

Area of Lighting	Annual Usage Hours	25 Year Usage Hours
Baseball Field	**300**	**7,500**

B. Mounting Heights: To ensure proper aiming angles for reduced glare and to provide better playability, minimum mounting heights shall be as described in luminaire schedule provided on the plans.

706.02.02 ENVIRONMENTAL LIGHT CONTROL

A. Light Control Luminaires: All luminaires shall utilize spill light and glare control devices including, but not limited to, internal shields, louvers and external shields. No symmetrical beam patterns are accepted.

706.02.03 LIFE CYCLE COSTS

A. Manufacturer shall submit 25-year life cycle cost calculation as outlined in the required submittal information. Lamp replacement schedule per charts below:

Lighting Method 1 Lamp Replacement	Lighting Method 2 Lamp Replacement
5,000 hour intervals	3,000 hour intervals

B. Preventative and Spot Maintenance: Manufacturer shall provide all preventative and spot maintenance, including parts and labor for 25 years from the date of equipment shipment. Individual outages shall be repaired when the usage of any field is materially impacted.

706.03 METHOD OF CONSTRUCTION

706.03.01 SPORTS LIGHTING SYSTEM CONSTRUCTION

A. Manufacturing Requirements: All components shall be designed and manufactured as a system. All luminaires, wire harnesses, drivers and other enclosures shall be factory assembled, aimed, wired and tested.

B. 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 with aluminum-based thermosetting epoxy resin for protection against corrosion and stress corrosion cracking. Structural fasteners may be carbon steel and galvanized meeting ASTM A153 and ISO/EN 1461 (for hot dipped galvanizing), or ASTM B695 (for mechanical galvanizing). All wiring shall be enclosed within the cross-arms, pole, or electrical components enclosure.

C. System Description: Lighting system shall consist of the following:

1. Galvanized steel poles and cross-arm assemblies.
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 unless shorter cure time approved by structural engineer of record. Direct bury steel poles and concrete poles are not allowed.
3. All luminaires shall be constructed with a die-cast aluminum housing or external hail shroud to protect the luminaire reflector system.
4. Wire harness complete with an abrasion protection sleeve, strain relief and plug-in connections for fast, trouble-free installation.
5. All luminaires, visors, and cross-arm assemblies shall withstand 150 mph winds and maintain luminaire aiming alignment.
6. Security Fixtures: In addition to the sports lighting fixtures, security fixtures will be added to the poles as indicated on the electrical plans.
7. Control cabinet to provide remote on-off control and monitoring of the lighting system. Cabinet shall be constructed of aluminum and be rated NEMA Type 4. Communication method shall be provided by manufacturer. Cabinet shall contain custom configured contactor modules labeled to match field diagrams and electrical design. Manual off-on-auto selector switches shall be provided.
8. The Contractor is advised that the Sports Lighting Control Equipment is to be housed where shown on the plans and all feeder runs to the sports lighting poles shall originate from this location.
9. Lightning Protection: Manufacturer shall provide integrated lightning grounding via concrete encased electrode grounding system as defined by NFPA 780 and be UL Listed per UL 96 and UL 96A. If grounding is not integrated into the structure, the manufacturer shall supply grounding electrodes, copper down conductors, and exothermic weld kits. Electrodes and conductors shall be sized as required by NFPA 780. The grounding electrode shall be minimum size of 5/8 inch diameter and 8 feet long, with a minimum of 10 feet embedment. Grounding electrode shall be connected to the structure by a grounding electrode conductor with a minimum size of 2 AWG for poles with 75 feet mounting height or less, and 2/0 AWG for poles with more than 75 feet mounting height.

D. Safety: All system components shall be UL listed for the appropriate application.

706.03.02 ELECTRICAL

A. Electric Power Requirements for the Sports Lighting Equipment:

1. Electric power: Contractor to determine voltage and phase
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.

B. Energy Consumption: The average kW consumption for the field lighting system with all fields lit shall be 53kW.

706.03.03 STRUCTURAL PARAMETERS

A. Mounting Heights: To ensure proper aiming angles for reduced glare and to provide better playability, the minimum pole mounting heights from the playing field surface shall be as depicted on plans. Higher mounting heights may be required based on photometric performance of manufacturer's luminaires to meet spill and glare requirements.
B. Support Structure Wind Load Strength: Poles and other support structures, brackets, arms, bases, anchorages and foundations shall be determined based on the most recent IBC Building Code, wind speed of 115mph, exposure category C and an importance factor of 1.0. Luminaire, visor, and crossarm shall withstand 150 mph winds and maintain luminaire aiming.
C. Pole Structural Design: The stress analysis and safety factor of the poles shall conform to the latest AASHTO Standard Specification for Structural Supports for Highway Signs, Luminaires, and Traffic Signals (LTS-5).
D. The final foundation design shall be designed and submitted by the Contractor's Stuctural Engineer for review and approval by the Engineer.
E. Foundation Drawings: Project specific foundation drawings signed and sealed by a Licensed Engineer in the State of New Jersey are required. The foundation drawings must list the moment, shear (horizontal) force, and axial (vertical) force at ground level for each pole.
F. The Contactor is directed to review and comply with the Foundation Design-Build process as detailed in the special provisions.

706.03.04 CONTROL AND MONITORING

A. 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 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. Scheduling tool shall be capable of setting curfew limits.

   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.

B. 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 controller shall determine switch position (manual or auto) and contactor status (open or closed).

C. Management Tools: Manufacturer shall provide a web-based database and dashboard tool of actual field usage and provide reports by facility and user group. Dashboard shall also show current status of lamp outages, control operation and service scheduling including relamping operations completed and scheduled. Mobile application will be provided suitable for IOS and Android devices.

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.
3. Report hours saved by using early off and push buttons by users.

D. Communication Costs: Manufacturer shall include communication costs for operating the controls and monitoring system for a period of 25 years.

703.03.05 DELIVERY TIMING

A. 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.

703.03.06 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 LM-5-04.

B. Field Light Level Accountability

1. Light levels are guaranteed not to fall below the target maintained light levels for the entire warranty period of 25 Years.

2. The manufacturer will be held responsible for any and all changes needed to bring these fields back to compliance for light levels and uniformities. Manufacturer will be held responsible for any damage to the fields during these repairs.

C. Correcting Non-Conformance: If, in the opinion of the Owner or his appointed Representative, the actual performance levels including footcandles and uniformity ratios are not in conformance with the requirements of the performance specifications and submitted

information, the Manufacturer shall be required to make adjustments to meet specifications and satisfy Owner.

703.03.07 25-YEAR WARRANTY

A. Each manufacturer shall supply a signed warranty covering the entire system for 25 years OR for the maximum hours of coverage based on the estimated annual usage, whichever occurs first. Warranty shall guarantee light levels will not fall below target maintained levels. A +/- 10% design/testing allowance will not be allowed. Warranty shall also cover: 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.

B. Preventative and Spot Maintenance: Manufacturer shall provide all preventative and spot maintenance, including parts and labor for 25 years from the date of the 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.

706.04- MEASUREMENT AND PAYMENT

Pay Item	UNIT
FURNISH AND INSTALL SPORTS LIGHTING SYSTEM FOR SYNTHETIC TURF BASEBALL FIELD INCLUDING ALL SYSTEM COMPONENTS, INFRASTRUCTURE, AND ELECTRICAL CONNECTION MATERIALS REQUIRED TO RESULT IN A FULLY OPERATIONAL SPORTS LIGHTING SYSTEM	LUMP SUM

Payment for the furnishing and installation of sports lighting for the baseball field will be made at the lump sum bid price as listed in the Bid Form. Said bid price shall include all system components and infrastructure to result in a fully operational sports lighting system.

SECTION 803 - PREPARATION OF EXISTING SOIL

803.01 DESCRIPTION

803.02 MATERIALS

803.03 CONSTRUCTION

803.04 MEASUREMENT AND PAYMENT

Delete the entire text of this subsection and substitute the following:

No separate measurement or payment shall be made for preparation of existing soil, but the costs thereof shall be included in the prices bid for all items requiring the same.

SECTION 804 – TOPSOIL SPREADING

804.01 DESCRIPTION

This subsection is amended as follows:

Add the following:

This work shall also consist of the fine grading of all disturbed areas.

This work shall consist of the preparation and placement of topsoil stripped from the site of the project, if deemed acceptable for use as topsoil; and the furnishing, preparation and placement of borrow topsoil required in excess of that obtained from stripping.

804.02 MATERIALS

804.03 CONSTRUCTION

This Article of the Standard Specifications is amended as follows:

Add the following to this Article:

All topsoil shall be thoroughly cleared of all sticks, roots, branches, coarse sods, and other deleterious matter, and all stones larger than 1 inch in diameter before it is spread. Topsoil shall not be handled or spread when it is in a frozen or muddy condition, or otherwise unsuitable for handling.

No topsoil shall be spread before completion of all construction in the area or before all fills are fully stabilized, or before a sample has been submitted and approved by the Engineer. Before spreading topsoil, the subgrade shall be cleared of all stones and debris. Any portions of the subgrade which have been compacted to a hard surface shall be pulverized to a depth of 3 inches by plowing or other methods acceptable to the Engineer.

804.04 MEASUREMENT AND PAYMENT

This article of the standard specifications is amended as follows:

Delete the entire text of this Article and substitute the following:

Measurement and payment will be made under:

Pay Item	*Pay Unit*
TOPSOILING, 4" THICK, INCLUDING FINE GRADING (IF AND WHERE ORDERED)	SQUARE YARD

SECTION 806 - FERTILIZING AND SEEDING

806.01 DESCRIPTION

806.02 MATERIALS

806.03 CONSTRUCTION

This Article of the Standard Specifications is amended as follows:

The following is added:

Fertilizing and seeding shall be carried out as directed by the Engineer.

Any damage to seeded areas caused by pedestrian or vehicular traffic or other causes, shall be repaired at no cost to the Owner.

All areas to be seeded shall be fine graded to remove all ridges and depressions and the surface shall be cleaned of all stones greater than 1” diameter, and other debris.

All dates and schedules for seeding operations shall be as approved by the Engineer. Seeding shall be done in favorable weather, in the fall, where possible, and in early spring, if necessary, to complete unfinished areas.

WATERING LAWNS

The contractor shall take all necessary steps to produce a satisfactory lawn covering. Such steps shall include the thorough watering of the new lawn until it has received its second cutting.

The cost of such watering shall be borne by the contractor and the equipment and manpower required shall be furnished by the contractor.

806.03.01 Fertilizing and Seeding

Add the following sentence to section 806.03.01C of this Article.

Type G seed mixture shall be sown at the rate of 0.4 pounds per 100 sq. ft.

806.03.02 Wildflower Seeding

806.04 MEASUREMENT AND PAYMENT

This article of the standard specifications is amended as follows:

Delete the entire text of this Article and substitute the following:

Measurement and payment will be made under:

Pay Item	*Pay Unit*
FERTILIZING (IF AND WHERE ORDERED)	SQUARE YARD

Measurement and payment for fertilizing and seeding shall be made commensurate with the percentage of work completed and the area in which the contractor has established a satisfactory stand of grass.

Payment will not be made for areas disturbed by construction operations beyond the prescribed grading limits.

SECTION 808 - SODDING

808.01 DESCRIPTION

808.02 MATERIALS

Add the following to this Article:

The Contractor shall submit to the Engineer for confirmation and approval the seed breakdown of the sod that will be furnished and installed.

The seed breakdown of the sod shall be as follows:

45%	Rebel Exeda Turf Type Tall Fescue
45%	Rebel Sentry Turf Type Fall Fescue
10%	Tuckahoe Turf Bluegrass Blend

Distributed by Tuckahoe Turf Farms, Inc. of Hammonton, NJ or approved equal.

The big roll system (250 sq. ft. per roll, 4’ wide by 62.5’ long) should be utilized to minimize the joints within the laid sod surface.

808.03 CONSTRUCTION

Add the following to this Article:

Prior to the placement of sod, topsoil conforming to the requirements of other applicable sections of these specifications shall be placed to a minimum 4” thickness over all disturbed areas.

Immediately before placing the sod, organic fertilizer applied as described previously, and pulverized limestone if necessary, shall be incorporated into the topsoil. The fertilizer and limestone shall comply with the requirements for same as detailed in other applicable sections of this specification. The sod shall be harvested, and within 36 hours, delivered and placed on the previously prepared bed of topsoil.

With each delivery of sod, a delivery slip shall be submitted with the date of harvest and seed breakdown.

Sod shall be laid with staggered joints and pressed closely together. The ends of sod strips shall be matched so that the ends and sides always lay flush with each other. Sod shall be pressed into the underlying soil by hand tamping and rolling. Then the sodded areas shall be thoroughly watered.

Watering shall be performed as necessary until a firm root mass is established. Each watering shall be performed until water infiltrates through the root zone and into the topsoil zone. The method of watering shall be performed in a manner that provides equal distribution and coverage to all areas sodded.

Sod shall not be transplanted when the moisture content (excessively

wet or dry) may adversely affect its survival. Whenever the upper half inch of topsoil is dry, the soil shall be lightly moistened immediately prior to laying the sod.

The finished surface shall be smooth, even, and to the prescribed lines and contour. Sod that is other than alive and healthy before acceptance shall be replaced immediately by the contractor without additional compensation. At the time of acceptance all sod shall be alive, healthy, and established.

WATERING AND CUTTING LAWNS

The Contractor shall take all necessary steps to produce a high quality lawn covering on sodded on-site lawn areas. Such steps shall include the thorough watering of the new lawn until it has received its second cutting.

The cost of such watering shall be borne by the Contractor, and the equipment and manpower required shall be furnished by the Contractor.

Sod shall be machine cut at a uniform soil thickness of 5/8 plus or minus 1/4 inch at the time of cutting. Measurement for thickness shall exclude top growth and thatch. Individual strips of sod shall be of a uniform width. Broken strips and torn or uneven strips will be rejected. Standard size strips of sod shall be strong enough to support their own weight and retain their size and shape when suspended vertically from the upper 10 percent of the strip.

The contractor shall also be held responsible for all lawn cuttings until the project is accepted and turned over to the Client. Any lawn areas that have not developed after two (2) cuttings shall be cut and re-seeded or sodded, fertilized, watered, and cut until a full lawn is produced. Should crab grass or broadleaf weed prevention be deemed necessary by the Engineer, same shall be applied at no additional cost.

The cuttings of lawn shall not occur closer than 7 to 10 days, or as directed by the Engineer.

Lawn areas must be hearty and uniform prior to acceptance by the owner.

Prior to the installation of sod on sodded on-site lawn areas or as directed by the Engineer, the contractor’s surveyor shall take elevations at a 25’ grid based on benchmarks provided by the Engineer and submit an as-built grading plan to the Engineer so that as-built grades can be compared to proposed grades on the plans.

808.04 MEASUREMENT AND PAYMENT

This article of the standard specifications is amended as follows:

Delete the entire text of this Article and substitute the following:

Measurement and payment will be made under:

Pay Item	*Pay Unit*
SODDING (IF AND WHERE ORDERED)	SQUARE YARD

SECTION 810 - MOWING

810.01 DESCRIPTION

810.02 MATERIALS

810.03 CONSTRUCTION

This Article of the Standard Specifications is amended as follows:

Delete the entire text of this Article and substitute the following:

Grass shall be mowed when it attains the height of 6 to 8 inches unless otherwise directed by the Engineer. The grass and other volunteer growth shall be mowed to a height of 2 to 3 inches. The Contractor will be required to employ hand mowing methods and light equipment in areas where the use of heavy equipment might be injurious to the turf or soil.

Where, in the opinion of the Engineer, the cuttings resulting from the mowing operation are excessive, the cuttings shall be removed in accordance with Subsection 201.03.09. The cuttings resulting from the mowing operation shall be collected and disposed of by the Contractor.

The Contractor shall take all necessary steps to produce a satisfactory lawn covering. Such steps shall include the thorough watering of the new lawn until it has received its second cuttings.

The cost of such watering shall be borne by the Contractor, and the equipment and manpower required shall be furnished by the Contractor.

The Contractor shall be held responsible for two (2) cuttings of all seeded lawns. Any lawn areas which have not developed after two (2) cuttings shall be cut out and reseeded, fertilized, watered and cut until a full lawn is produced.

The cuttings of lawn shall not occur closer than 7 to 10 days, or as directed by the Engineer.

810.03 MEASUREMENT AND PAYMENT

This article of the standard specifications is amended as follows:

Delete the entire text of this Article and substitute the following:

No Separate measurement and payment shall be made for mowing, but the costs thereof shall be included in the prices bid for all items requiring same.

The following section is added to the Standard Specifications:

SECTION 813 - NON-ELEVATED GALVANIZED STEEL/ALUMINUM BLEACHER

813.01 DESCRIPTION

The Contractor shall provide all labor, materials, and equipment necessary to furnish and install non-elevated bleachers including reinforced concrete slabs as indicated on the contract drawings.

813.02 DESIGN CRITERIA

A. All material and workmanship shall be in accordance with the following:

International Building Code (IBC), 2012/2015 Edition
ICC 300 2010

B. Design Loads.

Live Loads: Uniform Loading – structure = 100PSF
Uniform Loading – seat and foot planks = 120 PLF

Sway Loads: Perpendicular to seats = 10 pounds per lineal foot
Parallel to seats = 24 pounds per lineal foot

Guardrail Loads: Uniform vertical load = 100 plf
Uniform horizontal load = 50 plf
Concentrated horizontal load = 200 lbs

Wind Loads: Basic design wind speed = 150 mph (exposure "B")

All bleachers must be anchored to meet wind loads specified above

C. Code Compliance.

Submittals shall be based on specifications contained in the bid documents.

813.03 QUALITY ASSURANCE

A. Manufacturer.

Company specializing in spectator seating with a minimum of 10 years experience in manufacturing bleacher seating.

B. Engineer Qualifications.

The bleacher shall be designed under the supervision of a registered Professional Engineer. Shop drawings signed and sealed by a New Jersey Licensed Professional Engineer will be required to be submitted for approval prior to construction.

C. Warranty.

Bleachers shall be guaranteed for one (1) year against

defective material or workmanship.

813.04 MATERIALS

The required non-elevated type bleachers shall be as manufactured by Belson Outdoors, 111 North River Road, IL, or approved equal as described below:

Item	Model No.
Non-Elevated Bleacher	BGS-119

A. Understructure.

The understructure of each unit shall consist of a series of frames. Standard dimensions are 8" rise per row, 17" height of seats above foot plank, and 24" depth of row. Frames shall be prefabricated aluminum angle spaced at 6'-0" intervals joined by means of aluminum cross bracing. Each frame shall be unit-welded, using the metal inert gas method by qualified welders, under guidelines established by the American Welding Society. After fabrication all steel is hot dipped galvanized to ASTM A-124 specifications. Each frame shall consist of vertical, horizontal, and diagonal bracing to support the seat and foot planks as specified herein. Bolted or otherwise mechanical fastening of each frame's components will not be acceptable. All cross bracing and horizontal bracing is to be of aluminum angle 6061-T6 (or mechanically equivalent) and placed in number and location to sustain design loads.

B. Seats

Shall be aluminum, fluted, non-skid surface with decal flat, nominally 2" x 10" with actual cross-section dimensions of not less than 1.75" high x 9.5" wide, with a wall thickness nominally .078" for impact and deformation resistance. All seat plank shall be of aluminum alloy 6063-T6, and have a clear anodic coating (204R1) applied in accordance with AAS Standard AA-M10C22A31.

C. Treads

Shall be aluminum, fluted, non-skid surface with decal flat, nominally 2" x 10", footrest shall consist of 2 such planks with actual cross-section dimensions of not less than 1.75" high x 9.5" wide, with a wall thickness nominally .078" for impact and deformation resistance. All foot planks shall be of aluminum alloy 6063-T6 and be mill finish.

D. Risers

Vertical riser plank shall be provided between seat and foot plank. Plank shall be two (2) 1" x 6" at top row only and one (1) 1" x 6" with a wall thickness nominally .078" on all other rows fastened by clip sets. End caps shall be field installed using mechanical fasteners on all vertical risers.

E. Aisles

Aisle footboards shall be of all-aluminum with contrasting aisle markings. Aisle stiffener angles shall be used to strengthen the aisle step. There shall be one (1) aisle, 36" wide. Aisles are to be located as required by the applicable codes defined above.

F. Aisle Handrails

The handrail shall be anodized aluminum pipe with intermediate rail.

G. Guardrailing

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.
Chainlink System: Fencing shall consist of 9 gauge, 2" mesh black vinyl coated chainlink fabric, heavy duty tension bands, tension bars, brace bands, combo rail endcaps, and wire ties.

H. Endcaps

Shall be extruded aluminum, 6063-T6 alloy, and have a clear anodic coating (204R1) applied in accordance with AAS Standard AA-M10C22A31. All end caps are anodized and shall be field installed. Endcaps shall also be mechanically fastened on the underneath side of each plank with stainless steel machine screws with self locking nuts of the same material and have smooth edges for safety. Pop rivets as fasteners will not be accepted.

I. Clip Sets

Shall adequately connect seat and foot planks to the supporting structure so as to transmit all design loads to the understructure members, as specified in the design section. All planks shall be connected to the supporting structure using four-way adjustable clips, carriage bolts and flange nuts of 5/16" steel and be galvanized.

J. Anchors

All non-elevated bleachers shall be anchored for wind resistance and/or to meet local codes. Concrete wedge anchors shall be utilized to mount bleachers to reinforced concrete slabs.

813.05 REINFORCED CONCRETE (Where applicable)

A. All concrete work and materials shall be in accordance with ACI 318-83.

B. Cast-in-place concrete shall have minimum compressive strength of 4,500 psi at 28 days.

C. All exterior concrete shall be air entrained to 5% +/- 1%.

D. Reinforcing steel shall be in accordance with ASTM A615 grade 60.

E. Cover on reinforcement shall be as follows, unless otherwise noted in the drawings:

3"	Place directly against earth
2"	Concrete exposed to earth or weather poured against forms
1½"	Columns (to ties)

F. Reinforced concrete slab shall be set on a four (4) inches, thick bed of ¾" gravel or broken stone.

G. Expansion joints and/or control joints to be provided in a pattern as determined by the Engineer. Pre-formed bituminous fiber expansion joints ½" thick shall be provided.

813.06 COMPONENTS

Baseball Field Bleachers:

Number of rows shall be 5.

Overall length shall be 27 ft.

Rise per row shall be 8 in.

Depth per row shall be 24 in.

Net seating capacity is 78 (not including aisles, based on 18" per seat).

Footboard decking system shall be double 2 in. thick x 10 in. wide planks.

Riserboards shall be 1 in. thick x 6 in. wide rows 1-4, and 2 in. thick x 10 in. wide top row

Seatboards shall be 2 in. thick x 10 in. wide.

Handrail system at the rear of non-elevated bleacher shall consist of 3 side rails, 2 back rails with chainlink system and be 42 in. in height.

Non-elevated bleacher shall have 1 aisle 48 in. in width.

813.07 METHODS

The required non-elevated aluminum bleachers shall be installed in accordance with manufacturer recommendations and in accordance with the details as contained on the contract drawings

The contractor shall provide mounting anchors that fasten into reinforced concrete slabs at locations indicated on the drawings and with a method acceptable to the Engineer.

813.08 MEASUREMENT AND PAYMENT

Payment for the required 5 row by 27’long non-elevated aluminum bleacher, including reinforced concrete slab, stone subbase, mounting anchors and all associated work and appurtenances in order to provide for a complete installation shall be included in the unit price bid for this item as listed in the bid form.

Payment for this item will be made under:

Pay Item	Pay Unit
FURNISH AND INSTALL 5 ROW X 27’ LONG, NON-ELEVATED, GALVANIZED STEEL/ALUMINUM BLEACHER INCLUDING CONCRETE PAD AND ALL APPURTENANCES	UNIT

Separate payment will not be made for the concrete pad and shall be included in the price bid for the bleacher.

The following section is added to the standard Specifications:

SECTION 814 - SPORTS EQUIPMENT

814.01 DESCRIPTION

Sports equipment shall include furnishing of all labor, materials and equipment necessary for the construction and the installation of the sports equipment in accordance with the detailed plans and the direction of the Engineer.

814.02 MATERIALS

A. Shade Protection for Bleachers

The contractor shall provide fabric bleacher covers for the baseball field being constructed in conjunction with this project at the locations indicated on the contract drawings.

The required 12’ wide x 30’ long x 9’ high fabric bleacher cover shall be powder coated steel frame with a high-density polyethylene fabric. Color to be specified by the owner.

The required fabric cover shall as manufactured by Apollo Sunguard, or approved equal, as described below:

ITEM	MODEL NO.
30’ Bleacher Cover	B3012P

B. Team Benches

The contractor shall provide the required team benches for the baseball field being constructed in conjunction with this project at the locations indicated on the contract drawings.

The required 15' long team benches shall be aluminum units with backrests and shelves. The frames shall be constructed of 2-3/8" O.D. galvanized pipe welded into a single unit. Frame shall be an all electric welded construction.

The required benches shall be as manufactured by Jaypro Sports, Inc., or approved equal, as described below:

ITEM	MODEL NO.
15' Long Player Bench with Shelf	PBS-90

C. Dugout with Metal Roof

The contractor shall provide the required permanent dugout with metal roof for the synthetic turf and natural turf ball fields being constructed in conjunction with this project at the locations indicated on the contract drawings.

The required 42′ long by 12′ wide dugouts with metal roofs shall be composed of structural tube steel columns with base plates and a structural tube steel frame with end caps.

The dugout with metal roof columns and frames shall receive one coat of zinc rich primer, then top coated with polyester powder-coating, four (4) to six (6) mils. The color shall be determined by the owner based on color charts furnished by the contractor. The dugout with metal roof shall also include a fascia piece as specified by the manufacturer.

Footings shall be in accordance with section 501 and as indicated on the detail.

The dugout with metal roof shall be designed to be free standing, open air pavilions, in conformance with all applicable building code. Manufactured by RCP Shelters, or approved equal, as described below:

The concrete pad shall be constructed in accordance with section 606 and shall be 4″ thick.

ITEM	MODEL NO.
42′ Dugout with metal roof and Concrete pad	SLF-H1242-04

D. Baseball Field Equipment

The Contractor shall provide the required removable bases, home plate, and portable pitching mound for the ball fields at the locations shown on the field details. The Contractor shall also provide the required top rail fence protection for the ball field at the locations shown on the contract plans.

The required top rail fence protection shall be as manufactured by SmartCap, or approved equal as described below:

ITEM	MODEL NO.
Top Rail Fence Protection	SC-100-Y

The required synthetic baseball bases, home plate, and portable pitching mound shall be as manufactured/distributed by Sportsfield Specialties Inc., or approved equal as described below:

ITEM	MODEL NO.
Portable Baseball Bases	TBS
Portable Home Plate	TBHP
Portable Pitching Mound	PPBIT

The bases shall be in place with spikes specifically intended for use on synthetic turf fields without causing damage to the playing surface.

The outfield distance markers shall be as manufactured/distributed by Beacon Athletics, or approved equal.

Installation shall be in strict accordance with the manufacturer's instructions and recommendations and/or as directed by the Owner or Engineer.

E. Windscreen Fabric

The Contractor shall provide heavy-duty black windscreen for the baseball field dugouts, including furnishing and installation of all required fasteners. The windscreen shall be installed along the rear and sides of the dugouts.

ITEM

Tuffy Windscreen by Aerflo Sports or approved equal

F. Multi-Sport Ballstopper System

The contractor shall provide the required multi-sport ballstopper system for the baseball field being constructed in conjunction with this project at the locations indicated on the contract drawings.

The required ballstopper system is comprised of 4" diameter black powder coated finished aluminum uprights installed into the provided 40" ground sleeves. Each 28' upright (25' out of ground) will be furnished with a pulley and cleat allowing the synthetic treated netting to be raised and lowered. The 1-3/4" square x 25' high black netting will have a permanently attached galvanized steel cable running across the top to reduce sagging.

The required ballstopper system shall be as manufactured by AAE, Model MBS-O-25 or approved equal, as described below:

ITEM	MODEL NO.
25' High multi-sport ballstopper system	MBS-0-25

812.03 METHOD OF CONSTRUCTION

All sports equipment shall be installed as per manufacturer's recommendations and at the locations shown on the plans and as

directed by the engineer. All concrete for footings shall be 4000 psi at 28 days minimum.

Details, where required, shall be provided by the contractor to the engineer for approval prior to construction.

814.04 MEASUREMENT AND PAYMENT

Payment for the furnishing and installation of the top rail fence protection, including all labor, equipment and materials as described above and required to satisfactorily complete same, shall be included in the linear foot price bid for this item as listed in the bid form.

Payment for the furnishing and installation of each set of removable bases for the baseball field, including three (3) bases and home plate, including all labor, equipment and materials as described above and required to satisfactorily complete same, shall be included in the unit price bid for this item as listed in the bid form.

Payment for the furnishing and installation of the portable pitching mound, including all labor, equipment and materials as described above and required to satisfactorily complete same, shall be included in the unit price bid for this item as listed in the bid form.

Payment for the furnishing and installation of the aluminum player benches, including all labor, equipment and materials as described above and required to satisfactorily complete same, shall be included in the respective unit prices bid for these items as listed in the bid form.

Payment for the furnishing and installation of the various types of shade protection, including all labor, equipment and materials as described above and required to satisfactorily complete same, shall be included in the respective unit prices bid for these items as listed in the bid form.

Payment for the furnishing and installation of the 25’ high multi-sport ballstopper system, including all labor, equipment and materials as described above and required to satisfactorily complete same, shall be included in the linear foot price bid for this item as listed in the bid form.

Payment for the furnishing and installation of the dugout with metal roof and concrete pad, including all labor, equipment and materials as described above and required to satisfactorily complete same, shall be included in the unit price bid for this item as listed in the bid form.

Separate measurement will not be made for the various concrete and reinforced concrete footings and pads associated with the above listed sport equipment. Payment for this work shall be included in the various items as listed in the bid form and in accordance with the manufactures’ recommendations.

Payment will be made under:

Pay Item	Pay Unit
FURNISH AND INSTALL 30’ BLEACHER COVER	UNIT
FURNISH AND INSTALL 15’ LONG ALUMINUM PLAYER BENCH WITH SHELF, STEEL GALVANIZED FRAME	UNIT
FURNISH AND INSTALL 42’ DUGOUT WITH METAL ROOF AND CONCRETE PAD	UNIT
FURNISH AND INSTALL TOP RAIL FENCE PROTECTION	LINEAR FOOT
FURNISH AND INSTALL ONE SET OF REMOVABLE BASES AND HOME PLATE	UNIT
PORTABLE PITCHING MOUND	UNIT
OUTFIELD DISTANCE MARKERS	UNIT
WINDSCREEN FABRIC	LINEAR FOOT
25’ HIGH MULTI-SPORT BALLSTOPPER SYSTEM (IF AND WHERE ORDERED)	LINEAR FOOT

The following Section is added to the Standard Specifications:

SECTION 815 - BALL FIELD BACKSTOP

815.01 DESCRIPTION

At the location indicated on the Contract Drawings the Contractor shall construct the baseball field backstop in accordance with the detail and as described herein.

815.02 MATERIALS

Specifications:

Overhead and Base Arches: 2-7/8" O.D. galvanized steel.

Vertical Ribs: 2-3/8" O.D. galvanized steel. Ribs shall be formed to a smooth continuous radius throughout the entire length of each rib.

Flattened Sleeves: 1 7/8" O.D. galvanized steel, factory flattened and punched. Secured between Heavy Duty Rib Collars and vertical ribs with zinc plated 3/8” x 1-1/4” hex head bolts, flat washer and lock nuts. To ribs with 5/8” set screw and 1/4” drive pin.

Horizontal Stiffeners: 1-3/8" O.D. galvanized steel., secured between vertical ribs with ¾” wide galvanized steel brace band clamps with 5/16" x 1" carriage bolts, flat washers and lock nuts. Use for vertical ribs #1 and #2 Heavy Duty Fittings, secured 5/8” set screw and 1/4” drive pin. Any exposed threads to be destroyed by installer.

Main Footing Anchors: 2-7/8" O.D. galvanized steel, welded sleeves that fit into base and overhead arch ends (2 3/8" O.D. galvanized steel). Footing anchors shall extend 3 feet into footings and shall be welded at the bottom with 1 piece of 6" long angle (2" x 2" x 3/16”) steel, to form an anchor in the concrete footing.

Anchor Bolts: 5/8" x 12" foundation bolts, extending throughout base arch and shall be evenly spaced between vertical ribs. Exposed threads shall be destroyed by installer.

Tension Bars: 3/4" galvanized and shall be secured with galvanized tension bands spaced 18 inches on center and bolted

with 5/16" x 1" zinc-plated carriage bolts, lock nut washers and hex nuts. Tension bars shall be installed along inside overhead arch.

Chain Link Fabric: Fabric shall be 9-gauge except top (third) course shall be 11-gauge. It shall be installed horizontally in single lengths to outside of backstop using 12-gauge galvanized wire ties every 18 inches along vertical ribs. Edges shall be over-lapped a minimum of 1" to 2" and tied together with 9-gauge, #3 galvanized hog rings every 6 inches along seams. Fabric shall be pulled tight around curvature of backstop and shall be cut and trimmed in a neat and professional manner. Where wire is cut, exposed barbs shall be bent double to leave a knuckled edge, and should be cut along the rib.

Heavy Duty Rib Collars: Custom made 2-7/8" Heavy Duty Rib Adapter Collars.

Concrete Footing: Footings for overhead arch shall be 4' deep x 3' wide. Footings for base arch anchor bolts shall be 18" deep x 18" wide.

Finish: All pipe and hardware is galvanized steel. All fasteners are zinc-plated except anchor bolts.

Rib Extensions: 2-3/8" O.D. galvanized steel. There shall be one rib extension per vertical rib plus two ribs per side, equally spaced between the top of the end ribs and the base arch. Rib extensions connect the overhead extension arch to the overhead arch.

Overhead Extension Arch & Base Extension: 2-7/8" O.D. galvanized steel, same as overhead and base arches described above.

815.04 METHOD OF MEASUREMENT

The quantity for which payment will be made will be the number of backstops in units constructed in accordance with the plans and specifications.

815.05 BASIS OF PAYMENT

Payment will be made under:

PAY ITEM	PAY UNIT
62’ Arched backstop with 5’ extension including concrete footing, and all appurtenances	Unit

Separate payment will not be made for concrete footings for fence posts.

The following section is added to the Standard Specifications:

SECTION 816 - PERMANENT FOUL POLES

816.01 DESCRIPTION

The Contractor shall provide all labor, materials, and equipment necessary to install the permanent type foul poles as detailed on the contract drawings.

816.02 MATERIALS AND METHODS

The permanent foul pole shall be constructed of a 3 1/2" O.D. support post and 2 7/8" O.D. pole with 2 3/8" O.D. steel flag and 2x11 ga.x12' mesh, all galvanized steel. This foul pole post shall also be utilized as a line post for the chainlink fencing to be installed around the ball field. The height of the required foul pole shall be as detailed on the contract drawings. The foul pole post shall be of sufficient length to allow installation to approximately 4'-0" below ground level. The required foul pole shall be powder coated yellow.

The foul pole shall be Patterson Williams Model 1273 or approved equal.

Footing shall be constructed of Class B 4,500 psi concrete as outlined in Section 903 and shall be shall be designed and constructed as per the design-build notes shown on the contract drawings. Posts shall be securely set in concrete with hole extending six (6) inches below exposed post bottom. The concrete shall be set six (6) inches below finished ground surface and shall be crowned to shed water. Post must be set plumb.

Details for the construction of the proposed permanent foul poles shall be provided by the Contractor to the Engineer for approval prior to construction.

The foul pole shall be installed in accordance with the detail contained on the contract drawings.

816.03 MEASUREMENT AND PAYMENT

Payment for the installation of the required permanent foul poles in accordance with the requirements of the contract documents including all work required to satisfactorily complete same shall be included in the Unit Price bid for this item as listed in the bid form.

Payment shall be made under:

Pay Item	*Pay Unit*
FURNISH AND INSTALL ONE SET OF 20' HIGH PERMANENT FOUL POLES	UNIT

The following section is added to the standard Specifications:

SECTION 817 – FLAGPOLES

817.01 DESCRIPTION

The Contractor shall provide all labor, materials and equipment necessary to furnish and install the required flagpole in accordance with the Contract Documents.

817.02 MATERIALS

The Contractor shall furnish and install one (1) 30’ high fiberglass flagpole with all necessary hardware for construction. The flagpole shall be an AD-30 Annin Alliance flagpole, or approved equal.

Also, supply to the owner, one– 6’ x 10’ 100% 2-ply spun woven polyester American flag, as distributed by Gates Flag & Banner of Clifton, NJ or equal.

Concrete for flagpole footings shall be 4500 psi concrete.

817.03 CONSTRUCTION

Concrete footing and anchor bolts shall be located and constructed in accordance with the manufacturer's specifications and the direction of the Engineer. Flagpole shall be erected in accordance with the manufacturer's specifications and the direction of the Engineer.

All work and material shall be guaranteed for one year from the date of acceptance against all defects in material and workmanship. Repairs, if necessary, shall be done promptly at no cost to the Owner.

All work shall be done in a neat and professional manner acceptable to the Engineer.

817.04 MEASUREMENT AND PAYMENT

Payment for flagpole shall be made on a unit basis at the price bid in the Proposal, which price shall include excavation, backfill, concrete footings, furnishing and installation of the flagpole complete in place; the supply of one American flag and all labor, material and equipment necessary for or incidental to the completion of the work described herein above.

Pay Item	Pay Unit
Furnish and install flagpole including concrete footing, and all appurtenances	UNIT

The following Section is added to the Standard Specifications:

SECTION 827 – BASE CONSTRUCTION FOR SYNTHETIC TURF

827.01 DESCRIPTION

The contractor shall provide all necessary labor, materials, and equipment to construct the base work for the synthetic turf system installation as shown on the drawings or as directed by the Engineer, and as specified below and in other applicable sections of this specification. The design criteria described herein include:

1) Site evaluation.
2) Bulk excavation and grading.
3) Installation of field liner as indicated on the drawings.
4) Drainage collector network and field composite drainage grid system.
5) Construction of permeable aggregate base layer.

Concrete perimeter curb shall be constructed in accordance with section 607 and as shown in the Construction Details.

827.02 SITE EVALUATION

The contractor shall evaluate the overall soil conditions and drainage properties of the location. The contractor may at his own expense, obtain additional soil borings, or by other adequate measure satisfy himself regarding the character, groundwater elevations and amount of the various classes of material to be encountered in the work.

The presence of any pavement, wood, rock, ledge, water or other debris should be reported to the engineer.

827.03 EXCAVATION AND GRADING

A single benchmark must be established prior to any excavation and maintained by a licensed surveyor of record during the entire construction process. The site should then be excavated to a depth per plan design. During excavation, all grass, topsoil, debris etc., should be stripped, in their entirety, and the area excavated as necessary to conform to the grades on the plan.

For all fill areas, or to fill any areas that may be over-excavated, select fill material shall be used to achieve design subgrade elevations. Select fill material shall be quarry dense graded aggregate, and shall be approved by the soil testing and observation agency prior to placement.

The subgrade shall be constructed using approved select fill material. This material shall be placed in lifts not greater than 8" in depth. Each lift (layer or course) shall be compacted to at least 95% of maximum dry density at optimum moisture content per ASTM D698 Standard Proctor method. The moisture in the soil, at the time of compaction, shall be uniformly distributed and should be within 90 and 120% range

of the optimum.

Proof Roll: Proof roll and mark "soft spots" for additional compaction or correction. Use loaded tandem or tri-axle dump truck fully loaded with minimum total load of 20 tons. Proof rolling operations must be performed in the presence of the Engineer. Any soft or yielding areas shall be re-compacted or removed and replaced with suitable material to meet required compaction requirements.

Finished Grading: The finished surface of the subgrade shall have a finished grade in accordance with the Plans and Specifications. Final subgrade shall be established to within a tolerance of +/ -1/4” (.02’) of the designed subgrade elevation.

Grade Verification: A certified survey shall be performed by the contractor’s surveyor on a 10’x10’ grid for the entire field to verify grade and elevation of the subgrade.

Trench Excavation: Excavate perimeter drainage collector trenches to width and depth as required for pipe sizes indicated. A minimum of 1’ of cover shall be maintained over top of pipes. The trenches should be excavated with slopes as indicated (typically at 0.5% slope) starting from the low point of the drainage system at the outlet extending toward the high point(s). All loose debris shall be removed from the trenches and the trenches shall be backfilled using permeable drainage base aggregate or other porous premium materials and compacted by hand tamping (or equivalent machinery) to a minimum 95% of the maximum density.

637.04 SUBGRADE LINER – IMPERMEABLE LINER

Impermeable Liner Material: Liner shall be waterproof and UV resistant. Product shall be Layfield HDPE 60 MIL Smooth, as manufactured by Layfield Geosynthetics or approved equal.

Installation: Impermeable Liner: The subgrade surface is to be uniform and free of rocks, depressions, voids, and irregularities that might damage liner. Install liner in accordance with liner manufacturer’s written recommendations.

a) The liner should be placed in the perimeter trench first. The trench liner should be separate from the liner on the field. Overlap field and trench sections a minimum of 18" in the direction of water flow.
b) Overlap joints a minimum of eight inches. All laps shall be overlapped in direction the water flows.
c) Place a suitable amount of ballast on the liner to prevent movement by wind. The ballast shall be in a form that will not damage liner.
d) Direct loading on the fabric by traffic shall not be allowed. A minimum of 6" of material cover must be placed prior to traffic.

Repair punctured or torn liner by overlapping additional fabric and jointing in accordance with manufacturer's recommendations.

827.05 PERIMETER DRAINAGE COLLECTOR AND FIELD COMPOSITE DRAINS

Perimeter Collectors Drains: Install perforated HDPE, smooth-walled interior, corrugated pipes as indicated on the drawings, with collector trenches. The centerline of the pipe shall coincide with the centerline of trench. The pipes shall be strong and capable of withstanding the anticipated loading without deformation. Each header should be designed to handle the maximum rainfall in that particular location.

Collector headers must be drained to an acceptable properly sized storm sewer or approved discharge outlet.

Place a minimum of 4" clean, crushed, free-draining aggregate (maximum size of ¾") on the sides of the drain pipes and headers, and 2" minimum of the aggregate on top of the pipe network. Compact suitably.

Field Composite Drains: Composite drains to be 12 inch wide by 1" thick strip drain consisting of a high density polyethylene resin core encased in a non-woven heat bonded geotextile fabric. Material to be ADS AdvanEdge or approved equal.

Install composite underdrain conduits at 15 feet on center at a 45-degree angle to collector pipes or as otherwise indicated on the drawings. Composite drains shall be laid directly on top of the liner, secured with duct tape. The ends of these composite drains will connect to the collector drain and trench system with the use of an underdrain end outlet connection and an HDPE 45-degree wye or tee as applicable.

827.06 PERMEABLE AGGREGATE BASE LAYER

A uniformly mixed processed stone shall be placed over the entire subbase, which has been covered with the moisture barrier and the composite drain system. The aggregate shall comprise of a minimum 9" compacted, stable, permeable, processed stone. Care shall be taken to maintain the grade designed for the subbase. Aggregate shall be durable and not exceed 12% loss of materials as determined by a sulfate soundness test (ASTM C88).

Typical aggregate or aggregate blends found acceptable, as a processed stone drainage course should conform, within reasonable limits, to the following gradation:

SIEVE SIZES (NJDOT 57)

Sieve	Metric (mm)	Percent Passing by Weight
1-1/2"	38.1	100
1"	25.4	95 - 100

1/2 "	12.7	25 - 60
No. 4	4.75	0 - 10
No. 8	2.38	0 – 5

SIEVE SIZES (NJDOT 89)

Sieve	**Metric (mm)**	**Percent Passing by Weight**
1/2"	12.75	100
3/8 "	9.50	90 - 100
No. 4	4.75	20 - 55
No. 8	2.38	5 - 30
No.16	1.18	0 – 10

Contractor shall provide a two-layer base system consisting of approximately 9” of an open-graded aggregate bottom layer (NJDOT type 57 clean stone), topped by a 2” thick layer of NJDOT No. 89 stone. Completed two-layer system must meet stability, compaction, and percolation requirements.

Test Pad : Prior to delivery of selected base material “in mass” contractor shall construct a small test pad to make sure material will meet compaction, percolation, and stability requirements for turf subbase. Construct approximately 20’ x 20’ test pad over prepared subgrade and liner. Pad must demonstrate that material will produce porous yet stable base for construction of turf. It shall percolate water at minimum rate of 20” per hour when tested as specified hereinafter and not displace or rut under loaded truck traffic.

Delivery Moisture Content of Stone Base: Processed stone must contain 90% to 110% of the optimum moisture content to ensure that fines do not migrate in transit or during placement and to facilitate proper compaction. It is critical that the installation contractor ensure that aggregate leaving the source plant meet this requirement. The Contractor shall apply water to the processed stone on site to attain and maintain this minimum moisture content.

Handling & Placement:

a) Prior to aggregate placement, remove any excess or contaminated backfill from the drainage trenches.
b) Should any separation of the materials occur, during any stage of the spreading or stockpiling, the Contractor must immediately remove and dispose of segregated material and correct or change handling procedures to prevent any further separation. Double handling of materials should be avoided.
c) The Contractor shall utilize laser-controlled equipment for the grading of the processed stone to ensure accuracy in grading tolerances.
d) Install processed stone base, whenever possible, parallel to the composite drain network, to the lines and grades shown on the drawings. Distance material is pushed from point of discharge

should be limited to that where segregation of materials does not occur.

e) Each layer must be spread uniformly with equipment that will not cause perceptible separation in gradation (segregation of the aggregates), preferably a self-propelled paving machine, or a small grader or low ground pressure (LPG) dozer.

f) The Contractor shall grade the surface of the processed stone acceptable to receive the final synthetic turf surface system.

Compaction: The processed stone layer shall be compacted to proper density so that minimal rutting or displacement occurs when subjected to a fully loaded tri-axle or tandem-axle truck proof roll.

Testing of Completed Aggregate Drainage Layer:

a) Permeability: The surface of the processed stone course shall be well drained at all times. No standing water shall be permitted at any time. The permeability of the aggregate shall be field checked by the contractor in the presence of the engineer by placing a short section of PVC or similar pipe (min 12" diameter) vertically into the prepared base and embedding to a depth of approximately 2". Suitably seal around the outside of where pipe interfaces with the base so that no water can escape laterally from this interface area and pour water into pipe to depth of approximately 6". Immediately after water has drained from pipe after this initial filling (to "charge" the base) re-fill pipe to 2" above top of base and note time it takes for water to drain back down to top of base. Repeat this two more times and take average time for percolation rate. Water must drain from pipe at an average of less than six (6) minutes to meet the twenty 20"/hour minimum standard required. Test samples shall be taken (at a minimum of) one sample per every 10,000 square feet or as otherwise directed by the Owner's Representative. Final in-place aggregate shall have a percolation rate of not less than twenty (20) inches per hour at all locations.

b) Elevations/Planarity: The finished aggregate surface shall not deviate (tolerance-to-grade) by more than plus or minus 1/4" (.02') from designated compacted grade elevations when checked by 10' grid survey. Surface shall also not indicate any deviation more than 1/4" (.02') in 10' (any direction) when placed under a 10-foot straight edge. This tolerance is required over the entire field. Areas that deviate should be marked with spray paint and corrected by re-grading or filling low areas with crushed stone, granite chips or screenings and rolling tight to achieve proper density. Surface elevations and planarity shall be verified by means of an independent survey supplied by the contractor utilizing a maximum grid size spacing of 10' x 10'.

c) All test results will be logged and documented by the contractor and submitted to the Owner's Representative or Project Engineer. If at any time the processed stone base does not meet specifications, it shall be the Contractor's responsibility to restore, at his expense, the processed stone base to the required grade, cross-section and density.

When the Contractor has independently confirmed that he is in compliance with all the above listed requirements (planarity and elevation verified by a licensed surveyor and compaction, gradation, & permeability verified by the specified tests), he shall schedule a final inspection by the Synthetic Turf System Installer and the owner's engineer. During this final inspection the Contractor shall make available an orbital laser system for checking grades. Any deficiencies uncovered during this inspection must be remedied to the satisfaction of the Synthetic Turf System Installer before the base system will be considered acceptable.

Payment will be made under:

Pay Item	*Pay Unit*
BASE CONSTRUCTION FOR SYNTHETIC TURF INCLUDING EXCAVATION, DISPOSAL OFFSITE, IMPERMEABLE LINER, PERMEABLE QUARRY AGGREGATE BASE LAYER (9" THICK), 12" X 12" PERIMETER CURBING, 2"X4" PRESSURE TREATED WOOD NAILER, 1" X 12" COMPOSITE UNDERDRAINS	LUMP SUM

The Base Construction for Synthetic Turf will include the installation of an impermeable liner, a permeable quarry aggregate base layer, 9" thick min., a 2" thick layer of No. 89 stone, 12" X 12" perimeter curbing, 2"x4" pressure treated wood nailer, 1" x 12" composite underdrains, underdrain end outlet connections, HDPE 45-degree wyes and tees.

Payment for trench excavation and perforated HDPE underdrain collector pipes, including fittings, type 57 stone bedding and backfill will be made as specified in section 601 of these specifications.

Payment for No. 57 stone beyond the 9" thickness required for the synthetic turf field will be made as specified in section 302 and as required for the installation of the Subsurface detention system as specified in section 602.

The following Section is added to the Standard Specifications:

SECTION 828 – SYNTHETIC TURF

828.01 GENERAL REQUIREMENTS

828.01.01 RELATED DOCUMENTS

Drawings and general provisions of the Contract apply to this Section.

828.01.02 SUMMARY

A. This Section includes the following:

1. Furnishing all labor, materials, tools and equipment necessary to install, in place, all synthetic turf and infill materials 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.

828.01.03 SUBMITTALS

A. Items B, E, F, G, H, I, J, K, L, M, N, and O with the bid (if different than specified).

B. Product Data: Submit all qualifying product data with the bid for each type of product indicated.

C. Shop Drawings: Show fabrication and installation details for synthetic turf.

D. Shop Drawings: Include plans, elevations, sections, details, and attachments to other Work.

E. Samples for Verification: For the following products, in manufacturer's standard sizes.

1. A 12-inch x 12-inch, minimum sample of the synthetic turf and infill system that is specified for this project. (if different than specified system).

2. Sand / Rubber mix with proper mix ratio, if different than specified.

F. Manufacturer Certificates: Certified list of thirty (30) existing installations of the synthetic turf infill system that is specified for this project within the last three years, including Owner representative and telephone number, attesting compliance with quality assurance information. These fields must comply with the materials section of the specification. All must be located in the continental United States.

G. Qualification Data: The turf manufacturer must have 30 multi-sport specific installations of 90,000 square feet or more of this specific type infill system 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 USA. These fields shall not have been constructed over an E-Layer (elastic) or a formed under pad.

H. Turf manufacturer must have at least ten (10) acceptable installations of high school size baseball fields within the past three (3) years. These installations must be constructed utilizing the same infill components and methods of installation described within this section. These installations must be located in the United States in similar climate regions to that of New Jersey.

I. Sample Warranty: Must be provided with bid submittal. Provide a sample pre-paid third party insured warranty conforming to all requirements as set forth in warranty section of this specification with the bid. Policy must be in force at time of bid.

J. Warranties: The Contractor shall provide a warranty to the Owner that covers defects in materials and workmanship of the turf for a period of Eight (8) years from the date of substantial completion. (2 years for baseball home plate and base areas) The turf manufacturer must verify that their representative has inspected the installation and that the work conforms to the manufacturer's requirements. The manufacturer's warranty shall include general wear and damage caused from UV degradation. The warranty shall specifically exclude vandalism, and acts of God beyond the control of the Owner or the manufacturer. The warranty shall be fully third-party insured for the 8 years, pre-paid offering full protection direct from the manufacturer. The warranty shall be non-prorated. The Contractor shall provide a warranty to the Owner that covers defects in the installation workmanship, and further warrant that the installation was done in accordance with both the manufacturer's recommendations and any written directives of the manufacturer's representative. Prior to final payment for the synthetic turf, the Contractor shall submit to owner an insurance policy, guaranteeing the warranty to the Owner. The insurance must reflect the following values: 1) no maximum per claim coverage amount up to the annual policy aggregate. 2) Minimum of thirteen million dollar annual aggregate 3) Pre Paid 8 year third party policy must be issued by a carrier with an A.M. Best rated “A” or better rating. 4) Policies that include self insurance or self retention clauses shall not be considered. Policy can not include any form of deductible amount. Policy must be a single policy. Excess or umbrella insurance shall not be acceptable. Policy must be in force at time of bid.

K. 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). Proof of passing test report must be submitted with the bid.

L. Certified tuft bind test results must be submitted with the bid to confirm compliance with requirement as defined within specification.

M. The manufacturer must have ISO 9001, ISO 14001 and OHSAS 18001 certifications demonstrating its manufacturing efficiency with regards to quality, environment and safety management systems. Proof of designations must be supplied at the time of bid. Direct company quality control programs/certifications will not be accepted.

N. Manufacturer must have the experience of supplying and installing a minimum of 25 fields utilizing a resilient layered granular sand and cryogenic (SBR) rubber infill system that meets or exceeds the performance requirements of the specification.

O. Bidder shall provide a letter from the cryogenic (SBR) rubber supplier with the bid that indicates which supplier will be supplying the ambient rubber processed for this specific project. The letter must indicate the quantity of cryogenic (SBR) rubber that will be supplied for this specific project.

828.01.04 QUALITY ASSURANCE

A. Installer Qualifications: An authorized representative of synthetic turf manufacturer for installation and maintenance of units required for this Project.

B. Source Limitations: Obtain synthetic turf through one source from a single manufacturer.

C. Preinstallation Conference: Conduct conference at Project.

D. 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 turf and directly into the prepared granular base and into the field drainage system.

E. The synthetic turf and components shall be of national reputation with previous use at all levels of competition, including professional and collegiate levels of competition. The turf fabric shall be produced by the manufacturer and installed by factory-authorized distributors directly employing the installation crew.

F. Prior to the beginning of installation, the manufacturer/ installer of the synthetic turf shall inspect the sub-base and supply a Certificate of Subbase Acceptance for the purpose of obtaining manufacturer's warranty for the finished synthetic playing surface.

828.01.05 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit synthetic turf to be performed according to manufacturers' written instructions and warranty requirements.

B. Field Measurements: Indicate measurements on Shop Drawings.

828.01.06 WARRANTY

A. Special Warranty: Turf must maintain an ASTM F 355 G Max of less than 190 for the life of the warranty.

B. Warranty Period: Eight (8) years from date of Substantial Completion.

828.02 PRODUCTS

828.02.01 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by the following:

Fieldturf USA Inc. Elite Series Classic HD by Fieldturf USA, Inc., (800) 724-2969 or Approved Equivalent systems in compliance with bid specification requirements.

Alternate systems presented by bidding contractors must include all product data information including product history must be presented with the bid. Proposed alternative systems shall be reviewed post-bid for compliance to specification requirements.

MATERIALS

B. Synthetic Grass System: A complete synthetic grass system consisting of minimum 2.25" polyethylene Slit Film fiber (combined with all other described system components) tufted to a double primary porous backing and a porous secondary backing. The fiber shall be a minimum of 10,500 denier, low friction fiber, measuring minimum 2.25 inches high. The low friction fiber shall be specifically designed to virtually eliminate abrasion.

1. The tufted fiber weight shall not be less than 36 ounces per square yard. The low friction fiber shall be treated with UV inhibitors. The tufted rows of fiber are to be spaced ¾" apart.

2. The carpet's primary backing shall be a layered polypropylene fabric treated with UV inhibitors. The secondary backing shall consist of an application of porous, heat-activated material to permanently lock the fiber tufts in place. Carpet backing shall be not be perforated. The tuft bind must be a minimum of 9.0 lbs, certified test results confirming that product meets or exceeds this requirement must be submitted with the bid.

3. The carpet shall be delivered in 15 feet 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. Cord for sewing seams of turf shall be as recommended by the synthetic turf manufacturer. Perimeter edge details required for the system shall be as detailed and recommended by the manufacturer, and as approved by the manufacturer.

C. Resilient Layered Infill: A resilient layered infill system consisting of a mixture of graded silica sand and cryogenic (SBR) rubber that partially covers the carpet. Layering of materials shall be installed as follows: sand bottom, cryogenic (SBR) rubber sand combination layer. The total infill amount shall be no less than 8.4 lbs. per sq.ft. Cryogenic (SBR) rubber must represent a minimum of 2.4 lbs per sq ft. Silica sand shall be no less than 6.0 lbs per sq ft. All infill materials must have not been used previously as field system infill or for any other purpose. Proof of origin and quantities must be submitted prior to final payment.

D. Turf Groomer: The Contractor shall provide a turf grooming system, which consists of spiked wheels designed to penetrate the infill in order to loosen the infill without damaging the grass fibers and light raking tines attached to the rear of the unit designed to groom the exposed grass fibers to keep them from matting down excessively. Equipment must be a minimum of 7 feet in width and include two sets of brushes on front and rear. This equipment shall be approved by the turf manufacturer and the Owner to be used by the Owner as directed by the Manufacturer. No additional payment will be made for providing the equipment, but the costs for providing the equipment shall be included in the price bid for synthetic turf. Supply FieldTurf Groom Right or approved equal.

E. Field markings: Field shall be lined using permanent fiber markings as indicated on project drawings.

F. Synthetic Turf Assembly

1. 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.

2. The full width rolls shall be laid out across the field. Utilizing standard state of the art sewing procedures, each roll shall be attached to the next. Each seam will be double sewn. When all of the rolls of the playing surface have been installed, the sideline areas shall be installed at right angles to the playing field turf. GLUING OF ROLLS SHALL NOT BE ACCEPTABLE. This is a 99% sewn installation. Minimum

gluing will only be permitted to repair problem areas, and corner completions.

3. Turf panel seams shall be sewn. All turf panel seams shall be sewn with high strength thread. All seams shall be transverse to the field direction; i.e., run perpendicularly across the field. Seams shall be flat, tight, and permanent with no separation or fraying.

4. Synthetic turf shall be installed across the field and attached to the perimeter edge detail. Turf shall be of sufficient length to permit full cross-field installation. No head or cross seams will be allowed.

G. Resilient Layered Infill

1. The blending 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. Infill depth shall be such that a maximum of ¾ inch of fiber is exposed.

2. The infill system shall be the only acceptable cushioning system. E-layers and formed rubber pads shall be deemed unacceptable as enhancements to meet the necessary safety requirements.

828.02.02 FINAL ACCEPTANCE

A. Prior to Final Acceptance, the Contractor shall submit to the owner three (3) copies of Maintenance Manuals, 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 of all types. The finished surface shall resist abrasion and cutting from normal use.

828.02.03 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.

828.03 MEASUREMENT AND PAYMENT

Payment will be made under:

Pay Item	*Pay Unit*
FURNISH AND INSTALL SYNTHETIC TURF BASEBALL FIELD INCLUDING ALL FIELD MARKINGS AND GROOMING EQUIPMENT	LUMP SUM

Note: The cost to fasten synthetic turf to proposed manhole covers in accordance with manufactures recommendations shall be included in the lump sum bid for synthetic turf

SECTION 901 - AGGREGATE

901.01 SOURCE

901.02 STOCKPILES

901.03 COARSE AGGREGATE

901.04 BLAST FURNACE SLAG

901.05 AGGREGATES FOR HMA

This Article of the Standard Specifications is amended as follows:

901.05.05 Crushed Recycled Container Glass (CRCG)

CRCG will not be permitted in the top layer of HMA surface course.

901.06 AGGREGATES FOR CONCRETE, MORTAR, AND GROUT

901.07 GRIT

901.08 RIPRAP STONES

901.09 GABION BASKET STONE

901.10 DENSE-GRADED AGGREGATE (DGA)

Add the following:

All dense graded aggregate shall be QUARRY dense graded aggregate or Quarry coarse aggregate NJDOT type 57.

901.11 SOIL AGGREGATE

(1) Composition of Soil Aggregate

The following is added:

Type G granular fill shall be in accordance with the following allowable gradational envelope:

U.S. Standard Sieve Size	Percent Finer by Weight
2"	100
1"	80-100
3/8"	70-100
No. 10	50-100
No. 30	30-85
No. 60	15-65
No. 200	5-15

SECTION 902 - ASPHALT

902.01 BITUMINOUS MATERIALS

902.02 HOT MIX ASPHALT (HMA)

902.02.01 Mix Designations

902.02.02 Composition of Mixtures

The following is added:

For this project, the 25 percent or less RAP requirements shall govern.

Crushed recycled container glass will not be permitted in the top layer of HMA surface course.

902.02.03 Mix Design

This article of the Standard Specifications is amended as follows:

Unless otherwise approved by the Engineer, only one source of supply for HMA surface course may be used on the project.

902.02.04 Sampling and Testing

The following is added:

Payment adjustments will not be made.

902.03 OPEN-GRADED FRICTION COURSE (OGFC) AND MODIFIED OPEN-GRADED FRICTION COURSE (MOGFC)

902.04 ULTRA-THIN HMA

902.05 STONE MATRIX ASPHALT (SMA)

902.06 ASPHALT-STABILIZED DRAINAGE COURSE (ASDC)

902.07 ASPHALT-RUBBER OPEN-GRADED FRICTION COURSE (AR-OGFC)

902.08 HIGH PERFORMANCE THIN OVERLAY (HPTO)

902.09 MICRO SURFACING

902.10 SLURRY SEAL

902.11 BINDER RICH INTERMEDIATE COURSE (BRIC)

902.12 ASPHALT RUBBER GAP GRADED COURSE

902.13 HOT MIX ASPHALT HIGH RAP

902.14 BRIDGE DECK WATERPROOF SURFACE COURSE (BDWSC)

902.15 RETROFIT STRIP SEAL JOINT SYSTEM

SECTION 903 - CONCRETE

903.01 CEMENT

903.02 CONCRETE ADMIXTURES

903.02.01 Air-Entraining Admixtures

903.02.02 Chemical Admixtures

The following is added:

Calcium chloride will not be permitted for use as an admixture unless expressed permission for the same is provided by the Engineer.

903.02.03 Mineral Admixtures

903.02.04 Viscosity Modifying Admixture

903.02.05 Corrosion Inhibitor Admixture

903.03 CONCRETE

903.03.01 Composition

This Article of the Standard Specifications is amended as follows:

The second sentence in the first paragraph is changed to:

Portland cement concrete shall not include fly ash.

903.04 PAVEMENT REPAIR MIXES CLASS V AND E

903.05 HIGH PERFORMANCE CONCRETE (HPC)

903.06 SELF-CONSOLIDATING CONCRETE (SCC)

903.07 QUICK-SETTING PATCH MATERIALS

903.08 MORTAR AND GROUT

The following is added:

Mortar used to reset manhole and inlet castings shall be non-shrink and develop a one-hour compressive strength of 2500 psi.

903.09 CONTROLLED LOW STRENGTH MATERIAL (CLSM)

This article of the standard specifications is amended as follows:

Delete the entire text of this Article and substitute the following:

Fine Aggregate 901.06.02
Cement 903.01
Chemical Mixtures 903.02.02
Water 919.08

CLSM shall consist of a mixture of portland cement, water, fine aggregate and chemical admixtures. Fly ash shall not be permitted in mixes intended for trench backfilling. The CLSM mixture shall be proportioned to provide a backfill material that is self-compacting and capable of being excavated with hand tools at a later date. CLSM shall be proportioned to produce a 28-day compressive strength of 50 to 150 pounds per square inch. An accelerating admixture shall be used to produce a fast setting flowable mixture as required. The CLSM shall have a permeability of $1.7 \times 10^{-3} \pm 0.2 \times 10^{-3}$ centimeters per second according to ASTM D5084 for backfilling of conduits and piping.

At least 45 days prior to the start of any CLSM placement, trial batches of CLSM shall be prepared of the same materials and proportions proposed for use on the project. Each mix design shall be submitted on portland cement concrete mix design forms furnished by the Department, naming the sources of materials and test data.

The Engineer will be present at the time of verification batching to confirm that the proportions and materials batched are according to the proposed mix designs. At least six 6 X 12 inch compression test cylinders shall be prepared for each batch according to ASTM 5971-96 for 28-day strengths except for fast setting mixes, which shall be tested at the specified cure time.

903.10 CURING MATERIALS

SECTION 904 – PRECAST AND PRESTRESSED CONCRETE

904.01 NON-STRUCTURAL PRECAST CONCRETE

904.02 PRECAST CONCRETE RETAINING WALLS

904.03 STRUCTURAL PRECAST CONCRETE

904.04 PRESTRESSED CONCRETE

SECTION 905 - REINFORCEMENT METALS

905.01 REINFORCEMENT STEEL

This Article of the Standard Specifications is amended as follows:

Delete the entire text and add the following:

Certifications are required for reinforcement bars, pre- tensioning bars, welded wire fabric, and galvanizing, and shall be submitted to the Engineer prior to installation.

905.02 PRESTRESSING AND POST-TENSIONING REINFORCEMENT

905.03 REINFORCEMENT FOR CONCRETE PAVEMENT

905.04 REBAR COUPLING DEVICES

SECTION 906 - STRUCTURAL STEEL

906.01 STRUCTURAL STEEL MATERIALS

This subsection is changed to:

Mill certifications are required, except for castings, and shall be submitted to the engineer prior to installation.

906.02 STEEL PILES

906.03 STEEL CASTINGS FOR DRILLED SHAFTS

906.04 STRUCTURAL STEEL FABRICATION

906.05 SIGN STRUCTURES FABRICATION

906.06 CLEANING AND PAINTING OF STRUCTURAL STEEL IN THE SHOP

906.07 STEEL BAR BRIDGE RAILING

906.08 STEEL TUBE FOR DRILLED SHAFTS

SECTION 908 – BOLTS AND BOLTING MATERIAL

908.01 STEEL BOLTING MATERIALS

908.02 HIGH STRENGTH STEEL BOLTING MATERIALS

908.03 DIRECT TENSION INDICATORS (DTI)

908.04 STAINLESS STEEL BOLTING MATERIALS

908.05 ALUMINUM ALLOY BOLTING MATERIALS

SECTION 909 – DRAINAGE

909.01 PIPE BEDDING

909.02 PIPE

909.03 CASTING AND COMPONENTS FOR DRAINAGE STRUCTURES

SECTION 910 - MASONRY UNITS

910.01 CLAY OR SHALE BRICK

910.02 CONCRETE BLOCK FOR INLETS AND MANHOLES

910.03 CONCRETE BRICK

910.04 STONE CURB

The following is added:

Granite blocks shall be a minimum of 10 inches to 12 inches in length, approximately 5 inches wide and 4 inches thick. All blocks less than 10 inches long will be rejected.

910.05 STONE FACING FOR PIER SHAFTS

910.06 STONE PAVING BLOCK

SECTION 911 – SIGNS, SIGN SUPPORTS, AND DELINEATORS

911.01 SIGNS

The following is added to this Article:

Mill certifications shall be furnished for the chemical and physical properties of all metals and shall be submitted to the Engineer prior to installation.

911.02 SIGN SUPPORTS

911.03 FLEXIBLE DELINEATORS

SECTION 914 - JOINT MATERIALS

914.01 PREFORMED JOINT FILLER

914.02 JOINT SEALER

This Article of the Standard Specifications is amended as follows:

The last paragraph is changed to:

Manufacturer's certification for joint sealer shall be submitted to the Engineer prior to installation.

914.03 POLYMERIZED JOINT ADHESIVE

914.04 JOINT ASSEMBLIES

SECTION 917 - LANDSCAPING MATERIALS

917.01 TOPSOIL

1. **Unacceptable topsoil sources.**
Item b. is changed to:

Soils having less than 4.1 pH value, or greater than 8.0 pH value.

917.02 SOIL ADDITIVES

917.02.01 Compost

917.02.02 Fertilizer

The following is added to the first paragraph of this subsection:

When type G grass seed mixture is specified, fertilizer containing a minimum of 5 percent nitrogen, 10 percent available phosphoric acid and 5 percent soluble potash, shall be used.

917.02.03 Pulverized Limestone

917.03 SEED MIXTURES

This Article of the Standard Specifications is amended as follows:

Add the following to this Article:

TYPE G GRASS SEED MIXTURE

KIND OF SEED	MINIMUM PURITY %	MINIMUM GERMINATION, %	MINIMUM TOTAL WEIGHT OF MIXTURE %
Kentucky Blue Grass	98	90	25
Redtop or Perennial Rye Grass	99	90	15
Domestic Chewing Red Fescue	98	90	45
Bent Grasses or Creeping Red Fescue	98	90	15

917.04 MULCH

917.05 TACKIFIERS

917.06 TOPSOIL STABILIZATION MATTING

917.07 SOD

Delete the second paragraph and insert the following:

Sod shall be two year old cultivated turf type tall fescue cultivar such as rebel, baron, or other drought resistant variety or mix.

In addition, where existing sod is Zoysia, the contractor shall install the same. Zoysia sod shall be supplied by Gem's Zoysia Farm, 68 West Tomlin Road, Mickleton, New Jersey 08056 (856-467-1980) or approved equal.

917.08 PLANT MATERIALS

917.09 MISCELLANEOUS LANDSCAPE MATERIALS

SECTION 918 – ELECTRICAL MATERIALS

918.01 CONDUIT AND FITTINGS

918.02 CABLE AND WIRE

918.03 BONDING AND GROUNDING MATERIALS

918.04 CABLE CONNECTORS

918.05 RESIN SPLICING KITS

918.06 ELECTRICAL TAPE

918.07 CABLE RACKS

918.08 CAST BOXES AND FITTINGS

918.09 CABINETS

918.10 PANEL BOARDS AND CIRCUIT BREAKERS

918.11 PHOTOELECTRIC CONTROLS

918.12 PEDESTALS, POLES, TRANSFORMERS BASES, AND MAST BRACKET ARMS

918.13 TOWER POLES

918.14 LAMPS

SECTION 919 - MISCELLANEOUS

919.01 GEOTEXTILES

The following is added:

Soil support fabric shall be a woven geotextile of silt-form polypropylene construction and shall be U.V. stabilized at 90% strength retention after 500 hours of exposure. The support fabric shall be Supac 4WS or approved equal.

Filter fabric for underdrains shall be Nicolon Mirafi No. 140n as manufactured by Celanese Corporation of Charlotte, North Carolina, or approved equal.

919.02 SEDIMENT CONTROL BAG

919.03 HAY AND STRAW

919.04 GABION WIRE BASKETS

919.05 GEOMEMBRANE LINER

919.06 WATERSTOPS

919.07 EPOXY BONDING COMPOUND

919.08 WATER

919.09 SODIUM CHLORIDE (ROCK SALT)

919.10 SLEEVES

919.11 EPOXY INJECTION MATERIAL

919.12 POLYETHYLENE SHEETING

919.13 FLOATING TURBIDITY BARRIER

919.14 DETECTIBLE WARNING SURFACE

919.15 POLYSTER MATTING

DIVISION 1000

EQUIPMENT

SECTION 1001 – TRAFFIC CONTROL EQUIPMENT

1001.01 FLASHING ARROW BOARD

1001.02 PORTABLE VARIABLE MESSAGE SIGN

1001.03 TRAFFIC CONTROL TRUCK WITH MOUNTED CRASH CUSHIONS

THE FOLLOWING SUBSECTIONS ARE ADDED:

1001.04 PORTABLE VARIABLE MESSAGE SIGN W/REMOTE OPERATION

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

1001.05 PORTABLE TRAILER MOUNTED CCTV CAMERA

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

A. Trailer Platform

1. Single Axle steel welded trailer with 2 inches adjustable ball hitch.
2. Heavy-duty safety chains.
3. Single drop torsion suspension or leaf springs.
4. Self lubricating wheel spindles.
5. Maximum size, including tongue, 14 feet long by 7 feet wide by 8 feet high.
6. Maximum payload 3500 pounds.
7. Tire size F7815 or F78-14ST with Tire Tools and a spare wheel mounted and locked on trailer.
8. DOT approved lighting package to include electrical brake and marker lights with wire connections.
9. Prime and paint customer’s choice of color.
10. Fitted with manual telescoping outriggers with adjustable jacks sized to counter full mast extension.
11. Four 3500 pounds, drop leg, top wind screw jacks.
12. Custom fabricated mounts for all options installed.
13. All equipment secured to prevent theft or separation from platform.
14. Stainless steel hardware to prolong trailer life.
15. 24/7 operation in all weather conditions.
16. Wheel locks to secure trailer while deployed.
17. Two locking NEMA-4 equipment boxes for electronic components and camera storage.
18. One locking NEMA-4 equipment box for operational controls.

19. Max trailer weight of 3500 pounds when fully configured.

1001.05 PORTABLE TRAILER MOUNTED CCTV CAMERA (Cont'd)

20. Wheels removable when trailer in deployed position.

21. Operation manual.

B. Mast

1. 150 pounds payload capacity.

2. 29 feet to 32 feet of extension with capability to mount antenna at 20 feet, 25 feet or at the top, maximum nested length of mast is 10 feet – 3 to 9 sections.

3. Un – guyed.

4. Locking collars to allow the mast to remain extended indefinitely without air pressure.

5. Anodized and sealed exterior aluminum surfaces for long life.

6. Custom fabricated mount for cameras.

7. Folds down during transport for better height clearance.

8. Spiral conduit for cable.

9. Compactly retractable when mast is nested into storage container at bottom of mast.

10. Automatically hydraulic (pneumatic) operation or power winch with a safety brake.

C. Electrical System

1. 12 VDC battery operated with multi-crystal solar electric panel.

2. Fuse panel to protect electronics.

3. Four 110 watt solar panels on collapsible mounts.

4. Charge controller that automatically switches charging sources.

5. Isolated 12 VDC starting battery.

6. Provisions for operation on auxiliary power (Electric, Gasoline or fuel generated power source) for deployment.

1001.05 PORTABLE TRAILER MOUNTED CCTV CAMERA (Cont'd)

D. Auxilary Power Source

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

E. Inverter

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

F. Electronics

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

G. Camera and Software

Ensure that the camera has the following characteristics:

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

1001.05 PORTABLE TRAILER MOUNTED CCTV CAMERA (Cont'd)

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

Ensure that the software includes:

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

SECTION 1002 - COMPACTION EQUIPMENT

1002.01 PNEUMATIC – TIRED COMPACTOR

1002.02 DYAMIC COMACTOR

1002.03 STEEL-WHEEL ROLLER

1002.04 PADFOOT ROLLER

SECTION 1003 - HMA SITE EQUIPMENT

1003.01 MATERIALS TRANSFER VEHICLE (MTV)
1003.02 HMA CURB MACHINE
1003.03 HMA PAVER
1003.04 SPRAY PAVER
1003.05 HMA COMPACTOR
1003.06 VIBRATORY DRUM COMPACTOR
1003.07 BITUMINOUS MATERIAL DISTRIBUTOR
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1004.02 VIBRATORY HAMMER
1004.03 LEADS AND FOLLOWERS

SECTION 1005 - CONCRETE SITE EQUIPMENT

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1005.02 SPREADING AND FINISHING MACHINE
1005.03 SPREADING AND FINISHING MACHINE FOR CONCRETE BRIDGE DECKS
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1005.07 EPOXY RESIN INJECTION EQUIPMENT

SECTION 1006 - CONCRETE PAVEMENT REHABILITATION EQUIPMENT

1006.01 BREAKER

1006.02 SEATING EQUIPMENT

1006.03 GROUT PUMPING UNIT

1006.04 MIXER

1006.05 INJECTION DEVICE

1006.06 LIFT MONITORING EQUIPMENT

1006.07 DEFLECTION TESTING EQUIPMENT

1006.08 GRINDING MACHINE

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SECTION 1007 - TRAFFIC STRIPING EQUIPMENT

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1007.02 THERMOPLASTIC APPLICATOR
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SECTION 1008 - MISCELLANEOUS EQUIPMENT

1008.01 MILLING MACHINE
1008.02 STRAIGHTEDGE
1008.03 MECHANICAL SWEEPER
1008.04 PAVEMENT SAW
1008.05 AIR COMPRESSOR
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SECTION 1009 - HMA PLANT EQUIPMENT

1009.01 HMA PLANT

1009.02 HMA TRUCKS

1009.03 ASPHALT-RUBBER BINDER BLENDING EQUIPMENT

SECTION 1010 - CONCRETE PLANT AND MIXING EQUIPMENT

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SECTION 13123 – TIMBER SHED

WORK INCLUDED

The Contractor shall furnish and install a 12’ wide by 20’ long, Cape Cod Style Timber Shed at the location depicted on the site plan. Site preparation and installation of the storage shed shall be in strict conformance with the storage shed manufacturer’s instructions and recommendations. The work shall include all excavation, importation/placement of clean fill material, and reinforced concrete mat foundation construction in accordance with the structural drawings. Electrical connection to the storage shed shall be provided.

Construction drawings, signed and sealed by a professional engineer or architect licensed in New Jersey, shall be supplied by the Contractor or Manufacturer for sub-code permit and shop drawing submittal purposes. Securing of all required sub-code construction permits is the responsibility of the Contractor.

The utility systems installed shall be complete, in accordance with all applicable code requirements and include service connections. All materials and installation of items not supplied by the manufacturer, but required for a complete and functioning greenhouse shall be included.

MATERIALS

The 12’ x 20’ Cape Cod Style Storage Shed shall be in accordance with South Jersey Sheds and Gazebos, 749 Ramah Road, Millville, New Jersey 08332, 856-447-5150 or approved equal. The building shall include furnishing and installing all features of the specified model as listed by the manufacturer including:

- T1-11 Siding
- Asphalt Shingles
- Gable Vents

MEASUREMENT AND PAYMENT

Payment for furnishing and installing the 12’ Wide by 20’ Long, Cape Cod Style Timber Shed as specified will be made under the lump sum price bid for the Construction of a fully and completely operational accessible shed, including foundation, excavation, materials, furnishing fixtures, hose connection, appurtenances, drainage, utility connections, labor and necessary equipment in accordance with contract documents as listed in the Bid Form. Said price shall include all excavation, specified materials, utility connections and all incidental materials and work required for a complete installation in accordance with the manufacturer’s instructions, the direction of the Engineer and all applicable sub-code officials.

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16452	Grounding	16452-1 to 16452-2
16470	Panel Boards	16470-1 to 16470-3
16477	Fuses	16477-1 to 16477-2
16526	Exterior Athletic Lighting	16526-1 to 16526-8

SECTION 16010 - BASIC ELECTRICAL REQUIREMENTS

This Section specifies the basic requirements for electrical installations and includes requirements common to more than one section of Division 16.

Electrical Installations:

It is the intent of this Section that all equipment and devices, furnished and installed under this and other Sections, be properly connected and interconnected with other equipment so as to render the installations complete for successful operation, regardless of whether all the connections and interconnections are specifically mentioned in the Specifications or shown on the Drawings.

The Contractor shall provide a complete electrical installation including all electrical equipment, labor, material, tools, transportation, procurement of all necessary permits, certificates and other incidentals services, whether described in these specifications and Drawings or not, to provide a satisfactory operating electrical installation.

All work shall be performed in strict compliance with the applicable State and Local Codes and the latest edition of the National Electrical Code of the National Fire Protection Association, and the OSHA Standards.

Obtain all permits required to complete the work and, upon completion of the work, obtain and deliver to the Engineer a Certificate of Inspection and Approval from the State Board of Fire Underwriters or other authority having jurisdiction. Pay all fees and costs associated with the securing of all required certificates and permits. These fees and costs shall be included in the bid price.

All work, equipment and materials furnished shall conform with the existing rules, requirements and specifications of the Insurance Rating Organization having jurisdiction, National Electrical Code (NEC), National Electrical Manufacturer's Association (NEMA), Institute of Electrical and Electronic Engineers (IEEE), Insulated Cable Engineers Association (ICEA), American Society of Testing Materials (ASTM), American National Standards Institute (ANSI), Illuminating Engineering Society (IES), the requirements of the Occupational Safety Hazards Act (OSHA), and all other applicable Federal, State and local laws and/or ordinances, most stringent shall apply.

All materials and equipment shall bear the inspection labels of Underwriters' Laboratories, if the material or equipment is of the class inspected by said laboratory.

Any paragraph of requirements in these specifications, or Drawings, deviating from the rules, requirements and specifications of the above organizations shall be invalid and their requirements shall hold precedent thereto. The Contractor shall be held responsible for adherence to all rules, requirements and specifications as set forth above. Any additional work or material necessary for adherence will no be allowed as an extra, but shall be included in the bid price. Ignorance of any rule, requirement or specification shall not be allowed as an excuse for non-conformity.

Acceptance by the Engineer or Owner does not relieve the contractor from the expense involved for the correction of any errors which may exist on the drawings submitted or in the satisfactory operation of any equipment.

Coordinate electrical equipment and materials installation with other building components.
Verify all dimensions by field measurements.

Arrange for chases, slots and openings in other components to allow for electrical installations.

Coordinate the installation of required supporting devices and sleeves to be set in poured in place concrete and other structural components, as they are constructed.

Sequence, coordinate and integrate installation of electrical materials equipment for efficient flow of the

Work. Give particular attention to large equipment requiring positioning.
Coordinate the cutting and patching to accommodate the installation of electrical equipment and materials.

Where mounting heights are not detailed or dimensioned, install electrical services and overhead equipment to provide the maximum headroom possible.

Install electrical equipment to facilitate maintenance and repair or replacement of equipment components. As much as practical, connect equipment for ease of disconnecting, with minimum of interference with other installations.

Coordinate the installation of electrical materials and equipment and structural components.

Coordinate connection of electrical systems with exterior underground and overhead utilities and services. Comply with requirements of governing regulations, franchised service companies, and controlling agencies. Provide required connection for each service.

The Drawings are not intended to serve as working or installation drawings. These drawings are for engineering and general arrangement purposes only. The Contractor shall maintain a record set of drawings showing his own work based on the Drawings. These drawings shall show all details of construction, such as dimensioned equipment and conduit layouts, and similar drawings depicting the construction and installation work performed.

Electrical Coordination Drawings:

Prepare and submit a set of coordination drawings showing major elements, components and systems of electrical equipment and materials in relationship with other components. Prepare drawings to an accurate scale of 1/4" = 1'0" or larger. Indicate the locations of all equipment and materials, including clearances for servicing and maintaining equipment. Indicate movement and positioning of large equipment during construction. Coordination drawings are to be prepared and submitted before any work is started.

Prepare plans, elevations, sections and details to conclusively coordinate and integrate all installations. Indicate locations where space is limited, and where sequencing and coordination of installations are of importance to the efficient flow of the Work, including (but not necessarily limited to) the following:

Equipment Layouts:

Specific equipment installations, including but not limited to, the following:

Generators
Substations
Main Switchgear
Ductbanks
Transformers
Switchboards and Panelboards
Equipment Connections
Control panels
Conduits

Wiring Diagrams: indicating field installed electrical power and control wiring and cabling layouts, overcurrent protective devices, equipment and equipment connections.

Work in pipe spaces, chases, trenches and tunnels
Exterior wall penetrations
Ceiling plenums which contain piping, ductwork or equipment in congested arrangement
Exterior underground lines

Cutting and Patching:

This Article specifies the cutting and patching of electrical equipment, components, and materials to include removal and legal disposal of selected materials, components and equipment.

Do not endanger or damage installed Work through procedures and processes of cutting and patching.

Arrange for repairs required to restore other work, because of damage caused as a result of electrical installations.

No additional compensation will be authorized for cutting and patching work that is necessitated by ill-timed, defective or non-conforming installations.

Perform cutting, fitting and patching of electrical equipment and materials required to:

Uncover work to provide for installation of ill-time work

Remove and replace defective work

Remove and replace work not conforming to requirements of the Contract Documents

Remove samples of installed work as specified for testing

Install equipment and materials in existing structures

Upon written instructions from the Architect/Engineer, uncover and restore work to provide for Architect/Engineer observation of concealed work

Cut, remove to source and make safe and legally dispose of selected electrical equipment, components and materials as indicated, including, but not limited to, removal of electrical items indicated to be removed and items made obsolete by the new work

Protect the structure, furnishings, finishes and adjacent materials not indicated or scheduled to be removed.

Electrical Submittals:

The Contractor shall furnish for review of the Engineer six (6) sets of each of the manufacturer's specifications, drawings, operating and maintenance instructions and any other data required to provide a complete description of the equipment being supplied and the construction to be performed. These sets shall be in addition to those required for the Contractor's use. The contractor shall also furnish samples of electrical construction material such as conduit and cable, etc., if instructed to do so by the Engineer. Installation of materials, or equipment before review and acceptance by the Engineer will be at the Contractor's risk. Equipment or materials installed by the Contractor and not accepted by the Engineer will be removed and replaced at the expense of the Contractor.

The Contractor shall furnish six (6) sets each of detailed shop drawings, including elementary and connection wiring diagrams, in addition to those required for his own use. All wiring diagrams shall bear wire numbers required for his own use. All wiring diagrams shall bear wire numbers using a uniform numbering method so that wiring can be easily followed.

Product Listing:

Prepare listing of major electrical equipment and materials for the project. Provide all information requested.

When two or more items of the same material or equipment are required, they shall be of the same manufacturer. Product manufacturer uniformity does not apply to raw materials, bulk materials, wire, conduit, fittings, sheet metal, steel bar stock, welding rods, solder, fasteners, and similar items used in Work, except as otherwise indicated.

Provide products which are compatible within systems and other connected items.

Nameplate Data:

Provide permanent operational data nameplate on each item of power operated equipment, indicating manufacturer, Product name, model number, serial number, capacity, operating and power characteristics, labels of tested compliances and similar essential data. Locate nameplates in an accessible locations.

Delivery, Storage and Handling:

Delivery products and project properly identified with names, model numbers, types, grades, compliance labels, and similar information needed for distinct identifications; adequately packaged and protected to prevent damage during shipment, storage and handling.

Store equipment and materials at the site, unless off-site storage is authorized in writing. Protect stored equipment and materials from damage.

Coordinate deliveries of electrical materials and equipment to minimize construction site congestion. Limit each shipment of materials and equipment to the items and quantities needed for smooth and efficient flow of installations.

Mark Drawings to indicate revisions to conduit size and location both exterior and interior; actual equipment locations; concealed equipment; distribution and branch electrical circuitry; fuse and circuit breaker size and arrangements; support and hanger details; change orders; concealed control system devices.

Mark specifications to indicate approved substitutions; change orders; actual equipment and materials used.

Operations and Maintenance Data:

Description of function, normal operating characteristics and limitations, performance curves, engineering data and tests, and complete nomenclature and commercial numbers of all replaceable parts.

Manufacturer's printed operating procedures to include start-up, break-in, routine and normal operating instructions; regulation, control, stopping, shut-down and emergency instructions and summer and winter operating instructions.

Servicing instructions and lubrication charts and schedules.

Warranties:

Compile and assemble the warranties specified in Division 16, into a separate set of vinyl covered, three ring binders, tabulated and indexed for easy reference.

Provide complete warranty information for each item to include Product or equipment to include date of beginning of warranty or bond; duration of warranty or bond; and names, addresses and telephone numbers and procedures for filing a claim and obtaining warranty services.

Cleaning:

Clean all light fixtures, lamps and lenses prior to final acceptance. Replace all inoperative lamps.

After completion of the work, the Contractor shall furnish to the Engineer a complete set of Record Drawings “As-Built” reproducible tracings of all electrical construction drawings, such as conduit layouts, interconnection and elementary wiring diagrams. Record drawings furnished upon completion of the work shall be corrected to show any deviations from the drawings.

In addition, the Contractor shall furnish one set of manufacturer’s drawings and operating instruction marked to reflect “As-Built” conditions. This data shall also be furnished to the Engineer.

All Record Drawings submitted to the Engineer shall be so marked by ½" high letters as follows “RECORD DRAWING”. In addition, the Contractor’s name shall appear on the drawings along with the signature of the person who prepared same and the date prepared shall also be affixed thereto.

Guarantee:

The Contractor shall guarantee that all work installed by him is free from any and all defects in workmanship and/or materials, and that all apparatus will develop the capacities and characteristics specified. He further guarantees that if, during a period of one year from the date of the certificate of completion and acceptance of his work, any such defects in workmanship, material or performance appear, such defects will be remedied by him without costs to the Owner.

If, in the opinion of the Engineer, remedial measures are not taken within a reasonable time, the Engineer or the Owner may have defects remedied and such costs charged to the Contractor.

SECTION 16015 - TESTING

The Contractor shall perform such tests as required for all component parts of the completed installation to demonstrate the satisfactory functioning of all equipment and wiring and the adequacy of the entire electrical system. Any equipment or materials which fail under test shall be repaired or replaced and then retested until satisfactory results are obtained, entirely at the expense of the contractor. The Contractor shall assume full responsibility for the proper functioning and quality of the entire electrical installation to the extent that any breakdowns, deficiencies or deteriorations caused by poor workmanship, equipment, materials or method of installation shall be promptly remedied, replaced or repaired by the contractor. Any corrections required during the guarantee period and established following a survey of the installation at the end of the guarantee period shall be modified as above. The terms of the guarantee are stipulated elsewhere in these specifications.

The contractor shall furnish all instruments with a qualified NETA certified Technician from an outside testing firm to properly perform all tests required,. Written notice of all tests shall be given the Engineer at least ten (10) working days in advance.

Unless waived in writing by the Engineer, all tests shall be made in the presence of a duly authorized representative of the Engineer. When the presence of such representative is so waived, sworn statements, in duplicate, of the tests made and the results thereof, shall be furnished to the Engineer by the Contractor.

Cost of all tests shall be borne by the Contractor and shall be included in the Contract bid price.

All electrical circuits shall be tested to insure circuit continuity, insulation resistance, proper splicing and freedom from improper grounds.

All connections to be infrared tested after energizing and again after one month of carrying actual loads.

Necessary adjustment shall be made in cooperation with the manufacturer and other contractors when necessary. All tests shall be made in accordance with the latest standards of the ANSI.

Megger tests of insulation resistance on all new rotating machines shall be conducted. The results will be accepted when a Megger shows the insulation resistance to be in conformance with NETA acceptance testing specifications, current edition. Utilize a 1,000V megger for equipment rated 600V or less. All motors shall be properly connected to protective devices and controls. Test duration shall be one minute.

Megger tests of the insulation resistance of all power circuits shall be conducted. The results will be accepted when the megger shows the insulation resistance to be 50 megaohms or more and phases do not deviate by more than 25% at 20ºC using a megger. Test duration shall be one minute. Utilize a 1000V megger for cables rated 600V. Test reports shall indicate date, weather conditions, cable size, length of run and resistance observed on a per conductor basis. Test shall be conducted phase to phase, phase to neutral and phase to ground for all feeders and branch circuits.

Test results shall be given in ohms at 20ºC or 20 degrees centigrade ambient. All tests and resistance readings shall be made per the applicable ANSI Standards which apply.

The grounding system shall have a resistance to ground of ten (10) ohms or less when measured by a fall of potential ground resistance test, I.E.E.E. Standard No. 81, Section 9.04. Two (2) additional reference ground rods must be driven away from the ground under test. The ground under test and the reference ground rods shall be connected to the test instrument with insulated lead wires. Tests shall not be conducted when the soil within a 10 foot radius of the ground under test is water logged or has been subjected to chemical additives.

Before energizing any motor, the overload heaters and relays shall be checked for manufacturer recommendations based on actual motor nameplate full load current. Motor voltage requirements shall also be confirmed.

All motors shall be properly connected to protective devices and controls to give proper motor acceleration and correct motor rotation. The control wiring shall be properly interconnected to all the control devices associated with a machine, a group of machines, or the device to produce the correct operation, timing and/or sequencing of the equipment.

The equipment shall then be given an operational test to determine that all components including motors, controls protective and switching devices and auxiliary associated equipment are in an operable condition and can function as described and shown on relevant specifications, operating instructions and drawings.

Motor currents shall be recorded and the Engineer shall be advised as soon as possible of any unbalance or value above 5% of nameplate full load. Overload heater ratings or relay settings shall not be increased in size or setting if trip occurs. The Engineer shall be informed of such trips and the contractor shall be advised accordingly.

Four (4) copies each of all test results shall be forwarded to the Engineer by the Contractor for review and record purposes.

No equipment shall be energized until all tests and adjustments have been made to the satisfaction of the Engineer and the Owner.

Tests shall be witnessed by the Engineer. The cause of any failure shall be impartially examined by the Engineer and the results shall be binding on the Contractor, if in the Engineer's judgment such failure was caused by poor workmanship, materials and/or equipment provided by the Contractor.

SECTION 16110 - RACEWAYS

NEMA Compliance: Comply with applicable requirements of NEMA standards pertaining to raceways.

UL Compliance and Labeling: Comply with provisions of UL safety standards pertaining to electric raceway systems; and provide products and components which have been UL-listed and labeled.

NEC Compliance: Comply with NEC requirements as applicable to construction and installation of raceway systems.

Conduit and Tubing:

General: Provide metal and nonmetallic conduit, tubing and fittings of types, grades, sizes and weights (wall thicknesses) for each service indicated. Where types and grades are not indicated, provide proper selection determined by Installer to fulfill wiring requirements, and comply with applicable portions of NEC for raceways.

Rigid Metal Conduit: Provide rigid steel, zinc-coated, threaded type conforming to FS WW-C-581, ANSI C80.1 and UL 6. Provide zinc coating fused to inside and outside walls,

Rigid Aluminum Conduit: Provide rigid aluminum conduit, 6063 aluminum alloy, T-1 temper, threaded type conforming to FS-WW-C-54C, UL-6, ASA C80.5. Conduit to be delivered with thread protectors. Aluminum fittings shall be used on rigid aluminum conduit runs. Rigid aluminum conduit shall not be embedded in concrete or directly buried in soil unless directed by the Engineer.

Intermediate Steel Conduit: Rigid intermediate grade (IMC) hot- dip galvanized conforming to FS WW-C-581 and UL 1242.

Rigid Metal Conduit Fittings: Cast malleable iron, galvanized or cadmium plated, conforming to FS W-F-408. Use Type 1 fittings for rain tight connections, Type 2 fittings for concrete tight connections, and Type 3 fittings for other miscellaneous connections.

Electrical Metallic Tubing (EMT): FS WW-C-563, ANSI C80.3 and UL 797.

EMT Fittings: FS W-F-408.

Use Type 1 fittings for rain tight connections.
Use Type 2 fittings for concrete tight connections.
Use Type 3 fittings for miscellaneous connections.

Flexible Metal Conduit: FS WW-C-566 and UL 1. Formed from continuous length of spirally wound, interlocked zinc-coated strip steel.

Flexible Metal Conduit Fittings: Provide conduit fittings for use with flexible steel conduit of threadless hinged clamp type.

Straight Terminal Connectors: One piece body, with female end with clamp and deep slotted machine screw for securing conduit, and male threaded end provided with locknut.

45° or 90° Terminal Angle Connectors: Two-piece body construction with removable upper section, female end with clamp and deep slotted machine screw for securing conduit and male threaded and provided with locknut.

Liquid-Tight Flexible Metal Conduit: Provide liquid-tight flexible metal conduit; constructed of single strip, flexible, continuous, interlocked and double-wrapped steel; galvanized inside and outside; coat with liquid-tight jacket of flexible polyvinyl chloride (PVC).

Electrical Plastic Conduit

Heavy Wall Conduit: Schedule 40, 90, UL rated, constructed of PVC and conforming to NEMA TC-2, for direct burial, or normal above ground use, UL listed and in conformity with NEC Article 347.

Extra Heavy Wall Conduit: Schedule 80, UL rated, constructed of PVC compound C-200 PVC, and UL listed in accordance with NEC Article 347 for direct burial or above ground use.

Thin Wall Conduit: Type A, UL rated for concrete encasement underground, constructed of PVC compound C-2000, and UL listed in accordance with NEC Article 347.

Conduit and Tubing Accessories: provide conduit, and tubing accessories of types, sizes and materials, complying with manufacturer's published product information, which mate and match conduit and tubing.

Conduit Bodies: Provide galvanized cast-metal conduit bodies of types, shapes and sizes as required to fulfill job requirements and NEC requirements. Construct conduit bodies with threaded conduit entrance ends, removable covers, either cast or of galvanized steel and corrosion-resistant screws.

Manufacturers: Provide conduit bodies of one of the following:

Appleton Electric; Div of Emerson Electric Co.
Arrow-Hart Div; Crouse-Hinds Co.
Bell Electric Div; Square D Co.
Gould, Inc.
O/Z Gedney Div; General Signal Co.
Spring City Electrical Mfg. Co.

Wireways:

General: Provide electrical wireways of types, grades, sizes and number of channels for each type of service as indicated. Provide complete assembly of raceway including, but not limited to, couplings, offsets, elbows, expansion joints, adapters, holddown straps, end caps and other components and accessories as required for complete system.

Lay-In Wireways: Construct lay-in wireways with hinged covers, in accordance with UL 870 and with components UL listed, including lengths, connectors and fittings. Design units to allow fastening hinged cover closed without use of parts other than standard lengths, fittings and connectors. Construct units to be capable of sealing cover in closed position with sealing wire. Provide wireways with knockouts.

Connectors: Provide wireway connectors suitable for "lay-in" conductors, with connector covers permanently attached that removal is not necessary to utilize the lay-in feature.

Finish: Protect sheet metal parts with rust inhibiting coating and baked enamel finish. Plate finish hardware to prevent corrosion. Protect screws installed toward inside of wireway with spring nuts to prevent wire insulation damage.

Rain tight Troughs: Construct in accordance with UL 870, with components UL listed.

Construction: 16 gauge galvanized sheet metal parts for 4"x4" to 6"x6" sections, and 14-gauge parts for 8"x7" and larger sections. Provide knockouts only in bottom of troughs, with suitable adapters to facilitate attaching to other NEMA 3R enclosures. Do not use gasketing that can rip or tear during installation, or would compromise rain tight capability of the trough. Do not use cover screws that will protrude into the trough area and damage wire insulation.

Finish: Provide 14 gauge and 16 gauge galvanized sheet metal parts with corrosion-resistant phosphate primer and baked enamel finish. Plate hardware to prevent corrosion.

Conduits: Install concealed conduits in new construction work, either in walls or slabs. Run concealed conduits in existing work where practicable.

Use rigid steel zinc coated conduit where embedded in concrete, masonry, earth, or installed outdoors.

Use rigid steel zinc coated conduit in mechanical equipment rooms, electrical equipment rooms, penthouses, crawl spaces, service splines, ceiling plenum areas, kitchens or cafeterias and warehouse spaces below 18'-0" height and for main feeder circuits.

Use steel zinc coated EMT in offices, corridors, toilets, lunchroom areas, lab areas, and warehouse spaces above 18'-0" height.

Use flexible conduit in moveable partitions and from outlet boxes to recessed lighting fixtures and final 24" of connection to motors or control items subject to movement or vibration and in cells of precast concrete panels.

Use liquid-tight flexible conduit where subjected to one or more of the following conditions:

Exterior location
Moist or humid atmosphere where condensate can be expected to accumulate
Corrosive atmosphere
Subjected to water spray or dripping oil, water or grease

Surface Raceways and Wireways: Mechanically assemble metal enclosures and raceways to form continuous electrical conductor and connect to electrical boxes, fittings and cabinet as to provide effective electrical continuity and rigid mechanical assembly.

Where practicable, avoid use of dissimilar metals throughout system to eliminate possibility of electrolysis. Where dissimilar metals are in contact, coat all surfaces with corrosion inhibiting compound before assembling.

Install expansion fittings in all raceways wherever structural expansion joints are crossed.

Make changes in direction of raceway run with proper fittings, supplied by raceway manufacturer. Field bends of raceway sections are not permitted.

Properly support and anchor raceways for their entire length by structural materials. Raceways are not to span any space unsupported.

Use boxes as supplied by raceway manufacturer wherever junction, pull or devices boxes are required. Standard electrical “handy” boxes, etc., are not to be permitted for use with surface raceway installations.

SECTION 16120 - WIRES AND CABLES

NEC Compliance: Comply with applicable requirements of NEC for construction and installation of wires/cables and connectors.

UL Compliance: Comply with UL Stds 83 and 486A. Provide wiring/cabling and connector products which are UL listed and labeled.

NEMA/ICEA Compliance: Comply with NEMA/ICEA Stds Pub/No.'s WC-5 and WC-30.

IEEE Compliance: Comply with IEEE Stds 82 and 241 pertaining to wiring systems.

ASTM Compliance: Comply with ASTM B1, 2, 3, 8 and D-753. Provide copper conductors with conductivity of not less than 98% at 20 deg. C (68 deg. F).

FS Compliance: Comply with FS J-C-30 and W-S-610.

Manufacturers: Provide wire/cable products of one of the following (for each type of wire/cable and connectors):

Wire and Cable:

- Apex Wire and Cable Corp.
- American Insulated Wire Corp
- American Wire and Cable Co.
- Anaconda-Ericsson Inc.; Wire and Cable Div.
- Belden Div; Cooper Industries
- Brand-Rex Div; Pyle National Co.
- Cerro Wire and Cable Corp.
- Cleveland Insulated Wire Co.
- General Cable Corp.
- Helix Wire Corp.
- Hitemp Wires, Inc.
- Indiana Insulated Wire, Inc.
- Madison Wire and Cable Corp.
- Phelps Dodge Cable & Wire Co.
- Pirelli Cable Corp.
- Radix Wire Co.
- Rome Cable Corp.
- Southwire Company
- Triangle PWC, Inc.

Connectors:

- AMP, Inc.
- Appleton Electric Co.; Emerson Electric Co.
- Burndy Corp.
- Brand-Rex Div; Pyle National Co.
- Electrical Products Div; Midland-Ross Corp.
- General Electric Co.
- Gould Inc.
- Ideal Industries, Inc.
- Leviton Mfg. Co.
- 3M Company
- OZ/Gedney Co.
- Southport Industries, Inc.
- Square D Company
- Thomas and Betts Corp.

General: Provide electrical wires, cables and connectors of manufacturer's standard materials, as indicated by published product information; designed and constructed as recommended by manufacturer, for a complete installation, and for applications indicated. Except as otherwise indicated, provide copper conductors with conductivity of not less than 98% at 20 deg. C (68 deg. F).

Building Wires: Provide factory fabricated wires of sizes, ampacity ratings, and materials for applications and services indicated. Select from the following UL types, those wires which construction features which fulfill project requirements.

Type RHH: For dry locations, max. Operating temperature 90 deg. C (194 deg. F). Insulation, heat resistant rubber, outer covering, moisture-resistant, flame retardant, nonmetallic covering, conductor, annealed copper.

Type RHW.: For dry and wet locations; max. Operating temperature 75 deg. C (167 deg. F). Insulation, moisture and heat resistant rubber; outer covering, moisture resistant, flame retardant, nonmetallic covering; conductor, annealed copper.

Type RUH: For dry locations; max. Operating temperature 75 deg. C (167 deg. F). Insulation, 90% unmilled, grainless rubber; outer covering, moisture resistant, flame retardant, nonmetallic covering; conductor, annealed copper.

Type RUW: For wet and dry locations; max. Operating temperature 60 deg. C (120 deg. F). Insulation, 90% unmilled, grainless rubber; outer covering, moisture resistant, flame retardant, nonmetallic covering; conductor, annealed copper.

Type THW: For dry and wet locations; max. Operating temperature 75 deg. C (167 deg. F). Insulation, flame retardant, moisture and heat resistant, thermoplastic; conductor, annealed copper.

Type THWN: For dry and wet locations; max. Operating temperature 75 deg. C (167 deg. F). Insulation, flame retardant, moisture and heat resistant, thermoplastic; outer covering, nylon jacket; conductor, annealed copper.

Type TW: For dry and wet locations; max. Operating temperature 60 deg. C (140 deg. F). Insulation, flame retardant, moisture resistant thermoplastic, conductor, annealed copper.

Type XHHW-2: For dry and wet locations; max. Operating temperature 90 deg. C (194 deg. F). Insulation, flame retardant, cross-linked synthetic polymer; conductor, annealed copper.

Type TBS: For switchboard wiring only; max. Operating temperature 90 deg. C (194 deg. F). Insulation, thermoplastic; outer covering, flame retardant, nonmetallic covering; conductor, annealed copper.

Type MI: For wet and dry locations; max. Operating temperature 85 deg. C (185 deg. F). Insulation, magnesium oxide; outer covering, copper sheath; conductor, annealed copper.

Cables: Provide UL-Type factory fabricated cables of sizes, ampacity ratings, materials and jacketing/sheathing as indicated for services indicated. Select from the following types, those cables with construction features which fulfill project requirements:

Type MI: Mineral insulated, metal sheathed (copper) cable; used for services, feeders and branch circuits in hazardous locations; underground, indoors or outdoors. No used where exposed to destructive corrosive conditions.

Type MC: Metal clad cable; used for wet or dry locations; exposed or concealed; suitable for cable tray usage.

Type AC: Armored cable; used in dry locations for under-plaster extensions. Not for direct burial in earth.

Type SNM: Shielded nonmetallic sheathed cable; used in cable trays or in other raceways, and for hazardous conditions.

Type SE: Service entrance cable for above ground installation; flame retardant, moisture resistant.

Type USE: Service entrance cable for underground installation; moisture resistant, but does not have flame retardant covering.

Type UF: Underground feeder, metallic and nonmetallic armored types for direct burial; also used for interior wiring in wet, dry and corrosive locations.

NOTE: SPECIAL CABLE TYPES FOR PROJECT INDICATED ON DRAWING.

Connectors:

General: Provide UL type factory fabricated, metal connectors of sizes, ampacity ratings, materials, types

and classes for applications and services indicated. Where not indicated, provide proper selection as determined by Installer to comply with project's installation requirements, NEC and NEMA standards. Select from the following, those types, classes, kinds and styles of connectors to fulfill project requirements:

Type: Pressure
Type: Crimp
Type: Threaded

Class: Insulated
Class: Non-Insulated

Kind: Copper (for Cu to Cu connection)
Kind: Aluminum-Copper (for Al to Cu connection)

Style: Butt connection
Style: Elbow connection
Style: Combined "T" and straight connection
Style: "T" connection
Style: Split bolt parallel connection
Style: Tap connection
Style: Pigtail connection
Style: Wirenut connection

Installation:

Install cables, wires and wiring connectors as indicated, in accordance with recognized industry installation practices. Comply with applicable requirements of NEC, UL and NEMA standards and with NECA's "Standard of Installation".

Coordinate wire/cable work including electrical raceway and equipment installation work, as necessary to properly interface installation of wires/cables with other work.

Install UL Type UF cable with nonmetallic outer jacketing, for underground feeders.

Install UL Type THW wiring in conduit for feeders and branch circuits.

Tighten electrical connectors and terminals, including screws and bolts, in accordance with manufacturer's published torque tightening requirements. If not indicated, tighten connectors and terminals to comply with tightening torques specified in UL Stds 486A and B.

Prior to energization, test wires and cables for continuity o circuitry, insulation resistance and for short circuits. Correct malfunctions when detected.

Subsequent to wire/cable hook-ups, energize circuitry and demonstrate functioning in accordance with requirements. Correct malfunctions, if any, and retest.

SECTION 16135 - ELECTRICAL BOXES AND FITTINGS

NEC Compliance: Comply with NEC as applicable to construction and installation of electrical wiring boxes and fittings.

NEC ARTICLE 370 APPLIES ABOVE.

UL Compliance: Comply with UL Std. Nos. 50, 514 series and 886. Provide electrical boxes and fittings which are UL listed and labeled.

NEMA Compliance: Comply with applicable requirements of NEMA Stds/Pub No.'s OS1, OS2 and Pub 250.

Federal Specification Compliance: COMPLY with applicable requirements of FS W-C-586, "Electrical Cast Metal Conduit Outlet Boxes, Bodies and Entrance Caps".

Fabricated Materials:

Outlet Boxes: Provide galvanized coated flat rolled sheet steel Outlet wiring boxes, of shapes, cubic inch capacities, and sizes, including box depths as indicated, suitable for installation at respective locations. Construct Outlet boxes with mounting holes, and with cable and conduit size knockout openings in bottom and sides. Provide boxes with threaded screw holes, with corrosion resistant cover and grounding screws for fastening surface and device type box covers and for equipment type grounding.

OUTLET Box Accessories: PROVIDE Outlet box accessories as required for each installation, including box supports, mounting ears and brackets, wallboard hangers, box extension rings, fixture studs, cable clamps and metal straps for supporting Outlet boxes, which are compatible with Outlet boxes being used to fulfill installation requirements for individual wiring situations. Choice of accessories is Installer's code compliance option.

Device Boxes: Provide galvanized coated flat rolled sheet steel non-gangable device boxes of shapes, cubic inch capacities and sizes, including box depths as indicated, suitable for installation at respective locations. Construct device boxes for flush mounting with mounting holes, and with cable size knockout openings in bottom and ends, and with threaded screw holes in end plates for fastening devices. Provide cable clamps and corrosion-resistant screws for fastening cable clamps, and for equipment type grounding.

Device Box Accessories: Provide device box accessories as required for each installation, including mounting brackets, device box extensions, switch box supports, plaster ears and plaster board expandable grip fasteners, which are compatible with device boxes being utilized to fulfill installation requirements for individual wiring situations. Choice of accessories is Installer's code compliance option.

Manufacturers: PROVIDE interior Outlet boxes of one of the following (for each type interior box):

Adalet-PLM Div, Scott Fetzer Co.
Appleton Electric; Emerson Electric Co.
Bell Electric; Square D Company
Eagle Electric Mfg. Co., Inc.
Midland-Ross Corp.
OZ/Gedney; General Signal Co.
Pass and Seymour, Inc.
RACO Div; Harvey Hubbell Inc.
Thomas & Betts Co.

Raintight Outlet Boxes: Provide corrosion-resistant cast metal raintight Outlet wiring boxes, of types, shapes and sizes, including depth of boxes with threaded conduit holes for fastening electrical conduit, cast-metal face plates with spring-hinged watertight caps suitably configured for each application, including face plate gaskets and corrosion-resistant plugs and fasteners.

Manufacturers: Provide raintight Outlet boxes on one of the following:

Appleton Electric; Emerson Electric Co.
Arrow-Hart Div; Crouse-Hinds Co.
Bell Electric; Square D Company
Eagle Electric Mfg. Co., Inc.
Gould, Inc.
Harvey Hubbell, Inc.
OZ/Gedney; General Signal Co.
Pass and Seymour, Inc.

Junction and Pull Boxes: Provide galvanized code-gauge sheet steel junction and pull boxes, with screw-on covers; of types, shapes and sizes, to suit each respective location and installation; with welded seams and equipped with stainless steel nuts, bolts, screws and washers.

Manufacturers: Provide junction and pull boxes of one of the following (for each type junction and pull box):

Adalet-PLM Div, Scott Fetzer Co.
Appleton Electric; Emerson Electric Co.
Arrow-Hart Div; Crouse-Hinds Co.
Bell Electric; Square D Company
GTE Corporation
Keystone Columbia, Inc.
OZ/Gedney; General Signal Co.
Spring City Electrical Mfg. Co.

Floor Boxes: Provide cast-iron raintight adjustable floor boxes as indicated, with threaded-conduit-entrance ends, and vertical adjusting rings, gaskets, brass floor plates with flush screw-on covers with ground flange and stainless steel cover screws.

Poke-Throughs: Provide factory pre-wired poke-through units, suitable for power and communication work, with UL fire resistance rating of three hours. Construct integral fire-stop with cold smoke barrier to prevent passage of smoke where heat is not present.

Manufacturers: Provide floor boxes of one of the following (for each type floor box):

Arrow-Hart Div; Crouse-Hinds Co.
Harvey Hubbell, Inc.
Midland-Ross Corp.
Nelson Electric; General Signal Co.
Pyle-National Co.
Spring City Electrical Mfg. Co.
Square D. Company

Bushings, Knockout Closures and Locknuts: Provide corrosion resistant box knockout closures, conduit locknuts and malleable iron conduit bushings, offset connectors, of types and sizes, to suit respective installation requirements and applications.

Manufacturers: Provide bushings, knockout closures, locknuts and connectors of one of the following:

Adalet-PLM Div; Scott Fetzer Co.
AMP, Inc.
Arrow-Hart Div; Crouse-Hinds Co.
Appleton Electric Co.; Emerson Electric Co.
Bell Electric; Square D Co.
Midland-Ross Corp.

Midwest Electric; Cooper Industries, Inc.
OZ/Gedney Co.; General Signal Co.
RACO Div; Harvey Hubbell Inc.
Thomas & Betts Co., Inc.

Installation:

Install electrical boxes and fittings as indicated, in accordance with manufacturer's written instructions, applicable requirements of NEC and NECA's "Standard of Installation", and in accordance with recognized industry practices to fulfill project requirements.

Coordinate installation of electrical boxes and fittings with wire/cable, wiring devices, and raceway installation work.

Provide weathertight outlets for interior and exterior locations exposed to weather or moisture.

Install electrical boxes in those locations which ensure ready accessibility to enclosed electrical wiring.

Avoid installing aluminum products in concrete.

Position recessed Outlet boxes accurately to allow fr surface finish thickness.

Set floor boxes level and flush with finish flooring material.

Fasten electrical boxes firmly and rigidly to substrates, or structural surfaces to which attached, or solidly embed electrical boxes in concrete or masonry.

BOX SUPPORT MUST BE INDEPENDENT OF CONDUIT.

Provide electrical connections for installed boxes.

Ground electrical boxes properly upon completion of installation work and demonstrate compliance with requirements.

SECTION 16142 - ELECTRICAL CONNECTIONS FOR EQUIPMENT

NEC Compliance: Comply with applicable requirements of NEC.

UL Compliance: Comply with UL Std 486A. Provide electrical connection products and materials which are UL-listed and labeled.

ANSI Compliance: Comply with applicable requirements of ANSI/NEMA and ANSI/EIA standards pertaining to products and installation of electrical connections.

IEEE Compliance: Comply with requirements of Std 241 pertaining to connectors and terminations.

Manufacturers: Provide connection products of one of the following (for each type of connector):

Adalet-PLM Div, Scott and Fetzer Co.
Allen-Stevens Conduit Fittings Corp.
AMP Incorporated
Appleton Electric Co.
Arrow-Hart Div, Crouse-Hinds Co.
Atlas Technologies, Inc.
Bishop Div, General Signal Corp.
Burndy Corporation
Eagle Electric Mfg Co., Inc.
Electroline Mfg Co.
Gardner Bender, Inc.
General Electric Co.
Gould, Inc.
Harvey Hubbell Inc.
Ideal Industries, Inc.
Pyle National Co.
Reliable Electric Co.
Square D Company
Thomas and Betts Corp.

General: For each electrical connection indicated, provide complete assembly of materials, including pressure connectors, terminals (lugs), electrical insulating tape, electrical solder, electrical soldering flux, heat-shrinkable insulating tubing, cable ties, solder less wirenuts, and other items and accessories as needed to complete splices and terminations of types indicated.

Materials:

Raceways: Provide metal conduit and tubing complying with Division 16 Basic Electrical Materials and Methods section, “Raceways”.

General: Provide metal conduit, tubing and fittings of types, grades, sizes and weights (wall thicknesses) indicated for each type service. Where types and grades are not indicated, provide proper selection determined by Installer to fulfill wiring requirements; and comply with NEC requirements for raceways.

Rigid Aluminum Conduit: FS WW-C-540 and ANSI C80.5.

Rigid Steel Conduit: FS WW-C-581 and ANSI C80.1.

PVC Externally Coated Rigid Steel Conduit: ANSI C80.1 and NEMA Std Pub No. RN 1.

Rigid Metal Conduit Fittings: FS W-F-408.

Electrical Metallic Tubing (EMT): FS WW-C-563 and ANSI C80.3.

PVC Externally Coated Electrical Metallic Tubing (EMT): ANSI C80.3 and NEMA Std Pub No. RN 1.

EMT Fittings: FS W-F-408.

Flexible Metal Conduit: FS WW-C-566 of the following type:

Type I: Aluminum
Type II: Zinc-coated steel

Flexible Metal Conduit Fittings: FS W-F-406.

Liquid-tight Flexible Metal Conduit: Provide liquid-tight flexible metal conduit comprised of single strip, continuous, flexible, interlocked, double-wrapped steel, galvanized inside and outside; forming smooth internal wiring channel; with liquid-tight jacket of flexible polyvinyl chloride (PVC).

Liquid-tight Flexible Metal Conduit Fittings: FS W-F-406.

Wires/Cables: Provide wires, cables and conductors complying with Division 16 Basic Electrical Materials and Methods section, “Wires and Cables”. Unless otherwise indicated, provide wires, cables and conductors for electrical connections which match, including sizes and ratings, wires, cables and conductors of those supplying power to equipment. Provide copper conductors with conductivity of not less than 98% at 20 deg. C (68 deg. F).

Connectors and Terminals: Provide electrical connectors and terminals which mate and match, including sizes and ratings, and are recommended by equipment manufacturer for intended applications.

Electrical Connection Accessories: Provide electrical insulating tape, heat-shrinkable insulating tubing and boots, electrical solder, electrical soldering flux, cable ties, wirenuts, lugs and clamps as recommended for use by accessories manufacturers for type services indicated.

Installation:

Install electrical connections as indicated, in accordance with connector manufacturer’s written instructions and wiring diagrams, and complying with UL, NEC and NECA’s “Standard of Installation”.

Mate and match conductors of electrical connections for proper interface between electrical power supplies and installed equipment, wherever possible.

Maintain existing electrical service and feeders and operational facilities, unless otherwise indicated, or when authorized otherwise in writing by Owner, or Architect/Engineer.

Cover splices with electrical insulation material equivalent to, or of greater insulation resistivity rating, than electrical insulation rating of those conductors being spliced.

Trim cables and wires to be short as practicable and arrange routing to facilitate inspection, testing and maintenance.

Provide PVC coated conduit and fittings for highly corrosive atmospheres as indicated.

Provide flexible conduit for motor connections, and for other electrical equipment connections where subject to movement and vibration.

Tighten connectors and terminals, including screws and bolts in accordance with equipment manufacturers published torque tightening values for equipment connectors. Accomplish tightening by utilizing proper torquing tools. Where manufacturer’s torquing requirements are not available, tighten connectors and terminals to comply with torquing values contained in UL’s 486A.

Fasten identification markers to each electrical power supply wire/cable conductor which indicates their voltage, phase and feeder number in accordance with Division 16 section “Electrical Identification”. Affix markers on each terminal conductor, as close as possible to the point of connection.

Test electrical connections to demonstrate capability and compliance with requirements upon completion of installation of connections. Ensure that phase of rotation fulfills requirement. Correct malfunctioning units at site, then retest to demonstrate compliance.

SECTION 16143 - WIRING DEVICES

NEC Compliance: Comply with NEC as applicable to installation and wiring of electrical wiring devices.

UL Compliance: Comply with applicable requirements of UL 20, 486A, 498 and 943 pertaining to installation of wiring devices. Provide wiring devices which are UL listed and labeled.

IEEE Compliance: Comply with applicable requirements of IEEE Std 241, "Recommended Practice for Electric Power Systems in Commercial Buildings", pertaining to electrical wiring systems.

Manufacturers: Provide products of one of the following (for each type and rating of wiring device):

Adalet-PLM Div, Scott and Fetzer Co.
Allen-Bradley
AMP Incorporated
Appleton Electric Co.
Arrow-Hart Div, Crouse-Hinds Co.
Bryant Electric Co.
Culter-Hammer, inc.
Eagle Electric Mfg Co., Inc.
Furnas Electric Co.
General Electric Co.
GTE Products Corp.
Harvey Hubbell Inc.
Ideal Industries, Inc.
Leviton Mfg. Co.
Pass and Seymour Inc.
Slater Electric Company
Square D Company
Thomas and Betts Corp.
Warker Parkersburg Div; Textron Inc.
Wiremold Company

General: Provide factory-fabricated wiring devices, in types, colors and electrical ratings for applications indicated and which comply with NEMA Stds Pub/No. WD 1. Provide brown color devices and wall plates except as otherwise indicated; color selection to be verified by contractor with Architect/Engineer.

Receptacles:

General-Duty Duplex: Provide duplex general-duty type receptacles, 2-pole, 3-wire, grounding, with green hexagonal equipment ground screw, ground terminals and poles integrally connected to mounting yoke, 15 amperes, 125 volts with metal plaster ears; design for side and back wiring with spring loaded, screw activated pressure plate, with NEMA configuration 5-15R unless otherwise indicated.

General-Duty Simplex: Provide single general-duty type receptacles, 2-pole, 3-wire, grounding, with green hexagonal equipment ground screw, 20-amperes, 125-volts with metal plaster ears; design for side and back wiring with spring loaded, screw activated pressure plate, with NEMA configuration 5-20R unless otherwise indicated.

Heavy-Duty Duplex: Provide heavy-duty duplex receptacles, 2-pole, 3-wire, grounding, 15-amperes, 125-volts, with metal plaster ears, design for side and back wiring with spring loaded, screw activated pressure plate, with NEMA configuration 5-15R unless otherwise indicated.

Ground-Fault Circuit Interrupters: Provide "feed thru" type ground-fault circuit interrupters, with heavy duty duplex receptacles, capable of protecting connected downstream receptacles on single circuit, and of being installed in a 2¾" deep outlet box without adapter, grounding type UL rated Class A, Group 1, rated 20-

amperes, 120 volts, 60 Hz; with solid-state ground-fault sensing and signaling; with 5 milliamperes ground-fault trip level; equip with NEMA configuration 5-15R.

Plugs and Connectors:

Plugs: Provide 15-amperes, 125-volts, 3-wire, grounding, armored cap plugs, parallel blades with cord clamp and 0.4" cord hole; match NEMA configuration with power sources.

Connectors: Provide 15-amperes, 125-volts, bakelite-body armored connectors, 3-wire, grounding, parallel blades, double wipe contact, with cord lamp, and 0.4" cord hole, match NEMA configuration to mating plug's.

Switches:

Snap: Provide general duty flush single pole toggle switches, 15 amperes, 120/277 volts AC, with mounting yoke insulated from mechanism, equip with plaster ears, switch handle, and side wired screw terminals.

Duplex Snap: Provide general duty flush double pole AC quiet switches, 15 amperes, 120/277 volts, with mounting yoke insulated from mechanism, equip with plaster ears, switch handles, side wired screw terminals with break off tab features, which allows wiring with separate or common feed.

Three Way: Provide general duty flush 3-way AC switches, 15 amperes, 120/277 volts, with mounting yoke insulated from mechanism, equip with plaster ears, lock type switch handles, side wired screw terminals, with break off tab features, which allows wiring with separate or common feed.

Four Way: Provide general duty flush 4-way AC quiet switches, 15 amperes, 120/277 volts, with mounting yoke insulated from mechanism, equip with plaster ears, switch handles, side wired screw terminals, with break off tab features, which allows wiring with separate or common feed.

Touch Snap: Provide soft touch snap switches, capable of effortless fingertip operation; single pole AC quiet, with lighted rocker switch handles; side wire screw terminals for connecting copper clad aluminum wire, 20 amperes, 120/277 volts rating, equip with plaster ears.

Combination Devices: Provide general duty 3-way quiet switch, 20 amperes, 120/277 volts AC, with toggle switch handle, and 3-wire grounding receptacle, 20 amperes, 120 volts, equip with plaster ears, and with break off tab feature which allows wiring with separate or common feed, with NEMA configuration 5-20R.

Wiring Device Accessories:

Wall Plates: Provide wall plates for single and combination wiring devices, of types, sizes and with ganging and cutouts as indicated. Select plates which mate and match wiring devices to which attached. Construct with metal screws for securing plates to devices; screw heads colored to match finish to plates; wall plates colored to match wiring devices. Provide plates possessing the following additional construction features:

Material and Finish: Steel plate with wrinkled finish, baked-on white insulating enamel
Material and Finish: 0.04" thick type 302 satin finished stainless steel
Material and Finish: 0.04" thick brass, brushed
Material and Finish: 0.04" thick brass, satin chrome plated
Material and Finish: 0.05" thick aluminum, anodized
Material and Finish: Steel plate, galvanized
Material and Finish: Plastic, ribbed
Material and Finish: Plastic, smooth

Installation:

Install wiring devices as indicated, in accordance with manufacturer's written instructions and applicable

requirements of NEC and NECAs “Standard of Installation”.
Install wiring devices after wiring work is completed.

Tighten connectors and terminals, including screws and bolts, in accordance with equipment manufacturer’s published torque tightening values for wiring devices. Where manufacturer’s torquing requirements are not indicated, tighten connectors and terminals to comply with tightening torques specified in UL Stds 486A and B. Use properly scaled torque indicating hand tool.

Testing: Prior to energizing circuitry, test wiring for electrical continuity, and for short circuits. Ensure proper polarity of connections is maintained. Subsequent to energization, test wiring devices to demonstrate compliance with requirements.

SECTION 16170 - CIRCUIT AND MOTOR DISCONNECTS

NEC Compliance: Comply with NEC requirements pertaining to construction and installation of electrical circuit and motor disconnect devices.

ARTICLE 430, ET AL., APPLIES ABOVE

UL Compliance: Comply with requirements of UL 98 “Enclosed and Dead Front Switches”. Provide circuit and motor disconnect switches which have been UL listed and labeled.

NEMA Compliance: Comply with applicable requirements of NEMA Stds Pub No. KS 1, “Enclosed Switches”.

Manufacturers: Provide disconnect products of one of the following (for each type of device):

Crouse-Hinds Co.
Culter-Hammer, inc.
Federal pacific Electric Co.
Furnas Electric Co.
General Electric Co.
General Switch Corp.
GTE Sylvania Inc.
Square D Company
Westinghouse Electric Corp.

Fabricated Switches:

General Duty Disconnect Switches: Provide surface mounted, general duty type, sheet steel enclosed switches, of types, sizes and electrical characteristics indicated; rated 240 volts, 200 amperes, 60 Hz, with 3-blades, 3-poles; and incorporating spring assisted, quick-make, quick break switches which are so constructed that switch blades are visible in OFF position with door open. Equip with operating handled which is integral part of enclosure base and whose operating position is easily recognizable, and is capable of being padlocked in OFF position. Construct current carrying parts of high-conductivity copper, with silver tungsten type switch contacts, and stamped enclosure knockouts. Provide NEMA Type 1 enclosure.

Heavy Duty Safety Switches: Provide surface mounted, heavy duty type, sheet steel enclosed safety switches, of types, sizes and electrical characteristics indicated; fusible type, rated 600 volts, 400 amperes, 60 Hz, 3-blades, 4-poles solid neutral; and incorporating quick make, quick break type switches; construct so that switch blades are visible in OFF position with door open. Equip with operating handle which is integral part of enclosure base and whose operating position is easily recognizable, and is padlockable in OFF position; construct current carrying parts of high conductivity copper, with silver tungsten type switch contacts, and positive pressure type reinforced fuse clips provide NEMA Type 3R enclosure.

Fuses: Provide fuses for safety switches, as recommended by switch manufacturer, of classes, types and ratings needed to fulfill electrical requirements for service indicated.

Installation:

Install circuit and motor disconnect switches as indicated, complying with manufacturer’s written instructions, applicable requirements of NEC, NEMA and NECA’s “Standard of Installation” and in accordance with recognized industry practices.

Coordinate circuit and motor disconnect switch installation work with electrical raceway and cable work, as necessary for proper interface.

Install disconnect switches for use with motor driven appliances, and motors and controller within sight of controller position unless otherwise indicated.

SECTION 16190 - SUPPORTING DEVICES

NEC Compliance: Comply with NEC as applicable to construction and installation of electrical supporting devices.

MSS Compliance: Comply with applicable MSS standard requirements pertaining to fabrication and installation practices for pipe/conduit hangars and supports.

NECA Compliance: Comply with National Electrical Contractors Association's "Standard of Installation" pertaining to anchors, fasteners, hangers, supports, and equipment mounting.

UL Compliance: Provide electrical components and devices which are UL listed and labeled.

FS Compliance: Comply with Federal Specification FF-S-760 pertaining to retaining strap for conduit, pipe and cable.

Manufactured Supporting Devices:

General: Provide supporting devices which comply with manufacturer's standard materials, design and construction in accordance with published product information, and as required for complete installation; and as herein specified. Where more than one type of device fulfills indicated requirements, selection is Installer's option.

Supports: Provide supporting devices of types, sizes and materials indicated; and have the following construction features:

Clevis Hangers: For supporting 3" rigid metal conduit; galvanized steel' with ½" diameter hole for round steel rod; approximately 54 pounds per 100 units.

Riser Clamps: For supporting 5" rigid metal conduit; black steel; with 2 bolts and nuts, and 4" ears; approximately 510 pounds per 100 units.

Reducing Couplings: Steel rod reducing coupling, ½" x 5/8"; black steel; approximately 16 pounds per 100 units.

C-Clamps: Black malleable iron; ½" rod size; approximately 70 pounds per 100 units.

I-Beam Clamps: Black steel, 1¼" x 3/16" stock; 3/8" cross bolt; flange width 2"; approximately 52 pounds per 100 units.

One-Hole Conduit Straps: For supporting 3/4" rigid metal conduit; galvanized steel; approximately 7 pounds per 100 units.

Two-Hole Conduit Straps: For supporting 3/4" rigid metal conduit; galvanized steel; 3/4" strap width; and 2_" between center of screw holes.

Hexagon Nuts: For ½" rod size; galvanized steel; approximately 4 pounds per 100 units.

Round Steel Rod: black steel; ½" diameter; approximately 67 pounds per 100 feet.

Offset Conduit Clamps: For supporting 2" rigid metal conduit; black steel; approximately 200 pounds per 100 units.

Anchors: Provide anchors of types, sizes and materials indicated; and having the following construction features:

Lead Expansion Anchors: ½"; approximately 38 pounds per 100 units.

Toggle Bolts: Springhead; 3/16" x 4"; approximately 5 pounds per 100 units.

Manufacturers: Provide anchors of one of the following (for each type of anchor):

Abbeon Cal Inc.
Ackerman Johnson Fastening Systems Inc.
Elcen Metal Products Co.
Ideal Industries, Inc.
Joslyn Mfg and supply Co.
McGraw Edison Co.
Rawlplug Co., Inc.
Star Expansion co.
U.S. Expansion Bolt Co.

Sleeves and Seals: Provide sleeves and seals, including armored cable seals, of types, sizes and materials indicated, with the following construction features:

Wall and Floor Seals: Provide factory assembled watertight wall and floor seals, of types and sizes indicated; suitable for sealing around conduit, pipe, or tubing passing through concrete floors and walls. Construct seals with steel sleeves, malleable iron body, neoprene sealing grommets and rings, metal pressure rings, pressure clamps and cap screws.

Conduit Cable Supports: Provide cable supports with insulating wedging plug for non-armored type electrical cables in risers; construct for 2" rigid metal conduit; 3-wires, type wire as indicated; construct body of malleable iron casting with hot-dip galvanized finish.

U-Channel Strut Systems: Provide U-channel strut system for supporting electrical equipment, 12-gage hot-dip galvanized steel, of types and sizes indicated; construct with 9/16" holes, 8" o.c. on top surface, with standard green finish, and with the following fittings which mate and match with U-channel:

Fixture hangers
Channel hangers
End caps
Beam clamps
Wiring studs
Thin wall conduit clamps
Rigid conduit clamps
Conduit hangers
U-bolts

Manufacturers: Provide U-channel strut systems of one of the following (for each type system):

Allied Tube and Conduit Corp.
B-Line Systems, Inc.
Elcen Metal Products co.
Greenfield Mfg. Co., Inc.
Midland-Ross Corp.
OZ/Gedney Div; General Signal Corp.
Power-strut Div.; Van Huffel Tube Corp.
Unistrut Div.; GTE Products Corp.

Fabricated Supporting Devices:

Pipe Sleeves: Provide pipe sleeves of one of the following:

Sheet Metal: Fabricate from galvanized sheet metal; round tube closed with snaplock joint, welded spiral seams or welded longitudinal joint. Fabricate sleeves from the following gage metal: 3" and smaller, 20-gage; 4" to 6", 16-gage; over 6", 14-gage.

Steel Pipe: Fabricate from Schedule 40 galvanized steel pipe; remove burrs.

Iron Pipe: Fabricate from cast-iron or ductile iron pipe; remove burrs.

Plastic Pipe: Fabricate from Schedule 80 PVC plastic pipe; remove burrs.

Sleeve Seals: Provide sleeves for piping which penetrates foundation walls below grade, or exterior walls. Caulk between sleeve and pipe with non-toxic, UL classified caulking material to ensure water-tight seal.

Installation:

Install hangers, anchors, sleeves and seals as indicated, in accordance with manufacturer's written instructions and with recognized industry practices. Comply with installation requirements of NECA and NEC pertaining to supporting devices.

Coordinate with other electrical work, including raceway and wiring work, as necessary to interface installation of supporting devices with other work.

Install hangers, supports, clamps and attachments to support piping properly from building structure. Arrange for grouping of parallel runs of horizontal conduits to be supported together on trapeze type hangers where possible. Install supports with spacings indicated and in compliance with NEC requirements.

Torque sleeve seal nuts, complying with manufacturer's recommended torquing values. Ensure sealing grommets expand to form watertight seal.

SECTION 16195 - ELECTRICAL IDENTIFICATION

UL Compliance: Comply with UL Std 969.

NEC and NEMA Compliance: Comply with NEC and NEMA No.'s WC-1 and WC-2.

ANSI Compliance: Comply with ANSI Std A13.1.

Manufacturer: Provide electrical identification products of one of the following (for each type marker):

Alarm Supply Co., Inc.
Brady, W.H. Co.
Calpico Inc.
Cole-Flex Corp.
Direct Safety Co.
George-Ingraham Corp.
Griffolyn Company
Ideal Industries, Inc.
LEM Products, inc.
Markal Company
National Band and Tag Co.
Panduit Corp.
Radar Engineers Div.; EPIC Corp.
Seton Name Plate Co.
Tesa Corp.

General: Except as otherwise indicated, provide manufacturer's standard products of categories and types required for each application. Where more than single type is specified for an application, selection is Installer's option, but provide single selection for each application.

Colored-Coded Conduit Markers: Provide manufacturer's standard pre-printed, flexible or semi-rigid, permanent, plastic sheet conduit markers, extending 360 degrees around conduits; designed for attachment to conduit by adhesive, adhesive lap joint of marker, matching adhesive plastic tape at each end of marker, or pre-tensioned snap-on. Except as otherwise indicated, provide lettering which indicates voltage of conductor(s) in conduit. Provide 8" minimum length for 2" and smaller conduit, 12" length for larger conduit.

Colors: Unless otherwise indicated or required by governing regulation, provide white markers with black letters.

Color Coded Plastic Tape: Provide manufacturer's standard self-adhesive vinyl tape not less than 3 mils thick by 1½" wide.

Colors: Unless otherwise indicated, or required by governing regulations, provide orange tape.

Underground Type Plastic Line Marker: Manufacturer's standard permanent, bright colored, continuous printed plastic tape, intended for direct burial service, not less than 6" wide x 4 mils thick. Provide tape with printing which most accurately indicates type of service of buried cable.

Cable/Conductor Identification Bands: Provide manufacturer's standard aluminum wrap around cable/conductor markers of size required for proper application, and numbered to show circuit identification.

Plasticized Tags: Manufacturer's standard preprinted or partially preprinted accident prevention and operational tags, of plasticized card stock with matte finish suitable for writing, approximately 3¼" x 5_", with brass grommets and wire fasteners and with appropriate preprinted wording including large size primary wording, e.g. DANGER, CAUTION, DO NOT OPERATE.

Self-Adhesive Plastic Signs: Provide manufacturer's standard, self-adhesive or pressure sensitive, pre-printed, flexible vinyl signs for operational instructions or warnings; of sizes suitable for application areas and adequate for visibility, with proper wording for each application, e.g. 208V, EXHAUST FAN, RECTIFIER.

Colors: Unless otherwise indicated, or required by governing regulations, provide white signs with black lettering.

Baked Enamel Danger Signs: Provide manufacturer's standard "DANGER" signs of baked enamel finish on 20-gauge steel; of standard red, black and white graphics; 14"x10" size except where 10"x7: is the largest size which can be applied where needed, and except where larger size is needed for adequate vision; with recognized standard explanation wording, e.g. HIGH VOLTAGE, KEEP AWAY, BURIED CABLE, DO NOT TOUCH SWITCH.

Engraved Plastic-Laminate Signs: Provide engraving stock melamine plastic laminate with black face and white core plies (letter color), complying with FS L-P-387, in sizes and thicknesses indicated. Engrave laminate with engraver's standard letter style of sizes and wording indicated, and punch for mechanical fastening except where adhesive mounting is necessary because of substrate.

Thickness: 1/8", except as otherwise indicated.

Fasteners: Self-tapping stainless steel screws, except contact-type permanent adhesive where screws cannot or should not penetrate substrate.

Lettering and Graphics: Coordinate names, abbreviations and other designations used in electrical identification work, with corresponding designations shown, specified or scheduled. Provide numbers, lettering and wording as indicated or, if not otherwise indicated, as recommended by manufacturers or as required for proper identification and operation/maintenance of electrical systems and equipment systems and equipment. Comply with ANSI A13.1 pertaining to minimum sizes for letters and numbers.

Installation:

Install electrical identification products as indicated, in accordance with manufacturer's written instructions and requirements of NEC.

Coordination: Where identification is to be applied to surfaces which require finish, install identification after completion of painting.

Regulations: Comply with governing regulations and requests of governing authorities for identification of electrical work.

Conduit Identification: Where electrical conduit is exposed in spaces with exposed mechanical piping which is identified by color-coded method, apply color-coded identification on electrical conduit in manner similar to piping identification. Except as otherwise indicated, use white as coded color for conduit.

Underground Cable Identification: During backfilling/topsoiling of each exterior underground electrical, signal or communication cable, install continuous underground type plastic line marker, located directly over buried line at 6" to 8" below finished grade. Where multiple small lines are buried in a common trench and do not exceed an overall width of 16", install a single line marker.

Install line marker for every buried cable, regardless of whether direct buried or protected in conduit.

Cable/Conductor Identification: Apply cable conductor identification, including voltage, phase and feeder number, on each cable/conductor in each box/enclosure/cabinet where wires of more than one circuit or

communication/signal system are present, except when another form of identification (such as color coded conductors) is provided. Match identification with marking system used in panelboards, shop drawings, contract documents and similar previously established identification for project's electrical work.
Operational Identification and Warnings: Wherever reasonably required to ensure safe and efficient operation and maintenance of electrical systems, and electrically connected mechanical systems and general systems and equipment, including prevention of misuse of electrical facilities by unauthorized personnel, install self-adhesive plastic signs or similar equivalent identification instruction or warnings on switches, outlets and other controls, devices and covers of electrical enclosures. Where detailed instructions or explanations are needed, provide plasticized tags with clearly written messages adequate for intended purposes.

Danger Signs: In addition to installation of danger signs required by governing regulations and authorities, install appropriate danger signs at locations indicated and at locations subsequently identified by Installer of electrical work as constituting similar dangers for persons in or about project.

High Voltage: Install danger signs where it is possible, under any circumstances, for persons to come into contact with electrical power of voltages higher than 110-120 volts.

Critical Switches/Controls: Install danger signs on switches and similar controls, regardless of whether concealed or locked up, where untimely or inadvertent operation (by anyone) could result in significant danger to persons, or damage to or loss of property.

Equipment/System Identification: Install engraved plastic-laminate sign on each major unit of electrical equipment in building; including central or master unit of each electrical system including communication/control/signal systems, unless unit is specified with its own self-explanatory identification or signal system. Except as otherwise indicated, provide single line of text, ½" high lettering on 1½" high sign (2" high where 2 lines are required), white lettering in black field. Provide text matching terminology and numbering of the contract documents and shop drawings. Provide signs for each unit of the following categories of electrical work. All circuits shall be identified on panel door schedules. All circuits shall be identified on panel door schedules.

Panelboards, electrical cabinets and enclosures.
Access panel/doors to electrical facilities.
Major electrical switchgear.
Electrical substations.
Power transfer equipment.
Transformers.
Battery racks.

Install signs at locations indicated, or where not otherwise indicated, at location of best convenience of viewing without interference with operation and maintenance equipment. Secure to substrate with fasteners, except use adhesive where fasteners should not or cannot penetrate substrate.

SECTION 16452 - GROUNDING

Electrical Code Compliance: Comply with applicable local electrical code requirements of the authority having jurisdiction and NEC as applicable to electrical grounding and bonding, pertaining to systems, circuits and equipment.

UL Compliance: Comply with applicable requirements of UL 467, 486A and 869 pertaining to grounding and bonding of systems, circuits and equipment. Provide grounding and bonding products which are UL listed and labeled for their intended usage.

IEEE Compliance: Comply with applicable requirements and recommended installation practices of IEEE Standards 80, 81, 141 and 142 pertaining to grounding and bonding of systems, circuits and equipment.

Manufacturers: One of the following (for each type of grounding and bonding product):

Adalet-PLM Div; Scott Fetzer Co.
Burndy Corporation
Cadweld Div; Erico Products Inc.
Crouse-Hinds Div; Cooper Industries
Eagle Electric Mfg Co.
Ideal Industries, Inc.
Joslyn Corporation
Okonite Company
OZ Gedney Div; General Signal Corp.
Thomas and Betts Corp.

Materials and Components:

General: Except as otherwise indicated, provide electrical grounding and bonding systems indicated; with assembly of materials, including, but not limited to, cables/wires, connectors, solder less lug terminals, grounding electrodes and plate electrodes, bonding jumper braid, surge arresters, and additional accessories needed for a complete installation. Where more than one type component product meets indicated requirements, selection is Installer□s option. Where materials or components are not indicated, provide products which comply with NEC, UL and IEEE requirements and with established industry standards for those applications indicated.

Conductors: Unless otherwise indicated, provide electrical grounding conductors for grounding system connections that match power supply wiring materials and are sized according to NEC.

Conductors: Copper cable, strand dia 0.045"; 0.187#/ft; 57,400 circular mils

Conductors: Copper solid strip; 0.051" thick; 1" wide

Conductors: Copper solid rod; 0.187#/ft.

Conductors: Copper cable, strand dia 0.045"; 14 strands

Conductors: Copper solid strip; 0.051" thick; □" wide

Conductors: Copper solid rod; dia 0.162"

Bonding Jumper Braid: Copper braided tape, constructed of 30-gauge bare copper wires and properly sized for indicated applications.

Flexible Jumper Strap: Flexible flat conductor, 480 strands of 30-gauge bare copper wire; 3/4" wide, 92" long; 48,250 CM. Select braid with holes sized for 3/8" diameter bolts and protect braid with copper bolt hole ends.

Bonding Plates, Connectors, Terminals and Clamps: Provide electrical bonding plates, connectors, terminals, lugs and clamps as recommended by bonding plate, connector, terminal and clamp manufacturers for indicated

applications.
Ground Electrodes and Plates:

Grounding Electrodes: Steel with copper welded exterior, 3/4" dia by 10 feet.

Plate Electrodes: Sheet copper plate, 20-page by 36" x 36" with 2 cable attachments sized as indicated for either 1/0 or 1/0 cables.

Electrical Grounding Connection Accessories: Provide electrical insulating tape, heat-shrinkable insulating tubing, welding materials, bonding straps, as recommended by accessories manufacturers for type of service indicated.

Field Welding: Comply with AWS Code for procedures, appearance and quality of welds; and methods used in correcting welding work. Provide welded connections where grounding conductors connect to undergrounding and plates electrodes.

Installation:

Install electrical grounding and bonding systems as indicated, in accordance with manufacturer's instructions and applicable portions of NEC, NECA's "Standard of Installation", and in accordance with recognized industry practices to ensure that products comply with requirements.

Coordinate with other electrical work as necessary to interface installation of electrical grounding and bonding system with other work.

Weld grounding conductors to underground grounding electrodes.

Ground electrical service system neutral at service entrance equipment to grounding electrodes.

Ground each separately-derived system neutral to:

Separate grounding electrode and water pipe or building steel.

Connect together system neutral, service equipment enclosures, exposed noncurrent carrying metal parts of electrical equipment, metal raceway systems, grounding conductor in raceways and cables, receptacle ground connectors and plumbing systems.

Terminate feeder and branch circuit insulated equipment grounding conductors with a grounding lug, bus or bushing.

Tighten grounding and bonding connectors and terminals, including screws and bolts, in accordance with manufacturer's published torque tightening values for connectors and bolts. Where manufacturer's torquing requirements are not indicated, tighten connections to comply with tightening torque values specified in UL 486A to assure permanent and effective grounding.

Route grounding connections and conductors to ground and protective devices in shortest and straightest paths as possible to minimize transient voltage rises.

Apply corrosion-resistant finish to field connections, buried metallic grounding and bonding products, and places where factory applied protective coatings have been destroyed, which are subjected to corrosive action.

Install clamp-on connectors to clean metal contact surfaces, to ensure electrical conductivity and circuit integrity.

Ground resistance shall be 10 OHMS or less.

SECTION 16470 - PANELBOARDS - STATION SERVICE

Codes and Standards:

Electrical Code Compliance: Comply with applicable local code requirements of the authority having jurisdiction and NEC Article 384 as applicable to installation, and construction of panelboards.

UL Compliance: Comply with applicable requirements of UL 67, “Electric Panelboards”, and UL’s 50, 869, 486A, 486B and 1053 pertaining to panelboards, accessories and enclosures. Provide panelboard units which are UL listed and labeled.

Special Use Markings: Provide panelboards, constructed for special use, with appropriate UL markings which indicates that special type of use/application.

NEMA Compliance: Comply with NEMA Stds Pub/No. 250, Pub/No. PB1, and Pub/No. PB 1.1 pertaining to panelboards.

Federal Specification Compliance: Comply with FS W-P-115, “Power Distribution Panel”, pertaining to panelboards and accessories.

Manufacturers: Provide panelboard products of one of the following (for each type and rating of panelboard and enclosure):

Crouse-Hinds Company
Cutler-Hammer Products, Eaton Corp.
Federal Pacific Electric Co.
General Electric Company
Gould, Inc.
Nelson Electric; Div of General Signal Corp.
Parker Electrical Mfg Co.
Siemens-Allis, Inc.
Square D Company
Westinghouse Electric Corp.

Panelboards:

General: Except as otherwise indicated, provide panelboards, enclosures and ancillary components of types, sizes and ratings indicated, which comply with manufacturer’s standard materials; with the design and construction in accordance with published product information; equip with proper number of unit panelboard devices as required for complete installation. Where types, sizes or ratings are not indicated, comply with NEC, UL and established industry standards for those applications indicated.

Power Distribution Panelboards: Provide dead-front safety type power distribution panelboards as indicated, with panelboard switching and protective devices in quantities, ratings, types and with arrangement shown; with anti-turn solderless pressure type main lug connectors approved for use with copper conductors. Select unit with feeders connecting at top of panel. Equip with copper bus bars with not less than 98% conductivity, and with full sized neutral bus; provide suitable lugs on neutral bus for outgoing feeders requiring neutral connections. Provide molded-case main and branch circuit breaker types for each circuit, with toggle handles that indicate when tripped. Where multiple-pole breakers are indicated, provide with common trip so overload on one pole will trip all poles simultaneously. Provide panelboards with bare uninsulated grounding bars suitable for bolting to enclosures. Select enclosures fabricated by same manufacturer as panelboards, which mate and match properly with panelboards.

Lighting and Appliance Panelboards: Provide dead-front safety type lighting and appliance panelboards as indicated, when switching and protective devices in quantities, ratings, types and arrangements as shown; with anti-burn solderless pressure type lug connectors approved for use with copper conductors; construct unit for connecting feeders at top of panel; equip with copper bus bars, full-sized neutral bar, with bolt-in

type heavy-duty, quick-make, quick-break, single-pole lugs on neutral bus for each outgoing feeder required; and provide bare uninsulated grounding bars suitable for bolting to enclosures. Select enclosures fabricated by same manufacturer as panelboards, which mate and match properly with panelboards.

Panelboard Enclosures: Provide galvanized sheet steel cabinet type enclosures, in sizes and NEMA types as indicated, code-gauge, minimum 16-gauge thickness. Construct with multiple knockouts and wiring gutters. Provide fronts with adjustable trim clamps, and doors with flush locks and keys, all panelboard enclosures keyed alike, with concealed piano door hinges and door swings as indicated. Equip with interior circuit-directory frame, and card with clear plastic covering. Provide baked gray enamel finish over a rust inhibitor coating. Design enclosures for recessed mounting. Provide enclosures which are fabricated by same manufacturer as panelboards, which mate and match properly with panelboards to be enclosed.

Molded-Case Circuit Breakers: Provide factory assembled, molded-case circuit breakers of frame sizes, characteristics and ratings including RMS symmetrical interrupting ratings indicated. Select breakers with permanent thermal and instantaneous magnetic trip, and with fault current limiting protection, ampere ratings as indicated. Construct with overcenter, trip-free, toggle-type operating mechanisms with quick-make, quick-break action and positive handle trip indication. Construct breakers for mounting and operating in any physical position, and operating in an ambient temperature of 40 deg. C. Provide breakers with mechanical screw type removable connector lugs, AL/CU rated.

Accessories: Provide panelboard accessories and devices including, but not necessarily limited to, cartridge and plug time-delay type fuses, ground-fault protection units, etc., as recommended by panelboard manufacturer for ratings and applications indicated.

Installation:

Install panelboards and enclosures as indicated, in accordance with manufacturer's written instructions, applicable requirements of NEC standards and NECA's "Standards of Installation", and in compliance with recognized industry practices to ensure that products fulfill requirements.

Tighten connectors and terminals, including screws and bolts, in accordance with equipment manufacturer's published torque tightening values for equipment connectors. Where manufacturer's torquing requirements are not indicated, tighten connectors and terminals to comply with tightening torques specified in UL Stds 486A and B.

Fasten enclosures firmly to walls and structural surfaces, ensuring that they are permanently and mechanically anchored.

Provide properly wired electrical connections for panelboards within enclosures.

Fill out panelboard's circuit directory card upon completion of installation work.

Insert fuses, if any, of ratings indicated, within installed panelboards.

Grounding: Provide equipment grounding connections for panelboard enclosures as indicated. Tighten connections to comply with tightening torques specified in UL 486A to assure permanent and effective grounds.

Prior to energization of electrical circuitry, check all accessible connections to manufacturer's tightening torque specifications.

Prior to energization of panelboards, check with ground resistance tester phase-to-phase and phase-to-ground insulation resistance levels to ensure requirements are fulfilled.

Prior to energization, check panelboards for electrical continuity of circuits and for short-circuits.

Adjust operating mechanisms for free mechanical movement.

Touch-up scratched or marred surfaces to match original finishes.

Demonstration: Subsequent to wire and cable hook-ups, energize panelboards and demonstrate functioning in accordance with requirements. Where necessary, correct malfunctioning units, and then retest to demonstrate compliance.

SECTION 16477 - FUSES

Submittals: Submit manufacturer's technical product data on fuses, including specifications, electrical characteristics, installation instructions, furnished specialties and accessories. In addition, include voltages and current ratings, interrupting ratings, current limitation ratings, time-current trip characteristic curves and mounting requirements.

UL Compliance and Labeling: Comply with applicable provisions of UL 198D, "High-Interrupting-Capacity Class K Fuses". Provide overcurrent protective devices which are UL listed and labeled.

NEC Compliance: Comply with NEC as applicable to construction and installation of fuseable devices.

ANSI Compliance: Comply with applicable requirements of ANSI C97.1 "Low Voltage Cartridge Fuses 600 Volts or Less".

Maintenance Stock, Fuses: For types and ratings required, furnish additional fuses, amounting to one unit for every five installed units, but not less than one set of three of each kind.

Manufacturers: Subject to compliance with requirements, provide fuses of one of the following:

Bussmann Div, Cooper Industries
Commercial Enclosed Fuse Co.
General Electric Co.
Shawmut Div, Gold Inc.
Reliance Fuse Div, Federal Pacific Electric Co.

Fuses: Except as otherwise indicated, provide fuses of types, sizes, ratings and average time-current and peak let-through current characteristics indicated, which comply with manufacturer's standard design, materials, and are constructed in accordance with published product information, and with industry standards and configurations.

Class L Time-Delay Fuses: Provide UL Class L time-delay fuses rated 600-volts, 60 H, 800 amperes, with 200,000 RMS symmetrical interrupting current rating for protecting transformers, motors and circuit breakers.

Class L Fast-Acting Fuses: Provide UL Class L fast-acting fuses rated 600-volts, 60 Hz, 2000 amperes, with 200,000 RMS symmetrical interrupting current rating for protecting service entrances and main feeder circuit breakers.

Class RK1 Time-Delay Fuses: Provide UL Class RK1 time-delay fuses rated 600-volts, 60 Hz, 400 amperes, with 200,000 RMS symmetrical interrupting current rating for protecting transformers, motors and circuit breakers.

Class RK1 current-Limiting Fuses: Provide UL Class RK1 current-limiting fuses rated 250-volts, 60 Hz, 200 amperes, with 200,000 RMS symmetrical interrupting current rating for protecting circuit breakers.

Class J Current-Limiting Fuses: Provide UL Class J current-limiting fuses rated 600-volts, 60 Hz, 300 amperes, with 200,000 RMS symmetrical interrupting current rating for protecting circuit breakers.

Class RK5 Time-Delay Fuses: Provide UL Class RK5 time-delay fuses rated 600-volts, 60 Hz, 300 amperes, with 200,000 RMS symmetrical interrupting current rating for protecting transformers, motors.
Class K5 One-Time Fuses: Provide UL Class K5 one-time fuses rated 250 volts, 60 HZ, 200 amperes; with 100,000 RMS symmetrical interrupting current rating for protecting non-inductive loads.

Class H Fuses: Provide UL Class H fuses rated 600 volts, 60 Hz, 300 amperes, with 10,000 RMS symmetrical interrupting current rating, for protecting general purpose light duty feeders.

Class T Fuses: Provide UL Class T fuses rated 600 volts, 60 Hz, 150 amperes, with 200,000 RMS symmetrical interrupting current rating for protection of physically small devices.

Cable Limiters: Provide cable limiters rated 600-volts, 60 Hz, 400 amperes with tubular type terminals for compression connection to 500 MCM copper cable.

Install fuses as indicated, in accordance with manufacturer's written instructions and with recognized industry practices to ensure that protective devices comply with requirements. Comply with NEC, and NEMA standards for installation of fuses.

Coordinate with other work including electrical wiring as necessary, to interface installation of fuses with other work.

Install fuses in fused switches, if any.

Prior to energization of fuseable devices, test devices for continuity of circuitry and for short-circuits. Replace malfunctioning units with new units, and then demonstrate compliance with requirements.

Payment

Compensation for all work in this section, including labor, equipment and material, shall be included in the bid prices for all items requiring same.

SECTION 16526 – EXTERIOR ATHLETIC LIGHTING

Lighting System with LED Light Source

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 lighting system performance and design standards for Warinanco Park using an LED Lighting source. The manufacturer / contractor shall supply lighting equipment to meet or exceed the standards set forth in these specifications.

C. The sports lighting will be for the following venues:

1. Softball 1
2. Softball 2

D. 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 light levels are guaranteed to not drop below specified target values for a period of 25 years.
2. Environmental Light Control: It is the primary goal of this project to minimize spill light to adjoining properties and glare to the players, spectators and neighbors.
3. Control and Monitoring – 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. Fields should be proactively monitored to detect luminaire outages over a 25-year life cycle. All communication and monitoring costs for 25-year period shall be included in the bid.
    a. Control and monitoring system shall provide contactor control of all existing circuits. Key switches shall be provided to provide field-level control of existing circuit groups.

1.2 ONFIELD LIGHTING PERFORMANCE

A. Illumination Levels and Design Factors: Playing surfaces shall be lit to an average target illumination level and uniformity as specified in the chart below. Lighting manufacturers will provide a guarantee that light levels will be sustained over the life of the warranty period. Lighting calculations shall be developed and field measurements taken on the grid spacing with the minimum number of grid points specified below.

Manufacturers will provide lumen maintenance data of the LED luminaires used per TM-21-11 and will Incorporate the lumen maintenance projections Into the lighting designs to ensure target light levels are achieved throughout the guaranteed period of the system. Per IES guidelines, lumen maintenance hours should be reported based on the 6x multiplier of testing hours.

Area of Lighting	Average Target Illumination Levels (Footcandles)	Maximum to Minimum Uniformity Ratio	Grid Points	Grid Spacing
Baseball field (infield/outfield)	50/30	2:1 / 2.5:1	25/101	30’ x 30’
Softball field (infield/outfield)	50/30	2.5:1 / 3:1	25/59	20’ x 20’

B. Color Temperature: The lighting system shall have a minimum color temperature of 5700K and a CRI of 75.

C. Playability: Lighting design and luminaire selection should be optimized for playability by reducing

glare onfield and providing sufficient uplight.

1. Aiming Angles: To reduce glare, luminaire aiming should ensure the top of the luminaire field angle (based on sample photometric reports) is a minimum of 10 degrees below horizontal.
2. Glare Control Technology – Luminaires selected should have glare control technology including, but not limited to: external visors, internal shields and louvres. No symmetrical beam patterns are acceptable.
3. Aerial lighting – Adequate illumination must be provided above the field in order to see the ball in flight. It is recommended that a lighting analysis be performed above the field of play to evaluate the visibility of the ball over its typical trajectory to ensure the participants will adequately see the ball. Calculation planes should be evaluated up to the maximum anticipated height for the level of play.
4. Mounting Heights: To ensure proper aiming angles, minimum mountings heights shall be as described below. Higher mounting heights may be necessary for luminaire with lesser glare control to meet field angle requirements of section 1.2.C.1.

# of Poles	Pole Designation	Pole Height
5	A1-A2, C1-C2, D1	70’
2	B1-B2	80’

1.3 ENVIRONMENTAL LIGHT CONTROL

A. Light Control Luminaires: All luminaires shall utilize spill light and glare control devices including, but not limited to, internal shields, louvers and external shields. No symmetrical beam patterns are accepted.

B. Spill Light and Glare Control: To minimize impact on adjacent properties, spill light and candela values must not exceed the following levels taken at 3 feet above grade.

	Maximum
Horizontal Footcandles	.3 fc
Vertical Footcandles	.25 fc
Candela (taken at 5 ft above grade)	4800 cd

C. Environmental glare impact scans must be submitted showing the maximum candela 150’ from the playing surface.

D. Spill Scans: Spill scans must be submitted indicating the amount of horizontal and vertical footcandles along the specified lines. Light levels shall be provided in 30-foot intervals along the boundary line at 3 ft above grade with all luminaires on. Spill Values may not take into account foliage, bleachers, or other objects that would block light spillage.

E. Sample Photometry: The first page of a photometric report for all luminaire types proposed showing horizontal and vertical axial candle power shall be provided to demonstrate the capability of achieving the specified performance. Reports shall be certified by a qualified testing laboratory with a minimum of five years experience or by a manufacturer’s laboratory with a current accreditation under the National Voluntary Laboratory Accreditation Program for Energy Efficient Lighting Products. A summary of the horizontal and vertical aiming angles for each luminaire shall be included with the photometric report.

F. Field Verification: Lighting manufacturer shall supply field verification of environmental light control using a meter calibrated within the last 12 months:
   1. Spill verification: Illumination levels shall be taken in accordance with IESNA LM-5-04. The light sensing surface of the light meter should be held 36 inches above the playing surface with the

sensing surface horizontal (for horizontal readings) or vertically pointed at the brightest light bank (for max vertical readings)

PART 2 – PRODUCT

2.1 SPORTS LIGHTING SYSTEM CONSTRUCTION

A. Manufacturing Requirements: All components shall be designed and manufactured as a system. All luminaires, wire harnesses, drivers and other enclosures shall be factory assembled, aimed, wired and tested.

B. 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, passivated and coated with aluminum-based thermosetting epoxy resin for protection against corrosion and stress corrosion cracking. Structural fasteners may be carbon steel and galvanized meeting ASTM A153 and ISO/EN 1461 (for hot dipped galvanizing), or ASTM B695 (for mechanical galvanizing). All wiring shall be enclosed within the cross-arms, pole, or electrical components enclosure.

C. System Description: Lighting system shall consist of the following:

1. Galvanized steel poles and cross-arm assembly.
2. Non-approved pole technology:
    a. Square static cast concrete poles will not be accepted.
    b. Direct bury steel poles which utilize the extended portion of the steel shaft for their foundation will not be accepted due to potential for internal and external corrosive reaction to the soils and long term performance concerns.
3. Lighting systems shall use concrete foundations. See Section 2.4 for details.
    a. For a foundation using a pre-stressed concrete base embedded in concrete backfill the 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.
    b. For anchor bolt foundations or foundations using a pre-stressed concrete base in a suspended pier or re-inforced pier design pole erection may occur after 7 days. Or after a concrete sample from the same batch achieves a certain strength.
4. Manufacturer will supply all drivers and supporting electrical equipment
    a. Remote drivers and supporting electrical equipment shall be mounted approximately 10 feet above grade in aluminum enclosures. The enclosures shall be touch-safe and include drivers and fusing with indicator lights on fuses to notify when a fuse is to be replaced for each luminaire. Disconnect per circuit for each pole structure will be located in the enclosure. Integral drivers are not allowed.
    b. Manufacturer shall provide surge protection at the pole equal to or greater than 40 kA for each line to ground (Common Mode) as recommended by IEEE C62.41.2_2002.
5. Wire harness complete with an abrasion protection sleeve, strain relief and plug-in connections for fast, trouble-free installation.
6. All luminaires, visors, and cross-arm assemblies shall withstand 150 mi/h winds and maintain luminaire aiming alignment.
7. Control cabinet to provide remote on-off control and monitoring of the lighting system. See Section 2.3 for further details.
8. Manufacturer shall provide lightning grounding as defined by NFPA 780 and be UL Listed per

UL 96 and UL 96A.

a. Integrated grounding via concrete encased electrode grounding system.

b. If grounding is not integrated into the structure, the manufacturer shall supply grounding electrodes, copper down conductors, and exothermic weld kits. Electrodes and conductors shall be sized as required by NFPA 780.The grounding electrode shall be minimum size of 5/8 inch diameter and 8 feet long, with a minimum of 10 feet embedment. Grounding electrode shall be connected to the structure by a grounding electrode conductor with a minimum size of 2 AWG for poles with 75 feet mounting height or less, and 2/0 AWG for poles with more than 75 feet mounting height.

9. Enhanced corrosion protection package: Due to the potentially corrosive environment for this project, manufacturers must provide documentation that their products meet the following enhanced requirements in addition to the standard durability protection specified above:

a) Exposed carbon steel horizontal surfaces on the crossarm assembly shall be galvanized to no less than a five (5) mil average thickness.

b) Exposed die cast aluminum components shall be Type II anodized per MIL-STD-8625 and coated with high performance polyester.

c) Exposed extruded aluminum components shall be Type II anodized per MIL-STD-8625 and coated with high performance polyester.

D. Safety: All system components shall be UL listed for the appropriate application.

2.2 ELECTRICAL

A. Electric Power Requirements for the Sports Lighting Equipment:
1. Electric power: To be confirmed
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.

B. Energy Consumption: The kW consumption for the field lighting system shall be 45.81 kW.

2.3 CONTROL

A. Instant On/Off Capabilities: System shall provide for instant on/off of luminaires.

B. Lighting contactor cabinet(s) constructed of NEMA Type 4 aluminum, designed for easy installation with contactors, labeled to match field diagrams and electrical design. Manual off-on-auto selector switches shall be provided.

C. Contactor control of lights: To minimize wear on drivers and other electrical components and prevent lights from turning on due to communication loss, circuits must be controlled via contactor switching, not dimming driver output to zero.

D. Dimming: System shall provide for 4-stage dimming (high-medium-low-blackout). Dimming will be set via scheduling options (Website, app, phone, fax, email)

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 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. Scheduling tool shall be capable of setting curfew limits.

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. 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 controller shall determine switch position (manual or auto) and contactor status (open or closed).

G. Management Tools: Manufacturer shall provide a web-based database and dashboard tool of actual field usage and provide reports by facility and user group. Dashboard shall also show current status of luminaire outages, control operation and service. Mobile application will be provided suitable for IOS, Android and Blackberry devices.

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. Report hours saved by using early off and push buttons by users.

H. Communication Costs: Manufacturer shall include communication costs for operating the control and monitoring system for a period of 25 years.

I. Communication with luminaire drivers: Control system shall interface with drivers in electrical components enclosures by means of powerline communication.

2.4 STRUCTURAL PARAMETERS TO BE DESIGNED BY OTHERS (LIGHTING/POLE MANUFACTURE)

A. Wind Loads: Wind loads shall be based on the 2021 International Building Code. Wind loads to be calculated using ASCE 7-16, an ultimate design wind speed of 115 mi/h and exposure category C.

B. Pole Structural Design: The stress analysis and safety factor of the poles shall conform to 2013 AASHTO Standard Specification for Structural Supports for Highway Signs, Luminaires, and Traffic Signals (LTS-6).

C. Foundation Design: The foundation design shall be based on soil parameters as outlined in the geotechnical report. If no geotechnical report is available, the foundation design shall be based on soils that meet or exceed those of a Class 5 material as defined by 2021 IBC Table 1806.2.

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. These drawings must be submitted at time of bid to allow for accurate pricing.

PART 3 – EXECUTION

3.1 SOIL QUALITY CONTROL

A. 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 for soils other than specified soil conditions;
2. Additional materials required to achieve alternate foundation;
3. Excavation and removal of materials other than normal soils, such as rock, caliche, etc.

3.2 DELIVERY TIMING

B. Delivery Timing Equipment On-Site: The equipment must be on-site 10-12 weeks from receipt of approved submittals and receipt of complete order information.

3.3 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 LM-5-04.

B. Field Light Level Accountability

1. Light levels are guaranteed not to fall below the target maintained light levels for the entire warranty period of 25 years. These levels will be specifically stated as “guaranteed” on the illumination summary provided by the manufacturer.

2. The contractor/manufacturer will be held responsible for any and all changes needed to bring these fields back to compliance for light levels and uniformities. Contractor/Manufacturer will be held responsible for any damage to the fields during these repairs.

C. Correcting Non-Conformance: If, in the opinion of the Owner or his appointed Representative, the actual performance levels including footcandles, uniformity ratios, uplight for aerial visibility, and offsite candela readings are not in conformance with the requirements of the performance specifications and submitted information, the Manufacturer shall be required to make adjustments to meet specifications and satisfy Owner.

3.4 WARRANTY AND GUARANTEE

A. 25-Year Warranty: Each manufacturer shall supply a signed warranty covering the entire system for 25 years from the date of shipment. Warranty shall guarantee specified light levels. Manufacturer shall maintain specifically funded financial reserves to assure fulfillment of the warranty for the full term. Warranty does not cover weather conditions events such as lightning or hail damage, improper installation, vandalism or abuse, unauthorized repairs or alterations, or product made by other manufacturers.

B. Maintenance: Manufacturer shall monitor the performance of the lighting system, including on/off status, hours of usage and luminaire outage for 25 years from the date of equipment shipment. Parts and labor shall be covered such that individual luminaire outages will be repaired when the usage of any field is materially impacted. Manufacturer is responsible for removal and replacement of failed luminaires, including all parts, labor, shipping, and equipment rental associated with maintenance. Owner agrees to check fuses in the event of a luminaire outage.

PART 4 – DESIGN APPROVAL

4.1 PRE-BID SUBMITTAL REQUIREMENTS (Non-Musco)

A. Design Approval: The owner / engineer will review pre-bid submittals per section 4.1.B from all the manufacturers to ensure compliance to the specification 10 days prior to bid. If the design meets the design requirements of the specifications, a letter and/or addendum will be issued to the manufacturer indicating approval for the specific design submitted.

B. Approved Product: Musco’s Light-Structure System™ with TLC for LED® 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.

C. Bidders are required to bid only products that have been approved by this specification or addendum by the owner or owner’s representative. Bids received that do not utilize an approved system/design, will be rejected.

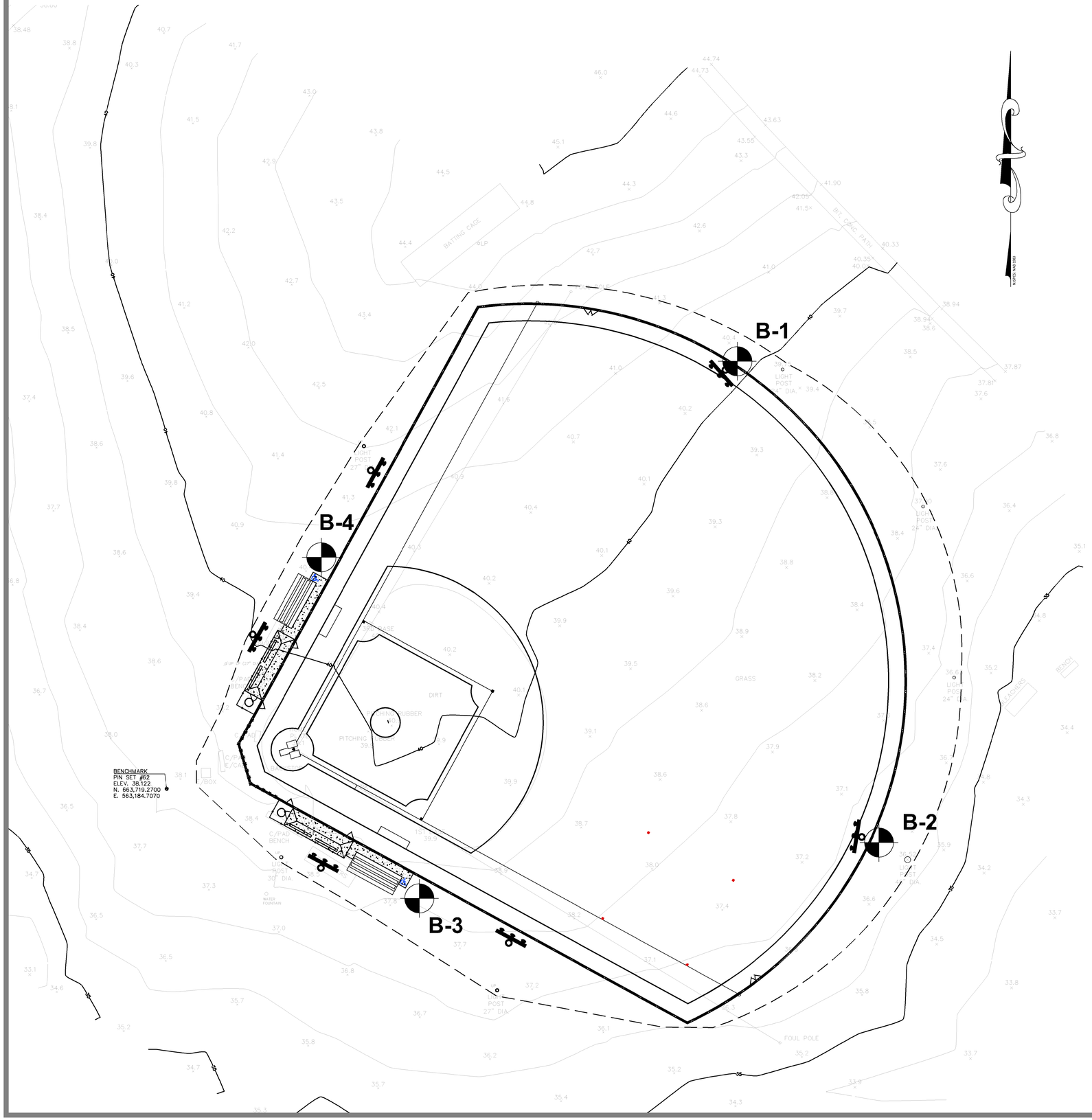
REQUIRED SUBMITTAL INFORMATION FOR ALL MANUFACTURERS (NOT PRE-APPROVED) 10 DAYS PRIOR TO BID

All items listed below are mandatory, shall comply with the specification and be submitted according to pre-bid submittal requirements. Complete the Yes/No column to indicate compliance (Y) or noncompliance (N) for each item. ***Submit checklist below with submittal.***

Yes / No	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	Equipment Layout	Drawing(s) showing field layouts with pole locations
	C	On Field Lighting Design	Lighting design drawing(s) showing: a. Field Name, date, file number, prepared by 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 c. Pole height, number of fixtures per pole, horizontal and vertical aiming angles, as well as luminaire information including wattage, lumens and optics d. Height of light test meter above field surface. 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 (CV), coefficient of utilization (CU) uniformity gradient; number of luminaries, total kilowatts, average tilt factor; light loss factor.
	D	Off Field Lighting Design	Lighting design drawing showing initial spill light levels along the boundary line (defined on bid drawings) in footcandles. Lighting design showing glare along the boundary line in candela. Light levels shall be taken 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 of lights.
	E	Photometric Report	Provide first page of photometric report for all luminaire types being proposed showing candela tabulations as defined by IESNA Publication LM-35-02. Photometric data shall be certified by laboratory with current National Voluntary Laboratory Accreditation Program or an independent testing facility with over 5 years experience.
	F	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 to not fall below target levels for warranty period.
	G	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, if required by owner. (May be supplied upon award).
	H	Control & Monitoring System	Manufacturer of the control and monitoring system shall provide written definition and schematics for automated control system. They will also provide ten (10) references of customers currently using proposed system in the state of New Jersey.
	I	Electrical Distribution Plans	Manufacturer bidding an alternate product 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.
	J	Warranty	Provide written warranty information including all terms and conditions. New Jersey
	K	Project References	Manufacturer to provide a list of ten (10) projects where the technology and specific fixture proposed for this project has been installed in the state of New Jersey. Reference list will include project name, project city, installation date, and if requested, contact name and contact phone number.
	L	Product Information	Complete bill of material and current brochures/cut sheets for all products being provided.

	M	Delivery	Manufacturer shall supply an expected delivery timeframe from receipt of approved submittals and complete order information.
	N	Non-Compliance	Manufacturer shall list all items that do not comply with the specifications. If in full compliance, tab may be omitted.
	O	Environmental Light Control Design	Environmental glare impact scans must be submitted showing the maximum candela 150' from the playing surface.

APPENDIX A



B-#

- DENOTES APPROXIMATE LOCATION OF PROPOSED SOIL BORING

PLAN

GRAPHIC SCALE

30 0 15 30 60 120

SCALE: 1"=30'

No.	DESCRIPTION OF REVISION	DATE	DRAWN	CHECKED	RELEASED

BOROUGH OF ROSELLE
UNION COUNTY, NEW JERSEY

WARINANCO PARK IMPROVEMENTS

BORING LOCATION PLAN

CME ASSOCIATES
CONSULTING AND MUNICIPAL ENGINEERS
NJ CERTIFICATE OF AUTHORIZATION NO. 24GA28359000
3141 BORDENTOWN AVENUE, PARLIN, NEW JERSEY 08859-1162 (732) 727 8000
1460 ROUTE 9 SOUTH, HOWELL, NEW JERSEY 07731-1194 (732) 462 7400

MICHAEL J. McCLELLAND P.E.
NEW JERSEY PROFESSIONAL ENGINEER LIC. 32468

PRELIMINARY

DATE

SCALE	DATE
As Shown	October 2024
DRAWN BY	DESIGNED BY
LAK	LAK
CHECKED BY	SHEET
	X of XX

REGISTER NO.

FILE NO. 115.UN00219.P01

DRAWING NUMBER

CME ASSOCIATES	**Project:** WARIANCO PARK LIGHTING Roselle, Union County, NJ	Sheet:	1 of 1
		Boring No.:	**B-1**
	Sampler: 2" split spoon	Location Plan:	See Attached
	Hammer/Fall: 140lbs/30"	Drilling Company:	Environmental Technical Drilling, Inc.
	Rig Type/Drilling Method: ATV / Mud Rotary		

Project#:	115.UN00219.P01	Ground Elevation:		Drilling Inspector:	J. Sullivan, PE
Start Date:	11/7/2024	Depth To Water:	12 ft		
End Date:	11/7/2024	Ground Water Elev:			

Depth Below Surface (ft)	Blows: Casing per ft.	Blows: Sampler per 6 Inches				Sample: ID	Sample: Depth (ft)	Identification of Soils/Remarks
1		4	7			S-1	0-2	S-1: Lt. Pale Brown **Clayey SILT**
2				9	9			
3		7	10			S-2	2-4	S-2 (Top 6"): **Same** as S-1
4				7	9			(Bottom 18"): Lt. Pale Reddish-brown **Clayey SILT**, trace f Gravel
5		9	10			S-3	4-6	S-3: Reddish-brown **Silty CLAY**
6				10	11			
7		9	14			S-4	6-8	S-4: Reddish-brown **Silty CLAY**, some cf Gravel (fragments of shale, quartz)
8				9	6			
9		4	5			S-5	8-10	S-5: Pale Reddish-brown **Clayey SILT** (Bull's Liver)
10				4	5			
11		5	3			S-6	10-12	S-6 (Top 18") : **Same** as S-5(wet)
12				6	4			(Bottom 6"): Reddish-brown **SILT & CLAY**, trace^{+} cf Sand, some^{-} mf Gravel
13								
14								
15		6	4			S-7	- cf Grave	S-7: **Same** as S-6 Bottom
16				8	12			
17								
18								
19								
20		5	9			S-8	20-22	S-8: Red-brown **Clayey SILT**, and cf Gravel (fragments of shale)
21				11	11			
22								
23								
24								
25		3	4			S-9	25-27	S-9: **Same** as S-8
26				6	11			
27								
28								
29								
30		27	30			S-10	30-32	S-10: Reddish-brown c **GRAVEL** (fragmented shale)
31				47	40			
32								
33								
34								
35		50/0				S-11	35-35.5	S-11: No Recovery
36								End of Boring at 35 ft
37								
38								
39								
40								
41								
42								

VISUAL IDENTIFICATION TERMS USED

	Clayey Soils	@ Ball Moist	Relative Density (Dr) of Granular Soils		Consistency of Clayey Soils (Based on Shearing Strength)		Proportions Used	
Clayey SILT	slight PL	Thread 1/4"	Very Loose	0-15%	soft (S)	0.1-0.5 tsf	trace	1-10%
SILT & CLAY	low PL	Thread 1/8"	Loose	15-35%	firm (F)	0.5-1.0 tsf	little	10-20%
CLAY & SILT	med PL	Thread 1/16"	Medium	35-65%	med hard (MH)	1.0-2.0 tsf	some	20-35%
Silty CLAY	high PL	Thread 1/32"	Dense	65-85%	hard (H)	2.0-4.0 tsf	and	35-50%
CLAY	very high PL	Thread 1/64"	Very Dense	85-100%	very hard (VH)	over 4.0 tsf		

CME ASSOCIATES	**Project:** WARIANCO PARK LIGHTING Roselle, Union County, NJ	Sheet:	1 of 1
		Boring No.:	**B-2**
	Sampler: 2" split spoon	Location Plan:	See Attached
	Hammer/Fall: 140lbs/30"	Drilling Company:	Environmental Technical Drilling, Inc.
	Rig Type/Drilling Method: ATV / Mud Rotary		

Project#:	115.UN00219.P01	Ground Elevation:		Drilling Inspector:	J. Sullivan, PE
Start Date:	11/7/2024	Depth To Water:	8.5 ft		
End Date:	11/7/2024	Ground Water Elev:			

Depth Below Surface (ft)	Blows: Casing per ft.	Blows: Sampler per 6 Inches				Sample: ID	Sample: Depth (ft)	Identification of Soils/Remarks
1		4	14			S-1	0-2	S-1 (Top 6"): Pale Reddish-brown **Clayey SILT**
2				20	17			(Bottom 18"): Pale Brown c^{+} f **GRAVEL**, trace^{+} Silt (frags of shale;Fill)
3		13	9			S-2	2-4	S-2: Brown **Clayey SILT**, trace^{+} f Sand, trace f Gravel
4				6	12			
5		6	9			S-3	4-6	S-3: Reddish-brown **SILT & CLAY**, little^{-} mf Gravel
6				11	9			
7		10	12			S-4	6-8	S-4: **Same** as S-3
8				12	8			
9		5	5			S-5	8-10	S-5: Red-brown **Silty CLAY**, trace^{+} f Sand (Bottom 18: wet)
10				5	11			
11		10	12			S-6	10-12	S-6: Red-brown **Silty CLAY**, trace^{+} f Sand
12				11	13			
13								
14								
15		6	8			S-7	- cf Grave	S-7: Red-brown **Clayey SILT**, trace^{-} f Sand, trace^{+} cf Gravel
16				9	10			
17								
18								
19								
20		5	9			S-8	20-22	S-8: Red-brown **Clayey SILT** (Bull's Liver)
21				11	11			
22								
23								
24								
25		18	30			S-9	25-27	S-9: Red-brown **Clayey SILT**, some+ cf Gravel (shale frags & quartz)
26				21	19			
27								
28								
29								
30		21	23			S-10	30-32	S-10: **Same** as S-9
31				22	24			
32								
33								
34								
35		49	50/0			S-11	35-35.5	S-11: Red-brown **Clayey SILT**, some+ cf Gravel, w / c Gravel in tip of spoon
36								End of Boring at 35.5 ft
37								
38								
39								
40								

VISUAL IDENTIFICATION TERMS USED

	Clayey Soils	@ Ball Moist	Relative Density (Dr) of Granular Soils		Consistency of Clayey Soils (Based on Shearing Strength)		Proportions Used	
Clayey SILT	slight PL	Thread 1/4"	Very Loose	0-15%	soft (S)	0.1-0.5 tsf	trace	1-10%
SILT & CLAY	low PL	Thread 1/8"	Loose	15-35%	firm (F)	0.5-1.0 tsf	little	10-20%
CLAY & SILT	med PL	Thread 1/16"	Medium	35-65%	med hard (MH)	1.0-2.0 tsf	some	20-35%
Silty CLAY	high PL	Thread 1/32"	Dense	65-85%	hard (H)	2.0-4.0 tsf	and	35-50%
CLAY	very high PL	Thread 1/64"	Very Dense	85-100%	very hard (VH)	over 4.0 tsf		

Project: WARIANCO PARK LIGHTING
Roselle, Union County, NJ

Sheet: 1 of 1
Boring No.: **B-3**
Location Plan: See Attached
Drilling Company: Environmental Technical Drilling, Inc.

Sampler: 2" split spoon
Hammer/Fall: 140lbs/30"
Rig Type/Drilling Method: ATV / Mud Rotary

Project#:	115.UN00219.P01	Ground Elevation:		Drilling Inspector:	J. Sullivan, PE
Start Date:	11/8/2024	Depth To Water:	11 ft		
End Date:	11/8/2024	Ground Water Elev:			

Depth Below Surface (ft)	Blows Casing per ft.	Sampler per 6 Inches				Sample ID	Sample Depth (ft)	Identification of Soils/Remarks
1		5	7			S-1	0-2	S-1 (Top 18"): Pale Lt. Brown **Clayey SILT**
2				7	8			(Bottom 6"): Pale Reddish-Brown **Clayey SILT**
3		5	9			S-2	2-4	S-2: Pale Reddish-Brown **Clayey SILT**, little^{+} cf Gravel
4				10	11			
5		17	19			S-3	4-6	S-3: Reddish-Brown **Clayey SILT**, little^{+} cf Gravel
6				18	12			
7		13	14			S-4	6-8	S-4: Reddish-Brown **Clayey SILT**, trace^{+} f Gravel
8				14	13			
9		8	8			S-5	8-10	S-5: Reddish-Brown **Clayey SILT**, little cf Gravel
10				8	9			
11		8	5			S-6	10-12	S-6 (Top 12"): **Same** as S-5 (moist)
12				5	4			(Bottom 12"): Reddish-Brown **Clayey SILT**, little^{+} cf Gravel, trace f Gravel
13								(wet)
14								
15		5	5			S-7	- cf Grave	S-7 (Top 18"): Red-brown **Clayey SILT**, some mf Sand
16				5	8			(Bottom 6"): Reddish-brown **Clayey SILT** (Bull's Liver)
17								
18								
19								
20		11	13			S-8	20-22	S-8: Red-brown cf **GRAVEL**, and^{-} cf Sand, little^{-} Silt
21				15	14			
22								
23								
24								
25		6	13			S-9	25-27	S-9: Red-brown cf **GRAVEL**, some cf Sand, trace^{+} Silt
26				26	21			
27								
28								
29								
30		32	25			S-10	30-32	S-10: Red-brown cf **SAND**, and c+f Gravel
31				30	21			
32		50/0						
33								End of Boring at 32 ft
34								Note: Difficulty advancing roller bit below 28 ft; roller bit and
35								spoon refusal at 32 ft.
36								
37								
38								
39								
40								

VISUAL IDENTIFICATION TERMS USED

	Clayey Soils	@ Ball Moist	Relative Density (Dr) of Granular Soils		Consistency of Clayey Soils (Based on Shearing Strength)		Proportions Used	
Clayey SILT	slight PL	Thread 1/4"	Very Loose	0-15%	soft (S)	0.1-0.5 tsf	trace	1-10%
SILT & CLAY	low PL	Thread 1/8"	Loose	15-35%	firm (F)	0.5-1.0 tsf	little	10-20%
CLAY & SILT	med PL	Thread 1/16"	Medium	35-65%	med hard (MH)	1.0-2.0 tsf	some	20-35%
Silty CLAY	high PL	Thread 1/32"	Dense	65-85%	hard (H)	2.0-4.0 tsf	and	35-50%
CLAY	very high PL	Thread 1/64"	Very Dense	85-100%	very hard (VH)	over 4.0 tsf		

Project: WARIANCO PARK LIGHTING
Roselle, Union County, NJ

Sheet: 1 of 1
Boring No.: **B-4**
Location Plan: See Attached
Drilling Company: Environmental Technical Drilling, Inc.

Sampler: 2" split spoon
Hammer/Fall: 140lbs/30"
Rig Type/Drilling Method: ATV / Mud Rotary

Project#:	115.UN00219.P01	Ground Elevation:	
Start Date:	11/8/2024	Depth To Water:	12 ft
End Date:	11/8/2024	Ground Water Elev:	

Drilling Inspector: J. Sullivan, PE

Depth Below Surface (ft)	Blows Casing per ft.	Sampler per 6 Inches				Sample ID	Sample Depth (ft)	Identification of Soils/Remarks
1		6	5			S-1	0-2	S-1: Lt. Pale Brown **Clayey SILT**
2				7	9			
3		12	13			S-2	2-4	S-2: Lt. Pale Brown & Reddish-brown **Clayey SILT**, little+ cf Gravel
4				13	9			
5		10	12			S-3	4-6	S-3: Pale Reddish-brown **CLAY & SILT**, little f Gravel
6				14	11			
7		10	11			S-4	6-8	S-4: Reddish-brown **CLAY & SILT**, little cf Gravel
8				9	10			
9		13	9			S-5	8-10	S-5: Reddish-brown **Silty CLAY**, little cf Gravel
10				11	40			
11		9	30			S-6	10-12	S-6 (Top 6") : **Same** as S-5 (moist)
12				16	14			(6" - 12"): Pale Brown cf **GRAVEL** (fragments of shale)
13								(Bottom 12"): Reddish-brown **Silty CLAY**, little mf Gravel (damp)
14								
15		16	22			S-7	- cf Grave	S-7: Reddish-brown **Silty CLAY**, some cf Sand, some- mf Gravel (wet)
16				21	22			
17								
18								
19								
20		8	8			S-8	20-22	S-8: Reddish-brown **Clayey SILT**, little+ cf Gravel
21				15	14			
22								
23								
24								
25		31	50/4			S-9	25-27	S-9: Reddish-brown cf **GRAVEL**, little Clayey silt (fragmented shale)
26								
27								
28								
29								
30		50/0				S-10	30	S-10: Reddish-brown c **GRAVEL** (in tip of spoon)
31								End of Boring at 30 ft
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								

VISUAL IDENTIFICATION TERMS USED

	Clayey Soils	@ Ball Moist	Relative Density (Dr) of Granular Soils		Consistency of Clayey Soils (Based on Shearing Strength)		Proportions Used	
Clayey SILT	slight PL	Thread 1/4"	Very Loose	0-15%	soft (S)	0.1-0.5 tsf	trace	1-10%
SILT & CLAY	low PL	Thread 1/8"	Loose	15-35%	firm (F)	0.5-1.0 tsf	little	10-20%
CLAY & SILT	med PL	Thread 1/16"	Medium	35-65%	med hard (MH)	1.0-2.0 tsf	some	20-35%
Silty CLAY	high PL	Thread 1/32"	Dense	65-85%	hard (H)	2.0-4.0 tsf	and	35-50%
CLAY	very high PL	Thread 1/64"	Very Dense	85-100%	very hard (VH)	over 4.0 tsf		