

**Mohegan Avenue  
Retaining Wall  
Replacement Project**

**CONTRACT NO. 18 -1**

**NOTICE TO  
BIDDERS**

**INFORMATION  
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**PROPOSAL**

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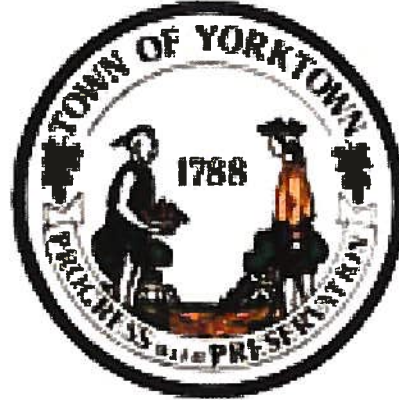
**DETAILED SPECIFICATIONS**

**CAMCE No. 1893D**

**CHARLES A. MANGANARO**  
CONSULTING ENGINEERS  
A Professional Corporation

**303 South Broadway, Suite 460  
Tarrytown, New York 10591-5900  
(914)-769-3400**

**Town of Yorktown**  
Westchester County, New York



**TOWN SUPERVISOR  
ILAN GILBERT**

**TOWN BOARD  
ED LACHTERMAN  
ALICE E. ROKER  
TOM DIANA  
VISHNU PATEL**

**TOWN ENGINEER  
MICHAEL QUINN, P.E.**

**HIGHWAY SUPERINTENDENT  
DAVID PAGANELLI**

**February 2019**





T o w n o f Y o r k t o w n  
Westchester County, New York

*Advertisement, Information for Bidders, Proposal, Bidder's Qualification, Contract,  
General Conditions, Supplementary Conditions and Specifications*  
*for*  
**MOHEGAN AVENUE RETAINING WALL REPLACEMENT PROJECT**

**Contract No. 18-1**

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- \* See separate Table of Contents preceding each sub-section. The pages of this document are numbered consecutively. Prospective bidders must examine the documents carefully and before bidding, must advise the Town Board, in writing, if any pages are missing and must request that such missing pages be furnished to them.



# **NOTICE TO BIDDERS**



**NOTICE TO BIDDERS**

**TOWN OF YORKTOWN**

**NEW YORK**

Sealed Bid proposals will be received by the **Town Clerk** of the Town of Yorktown, Westchester County, New York, at the Town Hall, 363 Underhill Avenue, Yorktown Heights, New York, until **11:00 A.M.**, on **Monday, March 25, 2019**, for the **Mohegan Avenue Retaining Wall Replacement Project, Contract No. 18-1**.

Plans, Specifications and standard proposals for the work proposed may be obtained at the office of the Town Clerk at said Town Hall upon cash or certified check in the amount of **ONE HUNDRED DOLLARS (\$100.00)**. Said fee will **not** be refunded and will be used to defray costs of printing plans and specifications. Bid Documents will also be available on the Empire State Bid System.

All bids must be accompanied by a Bid Bond or Certified check payable to the Town of Yorktown in an amount not less than five percent (5%) of the total bid, or an executed Consent of Surety.

The bidder assumes the risk of any delay in the mail or in the handling of mail by the employees of the Town of Yorktown. Whether sent by mail or means of personal delivery, the bidder assumes the responsibility for having bids in on the time and the place specified above.

A pre-bid meeting has been scheduled for Tuesday, March 12, 2019 at 10:00 at the site of construction.

The Town of Yorktown reserves the right to waive any informalities in the bids, to reject any or all bids and reserves the right to accept that bid which it deems most favorable to the interests of the Town of Yorktown. No bidder may withdraw their bid within forty-five (45) days after the actual date of the opening thereof.

If mailed, sealed proposals must be addressed in care of the Town Clerk at the above address.

**DIANA L. QUAST, RMC, CMC**  
Town Clerk  
Town of Yorktown





# **INFORMATION FOR BIDDERS**



## INFORMATION FOR BIDDERS

1. RECEIPT AND OPENING OF BIDS. Yorktown Town Hall, 363 Underhill Avenue, Yorktown Heights, NY 10598 invites bids on **Contract No. 18-1, Mohegan Avenue Retaining Wall Replacement Project** and general description of which is stated in the advertisement.
  
2. ADDENDA AND INTERPRETATIONS. No interpretations or clarifications of the meaning of the Contract Documents will be made to any prospective bidder orally. Every request for such interpretation or clarification shall be in writing addressed to Town Clerk, and shall be received at least ten (10) business days prior to the date fixed for the opening of bids to be given consideration. Any and all such interpretations or clarifications and any supplemental instructions, corrections or changes to the Contract Documents will be in the form of written addenda to the Contract Documents which will be mailed or e-mailed to all prospective bidders (at the respective address furnished for such purpose) as well as Town's website and Empire State Bidding System not later than Five (5) business days prior to the date fixed for the opening of bids. Failure of any bidder to receive any such addenda shall not relieve said bidder from any obligations under their bid as submitted. All addenda so issued shall become part of the Contract Documents. Interpretations, clarifications, corrections or changes made in any other manner will not be binding and bidders shall not rely upon them.

If the interpretations or clarifications involve equality or use of products or methods, it must be accompanied by drawings, specifications or other data, in sufficient detail to enable the Owner to determine the equality or suitability of the product or method. The Owner will neither approve nor disapprove particular products prior to the opening of the bids; such products will be considered when offered by the Contractor for incorporation into the work. The Contractor is responsible to provide a complete job with a satisfactory end result. Unless such action shall have been taken by the Contractor and approval obtained, the Contractor agrees to use the products designated or described in the specifications as may be amended by the addenda.

In the event there is a conflict on the material, the most expensive or costly material should be used in accordance with the approved specifications.

3. REPRESENTATION AND OBLIGATIONS OF BIDDER. Each bidder shall represent that they have visited the site and informed themselves fully of the local conditions relating to all of the work to be performed. Bidders must also acquaint themselves fully of the labor provisions under which the work will be performed. Failure of bidders to so inform and acquaint themselves prior to submitting their bid will not relieve a successful bidder of its obligation to furnish all material and labor necessary to carry out the provisions of the Contract Documents and to complete the proposed work for the consideration set forth in their bid.

At the time of the opening of bids, each bidder will be presumed to have inspected the site and to have read and understood the Contract Documents (including all addenda) and to have bid accordingly. The failure or omission of any bidder to receive or examine any form, instrument or

document, or to visit the site, shall in no way relieve any bidder of any obligation in respect of their bid.

Bidders are notified that it is obligatory upon them to obtain by their own means information which they may require as to the existing physical conditions, and in particular as to existing buildings, concrete, subsurface utilities and structures, and ground water conditions. The Owner will make available to the bidder all information obtained by investigations previous to opening bids, but makes no guarantee with respect to the accuracy of such information; and each bidder in bidding represents that they rely exclusively upon their own investigations and they make their bid with a full knowledge of all conditions, and the kind, quality, and quantity of work required and upon the materials, equipment and systems required by the Contract Documents without exception.

4. SUBSURFACE STRUCTURES. The approximate locations of certain existing subsurface pipes, utilities and structures are indicated on the drawings. The extent, character and location of said items are not guaranteed.

5. INFORMATION NOT GUARANTEED. All information given in the Contract Documents, including drawings, relative to subsurface conditions, and existing pipes and other structures is from the best sources at present available to the Owner. All such information is furnished only for the convenience of bidders.

It is understood and agreed that the Owner does not warrant or guarantee that the materials, conditions, and pipes or other structures encountered during construction will be the same as those indicated by the information given on the drawings. The bidders must be satisfied regarding the character, quantities, and conditions of the various materials and the work to be done.

It is understood and agreed that the bidder will not use any of the information made available to them, or obtained in any examination made by them, in any manner as a basis or ground of claim or demand of any nature against the Owner or the Engineer, arising from or by reason of any variance which may exist between the information offered and the actual materials or structures encountered during the construction work. It is expressly agreed that the bidder assumes the risk of the actual conditions encountered in the execution of the work. The bidder shall inform the Owner and Engineer at once as to any errors, inconsistencies or ambiguities discovered.

6. PREPARATION OF BID SUBMISSION. The bid submission shall contain all of the items in the following list. It shall be noted that some of these required items are included within the Proposal and Bidders Qualification Statement have been given "P" and "BQS" page numbers respectively, and others must be prepared by the bidder using their own format.

## **Bid Submission List**

- A) Proposal: Complete "P" and "BQS" pages for **Contract No. 18-1** including the following:
- 1) Proposal (Page No's P-1 to P-5);
  - 2) Acknowledge Receipt of Addendum (Page No. P-4);
  - 3) Bid Bond (Page No's P-6 & P-7);
  - 4) Bidder's Affidavit (Page No. P-8);
  - 5) Form of Surety Guaranty (Page No. P-9);
  - 6) Non-Collusion and Bid Certification (Page No. P-10);
  - 7) Hold Harmless Agreement (Page No. P-11);
  - 8) Bidder's Qualification Statement (Page No's BQS-1 to BQS-5).

Bid submissions shall be enclosed in opaque sealed envelopes addressed to the Town Clerk office at Yorktown Town Hall, 363 Underhill Avenue, Yorktown Heights, NY 10598, name and address of the bidder shall be plainly marked on the outside thereof, together with the Title of the Contract to which the bid pertains. If forwarded by mail, the sealed envelope containing the bid submission, marked as directed above, must be enclosed in another envelope addressed as specified in the Proposal, by registered mail. A return receipt should be requested.

7. **ERRORS IN BID.** Illegibility of figures, as determined by the Owner will be grounds for the rejection of the bid. If there is a discrepancy between the unit price bid and the total, the unit prices shall govern. If there is a discrepancy between the correct arithmetic addition and the Summation noted, the correct arithmetic addition shall govern.

8. **INFORMAL BIDS.** The Owner may reject as informal, bids which are incomplete or obscure, or which contain additions not called for, erasures not properly initialed, alterations, or irregularities of any kind, or the Owner may waive such informalities, and the Owner's determination shall be final. The Owner shall reject any bid which is conditional.

9. **INTENT OF CONTRACT DOCUMENTS.** The intent of the Contract Documents is to obtain a complete job, satisfactory to the Owner and the Engineer. It shall be understood that each bidder has satisfied themselves as to the full requirements of the Contract, and has based their Proposals upon such understanding. Compensation for all work and materials required to complete the Contract shall be considered included in the amounts sum bid.

10. **BASIS OF AWARD.** The award will be made to the lowest responsible bidder for the Contract which is selected by the Owner to be in its best interest and is in accordance with its budgetary constraints. The Owner, however, reserves the right to reject all bids if it is deemed to be in the public interest to do so, or if insufficient funds are available to the Owner to finance the work.

11. BID SECURITY. Each bid must be accompanied by a bid bond, cashier's check or certified check of the bidder in an amount not less than five percent (5%) of the amount of the bid.
12. SURETY GUARANTY. In addition to the bid security, each bid must be accompanied by a guaranty from a surety company qualified and authorized to do business in the State of New York, agreeing in the event of award of the contract to furnish Performance and Payment Bonds as specified in paragraph No. 17, hereafter.
13. QUALIFICATIONS OF BIDDER. The Owner may make such investigations as is deemed necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Owner all such information and data for this purpose as called for in the Proposal and as the Owner may request. The Owner reserves the right to reject any bid if the evidence submitted by, or the investigation of, such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein within the time limit stipulated.
14. MODIFICATIONS OR WITHDRAWAL OF BIDS. Upon proper request and identification, bidders may modify or withdraw their bids prior to the scheduled time for the opening thereof. No bid may be withdrawn after the first bid has been opened and thereafter not for a period of forty-five (45) calendar days after the date of the opening thereof.
15. FAILURE TO ENTER INTO CONTRACT. The successful bidder, upon his failure or refusal to execute and deliver the Contract, Performance Bond, and the Payment Bond required within ten (10) calendar days after receiving notice of the acceptance of his bid, shall forfeit to the Owner for such failure or refusal, the security deposited with his said bid.
16. GENERAL DAMAGES. It is mutually agreed between the parties that the forfeiture of the successful bidder security deposit, as set forth in paragraph No. 15 shall not preclude the Owner from instituting an action in law or equity for actual damages above and beyond the sums set forth above in paragraph No. 15 sustained by the Owner by reason of the successful bidder's breach of contract.
17. PERFORMANCE AND PAYMENT BONDS. Simultaneously with delivery of the executed Contract, the successful bidder shall furnish and deliver to the Owner, in triplicate, executed Performance Bond and an executed Payment Bond, each in the amount of one hundred (100%) percent of the Contract Amount, as security for the faithful performance of the Contract and for the payment of all persons performing labor or furnishing materials in connection therewith, prepared in the form of Performance Bond and the form of Payment Bond attached hereto and having as security thereon such surety company or companies as are acceptable to the Owner and as are authorized to transact business in the State of New York. The Bonds shall be purchased through a surety company having a local agent in the State of New York upon whom service of process can be made and who is named in the current list of "Surety Companies Acceptable on Federal Bonds" as published in U.S. Treasury Department Circular No. 570.

18. EXECUTION OF CONTRACT. The successful bidder to whom the Contract is awarded will be required to deliver to the Owner a Performance Bond and a Payment Bond duly executed by a satisfactory surety and executed Contract within ten (10) calendar days after notification that the Contract is ready for signature.

19. AUTHORITY TO SIGN CONTRACT. Bids submitted by corporations, partnerships or individuals doing business under a trade name shall be accompanied by a "Bidder's Affidavit" showing evidence of the authority of the party signing the bid to do so, together with a recitation of the name of the party or parties who would execute the Contract and evidence of their authority to do so.

20. TIME FOR COMPLETION AND LIQUIDATED DAMAGES. The bidder shall note that this project is essential to the public health, and therefore adherence to the construction schedule is mandatory. The successful bidder to whom the Contract is awarded must agree to commence work within five (5) calendar days from the date of a written "Notice to Proceed" from the Owner to do so, and shall substantially complete all work in all respects, including all parts thereof, except for the tentative list of items to be completed or corrected, warranty and permanent pavement replacement (if required) within one hundred and twenty (120) calendar days following the serving of said Notice. All work except warranty and permanent pavement replacement (if required) must be completed within thirty (30) calendar days thereafter. Time is of the essence of the within Contract.

21. TAXES. The Owner is exempt from payment of all State and local sales and compensating use taxes of the State of New York and of cities and counties on the purchase of all materials and supplies incorporated in and becoming an integral component part of the work, structures, buildings, or real property. Such taxes shall not be included in the Price Bid. This exemption does not, however, apply to tools, machinery, equipment or other property purchased by or leased to the Contractor or a subcontractor or to supplies, machinery, equipment and materials which, even though they are consumed in the performance of the Agreement, are not incorporated into the completed permanent work. The Contractor and all subcontractor(s) shall be responsible for and shall pay any and all applicable taxes, including sales and compensating use taxes, on such tools, machinery, equipment or other property and upon all such unincorporated supplies and materials.

The Owner will furnish the required certificates of tax exemption to the Contractor for use in the purchase of supplies and materials to be incorporated into the work.

The Contractor and all subcontractor(s) and material suppliers shall be solely responsible for obtaining or delivering any and all exemption or other certificates and for furnishing a Contractor Exempt Purchase Certificate or other appropriate certificates to all persons, firms or corporations from whom they purchase supplies, materials and equipment for the performance of the work.

22. LAWS AND REGULATIONS. The attention of the bidder is specifically directed to the provisions of the Contract Documents relative to Laws and Ordinances, State Labor Standards, Federal Labor Standards, Federal Non-discrimination Provisions, Executive Order 11246 and Safety and Health Provisions. The Contractor must comply with the Anti-Kickback Act, the Contract Work Hours Standards Act, and all other relevant laws and regulations.

During the performance of this Contract, the Contractor or subcontractor agrees as follows:

- A) 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 or sex. The Contractor will take affirmative action to ensure that such applicants are recruited and employed, and that employees are treated during employment without regard to their age, race, creed, color, national origin, ancestry, marital status affectional or sexual orientation of sex. Such action shall include, but not be limited to the following: employment, upgrading, 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 contracting officer setting forth the provisions of this nondiscrimination clause;
- B) 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, sex, affect or sexual orientation;
- C) The Contractor or subcontractor, where applicable, will send to each labor union or representative or workers with which the Contractor has a collective bargaining agreement or other contract or understanding, 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.

23. RECESSION. Each bidder expressly waives the right to seek a recession or avoidance or revocation of the bid proposal submitted, and no bidder shall assert unilateral mistake as grounds for avoidance or revocation or recession of the bid proposal.

24. TECHNICAL REPORTS AND DATA.



A) Description:

1. Contractor to perform a Geotechnical Investigation for the proposed wall constructed along Mohegan Avenue. The location of the six (6) test borings are shown on Contract Drawing No.2. The cost for obtaining the Geotechnical Investigation report and recommendation is to be borne by the contractor.

25. SUBCONTRACTS. The Contractor shall perform with his own organization contract work amounting to not less than fifty (50%) percent of the original total contract price, except that any Items designated as "Specialty Items" may be performed by subcontract and the amount of any such "Special Items" so performed may be deducted from the original contract price before computing the amount of work required to be performed by the Contractor with Contractor's own organization. The contract amount upon which the **fifty (50%) percent** requirement is computed includes the cost of materials and manufactured products which are to be purchased or produced by the Contractor under the contract provisions.

- A. "Contractor's own organization" shall be construed to include only workmen employed and paid directly by the Contractor and equipment owned or rented the Contractor, with or without operators.
- B. "Specialty Items" shall be construed to be limited to work that requires specialized knowledge, craftsmanship or equipment not ordinarily available in contracting organizations qualified to bid on the contract as a whole and in general are to be limited to minor components of the overall contract.



# **PROPOSAL**



**PROPOSAL**

for

Contract No. 18-1

Town of Yorktown

Mohegan Avenue Retaining Wall Replacement Project

TO: Town of Yorktown Heights, 365 Underhill Avenue, Yorktown Heights, New York, 10598  
(herein referred to as "Owner")

Made by: \_\_\_\_\_

\_\_\_\_\_ (herein referred to as "Bidder")

P.O. Address: \_\_\_\_\_

Pursuant to and in compliance with your Advertisement (Invitation for Bids) and the Information for Bidders relating thereto, the undersigned states that they have examined the Contract Documents and the site of the work, made all investigations which have been deemed necessary or desirable, and that they understand the purport and magnitude of the work intended, and the undersigned hereby offers to furnish all plant, labor, materials, equipment, supplies and other facilities and things necessary or proper for or incidental to the proper performance of the work advertised. The undersigned shall pursue said work in strict accordance with the Contract Documents of which this Proposal is a part and with such detailed directions, plans and drawings as may be furnished from time to time during the progress of the work by the Engineer. All work shall be performed at the following price; said price includes all incidental work.

The undersigned hereby agrees to commence work under this Contract within five (5) calendar days from the date of a written "Notice to Proceed" from the Owner to do so and to substantially complete the work in all respects, including all parts thereof, except for the tentative list of items to be completed or corrected, warranty and permanent pavement replace (if required) within one hundred and twenty (120) calendar days from the serving of said Notice with the constraints as stipulated in the Contract Documents. All work except for warranty and permanent pavement replacement (if required) must be completed within thirty (30) calendar days thereafter. Time of the essence of the within Contract. The undersigned further agrees to pay damages in accordance with the Information for Bidders - Article 16 and Article 20.



The Bidder agrees to do all work described in the Items and elsewhere in the Contract Documents for the following amounts:

Item No.	Estimated Quantity	Description	Unit Price	Total Price*
1	Lump Sum	Mobilization (price limited to Specification Section No. 01505) A. Certificate of Insurance B. Bonds C. Permits and Licenses D. Shop Drawing Submittals E. Temporary Construction Facilities as per Section No. 01520 F. Substantial Completion: Closeout Requirements G. Final Completion: Closeout Requirements	N/A	\$ _____
2	Lump Sum	Construction Photographs (Pre, During, and Post)	N/A	\$ _____
3	Lump Sum	As Built Record Drawings	N/A	\$ _____
4	Lump Sum	<b>Mohegan Avenue Retaining Wall Modification:</b> All work required to remove and dispose of trees/stumps/ and modification to the existing Bin Wall/ etc, and to furnish and install the Precast Modular Block Retaining Wall / Paving/ Pipe extension/ etc as description in Section No. 01025.	N/A	\$ _____
5	<u>100</u> C.Y.	Rock Excavation	\$ _____ Per C.Y.	\$ _____
6	<u>1000</u> LF/Inch	Reconstruction of Uncharted and Mismarked Utilities	\$ _____ L.F./Inch	\$ _____
7	<u>3000</u> S.F.	Temporary and Permanent Vegetation Cover	\$ _____ Per S.F.	\$ _____
8	<u>10</u> C.Y	Additional Concrete**	\$ _____ Per C.Y.	\$ _____
9	<u>10</u> C.Y	Additional Foundation Material***	\$ _____ Per C.Y.	\$ _____
10	Lump Sum	Police Traffic Control Allowance	N/A	\$ <b><u>10,000.00</u></b>
11	Lump Sum	All Work Allowance	N/A	\$ <b><u>25,000.00</u></b>

N/A = Not Applicable





Total Base Bid Price in Figures \$ \_\_\_\_\_

Total Base Bid Price in Words \$ \_\_\_\_\_

\_\_\_\_\_ Dollars \_\_\_\_\_ Cents.

\* The Bidder must show the amounts bid legibly written in ink or typewritten in Arabic numerals only. Illegibility, as determined by the owner, will be grounds for the rejection of bid.

\*\* The minimum price the Owner will consider for this Item No. 8 is \$300.00 per cubic yard.

\*\*\* The minimum price the Owner will consider for this Item No. 9 is \$45.00 per cubic yard.



The Owner shall have the right to reject any and all bids and to waive any informalities and irregularities in the bid received, or modify the work required by addenda. Addenda will be mailed or delivered to all who are known by Owner to have received a complete set of Contract Documents.

Accompanying this Proposal, under separate cover, is a certified check, cashier's check or bid bond in the amount of five (5%) percent of the proposal for \$\_\_\_\_\_ dollars payable to the Town of Yorktown. In case this Proposal is accepted by the Owner, and the undersigned shall fail to execute the Contract with and to give a bond to the Owner according to the Information for Bidders, then the said certified check, cashier's check or bid bond shall be forfeited to the Owner; otherwise it shall be returned to the undersigned.

If written notice of the acceptance of this bid is mailed, telegraphed, or delivered to the undersigned within forty-five (45) calendar days after the date of opening of the bids, or any time thereafter before this bid is withdrawn, the undersigned shall, within ten (10) calendar days after date of such mailing, telegraphing, or delivering of such notice, execute and deliver a contract in the Form of Contract attached hereto, and Bonds as hereinafter specified. The undersigned hereby designates the above address as the office to which such notice of acceptance may be mailed, telegraphed or delivered.

The undersigned hereby acknowledges the receipt of the following issue of addenda, if any, distributed by the Engineer:

Addendum No.   1   Dated \_\_\_\_\_ Addendum No.   3   Dated \_\_\_\_\_  
Addendum No.   2   Dated \_\_\_\_\_ Addendum No.   4   Dated \_\_\_\_\_

The undersigned shall list below the names and addresses of all stockholders owning ten (10%) percent or more of their stock, or ten (10%) percent or more of the stock of their corporate stockholders, or, in the case of a partnership, of the partners holding a ten (10%) percent or greater interest: (If additional space is required, use the back of this sheet.)

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The undersigned shall state on the line below whether or not they are citizens of the United States, and in case of partnership whether or not all partners are citizens of the United States:

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The undersigned hereby certifies that no person interested in this proposal is directly or indirectly interested in or connected with any other bid or proposal for said work, and no member of the Owner or office or employee of the Owner is directly or indirectly interested therein, or in any portion thereof.

The undersigned hereby certifies that its bid is genuine and not collusive or sham; it has not colluded, conspired, connived, or agreed, directly or indirectly, with any other bidder or person, to put in a sham, or that such other person shall refrain from bidding, and has not in any manner, directly or indirectly sought by agreement or collusion of communication or conference, with any other person, to fix the bid of any other bidder, or to fix any overhead profit or cost element of its bid or any other bidder's bid, or to secure any advantage against the Owner or any person interested in the proposed Contract; and that all statements contained in said proposal or bid are true. The undersigned further certifies that it has not, directly or indirectly submitted this bid, or the contents thereof, or divulged information or data relative thereto to any association or to any member of agent thereof.

The undersigned hereby certifies that neither the undersigned nor its agents nor any other party has paid or agreed to pay, directly or indirectly, a person, firm or corporation any money or valuable consideration for assistance in procuring or attempting to procure this Contract, and further agrees that no such money or reward shall be hereafter paid.

\_\_\_\_\_ Dated \*\*

By: \_\_\_\_\_

Title: \_\_\_\_\_

Address: \_\_\_\_\_

Seal  
(If bid is by a corporation)

\*\* Insert Bidder's Name.

If a corporation, give the State of Incorporation, using the phrase, "A corporation organized under the laws of \_\_\_\_\_."

If a partnership, give names of the partners, using also, the phrase "Partners trading and doing business as \_\_\_\_\_." If an individual using a trade name, give individual name and business name, using the phrase "An individual doing business as \_\_\_\_\_."



**BID BOND**

CONTRACT No. 18-1

Town of Yorktown  
Mohegan Avenue Retaining Wall Replacement Project

KNOW ALL MEN BY THESE PRESENTS that we, the undersigned \_\_\_\_\_  
\_\_\_\_\_ as Principal; and \_\_\_\_\_ as  
Surety, are hereby held and firmly bond unto the \_\_\_\_\_  
in the penal sum of \$ Five (5%) percent of the amount bid.  
for the payment of which, well and truly to be made, we hereby jointly and severally bind  
ourselves, our heirs, executors, administrators, successors and assigns.

Signed this \_\_\_\_\_ day of \_\_\_\_\_

The condition of the above obligation is such that whereas the Principal has submitted to  
the \_\_\_\_\_  
certain Bid, attached hereto, and hereby made a part hereof, to enter into a contract in writing, for:  
\$ \_\_\_\_\_.

NOW, THEREFORE,

- A) If said Bid shall 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 Contract attached here (properly completed in accordance with said Bid) and shall furnish a Performance Bond of One Hundred (100%) Percent of the Contract amount and a Payment Bond of One Hundred (100%) Percent of the Contract amount for the faithful performance and payment thereunder of said Contract, and shall in all other respects perform the agreement created by the acceptance of said Bid,

Then, this obligation shall be void, otherwise the same shall remain in 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 penal amount of this obligation as herein stated.

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





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

Attested By: \_\_\_\_\_

Principal: \_\_\_\_\_ L.S.

Surety: \_\_\_\_\_

By: \_\_\_\_\_

Attested by: \_\_\_\_\_







**FORM OF SURETY GUARANTY**

CONTRACT No. 18-1

Town of Yorktown  
Mohegan Avenue Retaining Wall Replacement Project

KNOW ALL MEN BY THESE PRESENTS, that for and in consideration of the sum of \$1.00, lawful money of the United States, the receipt whereof is hereby acknowledged, paid the undersigned corporation, and for other valuable consideration, the (Name of Surety Co.), \_\_\_\_\_ a corporation organized and existing under the laws of the State of \_\_\_\_\_ and licensed to do business in the State of New York, certifies and agreed that, if CONTRACT No. 18-1 is awarded to (Name of Bidder) \_\_\_\_\_

the undersigned corporation will execute the bond or bonds as required by the Contract Documents and will become surety in the full amount of the Contract price for the faithful performance of the Contract and for payment of all persons supplying labor or furnishing materials in connection therewith.

\_\_\_\_\_, Surety Company

(To be accompanied by the usual proof of authority of officers of surety company to execute the same).



**NON-COLLUSIVE BIDDING CERTIFICATION**

This Non-Collusive Bidding Certificate is made pursuant to Section 103-d of the General Municipal Law of the State of New York. By submission of this bid, Bidder and each person signing on behalf of Bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of his or her knowledge and belief:

1. The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement for the purpose of restricting competition, as to any matter relating to such prices with any other Bidder or with any competitor;
2. Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by Bidder and will not knowingly be disclosed by Bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and
3. No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

A bid shall not be considered for award nor shall any award be made where (1) (2) and (3) above, have not been complied with; provided, however, that if in any case Bidder cannot make the foregoing certification, Bidder shall so state and shall furnish with the bid a signed statement which sets forth in detail the reasons therefore. Where (1) (2) and (3) above have not been complied with, the bid shall not be considered for award nor shall any award be made unless the head of the purchasing unit of the political subdivision, public department, agency or official thereof to which the bid is made, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

Dated: \_\_\_\_\_

Bidder: \_\_\_\_\_  
(Legal name of person, firm or corporation)

By: \_\_\_\_\_  
(Signature)

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

NOTARY:

State of New York )  
County of \_\_\_\_\_)ss.:

On the \_\_\_\_ day of \_\_\_\_\_ in the year 20\_\_ before me, the undersigned, personally appeared \_\_\_\_\_, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

\_\_\_\_\_  
(Notary Public)





**HOLD HARMLESS AGREEMENT**

CONTRACT No. 18-1

Town of Yorktown  
Mohegan Avenue Retaining Wall Replacement Project

The Contractor (and all subcontractors) shall, during the performance of this work, take all necessary precautions and place proper safeguards for the prevention of accident, and shall indemnify and save harmless, the Town of Yorktown , New York, Its employees, officers and agents from all claims, suits and actions and all damages and costs to which they may put by reason of death or injury to all persons or property of another resulting from unskillfulness, willfulness, negligence or carelessness in the performance of the work, or in guarding and protecting the same, or from any improper methods, materials implements or appliances used in its performance or construction, or by or on account or any direct or indirect act or omission of passive or concurrent negligent act or omission by the Town of Yorktown, New York, or any of its employees, officers, or agents may have directly or indirectly caused or contributed thereto.

BIDDER/CONTRACTOR (Company Name) \_\_\_\_\_

ADDRESS: \_\_\_\_\_

\_\_\_\_\_

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

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

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

\_\_\_\_\_  
(Date)

**NOTARY:**

Subscribed and sworn to before me

this \_\_\_\_\_ Day of \_\_\_\_\_, 20 in \_\_\_\_\_ County \_\_\_\_\_

\_\_\_\_\_  
Notary Public



**BIDDER'S QUALIFICATION  
STATEMENT**



**BIDDER'S QUALIFICATION STATEMENT**

(Completion of this statement is required with the Proposal)

SUBMITTED TO: Town of Yorktown  
363 Underhill Avenue  
Yorktown Heights, New York 10598

SUBMITTED FOR:

CONTRACT No. 18-1  
Town of Yorktown  
Mohegan Avenue Retaining Wall Replacement Project

SUBMITTED BY:

Name: \_\_\_\_\_  
Print or Type Name of Bidder

/A Corporation/ A Partnership/ An Individual/ A Joint Venture  
(Bidder to strike out inapplicable terms.)

Address: \_\_\_\_\_  
\_\_\_\_\_

Ladies and Gentlemen:

The undersigned certifies under oath the truth and correctness of all statements and of all answers to questions made hereinafter.

(NOTE: Attach Separate Sheets as Required.)

- 1.0 How many years has your organization been in business as a Contractor? \_\_\_\_\_.
- 2.0 How many years has your organization been in business under its present name? \_\_\_\_\_.
- 3.0 We normally perform \_\_\_\_\_ percent of the work with our own forces. List work normally subcontracted: \_\_\_\_\_  
\_\_\_\_\_.



- 4.0 Has any construction contract to which you have been a party been terminated by the owner; have you ever terminated or on a project prior to its completion for any reason; has any surety which issued a performance bond on your behalf ever completed the work in its own name or financed such completion on your behalf; has any surety expended any monies in connection with a contract for which they furnished a bond on your behalf? If the answer to any portion of this question is "yes", please furnish details of all such occurrences including name of owner, architect or engineer, and surety, and name and date of project.
- 5.0 Has any officer or partner of your organization ever been an officer or partner of another organization that had any construction contract terminated by the owner; terminated work on a project prior to its completion for any reason had any surety which issued a performance bond complete the work in its own name or financed such completion; or had any surety expend any monies in connection with a contract for which they furnished a bond? If the answer to any portion of this question is "yes", please furnish details of all such occurrences including names of owner, architect or engineer, and surety, and name and date of project.
- 6.0 List name of project, owner, engineer, contract amount, percent complete and schedule completion of the major construction projects your organization has in progress on this date.
- 7.0 List name of project, owner, engineer, contract amount, date of completion and percent of work with own forces of the major projects of the same general nature as this project which your organization has completed in the past five years.
- 8.0 List name, address and telephone number of a reference for each project listed under Items 6.0 and 7.0 above.
- 9.0 List name and construction experience of the principal individuals of your organization.
- 10.0 List the states and categories of construction in which your organization is legally qualified to do business.
- 11.0 List name, address and telephone number of an individual who represents each of the following and whom the owner may contact for a financial reference.

11.1 A surety;

(Name)	(Contact Person)	(Telephone Number)
--------	------------------	--------------------





11.2 A bank;

\_\_\_\_\_  
(Name) (Contact Person) (Telephone Number)

11.3 A major material supplier.

\_\_\_\_\_  
(Name) (Contact Person) (Telephone Number)

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

\_\_\_\_\_  
(Print or Type Name of Bidder)

By\_\_\_\_\_

\_\_\_\_\_  
Title

(Seal, if corporation)

-----Affidavit for Individual-----

\_\_\_\_\_ being duly sworn, deposes and says that all of the foregoing qualification information is true, complete, and accurate.

-----Affidavit for Joint Venture-----

\_\_\_\_\_ being duly sworn, deposes and affirms membership of the joint venture of \_\_\_\_\_, and that all of the foregoing qualification information is true, complete, and accurate.

-----Affidavit for Partnership-----

\_\_\_\_\_ being duly sworn, deposes and affirms: a) membership of the partnership of \_\_\_\_\_; and b) all of the foregoing qualification information is true, complete, and accurate.



-----Affidavit for Corporation-----

\_\_\_\_\_ being duly sworn, deposes and affirms:

a) membership of \_\_\_\_\_  
(Full name of Corporation)

and b) that all of the foregoing qualification information is true, complete, and accurate.

-----Acknowledgment-----

\_\_\_\_\_ being duly sworn, deposes and says that they are  
\_\_\_\_\_ of \_\_\_\_\_;  
(Title) (Name of Bidder)

and is duly authorized to make the foregoing affidavit on behalf of

\_\_\_\_\_

( ) themselves; ( ) said partnership; ( ) said corporation.

Sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_,

20\_\_\_\_\_, in the County of \_\_\_\_\_, State of

\_\_\_\_\_.

(Seal)

\_\_\_\_\_  
Notary Public

My commission expires \_\_\_\_\_



THE BIDDER WILL SET FORTH THE LIST OF NAMES OF ALL PROPOSED SUBCONTRACTORS TO WHOM THE BIDDER IS LIKELY TO SUBCONTRACT WORK:

- A. NAME OF SUBCONTRACTOR \_\_\_\_\_  
ADDRESS OF SUBCONTRACTOR \_\_\_\_\_  
\_\_\_\_\_  
LICENSE # (IF APPLICABLE) \_\_\_\_\_
- B. NAME OF SUBCONTRACTOR \_\_\_\_\_  
ADDRESS OF SUBCONTRACTOR \_\_\_\_\_  
\_\_\_\_\_  
LICENSE # (IF APPLICABLE) \_\_\_\_\_
- C. NAME OF SUBCONTRACTOR \_\_\_\_\_  
ADDRESS OF SUBCONTRACTOR \_\_\_\_\_  
\_\_\_\_\_  
LICENSE # (IF APPLICABLE) \_\_\_\_\_
- D. NAME OF SUBCONTRACTOR \_\_\_\_\_  
ADDRESS OF SUBCONTRACTOR \_\_\_\_\_  
\_\_\_\_\_  
LICENSE # (IF APPLICABLE) \_\_\_\_\_
- E. NAME OF SUBCONTRACTOR \_\_\_\_\_  
ADDRESS OF SUBCONTRACTOR \_\_\_\_\_  
\_\_\_\_\_  
LICENSE # (IF APPLICABLE) \_\_\_\_\_
- F. NAME OF SUBCONTRACTOR \_\_\_\_\_  
ADDRESS OF SUBCONTRACTOR \_\_\_\_\_  
\_\_\_\_\_  
LICENSE # (IF APPLICABLE) \_\_\_\_\_
- G. NAME OF SUBCONTRACTOR \_\_\_\_\_  
ADDRESS OF SUBCONTRACTOR \_\_\_\_\_  
\_\_\_\_\_  
LICENSE # (IF APPLICABLE) \_\_\_\_\_
- H. NAME OF SUBCONTRACTOR \_\_\_\_\_  
ADDRESS OF SUBCONTRACTOR \_\_\_\_\_  
\_\_\_\_\_  
LICENSE # (IF APPLICABLE) \_\_\_\_\_

If necessary, the Bidder may attach additional names and addresses of subcontractors to this page.



# **CONTRACT**





**CONTRACT**

CONTRACT No. 18-1

Town of Yorktown  
Mohegan Avenue Retaining Wall Replacement Project

THIS AGREEMENT, made this \_\_\_\_\_ day of \_\_\_\_\_  
20\_\_\_\_\_, by and between the Town of Yorktown, in the County of Westchester, New York,  
herein called the "Owner", acting herein through its Town Engineer, and \_\_\_\_\_  
of \_\_\_\_\_ from the County  
of \_\_\_\_\_, in the State of \_\_\_\_\_ herein-  
after called the "Contractor", acting herein through its (official title) \_\_\_\_\_.

WITNESSETH; That for and in consideration of the payments and agreements to be made and performed by the Owner, the Contractor hereby agrees with the Owner to commence and complete the work described as follows:

1. The Contractor shall furnish all necessary labor, materials, tools, equipment, tests, insurance, warranties, guarantees and any and all other work required to assure complete and satisfactory accomplishment of the following:

<u>Item No.</u>	<u>Description</u>
1.	Mobilization (Price limited to Specification Section No.01505)
2.	Construction Photographs (Pre, During, and Post)
3.	As-Built Record Drawings
4.	Mohegan Avenue Retaining Wall Modification
5.	Rock Excavation
6.	Reconstruction of Uncharted and Mismarked Utilities
7.	Temporary and Permanent Vegetation Cover
8.	Additional Concrete
9.	Additional Foundation Material
10.	Police Traffic Control Allowance
11.	All Work Allowance



All work shall be as shown in the Contract Documents prepared by Charles A. Manganaro Consulting Engineers, P.C., including the Contract Drawings, the Advertisement, Information for Bidders, Proposal, Bidder's Qualification Statement, Contract, Contract Bonds, Certificate of Attorney, Releases, General Conditions, Supplemental Conditions, Detailed Specifications, Permits, State Wage Rates and all appendices and addenda thereto and modifications thereof incorporated in the said documents before execution of this Contract, which Contract Documents are identified by the signatures of the parties hereto and become hereby a part of this Contract.

2. The Contractor hereby agrees to commence the work under this Contract within five (5) calendar days from the date of a written "Notice to Proceed" to be issued by the Owner, and shall substantially complete all work in all respects, including all parts thereof, except for tentative list of items to be completed or corrected, warranty, and permanent pavement replacement (if required) within one hundred and twenty (120) calendar days following the service of said Notice.

The Contractor further agrees to complete all work, except for warranty and permanent pavement replacement (if required) within thirty (30) calendar days thereafter.

3. The Owner will pay and the Contractor shall receive the payment set forth in the Proposal in full compensation for:
  - a) Furnishing the security required for the faithful performance of the Contract; and
  - b) Performing and completing all the work which is necessary or proper to be furnished and/or performed in order to complete the entire work in this Contract described and specified, and in said specifications and drawings described and shown; and
  - c) All losses or damages:
    - 1) Arising out of the nature of the work aforesaid, or
    - 2) From the action of the elements, or
    - 3) From any unforeseen obstructions or difficulties encountered in the prosecution of the work; and
  - d) All expenses incurred by or in consequence of the suspension or discontinuance of the work as specified.
4. Payment is to be made by the Owner based on the unit prices bid or stipulated and on the Breakdown of Lump Sum Bid as set forth in the General Conditions. The



Contract amount is \$\_\_\_\_\_. It is understood and agreed, however, that the Contractor will accept, as payment in full with no allowance for anticipated profit, the summation of:

- a) The lump sums bid and/or unit prices times the work actually in place, plus compensation for extra work, if any, as approved and provided for in the Contract Documents;
  - b) Less any approved credits for reduction in work.
5. Payments shall be made by the Owner in accordance with the provisions of the Contract Documents and only upon approval by the Owner.
6. The Contractor represents and warrants as follows:
- a) That the Contractor is financially solvent and that the Contractor is experienced in and competent to perform the type of work, and to furnish the plant, materials, supplies and equipment, to be so performed or furnished by them;
  - b) That the Contractor is familiar with all Federal, State, County and Municipal Laws, ordinances and regulations which may in any way affect the work or those employed therein, including, but not limited to, any special acts relating to the work or the project of which it is a part;
  - c) That such temporary and permanent work required by the Contract Documents as is to be done by the Contractor can be satisfactorily constructed and used for the purpose for which it is intended, and that such construction will not injure any person or damage any property; and
  - d) That the Contractor will make no claims against the Owner, if in carrying out the project the Contractor finds that the actual conditions encountered do not conform to the information shown in the Contract Documents, or to conditions that might be expected from surface and/or subsurface indications.
7. If the Contractor should be adjudged a bankrupt or if there should be a general assignment for the benefit of its creditors, or if a receiver should be appointed on account of its insolvency, or for whatever other purpose, that the Owner may, without prejudice to any other right or remedy, terminate the employment of the Contractor. The termination of the employment of the Contractor under the provisions of this paragraph shall not relieve the surety of its responsibility.
8. This agreement shall bind the heirs, executors, administrators, successors and assigns of the respective parties hereto, subject, however, to the conditions of the total Contract Documents.



9. No final payment or acceptance shall be made by the Owner until the following conditions have been satisfied:
- a) The Owner shall have certified the work to have been completed in compliance with the Contract Documents, and the final payment to be payable.
  - b) The Contractor shall furnish the Owner with consent of surety to final payment.
  - c) The Contractor shall deliver to the Owner all warranties and guarantees, properly executed, required by the Contract Documents.

IN WITNESS WHEREOF, the parties to these presents have executed this Contract in four (4) counterpart, each of which shall be deemed an original, in the year and day first above mentioned.

(Seal) Town of Yorktown, New York

Attest: By: \_\_\_\_\_  
Ilan Gilbert  
Town Supervisor

By: \_\_\_\_\_  
(Contractor)

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

Attest: \_\_\_\_\_  
(Address)

Approved as to Form and Execution:

Counsel for Town of Yorktown, New York

Note: Secretary of the Owner should attest. If Contractor is a corporation, Secretary should attest.





**PERFORMANCE AND PAYMENT  
BONDS**



**PERFORMANCE BOND**

CONTRACT No. 18-1

Town of Yorktown  
Mohegan Avenue Retaining Wall Replacement Project

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned as principal and sureties, are hereby held and firmly bound unto the Town of Yorktown, 363 Underhill Avenue, Yorktown, New York 10598 the penal sum of \$ \_\_\_\_\_  
\_\_\_\_\_dollars,

for the payment of which well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

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

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH that whereas,  
the above named principal did on the \_\_\_\_\_ day of \_\_\_\_\_  
\_\_\_\_\_, 20\_\_\_\_\_, enter into a contract with the Town of Yorktown, 363 Underhill Avenue, Yorktown, New York 10598 of which said contract is made a part of this bond the same as though set forth herein;

NOW, if the said principal shall well and faithfully, do and perform the things agreed by the said principal to be done and performed according to the terms of said contract, then this obligation shall be 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 penal amount of this obligation as herein stated.

The said surety hereby stipulated and agrees that no modifications, omissions or additions in or to the terms of the said contract or in or to the plans or specifications therefor shall in anyway affect the obligation of said surety on its bond.

The said surety further hereby stipulates and agrees that the bond shall remain in full force and effect through the construction and warranty period (one year after the date of the "Certificate of Substantial Completion".)



IN WITNESS WHEREOF, the said \_\_\_\_\_  
as principal, has caused its corporate seal to be hereto affixed and these presents to be signed by  
its \_\_\_\_\_  
and attested by its \_\_\_\_\_, and the said \_\_\_\_\_  
\_\_\_\_\_ as surety, has caused its corporate  
seal to be hereto affixed and these presents to be signed by its \_\_\_\_\_  
\_\_\_\_\_  
and attested by its \_\_\_\_\_, this  
\_\_\_\_\_ day of \_\_\_\_\_ Two Thousand and \_\_\_\_\_.

Done in quadruplicate.

By: \_\_\_\_\_  
(Contractor)

Attest: \_\_\_\_\_  
\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Address)

By: \_\_\_\_\_  
(Bonding Company)

Attest: \_\_\_\_\_

Approved as to form and execution.

Counsel.



**PAYMENT BOND**

CONTRACT No. 18-1

Town of Yorktown  
Mohegan Avenue Retaining Wall Replacement Project

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned as \_\_\_\_\_  
principal and \_\_\_\_\_  
as sureties, are hereby held and firmly bound unto the Town of Yorktown, 363 Underhill Avenue,  
Yorktown Heights, New York 10598 in the penal sum of \$\_\_\_\_\_, for the payment of  
which well and truly to be made, we hereby jointly and severally bind ourselves, our heirs,  
executors, administrators, successors and assigned.

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

THE CONDITIONS OF THE ABOVE OBLIGATION IS SUCH that whereas, the above  
named principal did on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, enter into a  
contract with the Town of Yorktown, 363 Underhill Avenue, Yorktown Heights, New York 10598  
which said contract is made a part of this bond the same as though set forth herein;

NOW, if the said principal shall pay all lawful claims of subcontractors, materialmen,  
laborers, persons, firms or corporations for labor performed or materials, provisions, provender or  
other supplies or teams, fuels, oils, implements or machinery furnished, used or consumed in the  
carrying forward, performing or completing of said contract, we agreeing and assenting that this  
undertaking shall be for the benefit of any subcontractor, materialman, laborer, person, firm or  
corporation having a just claim, as well as for the obligee herein; then this obligation shall be 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 penal  
amount of this obligation as herein stated.





The said surety hereby stipulates and agrees that no modifications, omissions or additions in or to the terms of the said contract or in or to the plans or specifications therefore shall in anyway affect the obligations of said surety on its bond.

The said surety further hereby stipulates and agrees that the bond shall remain in full force and effect through the construction and warranty periods.

IN WITNESS WHEREOF, the said \_\_\_\_\_ as principal, has caused its corporate seal to be hereto affixed and these presents to be signed by its \_\_\_\_\_ and attested by its \_\_\_\_\_, and the said \_\_\_\_\_ as surety, has caused its corporate seal to be hereto affixed and these presents to be signed by its \_\_\_\_\_ and attested by its \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_ Two Thousand and \_\_\_\_\_.

Done in quadruplicate.

By: \_\_\_\_\_  
(Contractor)

Attest: \_\_\_\_\_

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

\_\_\_\_\_  
(Address)

By: \_\_\_\_\_  
(Bonding Company)

Attest: \_\_\_\_\_

By: \_\_\_\_\_

Attest: \_\_\_\_\_

Approved as to form and execution.

Counsel.



**CERTIFICATE OF ATTORNEY**



**CERTIFICATE OF ATTORNEY**

CONTRACT No. 18-1

Town of Yorktown  
Mohegan Avenue Retaining Wall Replacement Project

I, the undersigned, \_\_\_\_\_, the duly authorized and acting legal representative of the Town of Yorktown, 363 Underhill Avenue, Yorktown , New York 10598 do hereby certify as follows:

I have examined the foregoing Contract and Contract Bonds and the manner of execution thereof, and I am of the opinion that each of the aforesaid agreements has been duly executed by the proper parties thereto acting through their duly authorized representatives: that said representatives have full power and authority to execute said agreements on behalf of the respective parties names thereon; and that the foregoing agreements constitute valid and legally binding obligations upon the parties executing the same in accordance with the terms, conditions, and provisions thereof.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Richard S. Abbate, Esq



**SUBSTANTIAL COMPLETION RELEASE**





# AIA DOCUMENT G704-2000

## Certificate of Substantial Completion

(Instructions on reverse side)

**PROJECT:**  
(Name and address)

**PROJECT NUMBER:**

OWNER

**CONTRACT FOR:**

ARCHITECT

**CONTRACT DATE:**

CONTRACTOR

**TO OWNER:**  
(Name and address)

**TO CONTRACTOR:**  
(Name and address)

FIELD

OTHER

**PROJECT OR PORTION OF THE PROJECT DESIGNATED FOR PARTIAL OCCUPANCY OR USE SHALL INCLUDE:**

The Work performed under this Contract has been reviewed and found, to the Architect's best knowledge, information and belief, to be substantially complete. Substantial Completion is the stage in the progress of the Work when the Work or designated portion is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The date of Substantial Completion of the Project or portion designated above is the date of issuance established by this Certificate, which is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below:

\_\_\_\_\_  
**ARCHITECT** BY \_\_\_\_\_ **DATE OF ISSUANCE**

A list of items to be completed or corrected is attached hereto. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Unless otherwise agreed to in writing, the date of commencement of warranties for items on the attached list will be the date of issuance of the final Certificate of Payment or the date of final payment.

Cost estimate of Work that is incomplete or defective:

The Contractor will complete or correct the Work on the list of items attached hereto within \_\_\_\_\_ ( ) days from the above date of Substantial Completion.

\_\_\_\_\_  
**CONTRACTOR** BY \_\_\_\_\_ **DATE**

The Owner accepts the Work or designated portion as substantially complete and will assume full possession at \_\_\_\_\_ (time) on \_\_\_\_\_ (date).

\_\_\_\_\_  
**OWNER** BY \_\_\_\_\_ **DATE**

The responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance shall be as follows:

(Note: Owner's and Contractor's legal and insurance counsel should determine and review insurance requirements and coverage.)



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**AIA DOCUMENT G704-2000**  
CERTIFICATE OF  
SUBSTANTIAL COMPLETION

# Instructions

## GENERAL INFORMATION

**PURPOSE.** This document was developed to establish the date of Substantial Completion for the purpose of commencement of applicable warranties and to allow the Owner to occupy or utilize the Work or designated portion.

**RELATED DOCUMENTS.** This document was prepared for use under the terms of AIA general conditions, including AIA Document A201, General Conditions of the Contract for Construction, and the general conditions contained in AIA Document A107, Abbreviated Owner-Contractor Agreement Form for Construction Projects of Limited Scope—Stipulated Sum.

**USE OF CURRENT DOCUMENTS.** Prior to using any AIA document, the user should consult the AIA, an AIA component chapter or a current AIA Documents Price List to determine the current edition of each document.

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## COMPLETING THE G704 FORM

- After the words "Project or Portion of the Project Designated For Partial Occupancy Or Use Shall Include:" insert a detailed description of the Project or portion(s) of the Project that have been accepted as being substantially complete.
- Determine Work to be completed. Provide a list of items that are to be completed or corrected and attach.
- Determine dates for completion of the Work.
- Establish an amount to be withheld to complete the Work.

## EXECUTION OF THE DOCUMENT

The G704 document should be executed in not less than triplicate by the Owner, Architect and Contractor, each of whom retains an original.



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AIA DOCUMENT G704-2000  
INSTRUCTIONS

The American Institute  
of Architects  
1735 New York Avenue, N.W.  
Washington, D.C. 20006-5292

# CONTRACTOR'S AFFIDAVIT OF RELEASE OF LIENS

AIA Document G706A

(Instructions on reverse side)

OWNER   
ARCHITECT   
CONTRACTOR   
SURETY   
OTHER

TO OWNER:

*(Name and address)*

ARCHITECT'S PROJECT NO.:

CONTRACT FOR:

PROJECT:

*(Name and address)*

CONTRACT DATED:

STATE OF:

COUNTY OF:

The undersigned hereby certifies that to the best of the undersigned's knowledge, information and belief, except as listed below, the Releases or Waivers of Lien attached hereto include the Contractor, all Subcontractors, all suppliers of materials and equipment, and all performers of Work, labor or services who have or may have liens or encumbrances or the right to assert liens or encumbrances against any property of the Owner arising in any manner out of the performance of the Contract referenced above.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.

CONTRACTOR:

*(Name and address)*

BY: \_\_\_\_\_

*(Signature of authorized representative)*

\_\_\_\_\_  
*(Printed name and title)*

Subscribed and sworn to before me on this date:

Notary Public:

My Commission Expires:



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# INSTRUCTION SHEET

## FOR AIA DOCUMENT G706A, CONTRACTOR'S AFFIDAVIT OF RELEASE OF LIENS

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### A. GENERAL INFORMATION

#### 1. Purpose

This document is intended for use as a companion to AIA Document G706, Contractor's Affidavit of Payment of Debts and Claims.

#### 2. Related Documents

This document may be used with most of the AIA's Owner-Contractor agreements and general conditions, such as A201 and its related family of documents. As noted above, G706A is a companion document to AIA Document G706.

#### 3. Use of Current Documents

Prior to using any AIA document, the user should consult the AIA, an AIA component chapter or a current AIA Documents List to determine the current edition of each document.

#### 4. Limited License for Reproduction

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A limited license is hereby granted to retail purchasers to reproduce a maximum of ten copies of a completed or executed G706A, but only for use in connection with a particular project. Further reproductions are prohibited without the express permission of the AIA.

### B. CHANGES FROM THE PREVIOUS EDITION

A cross-reference to AIA Document A201 has been deleted to permit the use of G706A with other families of AIA documents, including construction management, interiors and design build.

### C. COMPLETING THE G706A FORM

**GENERAL:** The Owner-Contractor Agreement is the usual source of required information such as the contract date and the names and addresses of the Owner, Project and Contractor.

**ARCHITECT'S PROJECT NO.:** This information is typically supplied by the Architect and entered on the form by the Contractor.

**CONTRACT FOR:** This refers to the scope of the contract, such as "General Construction" or "Mechanical Work."

**AFFIDAVIT:** Indicate the state and county where the Affidavit is made. This is not necessarily the same location as the Project, but should be the location where the notary is authorized to administer sworn oaths. If there are any EXCEPTIONS to the statement these should be listed in the space provided; otherwise enter as "None". It may be a stipulation of the Contract Documents that the Owner has the right to require the Contractor to furnish a bond to cover each exception listed on the Affidavit.

**SUPPORTING DOCUMENTS:** The AIA does not publish a "Release or Waiver of Liens" for contractors or subcontractors because of the great diversity of releases or waivers permitted by various state mechanics lien laws. Forms for such purposes may be available from local contractors' associations or may be written with the assistance of legal counsel.

### D. EXECUTION OF THE DOCUMENT

The Notary Public should administer a sworn oath to the Contractor referencing the written statements appearing on G706A, and should duly sign and seal this document containing the Contractor's signature. G706A should be signed by the Contractor or the Contractor's authorized representative.

# CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS

AIA Document G706

(Instructions on reverse side)

OWNER   
ARCHITECT   
CONTRACTOR   
SURETY   
OTHER

TO OWNER:  
*(Name and address)*

ARCHITECT'S PROJECT NO.:

CONTRACT FOR:

PROJECT:  
*(Name and address)*

CONTRACT DATED:

STATE OF:  
COUNTY OF:

The undersigned hereby certifies that, except as listed below, payment has been made in full and all obligations have otherwise been satisfied for all materials and equipment furnished, for all work, labor, and services performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in connection with the performance of the Contract referenced above for which the Owner or Owner's property might in any way be held responsible or encumbered.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

1. Consent of Surety to Final Payment. Whenever Surety is involved, Consent of Surety is required. AIA Document G707, Consent of Surety, may be used for this purpose.

Indicate attachment:  yes  no

*The following supporting documents should be attached hereto if required by the Owner*

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.
3. Contractor's Affidavit of Release of Liens (AIA Document G706A).

CONTRACTOR:  
*(Name and address)*

BY: \_\_\_\_\_  
*(Signature of authorized representative)*

\_\_\_\_\_  
*(Printed name and title)*

Subscribed and sworn to before me on this date:

Notary Public:

My Commission Expires:



**CAUTION: You should sign an original AIA document that has this caution printed in red. An original assures that changes will not be obscured as may occur when documents are reproduced. See Instruction Sheet for Limited License for Reproduction of this document.**



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G706—1994

# INSTRUCTION SHEET

## FOR AIA DOCUMENT G706 CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS

---

### A. GENERAL INFORMATION

#### 1. Purpose

This document is intended for use when the Contractor is required to provide a sworn statement concerning debts and claims that have been sought except for those listed by the Contractor under "EXCEPTIONS" in the document G706 (attached to the form) at the conclusion of final payment.

#### 2. Related Documents

This document may be used with most of the AIA's Owner-Contractor agreements and general conditions, such as A201 and its related family of documents. G706 also requires the attachment of several supporting documents, including G706A Contractor's Affidavit of Retention of Liens, and G707 Consent of Surety to Reduction or Release of Retainage.

#### 3. Use of Current Documents

Prior to using any AIA document, the user should consult the AIA, an AIA component chapter or a current AIA Document, first to determine the current edition of each document.

#### 4. Limited License for Reproduction

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A limited license is hereby granted to retail purchasers to reproduce a maximum of ten copies of a completed or executed G706, but only for use in connection with a particular project. Further reproductions are prohibited without the express permission of the AIA.

### B. CHANGES FROM THE PREVIOUS EDITION

A cross-reference to AIA Document A201 has been deleted to permit the use of G706 with other families of AIA documents, including construction management, interiors and design build.

### C. COMPLETING THE G706 FORM

**GENERAL:** The Owner-Contractor Agreement is the usual source of required information such as the contract date and the names and addresses of the Owner, Project and Contractor.

**ARCHITECT'S PROJECT NO.:** This information is typically supplied by the Architect and entered on the form by the Contractor.

**CONTRACT FOR:** This refers to the scope of the contract, such as "General Construction" or "Mechanical Work."

**AFFIDAVIT:** Indicate the state and county where the Affidavit is made. This is not necessarily the same location as the Project, but should be the location where the notary is authorized to administer sworn oaths. If there are any **EXCEPTIONS** to the statement, these should be listed in the space provided; otherwise enter as "None." It may be a stipulation of the Contract Documents that the Owner has the right to require the Contractor to furnish a bond to cover each exception listed on the Affidavit.

**SUPPORTING DOCUMENTS:** The AIA documents listed as attachments to the G706 form should be of the same (current) edition date as G706. The AIA does not publish a "Release or Waiver of Liens" for contractors or subcontractors because of the great diversity of releases or waivers permitted by various state mechanics lien laws. Forms for such purposes may be available from local contractors' associations or may be written with the assistance of legal counsel.

### D. EXECUTION OF THE DOCUMENT

The Notary Public should administer a sworn oath to the Contractor referencing the written statements appearing on G706, and should design and seal this document containing the Contractor's signature. G706 should be signed by the Contractor or the Contractor's authorized representative.

# CONSENT OF SURETY TO FINAL PAYMENT

AIA Document G707

(Instructions on reverse side)

OWNER	<input type="checkbox"/>
ARCHITECT	<input type="checkbox"/>
CONTRACTOR	<input type="checkbox"/>
SURETY	<input type="checkbox"/>
OTHER	<input type="checkbox"/>

TO OWNER:  
*(Name and address)*

ARCHITECT'S PROJECT NO.:

CONTRACT FOR:

PROJECT:  
*(Name and address)*

CONTRACT DATED:

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the  
*(Insert name and address of Surety)*

on bond of  
*(Insert name and address of Contractor)*

, SURETY,

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety of  
any of its obligations to  
*(Insert name and address of Owner)*

, CONTRACTOR,

as set forth in said Surety's bond.

, OWNER,

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date:  
*(Insert in writing the month followed by the numeric date and year )*

\_\_\_\_\_  
*(Surety)*

\_\_\_\_\_  
*(Signature of authorized representative)*

Attest:  
(Seal):

\_\_\_\_\_  
*(Printed name and title)*



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G707—1994

# INSTRUCTION SHEET

FOR AIA DOCUMENT G707, CONSENT OF SURETY TO FINAL PAYMENT

THIS IS NO TYPED COPY  
IT IS A COPY OF THE ORIGINAL

## A. GENERAL INFORMATION

### 1. Purpose

This document is intended for use as a companion to AIA Document G706, Contractor's Affidavit of Payment of Debts and Claims, on construction projects where the Contractor is required to furnish a bond. By obtaining the Surety's approval of final payment to the Contractor and its agreement that final payment will not relieve the Surety of any of its obligations, the Owner may preserve its rights under the bond.

### 2. Related Documents

This document may be used with most of the AIA's Owner-Contractor agreements and general conditions, such as A201 and its related family of documents. As noted above, this is a companion document to AIA Document G706.

### 3. Use of Current Documents

Prior to using any AIA document, the user should consult the AIA, an AIA component chapter or a current AIA Documents List to determine the current edition of each document.

### 4. Limited License for Reproduction

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A limited license is hereby granted to retail purchasers to reproduce a maximum of ten copies of a completed or executed G707, but only for use in connection with a particular project. Further reproductions are prohibited without the express permission of the AIA.

## B. CHANGES FROM THE PREVIOUS EDITION

Changes in the location of various items of information were made, without revision to the substance of the document.

## C. COMPLETING THE G707 FORM

**GENERAL:** The bond form is the usual source of required information such as the contract date and the names and addresses of the Surety, Owner, Contractor and Project.

**ARCHITECT'S PROJECT NO.:** This information is typically supplied by the Architect and entered on the form by the Contractor.

**CONTRACT FOR:** This refers to the scope of the contract, such as "General Construction" or "Mechanical Work."

## D. EXECUTION OF THE DOCUMENT

The G707 form requires both the Surety's seal and the signature of the Surety's authorized representative.



**FORM  
OF  
ACKNOWLEDGMENT BY PRINCIPAL IF A CORPORATION**

STATE OF NEW YORK                    )  
  )ss:  
COUNTY OF                            )

On the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_, before me  
personally came \_\_\_\_\_ to me known,  
who, being by me duly sworn, did depose and say that he resides at \_\_\_\_\_  
\_\_\_\_\_ that he is the  
\_\_\_\_\_ of  
\_\_\_\_\_ one of  
the corporations described in and which executed the foregoing instrument; that he knows the seal  
of said corporation; that one of the seals affixed to said instrument is such seal; that it was so  
affixed by order of the Board of Directors of said corporation; and that he signed his name thereto  
by like order.

\_\_\_\_\_  
Notary Public



**FORM  
OF  
ACKNOWLEDGMENT BY PRINCIPAL, IF A PARTNERSHIP**

STATE OF NEW YORK            )  
  )ss:  
COUNTY OF                    )

On the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_,  
before me personally appeared \_\_\_\_\_ to me  
known and known to me to be one of the members of the firm of \_\_\_\_\_  
\_\_\_\_\_ described in  
and who executed the foregoing instrument, and he acknowledged to me that he executed the same  
as and for the act and deed of said firm.

\_\_\_\_\_  
Notary Public



**FORM  
OF  
ACKNOWLEDGMENT BY PRINCIPAL, IF AN INDIVIDUAL**

STATE OF NEW YORK            )  
  )ss:  
COUNTY OF                    )

On the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_,  
before me personally appeared \_\_\_\_\_  
to me known and known to me to be the person described in and who executed the foregoing  
instrument and acknowledged that he executed the same.

\_\_\_\_\_  
Notary Public



**FINAL COMPLETION RELEASE**





**FINAL COMPLETION RELEASE**

This Release, dated \_\_\_\_\_, 20\_\_\_\_\_, is given by the Releaser(s)  
\_\_\_\_\_ ("Contractor")

TO

Town of Yorktown Heights ("Owner")  
and Charles A. Manganaro Consulting Engineers, P.C. ("Engineer")

1. Release. The Contractor releases and gives up any and all claims and rights which it may have against the Owner, Engineer, and their agents, servants or employees. This releases all claims, including those of which Contractor is not aware and those not mentioned in this Release. This Release applies to claims resulting from anything which has happened up to now. Contractor specifically releases the following claims:

Any and all claims and liability of whatsoever nature for anything done or furnished or in any manner arising out of the performance of:

CONTRACT No. 18-1

Town of Yorktown  
Mohegan Avenue Retaining Wall Replacement Project



2. Payment. Contractor has received payment in the amount of \$ \_\_\_\_\_\*, in full payment for making this Release. Contractor agrees that it will not seek anything further, including any other payment, from Owner or Engineer.
  
3. Who is Bound. Contractor is bound by this Release. Anyone who succeeds to Contractor's rights and responsibilities is also bound. This Release is made for the benefit of Owner and Engineer and all who succeed to their rights and responsibilities.
  
4. Signatures. Contractor understands and agrees to the terms of this Release. If this Release is made by a corporation, its proper corporate officers have signed and the corporate seal is affixed.

Witnessed or Attested By:

<b>SUMMARY OF PAYMENT ESTIMATES (*)</b>					
<b>Partial Payment Estimate No.</b>	<b>Partial Payment Estimate Date</b>	<b>Construction Period</b>		<b>Amount of Partial Payment Estimate</b>	<b>CAMCE Letter to Owner Recommending Payment of Estimate</b>
		<b>From</b>	<b>To</b>		



**FORM  
OF  
ACKNOWLEDGMENT BY PRINCIPAL IF A CORPORATION**

STATE OF NEW YORK            )  
  )ss:  
COUNTY OF                    )

On the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_,  
before me personally came to me known, who, being by me duly sworn, did depose and say that he  
resides at \_\_\_\_\_ that he  
\_\_\_\_\_ is the  
\_\_\_\_\_ of

\_\_\_\_\_ One of the corporations  
described in and which executed the foregoing instrument; that he knows the seal of said  
corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by  
order of the Board of Directors of said corporation; and that he signed his name thereto by like  
order.

\_\_\_\_\_

Notary Public



**FORM  
OF  
ACKNOWLEDGMENT BY PRINCIPAL, IF A PARTNERSHIP**

STATE OF NEW YORK            )  
  )ss:  
COUNTY OF                    )

On the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_,  
before me personally appeared \_\_\_\_\_ to me  
\_\_\_\_\_ known  
and known to me to be one of the members of the firm of \_\_\_\_\_  
\_\_\_\_\_ described in and who  
executed the foregoing instrument, and he acknowledged to me that he executed the same as and  
for the act and deed of said firm.

\_\_\_\_\_  
Notary Public





**FORM  
OF  
ACKNOWLEDGMENT BY PRINCIPAL, IF AN INDIVIDUAL**

STATE OF NEW YORK            )  
  )ss:  
COUNTY OF                    )

On the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_,

before me personally appeared \_\_\_\_\_

to me \_\_\_\_\_ known and  
known to me to be the person described in and who executed the foregoing instrument and  
acknowledged that he executed the same.

\_\_\_\_\_

Notary Public



# CONTRACTOR'S AFFIDAVIT OF RELEASE OF LIENS

AIA Document G706A

(Instructions on reverse side)

OWNER   
ARCHITECT   
CONTRACTOR   
SURETY   
OTHER

TO OWNER:

*(Name and address)*

ARCHITECT'S PROJECT NO.:

CONTRACT FOR:

PROJECT:

*(Name and address)*

CONTRACT DATED:

STATE OF:

COUNTY OF:

The undersigned hereby certifies that to the best of the undersigned's knowledge, information and belief, except as listed below, the Releases or Waivers of Lien attached hereto include the Contractor, all Subcontractors, all suppliers of materials and equipment, and all performers of Work, labor or services who have or may have liens or encumbrances or the right to assert liens or encumbrances against any property of the Owner arising in any manner out of the performance of the Contract referenced above.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.

CONTRACTOR:

*(Name and address)*

BY: \_\_\_\_\_

*(Signature of authorized representative)*

\_\_\_\_\_  
*(Printed name and title)*

Subscribed and sworn to before me on this date:

Notary Public:

My Commission Expires:



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# INSTRUCTION SHEET

## FOR AIA DOCUMENT G706A, CONTRACTOR'S AFFIDAVIT OF RELEASE OF LIENS

---

### A. GENERAL INFORMATION

#### 1. Purpose

This document is intended for use as a companion to AIA Document G706, Contractor's Affidavit of Payment of Debts and Claims.

#### 2. Related Documents

This document may be used with most of the AIA's Owner-Contractor agreements and general conditions, such as A201 and its related family of documents. As noted above, G706A is a companion document to AIA Document G706.

#### 3. Use of Current Documents

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### B. CHANGES FROM THE PREVIOUS EDITION

A cross-reference to AIA Document A201 has been deleted to permit the use of G706A with other families of AIA documents, including construction management, interiors and design build.

### C. COMPLETING THE G706A FORM

**GENERAL:** The Owner-Contractor Agreement is the usual source of required information such as the contract date and the names and addresses of the Owner, Project and Contractor.

**ARCHITECT'S PROJECT NO.:** This information is typically supplied by the Architect and entered on the form by the Contractor.

**CONTRACT FOR:** This refers to the scope of the contract, such as "General Construction" or "Mechanical Work".

**AFFIDAVIT:** Indicate the state and county where the Affidavit is made. This is not necessarily the same location as the Project, but should be the location where the notary is authorized to administer sworn oaths. If there are any EXCEPTIONS to the statement these should be listed in the space provided; otherwise enter as "None". It may be a stipulation of the Contract Documents that the Owner has the right to require the Contractor to furnish a bond to cover each exception listed on the Affidavit.

**SUPPORTING DOCUMENTS:** The AIA does not publish a "Release or Waiver of Liens" for contractors or subcontractors because of the great diversity of releases or waivers permitted by various state mechanics lien laws. Forms for such purposes may be available from local contractors' associations or may be written with the assistance of legal counsel.

### D. EXECUTION OF THE DOCUMENT

The Notary Public should administer a sworn oath to the Contractor referencing the written statements appearing on G706A, and should duly sign and seal this document containing the Contractor's signature. G706A should be signed by the Contractor or the Contractor's authorized representative.

# CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS

AIA Document G706

(Instructions on reverse side)

OWNER   
ARCHITECT   
CONTRACTOR   
SURETY   
OTHER

TO OWNER:  
*(Name and address)*

ARCHITECT'S PROJECT NO.:

CONTRACT FOR:

PROJECT:  
*(Name and address)*

CONTRACT DATED:

STATE OF:  
COUNTY OF:

The undersigned hereby certifies that, except as listed below, payment has been made in full and all obligations have otherwise been satisfied for all materials and equipment furnished, for all work, labor, and services performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in connection with the performance of the Contract referenced above for which the Owner or Owner's property might in any way be held responsible or encumbered.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

1. Consent of Surety to Final Payment. Whenever Surety is involved, Consent of Surety is required. AIA Document G707, Consent of Surety, may be used for this purpose.

Indicate attachment:  yes  no

*The following supporting documents should be attached hereto if required by the Owner*

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.
3. Contractor's Affidavit of Release of Liens (AIA Document G706A).

CONTRACTOR:  
*(Name and address)*

BY: \_\_\_\_\_  
*(Signature of authorized representative)*

\_\_\_\_\_  
*(Printed name and title)*

Subscribed and sworn to before me on this date:

Notary Public:

My Commission Expires:



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# INSTRUCTION SHEET

## FOR AIA DOCUMENT G706, CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS

### A. GENERAL INFORMATION

#### 1. Purpose

This document is intended for use when the Contractor is required to provide a sworn statement certifying that debts and claims have been settled except for those listed by the Contractor under "EXCEPTIONS" in the document. G706 is typically used prior to a condition of final payment.

#### 2. Related Documents

This document may be used with most of the AIA's Owner-Contractor agreements and general conditions, such as A201 and its related family of documents. G706 also requires the attachment of several supporting documents, including G70A, Contractor's Affidavit of Release of Liens, and G707, Consent of Surety to Reduction in or Release of Retainage.

#### 3. Use of Current Documents

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### B. CHANGES FROM THE PREVIOUS EDITION

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### C. COMPLETING THE G706 FORM

**GENERAL.** The Owner-Contractor Agreement is the usual source of required information such as the contract date and the names and addresses of the Owner, Project and Contractor.

**ARCHITECT'S PROJECT NO.** This information is typically supplied by the Architect and entered on the form by the Contractor.

**CONTRACT FOR.** This refers to the scope of the contract, such as "General Construction" or "Mechanical Work."

**AFFIDAVIT.** Indicate the state and county where the Affidavit is made. This is not necessarily the same location as the Project, but should be the location where the notary is authorized to administer sworn oaths. If there are any **EXCEPTIONS** to the statement, these should be listed in the space provided; otherwise enter as "None." It may be a stipulation of the Contract Documents that the Owner has the right to require the Contractor to furnish a bond to cover each exception listed on the Affidavit.

**SUPPORTING DOCUMENTS.** The AIA documents listed as attachments to the G706 form should be of the same (current) edition date as G706. The AIA does not publish a "Release or Waiver of Liens" for contractors or subcontractors because of the great diversity of releases or waivers permitted by various state mechanics lien laws. Forms for such purposes may be available from local contractors' associations or may be written with the assistance of legal counsel.

### D. EXECUTION OF THE DOCUMENT

The Notary Public should administer a sworn oath to the Contractor referencing the written statements appearing on G706, and should duly sign and seal this document containing the Contractor's signature. G706 should be signed by the Contractor or the Contractor's authorized representative.

# **GENERAL CONDITIONS**





**GENERAL CONDITIONS**

**CONTRACT No. 18-1**

**Town of Yorktown  
Mohegan Avenue Retaining Wall Replacement Project**

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# GENERAL CONDITIONS

## CONTRACT No. 18-1

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## CONTRACT No. 18-1

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**CONTRACT No. 18-1**

**Town of Yorktown  
Mohegan Avenue Retaining Wall Replacement Project**

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# GENERAL CONDITIONS

## CONTRACT No. 18-1

### Town of Yorktown Mohegan Avenue Retaining Wall Replacement Project

#### Art. 1 - DEFINITIONS.

The term "Contract Documents" shall mean and consist of the following sections: Advertisement, Information for Bidders, Proposal, Bidders Qualification Statement, Contract, Performance and Payment Bonds, Certificate of Attorney, Substantial & Final Completion Releases, General Conditions, Supplementary Conditions, State Wage Rates, Detailed Specifications, Specific Provisions, Contract Items, Contract Drawings and all appendices and addenda thereto and modifications thereof incorporated in the Documents before execution of the Contract.

The term "Owner" shall mean the Town of Yorktown, Town Hall, 363 Underhill Avenue, Yorktown Heights, NY 10598.

The term "Resident Representative" shall mean the person or persons provided with the responsibility of acting for and in behalf of the Owner in field matters related to the construction of the Project.

The term "Engineer" shall mean Charles A. Manganaro Consulting Engineers, P.C., with a principal office at 303 South Broadway, Suite 460, Tarrytown, New York 10591.

The term "Contract Documents" shall mean the project manual which includes the following sections:

- a) Advertisement
- b) Information to Bidders
- c) Proposal
- d) Bidder's Qualification Statement
- e) Contract
- f) Performance and Payment Bonds
- g) Certificate of Attorney
- h) Substantial Completion Release
- i) Final Completion Release
- j) State Wage Rates
- k) Detailed Specifications

Plus Contract Drawings and or Supplemental thereto.

The term "Contractor" shall mean the firm, party or parties contracting with the Owner to perform the work herein specified or the legal representative of such firm, party or parties.

The term "Subcontractor" shall mean the firm, party or parties having a contract or agreement with the Contractor or another subcontractor to supply labor and materials or only labor for work on the project.

The term "Contract Bonds" shall mean the Performance Bond and the Payment Bond furnished by the Contractor, on the forms provided herein, as security for the faithful performance of this Contract and for the payment of all persons performing labor or furnishing materials in connection therewith.

The term "Supplementary Conditions" shall mean the part of Contract Documents which amends or supplements the Contract Documents.

The term "Surety" shall mean the person, persons, or corporate body which is bound with and for the Contractor, and which binds itself or themselves for the payment of all debts pertaining to, and for the acceptable performance of, the work for which the Contractor has contracted, as more particularly set forth in the Contract Bonds.

The term "Project" shall mean the entire work to be performed under the Contract.

The term "Work" shall mean all plant, labor, materials and supplies (including their transportation to or from the site of the Project), structures or parts thereof on which the work is under way or completed, equipment, rentals, insurance, Contract Bonds, and other facilities and things agreed to be furnished and done by the Contractor, and necessary and proper for or incidental to carrying out and completion of the terms of this Contract, including all shop and field tests and warranty.

The term "Contractor's work" shall mean all permanent equipment, materials, and structures or parts thereof, the installation of which has been completed except for testing and operation, which cannot be accomplished pending the completion of other contracts of the project being performed by others.

The term "Extra Work" shall mean the work authorized by the Owner which, by its written direction, involves changes in, or additions to, the work required under the Contract at the time of its execution.

The term "Defective Work" shall mean Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion).

The term "Substantial Completion" shall mean when the Contractor considers the entire work ready for its intended use, Contractor shall, in writing to Owner and Engineer, certify that the entire work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Within a reasonable time thereafter, Owner, Contractor and Engineer shall make an observation of the work to determine the status of completion. If Engineer does not consider the work substantially complete, Engineer will notify the Contractor in writing giving reasons therefore. If the Engineer considers the work substantially complete, the Engineer will prepare and deliver to the Owner a tentative certificate of Substantial Completion which fixes the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which Owner may make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, the Engineer concludes that the work is not substantially complete, the Engineer will within fourteen days after submission of the tentative certificate to Owner notify the Contractor in writing, stating reasons therefore. If, after consideration of the Owner's objections, the Engineer considers the work substantially complete, the Engineer will within said fourteen days execute and deliver to the Owner and the Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as the Engineer believes justified after consideration of any objections from the Owner. At the time of delivery of the tentative certificate of Substantial Completion the Engineer will deliver to the Owner and the Contractor a written recommendation as to division of responsibilities pending final payment between the Owner and the Contractor with respect to security, operation, safety, maintenance, heat, utilities and insurance. Unless the Owner and the Contractor agree otherwise in writing and so inform the Engineer prior to issuing the definitive certificate of Substantial Completion, the Engineer's aforesaid recommendation will be binding on the Owner and the Contractor until final payment.

The Owner shall have the right to exclude the Contractor from the work after the date of Substantial Completion, but the Owner shall allow the Contractor reasonable access to complete or correct items on the tentative list.

The term "Partial Utilization" shall mean use by the Owner of completed portions of the work may be accomplished prior to Substantial Completion of all the work subject to the following:

1. The Owner at any time may request the Contractor in writing to permit the Owner to use any part of the work which the Owner believes to be substantially complete and which may be used without significant interference with construction of the other parts of the work. If the Contractor agrees, the Contractor will certify to the Owner and the Engineer that said part of the work is substantially complete and request the Engineer to issue a certificate of Substantial Completion for that part of the work. Within a reasonable time thereafter the Owner, Contractor and Engineer shall make an inspection of that part of the work to determine its status of completion. If the Engineer does not consider that part of the work to be substantially complete, the Engineer will notify the Owner and the Contractor in writing giving reasons therefore. If the Engineer considers that part of the work to be substantially complete, the Engineer will execute and deliver to the Owner and Contractor a certificate to that effect, fixing the date of Substantial Completion as to that part of the work, attaching thereto a tentative list of items to be completed or corrected before final payment. Prior to issuing a certificate of Substantial Completion as to part of the work, the Engineer will deliver to the Owner and Contractor a written recommendation as to the division of responsibilities pending final payment between the Owner and the Contractor, with respect to security, operation, safety, maintenance, utilities and insurance for that part of the work which shall become binding upon the Owner and Contractor at the time of issuing the definitive certificate of Substantial Completion as to that part of the work, unless the Owner and Contractor shall have otherwise agreed in writing and so informed the Engineer. The Owner shall have the right to exclude the Contractor from any part of the work which the Engineer has so certified to be substantially complete, but the Owner shall allow the Contractor reasonable access to complete or correct items on the tentative list.
2. In lieu of the issuance of a Certificate of Substantial Completion as to part of the work, the Owner may take over operation of a facility constituting part of the work whether or not is substantially complete if such facility is functionally and separately useable; provided that prior to any such take over, the Owner and Contractor have agreed as to the division of responsibilities between the Owner and Contractor for security, operation, safety, maintenance, correction period, heat, utilities and insurance with respect to such facility.
3. No occupancy of part of the work or taking over of operations of a facility will be accomplished prior to compliance with the requirements of Article 8 "Contractor's and Subcontractor's Insurance" in respect to property insurance.

The term "Final Observation" shall mean upon written notice from the Contractor that the work is complete, the Engineer will make a final observation with the Owner and Contractor and will notify the Contractor in writing of all particulars in which this observation reveals that the work is incomplete or defective. The Contractor shall immediately take such measures as are necessary to remedy such deficiencies.

The term "Drawings" shall mean the Contract Drawings, all details or working drawings furnished by the Owner pertinent or supplemental thereto, and such supplemental drawings or shop drawings as the Contract Documents may require the Contractor to furnish.

The term "Specifications" shall mean the Information for Bidders, the General Conditions, the General Specifications, Specific Provisions, specifications contained in the Contract Items or shown on the drawings and referred-to standard specifications.

The term "Provide" and/or "Furnish" shall mean to supply, deliver, place, install, connect, and make ready for use for the purpose intended.

The term "Completion" shall mean the full and exact compliance and conformity with the provisions and requirements expressed and implied by the Contract Documents.

The term "Material" (or "materials") shall mean all the things of any kind, nature and class as may be specified which become a part of or are used in the construction of the work, together with all

manufactured or prepared materials, articles, equipment, accessories, appliances, appurtenances, supplies and parts used therein or placed thereon.

The term "Equipment" shall have the same general meaning as "material".

The term "Structures" shall mean the buildings, tanks, treatment units, manholes, conduits, pipe, water, gas, electrical and other facilities, and other works which are to be built under this Contract or which exist or which may be encountered in the work and which are not otherwise classified herein.

The term "Site" or "Sites" shall mean the area or areas which is or are the location or locations for the performance of the work, together with staging areas and adjacent and nearby areas.

The term "Provided by the Owner" or "Owner Furnished" shall mean equipment or materials purchased or owned by the Owner and provided to this Contractor for installation by this Contractor.

The term "Owner's Property" shall mean all areas at present owned or soon to be acquired by the Town of Mount Pleasant, New York.

The term "Supply" shall mean to purchase, procure, acquire and deliver to the site with all related accessories necessary or required.

The term "Install" shall mean to erect, mount, connect, and test, materials and equipment, complete with all related accessories, wiring, conduit, etc. necessary or required, ready for the use intended.

The term "Mount" shall mean to erect, support, and connect, complete with all related accessories, ready for the use intended.

The term "Wiring" shall mean conductors, cables, conduit, fittings, wire junction and outlet boxes, switches, cutouts and receptacles, and all items and work necessary or required in connection with or relating thereto.

The term "Concealed" shall mean embedded in concrete, masonry or other construction, installed behind wall furring, within double partitions or hung ceilings, in trenches, underground, or in crawl spaces.

The term "Exposed" shall mean not installed underground or "concealed" as defined above.

The term "Indicated" or "Shown" shall mean as indicated or shown on drawings and/or in the specifications.

The term "Noted" shall mean as indicated on drawings and/or in the specifications.

The term "Minimum" shall mean that the dimension, measurement or quantity noted, shown or specified shall not be less than that noted, but shall be more, if necessary, to meet the proper operating or strength requirements of the materials or equipment, provided under this contract as determined by the Contractor, manufacturer, or supplier.

The term "Maximum" shall mean the greatest dimension, measurement or quantity noted, shown or specified which is permissible under the Contract.

The term "Day" shall mean a unit of time, in common usage; it is an interval equal to 24 hours.

The term "Calendar Day" shall mean a time span of exactly 24 hours.

The term "Business Day or Working Day" shall mean every official work day of the week; or are the days between and including Monday to Friday and do not include public holidays and weekends.

When referring to the work or its performance, the words "directed", "required", "permitted", "ordered", "designated", "prescribed", and others of like import shall imply the direction, requirements,

permission, order, designation or prescription of the Owner; and the words "approved", "acceptable", "satisfactory", "in the judgement of", and others of like import shall mean approved by or acceptable to or satisfactory to the Owner, except where the words are made specifically referable to others by the terms of the specifications and conditions. Wherever in the specifications the words "detailed", "noted", "shown" or words of like import are used, it shall be understood that these words mean as detailed, noted, or shown on the drawings; and where the word "specified" is used, it shall be understood to mean as called for in the specifications.

#### Art. 2 - HEADINGS.

The headings of the articles herein are intended for convenience of references only and shall not be considered as having any bearing on their interpretation.

#### Art. 3 - EXECUTION, CORRELATION AND INTENT OF DOCUMENTS.

The Contract Documents shall be signed in quadruplicate by the Owner and the Contractor.

The various sections of the Contract Documents are complementary, and what is called for by one section shall be binding as if called for by all. The work specified and/or shown on the drawings shall be complete in every detail notwithstanding that every item necessarily involved is or is not particularly mentioned or shown, and the Contractor will be held to provide all labor, materials, equipment and incidental accessories necessary for the entire completion of the work intended to be described or shown, in finished, acceptable form, tested and ready for use or operation by the Owner, and shall not avail themselves of any manifestly unintentional errors or omissions, should such exist.

Each and every provision of law and clause required by law to be inserted in this Contract shall be deemed to be inserted herein, and this contract shall be read and enforced as though it were included herein, and if through mere mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either part hereto, the Contract shall forthwith be physically amended to make such insertion.

If this Contract contains any unlawful provisions not an essential part of the general structure of the Contract and which shall not appear to have been a controlling or material inducement in the making or pricing thereof, the same shall be deemed of no effect and shall be deemed stricken from the Contract without affecting the binding force of the remainder.

#### Art. 4 - CONTRACT SECURITY.

Simultaneously with delivery of the executed Contract, the Contractor shall furnish and deliver to the Owner, in triplicate, an executed Performance Bond and an executed Payment Bond, each in the amount of one hundred (100%) percent of the accepted bid, as security for the faithful performance of this Contract and for the payment of all persons performing labor or furnishing materials in connection therewith. All Contract Bonds so furnished and delivered by the Contractor shall be prepared in the forms provided herein and shall have as security thereon such Surety or Sureties as are acceptable to the Owner and as are authorized to transact business in the State of New York. The Bonds shall be purchased through a surety company having a local agent in the State of New York upon whom service of process can be made and who is named in the current list of "Surety Companies Acceptable on Federal Bonds" as published in U.S. Treasury Department Circular No. 570.

The Performance Bond shall remain in force for a period of one year after issuance of the "Certificate of Substantial Completion".

If, at any time after execution and approval of this Contract and the Bonds required by the Contract Documents, the Owner shall deem any of the Sureties upon such bonds to be unsatisfactory, or if, for any reason, such Bonds shall cease to be adequate security for the Owner, the Contractor shall, within five days after notice to do so, furnish new or additional bonds, in form, sum, and signed by such Sureties as will be satisfactory to the Owner. No further periodic payment will be deemed due, nor will any such further payment be made to the Contractor unless and until such new or additional bonds shall be furnished and approved. The premium on such bonds shall be paid by the Contractor.

#### Art. 5 - BREAKDOWN STATEMENT OF LUMP SUM(S) BID.

Simultaneously with delivery of the executed Contract, the Contractor shall furnish and deliver to the Owner triplicate copies of a breakdown of the lump sum(s) bid in such detail and form as will be acceptable to the Owner for use in facilitating the preparation of periodical estimates for progress payments to the Contractor and for any other Contract requirements. The breakdown shall also show the delivered price of material, equipment, and the allowance for installation, or, if installation only is required, the cost for same.

The breakdown of lump sum(s) bid shall, as nearly as possible, reflect the true cost of each item, and the Owner reserves the right to reject the breakdown if the Owner considers the breakdown unbalanced. The burden of proof is upon the Contractor to substantiate that the breakdown does reflect true costs.

If the Contractor supplies satisfactory evidence of the reasonableness of lump sum(s) breakdown, then it will be accepted by the Owner. If, however, the Contractor does not supply the necessary evidence, then the Contractor will accept a reasonable breakdown of lump sum(s) bid supplied by the Owner.

If the Contractor does not submit an acceptable breakdown of lump sum(s) bid, the Owner will prepare, and the Contractor agrees to accept, a temporary breakdown of lump sum(s) bid which, upon approval of work by the Owner, will be used by the Owner to make interim periodical payments to the Contractor until the Contractor submits an acceptable breakdown of lump sum(s) bid.

#### Art. 6 - OBLIGATIONS OF CONTRACTOR.

The Contractor shall, under the bid price, furnish all labor, materials, plant, power, light, heat, fuel, water, tools, appliances, equipment, supplies, and any and all other means of construction necessary or proper for performing and completing the work; restore to their original condition all surfaces disturbed; do all work and pay all costs of cutting, fitting, patching, protecting, supporting, maintaining, repairing if damaged, relocating and restoring all surface, subsurface, and overhead structures, and all other property, including the work of other contractors, and pipe, conduits, ducts, tubes, chambers, and appurtenances, public or private, in the vicinity of the work; bear all costs of insurance and surety, bear all losses due to the nature of the work and costs incidental to suspension or discontinuance of the work, except as herein provided; take all risks of whatever nature; indemnify the Owner and the Engineer for all claims as herein provided; obtain and pay for all permits unless otherwise provided; conform to all Federal, State, County, or municipal legislation and requirements; undertake all cutting, fitting, or patching of any work required to bring it into conformity with the Contract Documents; leave intact the work of adjoining contractors, unless otherwise ordered; perform and complete the work (including all tests) in the manner best calculated to promote rapid construction consistent with safety of life and property and in strict accordance with the Contract Documents; protect the work during construction; provide guarantees; clean up the work during and after construction; and maintain it until final acceptance and as provided hereinafter under "Warranty", or otherwise specified.

It is intended that the lump sum(s) or unit prices bid includes all the work to be done, in accordance with the best engineering and construction practices, which will result in a complete installation of first-class workmanship, equipment and materials, ready for operation, and that any appurtenance, accessory, or work allied to any particular item of work and necessary for its proper operation or completion will be furnished and installed under the lump sums or unit prices bid.

All materials and installed equipment shall be new, unused, and in pristine condition.

#### Art. 7 - START AND COMPLETION OF WORK.

The Contractor shall commence work within five (5) calendar days from the date of a written "Notice to Proceed" from the Owner to commence work, and shall continue without interruption until work is substantially completed, except as provided herein. The sequence of work shall conform to the

Work Program and Schedule submitted by the Contractor and approved by the Owner, provided, however, that said program and schedule may be modified from time to time as directed or approved by the Owner.

The Contractor shall "Substantially Complete" the work in all respects, except for tentative list of items to be completed or corrected, permanent pavement replacement (if required) and warranty within the numbers of consecutive calendar days stipulated in the Contract following the service of the "Notice to Proceed".

#### Art. 8 - CONTRACTOR'S AND SUBCONTRACTOR'S INSURANCE.

The Contractor shall not commence work until all insurance required by the Contract has been obtained and such insurance has been approved by the Owner; nor shall the Contractor allow any subcontractor to commence work on any subcontract until all required subcontractor's insurance has been obtained and approved. Approval of the insurance by the Owner shall not relieve or decrease the liability of the Contractor hereunder.

Certificates from the insurance carriers shall be filed in quadruplicate with the Owner and shall state the limits of liability and the expiration date from each policy and type of coverage.

The Contractor shall take out and maintain during the life of this Contract such insurance as stated below as will protect the Contractor, the Owner, the Engineer and others named from claims for damages for bodily injury, including accidental or wrongful death, personal injury, as well as claims for property damages, which may arise from operations under this Contract whether such operations be by the Contractor or by any subcontractor or by anyone directly or indirectly employed by either party. The Contractor shall submit written evidence of coverage under the aforementioned policies for operations of subcontractors. Coverage shall be placed with an insurance company or companies with an A.M. Best rating of A+ or better. The amounts of such insurance shall be as follows:

- A. **Worker's Compensation and Employer's Liability Policy**, covering operations in New York State.
- B. **Comprehensive General Liability Policy**, with limits of no less than \$1,000,000/\$3,000,000 Bodily injury and Property Damage, and including coverage for:
  - I. Products/Completed Operations
  - II. Independent Contractors
  - III. Explosive, collapse and underground losses (x.c.u .)
  - IV. Contractual Liability (covering Hold Harmless attached)
  - V. Broad Form Property damage liability (including completed operations)
  - VI. Personal Injury including hazards I, II, III
  - VII. Town of Mt. Pleasant shall be named as an "Additional Insured" on the policy and the Certificate of Insurance shall show this as to the liability coverage on the certificate.
- C. **Comprehensive Automobile Policy** with limits no less than \$1,000,000 Bodily Injury and Property Damage liability including coverage for owned, non-owned, and hired private passenger and commercial vehicles.
- D. **Umbrella Excess Liability** with limits of no less than \$5,000,000 each occurrence.
- E. **Owner's Protective Liability Policy** with limits no less than \$1,000,000 shall be taken out and maintained during the life of this contract which will protect the owner from claims for damages for personal injury, liability, accidental or wrongful death, as well as property damage which may arise from operations under this contract whether such operations be by himself or by any subcontractor or by anyone directly or indirectly employed by either party.
- F. **Builder's Risk Insurance** with limits no less than \$ 5,000,000 will be required to protect the Town's interest in materials, fixtures and/or equipment being used in the construction or

renovation of a building or structure should those items sustain physical loss or damage from a covered cause.

- G. **Property Insurance:** The Contractor shall cover materials being installed onsite, in transit, and/or at any other location.
- H. **Contractor's Equipment:** The Contractor shall insure all equipment, tools, portable enclosures, and vehicles owned, leased or used by them and shall evidence coverage with a Certificate of Insurance. The Contractor shall hold the Owner harmless for any loss damage to such equipment, tools, etc.
- I. **Insurance Covering Special Hazards:** The following special hazards shall be covered by the Commercial General Liability Insurance and the Umbrella Liability Insurance: Pollution Liability and Environmental Impairment Liability.
- J. **All Policies and Certificate of Insurance of the Contractor shall contain the following clause:**
  - a) Insurers shall have no right to recovery or subrogation against the Owner, Architect, and Construction Manager (including its employees and other agencies), it being the intention of the parties that the insurance policies so effected shall protect both parties and be primary coverage for any and all losses covered by the above-described insurance.
- K. **Certificates** shall provide that thirty (30) calendar days written notice, by registered mail with return receipt requested, prior to cancellation or expiration be given to the Town of Mount Pleasant. Policies that lapse and/or expire during term of work shall be re-certified and received by the Town of Mount Pleasant no less than thirty (30) calendar days prior to expiration or cancellation.

The Contractor shall furnish to the Town of Yorktown Certificates of Insurance for a, B(I), B(II), B(III), C and D above, as evidence of coverage prior to signing of contract.

The cost of furnishing the above insurance shall be borne by the Contractor, there will be no direct payment for this work. Cost will be deemed to have been included in the price bid for all scheduled items. The Contractor shall require all subcontractors to provide this same insurance coverage.

\_\_\_\_\_  
Contractor's Signature

\_\_\_\_\_  
Date

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

The following persons, agencies, and corporations shall be named as an "additional insured" on all certificates and provided with certificates for each type of insurance:

- 1. Town of Yorktown  
Address: Town Clerk at Yorktown Town,  
Yorktown Town Hall, 363 Underhill Avenue  
Yorktown Heights, New York 10598
- 2. Charles A. Manganaro Consulting Engineers, P.C.  
Address: 303 South Broadway, Suite 460  
Tarrytown, New York 10591



## Art. 9 - WORK PROGRAM AND SCHEDULE.

### A. Initial Work Program and Schedule

Following award of this Contract, the Contractor shall attend a Pre-Construction Conference arranged by the Owner which will include representatives of the Owner, the Engineer, other contractors who may be doing work on the site, and others as appropriate.

The Contractor shall, upon notice from the Owner, send a principal or senior corporate officer of the firm to attend this and other project conferences and meetings.

The Contractor shall prepare and submit for approval a detailed Work Program and Schedule. The type of work program and schedule required under this Contract is specified in the Supplementary Conditions. This submittal is to be made within ten (10) calendar days after the signing of the Contract and prior to the Pre-Construction Conference and commencement of work.

At the Pre-Construction Conference and subsequent Project Conferences, questions regarding the Work Program and Schedule and its updates will be addressed. The Contractor shall have the Contractor's Project Manager, Project Engineer, Field Superintendent, and Consultants (if used) attend.

Within ten (10) calendar days following the Pre-Construction Conference, the Contractor shall submit, if required, a revised Work Program and Schedule to reflect issues addressed during the Pre-Construction Conference.

The Contractor shall continuously revise the Work Program and Schedule to reflect actual progress and the actions required for timely completion of the project. The revised Work Program and Schedule shall be submitted to the Owner for approval throughout the duration of the Contract as specified below.

### B. Requirements for Conforming with Work Program and Schedule

The Contractor agrees that, whenever it seems probable from the current monthly Work Program and Schedule that the Contract completion dates will not be met, or that the dates for critical tasks will not be met, the Contractor will immediately take such of the following actions as are required.

1. Increase construction and/or other labor as required eliminating the backlog of work;
2. Promptly place orders for materials or equipment;
3. Find addition or alternative sources for materials or equipment, if possible;
4. Expend all necessary efforts to hasten delivery dates of shop drawings, materials and equipment, as needed;
5. Increase the number of working hours per shift;
6. Increase the number of shifts per working day;
7. Increase the number of working days per week;
8. Increase the capacity and quantity of construction equipment;
9. Subcontract additional portions of the work; and
10. Reschedule activities to advance the work at the maximum practical rate of progress.

The Contractor shall submit, for approval, a revised Work Program and Schedule demonstrating the manner in which the rate of progress required for timely completion of the Contract will be unaccomplished without additional cost to the Owner.

In addition to the above required schedule updates, the Contractor will be required to routinely update the Work Program and Schedule on a monthly basis. These updates are to be submitted to the Owner. The cost for these updates shall be included in the Contractor's Bid Price.

C. Adjustment of the Work Program and Schedule

1. If the Contractor desires to make changes in his method of operating which affect the approved Work Program and Schedule, he shall notify the Owner in writing stating what changes are proposed and the reason for the change. If the Owner approves these changes, the Contractor shall revise and submit for approval, without additional cost to the Owner, the revised Work Program and Schedule. The Work Program and Schedule shall be implemented by Contractor only after prior approval of his proposed changes by the Owner.
2. No progress payments for work performed by the Contractor will be made by the Owner until the Owner has received and approved the Contractor's adjusted Work Program and Schedule.

For this project, the Contractor shall provide at a minimum, a bar chart type graphical representation of the Work Program and Schedule. This qualified representation shall detail the Contractor's proposed progress on a weekly basis, plotting actual dates versus detailed tasks. It is recommended that the tasks be identified in such a way as to correspond to the Contractors Bid breakdown. Said graph shall be updated daily, and be made available to the Owner for inspection, upon request.

The bar chart shall show the order and interdependence of all activities necessary to complete the work and the sequence in which each activity is to be accomplished, as planned by the Contractor and his project field superintendent in coordination with all subcontractors whose work shall also be shown graphically.

Art. 10 - NOTICES TO CONTRACTOR.

The Contractors residence or place of business given in the Contract is hereby designated as the place where all notices, letters and other communications shall be served, mailed, or delivered. Any notice, letter or other communication addressed to the Contractor and delivered at the above-named place or deposited in a postpaid wrapper in any post office box regularly maintained by the United States Postal Service Department shall be deemed sufficient service thereof upon the Contractor, and the date of mailing shall be the date of service. The place named may be changed at any time by an instrument in writing, executed and acknowledged by the Contractor and delivered to the Owner. Nothing herein contained shall be deemed to preclude or render inoperative the service of any notice, letter or other communication upon the Contractor personally.

Art. 11 - RESPONSIBILITY OF CONTRACTOR.

The Contractor shall take all responsibility of the work, shall bear all losses resulting from the amount or character of the work, or from any unforeseen obstructions, encumbrances, or difficulties which may be encountered, or from the breaking of or leakage from any pipe, water mains or sewers, or because the nature of the land surface or subsurface in or on which the work is done is different from what is assumed, or on account of the weather, floods, or other causes, or from delayed deliveries of materials, equipment or permits required for this or any related or adjoining contract, or from damage or injury from any cause to property or persons used or employed on or in connection with the work; and the Contractor shall assume the defense of and indemnify and save harmless the Owner and the Engineer and their officers and agents.

Art. 12 - SUPERINTENDENCE BY CONTRACTOR.

The Contractor shall employ at the site of the work during the performance of any part thereof, a competent superintendent who shall be satisfactory to the Owner and who shall have full authority to act for the Contractor, and all directions given such supervisor or superintendent shall be as binding as if given to the Contractor.

Art. 13 - COMPETENT PERSONS TO BE EMPLOYED.

The Contractor shall employ only competent, skillful persons to do the work, and whenever the Owner shall notify the Contractor in writing that any person on the work is, in the Owner's opinion, incompetent, unfaithful, disorderly or otherwise unsatisfactory, the Contractor shall take whatever approved legal measures are necessary to satisfy the Owner.

#### Art. 14 - CONCURRENT CONTRACTS AND OTHER CONTRACTORS.

The right is reserved by the Owner to work using its own forces or other contractors and to permit public utility companies and others to do work during the progress and within the limits of or adjacent to the Project, and the Contractor shall cooperate with such other parties so as to cause as little interference as possible with such other work, and coordinate this project's work with same.

If, in the judgement of the Owner, the joint occupation of the site of the work by the Owner, or by two or more contractors working on different contracts at the same time actually impedes progress in the work herein described, then the Owner may extend the time for the completion of the work and in the amount which accords with and compensates for the delays so caused, but no additional monetary compensation will be considered.

In case the Contractor, by the acts of any person or persons or subcontractors in the Contractor's employ, shall unnecessarily delay the work of the Owner or other contractors by not properly cooperating with them or by not affording them sufficient opportunity or facility to perform such work as may be specified, the Contractor shall, in that case, pay all cost and expenses incurred by such parties due to any such delays, and hereby authorizes the Owner to deduct the amount of such cost and expenses from any monies due or to become due the Contractor under this Contract. The Owner shall decide the extent of such delay or delays and the amount of such cost and expenses, and the Owner's decisions shall be binding upon all parties concerned. Nothing contained in this paragraph shall, however, relieve said Contractor from any liability or damage resulting to the Owner on account of such delay or delays.

The Contractor is advised that it is the Owner's intention to issue concurrent contracts for other work performed or equipment purchase contracts at the site. It is, therefore, incumbent upon the Contractor to cooperate with other contractors in such matters as scheduling of vehicular traffic, necessary access to the work area of other contractors, work interfaces with other contractors, prevention of interference with the work of others, and all other matters where cooperation among Contractors is required.

The Contractor may request the Owner to convene a project meeting by submitting such request in writing, together with a proposed agenda a list of other contractors whose attendance is required, five days prior to the proposed date of the project meeting.

Should the Contractor cause damage to any other contractor on the work, the Contractor agrees, upon due notice, to settle with such other contractor by agreement or arbitration, if all parties will so settle. If such other contractor sues the Owner or the Engineer on account of any damage alleged to have been so sustained, the Owner shall notify the Contractor, who solely shall defend such proceedings and, if any judgement against the Owner arises therefrom, the Contractor shall pay or satisfy it and pay all costs incurred by the Owner and the Engineer.

#### Art. 15 - SUBCONTRACTS.

The Contractor shall, upon signing of the Contract, notify the Owner in writing of the names, addresses and experience records, and proposed work tasks of all subcontractors proposed for principal parts of the work. No subcontractor doing work whose value is less than five (5%) percent of the Contract amount or \$5,000, whichever is smaller, need be submitted, unless requested by the Owner. The Contractor shall be responsible to check that all subcontractors shall be approved by the Commissioner of Labor and Industry, State of New York. Subcontractors must be covered by insurance as required by Article 8.

It is agreed that the Contractor is as fully responsible to the Owner for the acts and omissions of all subcontractors and of persons either directly or indirectly employed by them just as is for acts and omissions of persons directly employed by the Contractor. It is further agreed that the Contractor will bind all subcontractors to each and every part of the Contract Documents.

Nothing contained in the Contract Documents shall create any contractual relation between any subcontractor and the Owner.

The Contractor shall perform with his own organization Contract Work amounting to not less than fifty (50%) percent of the original total contract price, except that any Items designated as "Specialty Items" may be performed by subcontract and the amount of any such "Specialty Items" so performed may be deducted from the original Contract price before computing the amount of Work required to be performed by the Contractor with Contractor's own organization. The Contract amount upon which the fifty (50%) percent requirement is computed includes the cost of materials and manufactured products which are to be purchased or produced by the Contractor under the Contract provisions.

- A. "Contractor's own organization" shall be construed to include only workmen employed and paid directly by the Contractor and equipment owned or rented by the Contractor, with or without operators.
- B. "Specialty Items" shall be construed to be limited to work that requires specialized knowledge, craftsmanship or equipment not ordinarily available in contracting organizations qualified to bid on the contract as a whole and in general are to be limited to minor components of the overall contract.

#### Art. 16 - RELATIONSHIP OF CONTRACTOR AND SUBCONTRACTORS.

The Contractor agrees to bind every subcontractor, and every subcontractor agrees to be bound by the terms of the Contract, the General Conditions, the drawings and specifications and other Contract Documents as far as applicable to the work, including the following provisions of this article, unless specifically noted to the contrary in a subcontract approved in writing as adequate by the Owner.

The Contractor and subcontractor agree that:

- 1) In the matter of arbitration, their rights and obligations and all procedure shall be analogous to those set forth in this Contract.
- 2) Nothing in this article shall create any obligation on the part of the Owner to pay or to see to the payment of any sums to any subcontractor.
- 3) All contractors and subcontractors shall cooperate with each other and shall conform to the directions of the Owner in order that all parts of the work may progress harmoniously and expeditiously.
- 4) Each subcontractor must aid the others in as far as the subcontractor's services may be reasonably required. All subcontractors will be required to make themselves familiar with the requirements of the drawings and specifications for the entire work.
- 5) The Contractor or subcontractor on one portion of the work shall allow the subcontractor for other portions free access to the project and grounds in order that they may execute their work properly and promptly.
- 6) All subcontractors shall read the entire Contract Documents and shall be held responsible for all work called for in them, whether specifically mentioned under their particular headings or not.

IT IS UNDERSTOOD THAT THE OWNER WILL SUPPLY ALL INFORMATION TO THE CONTRACTOR ONLY AND NOT TO SUBCONTRACTORS. THE CONTRACTOR SHALL NOT ACCEPT THE STATEMENT OF ANY SUBCONTRACTOR THAT THE OWNER HAS APPROVED ANY SUBCONTRACTOR, SUBCONTRACTOR'S WORK OR ANY OF THE SUBCONTRACTOR'S DRAWINGS, AS THE OWNER WILL MAKE ALL SUCH APPROVALS TO THE CONTRACTOR IN WRITING.

#### Art. 17 - DRAWINGS AND SPECIFICATIONS TO BE FURNISHED TO THE CONTRACTOR.

The Contractor will be furnished four (4) white prints on paper of each of the numbered drawings and a title sheet, and four sets of specifications. Additional prints and specifications will be furnished to the Contractor upon application at cost of reproduction.

Where a revision of a drawing becomes necessary, one reproducible and one white print on paper of only the revised drawing will be furnished to the Contractor for use in updating the previously issued drawings.

Supplementary drawings may be issued by the Owner to the Contractor from time to time, where the Contract Drawings require supplementing, to explain the work more fully or to show changes which have been ordered by the Owner. One reproducible and one white print on paper of each supplementary drawing will be furnished to the Contractor. These supplementary drawings shall have the same force and effect as any other Contract Documents.

The Contractor shall keep one copy of all drawings and specifications, including the latest revised drawings and supplementary drawings, at the job site in good legible condition, annotated and "cut-in", to reflect actual "as built" conditions and available to the Owner and to the Owner's representatives.

#### Art. 18 - GEOTECHNICAL REPORTS AND DATA.

Reference is made to the Supplementary Conditions for identification and availability of geotechnical report (s) and data on the subsurface conditions on the site (if Owner is in possession of any such reports or data) to the Contractor for the limited purpose of assisting and informing the Contractor on possible foundation conditions.

The information contained in said reports shall in no way be guaranteed or warranted by Owner or Engineer and is available for use only at the Contractor's risk. The report and/or data on the subsurface conditions are available for review and for reproduction at the Contractor's expense. Contractor shall be deemed to have reviewed this data and to have made his own interpretation of, and conclusions with respect to the same.

The Owner makes no guarantee or warranty as to the interpretation, accuracy, and completeness of the subsurface conditions presented in said geotechnical reports. Geotechnical reports and data on the subsurface conditions are not part of the Contract Documents.

Contractor to perform a geotechnical investigation for the proposed wall constructed along Mohegan Avenue. The location of the six (6) test borings are shown on this drawing. The cost for obtaining geotechnical investigation report and recommendation is to be borne by the contractor. Subsurface investigation can be performed by the following consultant.

Contractor to provide the Owner/Engineer a copy of the investigation report for review.

SOR Testing Laboratories, Inc.  
Cedar Grove, NJ 07009  
Tel No. 973-239-6001

Or Equal.

#### Art. 19 - OWNERSHIP OF DRAWINGS AND SPECIFICATIONS.

Drawings, specifications and copies thereof furnished by the Owner are not the property of the Contractor. They are not to be used on any other work, and with the exception of the signed Contract set, are to be returned to the Owner on request or at the completion of the work.

#### Art. 20 - OMISSION OF DETAILS IN DRAWINGS AND SPECIFICATIONS.

All work called for in the specifications applicable to the Contract, but not shown on the drawings in their present form, or vice-versa, and work not specified on either the drawings or in the specifications, but needed in carrying out their intent, or in the complete and proper execution of the work, shall be performed by the Contractor as though it were specifically delineated or described.

The apparent silence of the specification as to any detail, or the apparent omission from them of a detailed description concerning any work to be done and materials to be furnished, shall be regarded as meaning that only the best general practice is to prevail and that only the best materials and workmanship are to be used, and interpretation of these specifications shall be made upon that basis.

When any detail of construction is not fully understood by the Contractor, application shall be made to the Owner for such additional instructions as may be necessary, and the Owner's decision shall be final. In no case shall the Contractor proceed without such instructions.

Should anything be omitted from the drawings or specifications which is necessary to a clear understanding of the work, or should any errors appear either in any of the drawings furnished or in the work done by other contractors affecting the work included under this Contract, the Contractor shall promptly notify the Owner of such omission or errors, and in the event of the Contractor's failure to do so, the Contractor shall make good any damages to or defect in the work caused thereby. The Contractor will not be allowed to take advantage of any error or omission on the drawings, as full instructions will be furnished by the Owner should such error of omission be discovered, and the Contractor shall carry out such instructions as if originally specified.

#### Art. 21 - CONFLICTS ON DRAWINGS AND SPECIFICATIONS.

The Contractor is obligated to check for all conflicts or inconsistencies. In case of any such conflicts or inconsistencies within or between any of the Contract Documents, or between model numbers and verbal or graphic descriptions of any equipment or materials, the matter shall be submitted by the Contractor to the Owner/Engineer, whose decision thereon shall be conclusive and binding on the Contractor as if same were specifically set forth in the Contract, and unless an addendum is issued regarding the subjects, the Contractor shall be deemed to have based lump sum(s) and unit costs bid on the more expensive way of doing the work. In the event if there is a conflict on the materials, the most expensive or costly material should be used in accordance with the approved specifications.

Errors in the specifications and/or drawings which are purely typographical shall be interpreted as would be the logical conclusion or brought to the attention of the Owner/Engineer for interpretation.

The Contractor is required to check all dimensions and quantities on the drawings or schedules provided by the Owner/Engineer, and shall notify the Owner of all possible errors discovered by such examination and checking. The Contractor will not be allowed any extra payment for work alleged to be due to any error or omission in these specifications, in the drawings or schedules, as full directions will be furnished by the Owner/Engineer should such error or omission be discovered, and the Contractor shall carry out such instructions as if originally specified.

Figured dimensions on drawings shall take precedence over measurements by scale, and detailed working drawings shall take precedence over general drawings and shall be considered as explanatory of them and not as indicating extra work.

The Detailed Specification Sections are written in imperative and abbreviated form. This imperative language of these technical Sections is directed at the Contractor, unless specifically noted otherwise. Incomplete sentences shall be completed by inserting "shall", "the Contractor shall", and "shall be", and similar mandatory phrases by inference in the same manner as they are applied to notes on the drawings. The words "shall be" shall be supplied by inference where a colon (:) is used within sentences or phrases. Except as worded to the contrary, fulfill (perform) all indicated requirements whether stated imperatively or otherwise.

#### Art. 22 - DRAWINGS, DIAGRAMMATIC REPRESENTATION.

Where drawings are shown in diagrammatic form, they are intended to convey scope of work and to indicate general arrangement of equipment, ducts, conduits, piping and fixtures.

Locations of all items shown on drawings or called for in the specifications that are not definitely fixed by dimensions are approximate only. Exact locations necessary to secure the best conditions and results shall be submitted to the Owner/Engineer for approval before installation.

When directed by the Owner/Engineer, the Contractor shall make reasonable modifications in layout as required to prevent conflict with the work of other trades or for proper execution of work, without additional cost to the Owner.

## Art. 23 - STANDARD SPECIFICATIONS AND ABBREVIATIONS

Whenever reference is made in the Contract Documents to the standard specifications of any technical society, Federal Specifications Board, or other recognized organization, this shall be construed to mean the latest standard adopted and published at the date of advertisement for bids, and such specifications are made part hereof to the extent which is indicated. The only portion of such specifications which is made a part hereof shall be the technical portion referred to in the specifications, and other general provisions of such standard specifications such as administration, inspection, arbitration, etc. are not incorporated.

The following abbreviations are used throughout the specifications to refer to organizations publishing specifications that are accepted as standard:

AASHTO	-	American Association of State Highway and Transportation Officials
ACI	-	American Concrete Institute
AGA	-	American Gas Association
AHDGA	-	American Hot Dip Galvanizing Association
AISC	-	American Institute of Steel Construction
AISI	-	American Iron and Steel Institute
ANSI	-	American National Standards Institute
API	-	American Petroleum Institute
ASA	-	American Standards Association
ASCE	-	American Society of Civil Engineers
ASHRAE	-	American Society of Heating, Refrigerating and Air
ASME	-	American Society of Mechanical Engineers
ASTM	-	American Society for Testing Materials
AWPA	-	American Wood Preservers' Association
AWS	-	American Welding Society
AWWA	-	American Water Works Association
EPA	-	Environmental Protection Agency
F.S.	-	Federal Specifications
IBR	-	Institute of Boiler and Radiator Manufacturers
IEEE	-	Institute of Electrical and Electronic Engineers
ISA	-	Instrument Society of America
JIC	-	Joint Industry Conference
NBFU	-	National Board of Fire Underwriters of the American
NEC	-	National Electric Code Insurance Association
NFPA	-	National Fire Prevention Association
NFPCA	-	National Fire Prevention and Control Administration
NYDEC	-	New York Department of Environmental Conservation
NYDOH	-	New York Department of Health
NYDOT	-	New York Department of Transportation
OSHA	-	Occupational Safety and Health Act
SSPC	-	Steel Structures Painting Council
UL	-	Underwriters Laboratories

Art. 24 - DATUM.

The datum used in this Contract is specified in the Supplementary Conditions. Elevations are based upon the specified datum.

Art. 25 - ACCEPTANCE OF CONTRACT DOCUMENTS.

The Contractor admits and agrees on satisfaction with the Contract Documents and the Contractor further agrees that at no time will disputes or complaints arise from any misunderstanding or any error in regard to the materials and equipment to be furnished, their amounts and quantities, and the work to be done under this Contract, or in regard to the amount of compensation to be paid therefore; and further covenants and agrees to completely execute and perform this Contract and to fully complete the said work to the satisfaction of the Owner and to strictly comply with these Contract Documents and not to ask or demand, sue for or recover any further or extra compensation beyond the Contract price. It is intended that the Contract price with adjustments as noted in the Contract shall be the sole and only compensation to the Contractor for the full and complete performance of this Contract, and the full completion of said Contract. It is also understood and agreed that the price to be paid includes payment for all labor, materials, tools, equipment, tests, guarantees, and all else called for in the Contract Documents.

The Contractor agrees to make no claim for damages for delay in the performance of this Contract engendered by any act or omission to act, or any delay on the part of the Owner, or any of their representatives, or because of any injunction that may be invoked or sought against the Owner or any of its representatives. The Contractor further agrees that any such claim for damages will be fully compensated by an extension of time to complete the work as appropriate.

The Contractor accepts the Contract Documents as complete and accurate and agrees that there is no conflict therein with permissible trade practices or methods. Any objections to the Contract Documents that the Contractor may have must be called to the Owner's attention and the matter resolved before submitting the Proposal.

The Contractor agrees that should there be conflicts or objections not called to the Owner's attention and written decision rendered by the Owner before signing the Contract, the Owner's decision with regard to such conflict or objection shall be final and binding on the Contractor and shall not be subject to arbitration.

No oral statement of any person whosoever shall in any manner or degree modifies or otherwise affects the requirements of any Contract Documents.

Art. 26 - DRAWINGS AND PRINTED MATTER TO BE SUBMITTED BY THE CONTRACTOR.

The Contractor shall submit for the Owner's review working drawings and shop drawings and descriptions of all materials and equipment which the Contractor is required to furnish, such as pipes, pumps, process equipment, instruments, steel reinforcement, structural details, layout of conduits, sheeting and bracing, details of supporting and relocating utilities, and any and all things required in and for the work.

The Contractor shall adhere to the Schedule as previously described in Article 9, Work Program and Schedule and as further specified in the Supplementary Conditions.

The Contractor, on acceptance by the Owner in the Owner's sole discretion, may submit manufacturer's literature as a substitute for, or supplement to, the shop drawings. The minimum size for any submission shall be 8-1/2 inches by 11 inches, and maximum size shall be 30 inches by 42 inches. All drawings and printed matter submitted shall clearly indicate the following applicable information: (1) Contract title; (2) Contract number; (3) Contractor; (4) subcontractor; (5) supplier; (6) manufacturer; (7) identification of the item of work; (8) section of the Specifications to which they correspond (e.g., 3.08); (9) the precise item proffered and (10) Contract Drawing to which it is referenced. In addition, catalog cuts shall clearly indicate the source from which the cut was extracted.



Drawings or printed matter shall give all dimensions and sizes and sufficient detail to enable the Owner to pass on the suitability of the materials or layout for the purpose intended. The working drawings shall, where needed for clarity, include outline and sectional views, and detailed working dimensions and designations of the kind of material. Drawings for submission shall be coordinated by the Contractor with the drawings previously approved and with the design and function.

All submissions shall be in the English language and utilize the English (American) system of weights, measure, flow, power, etc.

Draftsmanship shall be in accordance with applicable sections of the ANSI drafting manual or other approved standards.

Shop Drawings shall be drawn at 1/4-inch = one foot or larger scale, unless otherwise approved.

For all materials submitted, the Contractor shall submit the governing specification, grade, type, strength, etc., as for instance, "ASTM C-90, Grade N. Type 2, Lightweight Aggregate."

The Contractor shall also supply the following:

- 1) Wiring diagrams, consisting of:
  - A) Connection and interconnection diagrams showing the actual wiring within a complete electrical system or enclosure;
  - B) Where printed wiring is used, complete information on the printed wiring shall be given.
- 2) Schematic or elementary diagram. The schematic diagram shall be of the ladder type as specified in the latest JIC Electrical and Electronic Standards JIC-EGP-1 and JIC-EL-1. Standard symbols shall be used wherever possible. Other symbols may be used, if approved by the Owner, provided a legend identifying the meaning of each symbol is given. The numbers on the schematic diagram shall correspond to the numbers on the wiring diagram and other numbers on the actual wires. Where program timers or cam-operated switches are used, sequence charts shall accompany the schematic.
- 3) A sequence of operation description in detail shall be provided, describing the various steps of operation in their proper order.

Each shop drawing or other submission will be marked by the Owner with one of the following actions:

- 1) "**Acceptable**" or "**A**" - means that the equipment or materials described therein is apparently in accordance with the applicable sections of the Contract Documents, and no additional shop drawing or submission regarding said equipment or material is required.
- 2) "**Acceptable with the Exceptions Noted**" or "**AEN**" - means that the equipment or material described therein is apparently essentially in accordance with the applicable sections of the Contract Documents; however, minor discrepancies as noted must be addressed and incorporated, and promptly resubmitted to the Owner.
- 3) "**Rejected**" or "**R**" - means that the equipment or material is not in compliance with the Contract Documents, and is not acceptable to the Owner. Rejected submissions may or may not note areas of non-compliance, at the discretion of the Owner.

However, any notes shall not be misconstrued as a change in the Contract Documents, and shall be considered a partial list of deficiencies only, provided as a courtesy. Said notes do not relieve the Contractor of the Contractor's duty to fully comply with all Contract Documents, whether included in the aforementioned notes, or not. Rejected submissions shall be promptly replaced or corrected and resubmitted to the Owner for review.

Material and equipment purchased or fabricated prior to the review and Acceptance of the working and shop drawings, shall be done at the Contractor's risk. They shall not be delivered to the site or installed until working drawings, shop drawings and other submissions by the contractor have been returned by the Owner and marked "Acceptable" or "Acceptable with the Exceptions Noted". If the latter designation is used, the Contractor must make all changes noted or indicated.

Work shall not be done upon any part of a structure, the design or construction of which is dependent upon the use of materials or equipment for which acceptance is required, until such acceptance as noted above has been received from the Owner.

Any materials or equipment installed without working or shop drawings, annotated as indicated above shall be promptly removed from the work.

Submission shall be in the form of reproducible transparencies and black-and-white prints. The Contractor shall supply seven (7) copies of each submittal, for review. Each submission of drawings larger than 11" x 17" shall consist of one (1) reproducible and eight (8) black-and-white prints. The Owner will review each submission, then return a minimum of two (2) copies to the Contractor.

The Contractor shall be fully responsible for prompt and timely submission in accordance with the Work Program and Schedule, and shall allow sufficient time for the Owner's review.

Working drawings, shop drawings and other submissions by subcontractors, equipment suppliers, dealers, manufacturers, etc. shall be sent directly to the Contractor for preliminary checking. After the Contractor's review and approval, the Contractor shall be responsible for their submission to the Owner.

The Contractor shall thoroughly check all submissions as regards measurements, sizes of members, materials, and details, to ensure conformance to the Contract Documents. Submissions found to be inaccurate or otherwise in error shall be returned to the subcontractor by the Contractor for correction before submitting them to the Owner.

**All submissions must bear the approval stamp of the Contractor as evidence that they have been checked by the Contractor. Any submission without this stamp of approval will not be considered and will be returned to the Contractor for resubmission. If the drawings show any variations from the requirements of the Contract Documents, the Contractor shall make specific mention of such variations in the attached letter of transmittal, for consideration by the Owner.**

Where a submission by the Contractor indicates a departure from the Contract which the Owner deems to be a minor adjustment in the interest of the Owner not involving a change in Contract price or extension of time, the Owner will accept the drawing, but the acceptance implies the following:

"The modification on the attached submission is approved in the interest of the Owner to effect an improvement for the project and is accepted with the understanding that it does not involve any change in the Contract price or time; that it conforms to and is subject generally to all Contract Documents, stipulations and covenants; that it will result in a complete and workable Project at least equal to that called for; and that it is without prejudice to any and all rights of the Owner under the Contract and Bond or Bonds."

Where additional submissions are required, the Contractor shall submit same upon request by the Owner.

The Contractor shall prepare composite drawings and installation layouts of all areas where required to depict the proposed solution for field conditions. Such drawings shall consist of dimensioned plans and elevations, and must give complete information to permit the documentation of the suitability of the solution.

The drawings shall be prepared on transparencies, at suitable scales, showing the work in plan, elevation and sections. The transparency shall remain at the site during the progress of the work and shall be delivered to the Owner upon completion of the work. The Contractor shall make copies of the transparency as required by the Owner.

The Owner's review of the Contractor's drawings or submissions shall be considered to be a gratuitous service, given as assistance to the Contractor in interpreting the requirements of the Contract, and in no way shall it relieve the Contractor of any responsibilities under the Contract. Acceptance of a submission shall be interpreted to mean that the Owner has found no specific objections to the information as represented in the submitted material, and in no way relieves the Contractor of any obligation to provide full and complete working and satisfactory systems, structures and units in complete conformity with the Contract Documents.

The Contractor shall note that the Owner will make every reasonable effort to review the submissions in a timely manner provided the Contractor abides by the requirements previously noted. The Contractor is also advised that the proffering of non-specified ("or equal") equipment will engender delays in review. In any case the required "proof of suitability" as noted in Article 38, "SUBSTITUTIONS" must be submitted, with the submission in order for it to be considered. In any case, the Contractor hereby stipulates that no claims will be made against the Owner or Engineer for ostensible or actual delays in review of shop drawings or other submissions.

#### Art. 27 - RESIDENT REPRESENTATION.

During the life of the Contract, there will be representation by the Owner and the Owner's representatives and authorized agents, who will define the meaning and intent of the Contract Documents, pass upon equipment, materials and workmanship, and determine that the work is proceeding in accordance with the Contract Documents and the Work Program and Schedule.

The Resident Representative will have the authority to disapprove or reject Work which the Resident Representative determines to be defective, or that the Resident Representative believes will not produce a completed Project that conforms to the Contract Documents, or that will prejudice the integrity of the design concept of the completed project as a functioning whole, as indicated by the Contract Documents.

The representation is for the purpose of observing that the work described by the Contract Documents is being properly executed. The Resident Representative will conduct on-site observations and keep records of the work in progress, give assistance in interpreting the Contract Documents, transmit orders by the Owner to the Contractor, review applications by the Contractor for payment, conduct final inspection of the work in the company of the Owner, and perform other field representative duties as required.

Neither the Owner, the Owner's representative or other authorized agents will undertake any of the responsibilities of the Contractor, subcontractors, or the Contractor's superintendent, nor to expedite or superintend the Contractor's work, nor to advise on or issue directions relative to any aspect of construction technique or method unless such technique or method is required by the Contract Documents.

The Owner has authority to stop the work of the Contractor whenever such stoppage is necessary to insure compliance with the Contract Documents.

The Owner and the Owner's representatives or authorized agents will judge whether or not workmanship, equipment or materials incorporated in the work meet the standards and intent of the Contract Documents. All questions relating to the intent and meaning of said documents, or of the kind and quality of materials or equipment, must be submitted to the Owner for consideration. The Owner's decision as to these questions must be accepted as final.

The Owner and the Owner's representative or agents will not supervise, direct or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences or procedures of construction or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with laws and regulations applicable to the furnishing or performance of the Work. The Owner and Engineer will not be responsible for the Contractor's failure to perform or furnish the Work in accordance with the Contract Documents.

In those cases where the decision requires knowledge of in-situ field conditions, the Resident Representative shall be consulted first, and the decision, though rendered by the Owner, shall be disseminated by the Resident Representative.

No oral statement of any person shall in any manner or degree modify or otherwise affect the requirements of any Contract Documents.

The Owner may observe or require tests or analyses of any portion of the materials or equipment at any time before or after delivery to the site of the work, either before or after installation, and anything which is found to be defective or which does not otherwise conform to the requirements of the Contract Documents shall be rejected and removed forthwith from the site of the work by the Contractor at his sole cost and expense.

The Contractor shall be required to pay all costs to the Engineer for the Engineer's office engineering services, resident engineering services, technical field work and project management services performed for the Contract from the Date of Contract Project Substantial Completion as described in the Contract's Information for Bidders, as amended by Owner approved project extensions of time, to the actual date of Project Completion, if the Contractor does not achieve Contract Project Substantial Completion at the specified date." For the purposes of the above article, Contract Project Substantial Completion and project completion shall apply to all phases and portions of the Contract.

Observation by the Owner, the Owner's representatives or agents does not constitute approval of construction means and methods, safety measures, or compliance with any laws, regulations or codes, and in no way relieves the Contractor of full responsibility under the Contract Document.

#### Art. 28 - ACCESS TO WORK.

Agents, authorized representatives, and employees of Federal, State or local agencies, public utilities, and the Owner shall for any purpose have access to the work and the premises used by the Contractor, and the Contractor shall provide safe and proper facilities therefore, including ladders and scaffolds. Other parties who may enter into contracts with the Owner for doing work on the site shall, for all purposes which may be required by their work, be accorded the rights of access to the site of those parts of the work for which they are under contract.

Furthermore, the said agencies, and the Owner, at all times, shall have immediate access to all places of manufacture where materials and equipment are being made for use under this Contract, and the Contractor shall provide full facilities for determining that all such materials and equipment are being made strictly in accordance with the Contract Documents.

#### Art. 29 - PERSONAL LIABILITY.

In carrying out the provisions of this Contract or in exercising any power or authority granted them by their position, there shall be no liability upon the Owner, the Engineer, or their authorized representatives or agents, assistants, or employees, either personally or as officials of the Owner.

#### Art. 30 - TESTING OF MATERIALS.

If the Owner so requires, either prior to, or during the progress of the work, the Contractor shall submit samples of materials for such special tests and analyses as may be necessary to demonstrate that they conform to the specifications. The Contractor shall employ upon Owner's approval and pay for testing laboratories to perform tests and analyses. Samples shall be furnished, stored, packed, and shipped as directed, at the expense of the Contractor.

The Contractor shall submit data and samples or place orders sufficiently early to permit consideration, inspection, testing and approval before the materials and equipment are necessary for incorporation in the work. Any delays resulting from the Contractor's failure so to do shall not be used as a basis of claim against the Owner.

#### Art. 31 - CERTIFICATION OF MATERIALS.

For pipe, cement, steel reinforcement, steel, aluminum, coatings, grass seed, and similar materials which are normally tested in the shop by the manufacturer, the Contractor shall furnish the Owner certified records of physical, chemical, and other pertinent tests and/or certified statements from the manufacturer that the materials have been manufactured and tested in conformity with the

specifications. Where such a small quantity of material is required as to make physical tests or chemical analyses impractical, a certificate from the manufacturer stating the results of such tests or analyses of similar materials which were concurrently produced may, at the discretion of the Owner, be considered as the basis for the acceptance of such materials.

#### Art. 32 - DEFECTIVE WORK, EQUIPMENT OR MATERIALS

The observation of the work shall not relieve the Contractor of any obligations to fulfill this Contract as herein prescribed, and defective work shall be made good, and unsuitable materials will be rejected, notwithstanding that such work and materials may have been previously observed by the Owner and accepted or estimated for payment.

If at any time before the final acceptance of the work, any equipment, materials or workmanship should be discovered which does not comply with the Contract Documents, such materials, equipment or workmanship shall be immediately removed by the Contractor when notified to do so by written notice and shall be replaced at the Contractor's expense. Any work condemned by the Owner as unsuitable or improperly done shall be removed, repaired, or otherwise remedied, as the Owner may direct to the Owner's complete satisfaction.

Any material rejected by the Owner shall be removed from the site of the work within two days after notice to that effect is given to the Contractor.

Should defective work be suspected, and the Owner so require, the Contractor shall uncover, take down or make openings in the finished work for the purpose of examining same. Should the work thus exposed or examined prove satisfactory, the uncovering, taking down or making openings in and replacing of the covering or the making good of the parts removed shall be paid for in accordance with the unit prices and/or as provided hereinafter under "Extra Work and Changes in the Work," for the items involved; but should the work exposed or examined prove not to be in accordance with the Contract Documents, the uncovering, taking down, replacing and making good shall be at the expense of the Contractor. However, in no event shall the Owner pay for any costs of uncovering and covering work where the Contractor has covered the work without its being observed by the Owner.

If the Contractor shall fail or neglect to replace any defective work or to discard condemned materials within two days after the service by the Owner of an order to replace such defective work or discard such equipment or materials, or to prove to the satisfaction of the Owner that effective efforts to replace defective materials have been initiated, the Owner may cause such defective work to be replaced or the condemned materials to be discarded, and acceptable materials provided, and the expense thereof shall be deducted from the moneys as are or may become due under this Contract; or if such moneys are not sufficient to meet said expense, the additional moneys shall be furnished by the Contractor or the Contractor's Surety. If, during the warranty period provided for hereinafter, any work done in accordance with that article shall be found defective before the end of the warranty period, such defective work shall be made good in the same manner as provided herein. The Owner will have the option at all times to allow the defective or improper work to stand and to accept an equitable deduction from the Contract Price therefore.

#### Art. 33 - WEIGHING AND MEASURING.

Whenever requested by the Owner, the Contractor shall provide personnel and all required weighing and measuring devices for determining the quantity of materials. For estimating quantities in which the computation of areas by geometric methods would, in the opinion of the Owner, be comparatively laborious, it is stipulated and agreed that the planimeter shall be considered an instrument of precision adaptable to the measurements of such areas.

#### Art. 34 - LIST OF MANUFACTURERS.

Within thirty (30) calendar days after Notice to Proceed with the work, and prior to submission of any shop drawings or printed matter for approval, the Contractor shall submit to the Owner for approval a list of the manufacturers of all significant equipment, as determined by the Owner, together with the actual equipment proffered, and materials proposed for the work. No approvals will be rendered on any submissions of the Contractor before the list of manufacturers has been reviewed.

#### Art. 35 - EQUIPMENT AND WIRING IDENTIFICATIONS.

The manufacturer's metal or other permanent nameplate, name or trademark shall be permanently affixed to equipment furnished. Nameplates of subcontractors, dealers, or distributors will not be acceptable.

The Contractor shall furnish and install identifying tags and nameplates on all equipment, valves, ducts, dampers, motors, and heating and ventilating and electrical work, bearing the name and number indicated on the drawings and the function. Unless otherwise specified, tags shall be National Service Company, Seton name Plate Corp., or equal aluminum type with black enamel background and etched or engraved natural aluminum lettering, or laminated Bakelite or lamicaid.

Nameplates shall be secured with screws, or nuts and bolts where possible, or wired securely elsewhere.

All piping systems, conduit systems, etc. shall be painted with identifying colors as selected by the Owner, and in addition shall be identified with Quick-Label self-sticking pipe markers every twenty (20) feet and at every change in direction, after finish painting. Colors shall be as selected by the Owner. Labels shall be as manufactured by Aaron Label Co., Seton Name Plate Corp., or equal.

All electrical equipment and materials shall be labeled, listed or approved for the purpose intended by the NEC and by nationally recognized organizations as indicated in the NEC Articles 100 and 110.

Direction of rotation of all rotating machinery (including motors) shall be permanently and prominently marked in an approved manner.

All electrical equipment of any kind shall have all internal and external wires numbered to identify those wires and correlate the wire to separately supplied wiring and schematic diagrams.

Conductors shall be color coded. In general, the color code shall use white for the ground circuit conductors and black as the line voltage conductors. When there are several line voltages through different circuit breakers, different colors shall be used and shall be identified on the wiring diagrams. All conductors shall be identified for each terminal by marking with a number corresponding with the diagrams. The identification tags shall be made of oil-resistant material. If wrap-type adhesive strips are used, they shall be a minimum of 1-3/8 inches long. Sleeve-type tags shall be undersized, so that they will not slip off the conductor if the conductor is removed from its termination point. The wiring numbering shall apply not only to interconnections, but also to internal wiring in various pre-wired components. Terminals on terminal blocks shall be plainly and permanently marked to correspond with the identification shown on the electrical diagrams. Terminals on terminal boxes shall be numbered in numerical ascending order, starting from top to bottom, or from left to right; however, terminals from remote interlock wiring shall be grouped together.

#### Art. 36 - EQUIPMENT REQUIREMENTS.

All parts of the equipment furnished under the Contract shall be amply proportioned for all stresses that may occur during fabrication, shipment, erection, and intermittent and continuous operation. Identical parts shall be interchangeable. All fasteners shall be in the American Standards Systems (sizes and threads).

Whenever these specifications require the supplying of a factory fabricated piece of equipment, this equipment shall be completely factory assembled, piped, wired and insulated, as required, in the factory of the manufacturer. This factory assembly shall include all components within the general outline of the pieces of equipment except those specifically stated as being field installed or field rewired, or when like terminology is used in the Contract Documents.

The equipment and materials to be furnished under the Contract shall be of an approved type. In determining whether the equipment and materials are to be considered the Contractor shall submit any information that the Owner may consider necessary in order to determine the ability of the manufacturer to produce the equipment and materials called for by the Contract Documents.

Unless other specific requirements are noted, the Contractor shall provide the service of accredited representatives of the manufacturers to supervise the installation, testing, and placing of equipment in satisfactory operation. These representatives shall also make final adjustments and shall instruct designated employees of the Owner in the proper operation and maintenance of the equipment. The Contractor shall obtain written certification from the manufacturers that the equipment has been properly installed.

The Contractor shall ensure that all grease fittings on each piece of equipment furnished under the Contract are standardized so that the "Alemite" button-head type of fitting is utilized, except as otherwise specified or required. Fittings shall be standard or giant size according to the type of service performed.

The Contractor shall furnish and use, for each piece of equipment, the type of lubricant recommended by the manufacturer of the equipment. The Contractor shall also furnish a schedule, in triplicate, listing the type, frequency of application, and manufacturer of the lubricant recommended for each piece of equipment. At the time of turning the installation over to the Owner, the Contractor shall furnish one year's supply of each type of lubricant in unopened containers.

#### Art. 37 - MANUALS AND PARTS LISTS.

The Contractor shall provide and deliver to the Owner four (4) copies of neatly bound Manuals and Parts Lists for all equipment furnished under the Contract.

The functional intent of the manuals and parts lists is to provide the operator with clear and concise instructions for the installation, operation, adjustment, lubrication, maintenance and repair of each piece of equipment furnished. Each book shall contain a complete numbered parts list and parts drawings, automatic control diagrams and schematic and electrical wiring diagrams that are applicable to the equipment furnished.

The list of all parts for the equipment shall have the part name, a part drawing, the number of parts required, the part or catalog numbers, the name of manufacturer and of the supplier, and other data necessary for ordering replacement parts. Part or catalog number shall be listed according to both supplier and actual manufacturer.

The manuals, parts lists and parts drawings shall be for the specific equipment furnished only, and not generalized material.

#### Art. 38 - SUBSTITUTIONS.

Wherever in the Contract Documents any item of equipment or material is designated by reference to a particular brand, manufacturer, or trade name (which are used to designate acceptable suppliers) or by technical description, it is understood that unless otherwise noted, an approved equal product, acceptable to the Owner, may be substituted by the Contractor subject to the limitations set forth below. Determination of equality shall be based upon, but not limited to, the following consideration: composition, characteristics, workmanship, durability, performance, method of functioning or operation, suitability for the purpose intended, and economy and ease of operation and maintenance, and availability and location of spare parts. The decision of acceptability of the equipment or material proposed shall be in the Owner's sole discretion, and shall be final.

As a prerequisite for obtaining approval of substituting "equal" products the Contractor must submit the following "Proof of Suitability" information to the Owner in writing:

- 1) Proof that the Contractor has investigated the effect of the substitution on all facets of the work and the work of other contractors directly or indirectly involved.
- 2) Drawings, descriptions, illustrations, catalogs, records of tests and all other information essential for judging the quality, suitability and durability of the substitute product.
- 3) Proof of suitability shall constitute a point by point comparison of the substituted equipment with the specified product. This comparison shall include all appropriate catalogs, descriptions, drawings, illustrations and records of test for both the substitute

and specified product; and all other information essential for judging the quality, suitability, durability and availability of service of the substitute product. The onus of "Proof of Suitability" of any substitute product shall be entirely the Contractor's responsibility, and at no extra cost to the Owner.

- 4) As previously noted, the submission of "equal" products may result in delays in the Owner's review of submissions.

If, in the opinion of the Owner, the data submitted for a substitute product is insufficient for judging its quality of suitability, the Owner reserves the right to reject the substitution or to require testing of such product by a laboratory of the Owner's choosing. The Contractor shall bear all costs of testing substitute products.

When specified equipment or material cannot be delivered to meet the construction schedule, or if such equipment or material is no longer available, the Contractor shall submit a letter to such effect written by the manufacturer.

When utilization of "equal" equipment or material requires redesign of structures, supports, partitions, piping, wiring, duct work or any other work shown on the Contract drawings or on the contract drawings of related contracts, such redesign, revised drawings and details shall be prepared by the Contractor at the Contractor's expense. All costs of incorporating such changes in the work and in the work of other contractors, as well as the cost of services rendered by the Engineer (including review and redesign) in connection with same, shall be borne by the Contractor. **All Engineer's charges shall be at the Engineer's usual charge, which is defined as direct technical salary times a factor of 3.1.**

#### Art. 39 - PATENTS AND ROYALTIES.

The Contractor shall indemnify and save harmless the Owner, the Engineer, and their officers and agents from all damages, judgments, claims and expenses arising from the infringement of any letters patent, or patent right or because of any royalty, fee or license for the use, arrangement or operation of any equipment, tools, machinery, appliances, devices, materials, process or processes which may be used by the Contractor or furnished in fulfillment of the requirements of this Contract. In the event of any claim or action at law on account of such patents or fees, it is agreed that the Owner may retain out of moneys which are or which may become due the Contractor under this Contract, a sum of money sufficient to protect against loss, and to retain the same until said claims are paid or satisfactorily adjusted.

#### Art. 40 - ASSIGNMENTS.

The Contractor or the Contractor's qualified and designated representatives shall give their personal attention constantly to the faithful prosecution of the work.

The Contractor shall not assign, by power of attorney or otherwise, any of the moneys to become due and payable under this Contract, unless by and with the written consent of the Owner, and such consent or approval, if given, will in no wise relieve the Contractor from any of the obligations of said Contract.

If consented to by the Owner, assignment of this Contract, or any part thereof or of any funds to be received thereunder by the Contractor shall contain a clause to the effect that it is agreed that the funds to be paid the assignee under the assignment are subject to prior lien for services rendered or materials supplied for the performance of the work called for in said Contract in favor of all persons, firms or corporations rendering such services or supplying such materials.

#### Art. 41 - SAVE OWNER AND ENGINEER HARMLESS.

The Contractor shall, from time to time, as required by the Owner, furnish satisfactory evidence that all persons who have done work or furnished materials under this Contract, or who have suffered damage on account of the Contractor's operations, have been fully paid or secured.

The Contractor shall indemnify and save harmless the Owner and the Engineer and their officers, agents or employees, and each and every one of them against and from all suits, and costs of every kind



and description and from all damages to which they or any of their officers, agents or employees may be subjected by reason of injury to the person or property of others resulting from the performance of the Project, or through the negligence of the Contractor, or through any improper or defective machinery, implements or appliances used by the Contractor in the Project, or through any act or omission on the part of the Contractor or agents, employees or servants; and shall further indemnify and save harmless the Owner and the Engineer and their officers, agents and servants from all suits and actions of any kind or character whatsoever which may be brought or instituted by any subcontractor, supplier or worker who has performed work or furnished materials in or about the Project or by, or on account of, any claims or amount recovered from any infringement or patent, trademark or copyright. The cost thereof shall be included in the price bid for the work. So much money due to the Contractor under and by virtue of the Contract as shall be considered necessary by the Owner may be retained by the Owner and held until such bids, actions, claims or amounts shall have been settled and suitable evidence to that effect furnished to the Owner. It is understood and agreed, however, that the Owner hereby assumes no obligation toward such claimants, nor in any way undertakes to pay such claims out of any funds due or that may become due the Contractor, or out of its own funds.

#### Art. 42 - LIABILITY OF CONTRACTOR IS ABSOLUTE.

The liability of the Contractor hereunder for all injuries to persons or damages to property is absolute and is not dependent upon any question of negligence on the part of the Contractor's agents, servants or employees, and neither the approval by the Owner or Engineer of the methods of doing the work nor the failure of the Owner or Engineer to call attention to improper or inadequate methods or to require a change in methods, nor the neglect of the Owner or Engineer to direct the Contractor to take any particular precautions or to refrain from doing any particular thing shall excuse the Contractor in case of any injury to persons or damages to property.

#### Art. 43 - PERMITS.

The Contractor shall obtain and pay all needed costs for the preparation and obtaining all permits required for the prosecution of the work under the Contract unless otherwise stated in the Contract Documents. The Contractor shall pay all charges and expenses unless otherwise noted in the Contract Documents, and shall furnish all bonds and insurance stipulated in the permits, and shall indemnify and save harmless the Owner and the Engineer from all claims for damages and any actions that may arise thereunder. Before the final acceptance of the work, and as a prerequisite to the release of the semi-final payment, the Contractor shall secure a written release from the authorities having jurisdiction over the lands occupied by the Contractor, certifying to the satisfactory restoration of all pavements and other surfaces and the utility structures removed or safe-guarded for the work.

#### Art. 44 - LAWS AND ORDINANCES.

The Contractor will be required to comply with all Federal, State, County, and municipal laws, ordinances, and regulations in any manner affecting those persons engaged or employed in the work, or the materials used in the work, or in any way affecting the conduct of the work, either with respect to hours or labor, methods of construction, noise, pollution, safety measures, or otherwise, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. If any discrepancy or inconsistency is discovered in the Contract documents for this work in relation to any such law, ordinance, regulation, order or decree, the Contractor shall forthwith report same to the Owner in writing. The Contractor shall at all times observe and comply with and shall cause all of the Contractor's agents and employees to observe and comply with all such laws, ordinances, regulations, orders and decrees and shall protect and indemnify the Owner and the Owner's agents from any claim or liability arising from, or based on the violation of any such law, ordinance, regulation, order, or decree, whether by the Contractor or the Contractor's employees.

Each and every provision of law and clause required by law to be inserted in this Contract shall be deemed to be inserted herein, enforced as though they were included herein. If through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, the Contract shall forthwith be physically amended to make such insertion.

The Contractor hereby agrees to comply with all said legal requirements and agrees that, upon failure to comply with the provisions thereof, this Contract shall be voidable at the option of the Owner.

#### Art. 45 - STATE LABOR STANDARDS.

The labor on this Contract shall be performed in all respects in full accordance with the Labor Law of the State of New York. In accordance with Section 220, Subdivision 3, and Section 220-D of the Labor Law, the Industrial Commissioner has designated as the minimum hourly rates to be paid to employees on this work with rates shown on the attached schedule which shall be posted in a prominent and convenient place for the inspection of the Contractor's employees.

Article 8, Section 220 of the Labor Law, as amended by Chapter 750 of the Laws of 1956, provides, among other things, that it shall be the duty of the fiscal officer to make a determination of the schedule of wages and supplements to be paid to all laborers, workers and mechanics employed on public work projects. The amount of supplements listed on the enclosed schedule does not necessarily include all types of prevailing supplements.

The Contractor and all subcontractors shall keep accurate records showing the name, craft or trade, and actual hourly rate of wages paid to each person employed by them in connection with the work under the Contract and shall preserve said records for two years from date of payment. The records shall be open at all reasonable hours to the inspection of the Owner and the Commissioner or their duly authorized representatives.

In the event it is found that any person employed by the Contractor or subcontractors has been paid less than the prevailing wage listed therein for the class of work performed, the Owner may terminate the Contractor's or subcontractor's right to proceed with the work, or such part of the work as to which there has been a failure to pay required wages, and to prosecute the work to completion or otherwise. The Contractor and the Contractor's surety shall be liable to the Owner for any excess costs occasioned thereby.

Before final payment is made by the Owner of any sum(s) due on account of work performed under the Contract, the Contractor and subcontractors shall file written statement with the Owner certifying to the amounts then due and owing to any and all persons for wages earned. The statements shall set forth the names of the persons whose wages are unpaid and the amount due each. The statements shall be verified by the oaths of the Contractor or subcontractors, as the case may be.

The Contract will not be awarded to any contractor who has failed to pay prevailing wages, and no subcontractor will be approved who has failed to pay prevailing wages. Said action on the part of the Owner will be governed by a list of such contractors obtained from the Industrial Commissioners, none of which shall be eligible for award or approval until three years have elapsed from the date of their listing. This includes firms, corporations, and partnerships in which the person on the list has an interest.

The attached schedule, Case Number PRC# 2017000550, shall be the minimum prevailing hourly wage rates and the supplemental labor provisions for these Contracts.

The attached schedule of the prevailing hourly wage rates and the prevailing hourly supplements for the Contracts expires June 2018. A new prevailing wage rate determination schedule may be requested from the New York State Department of Labor, Bureau of Public Work (518) 457-5589. The attached schedule shall be the current schedule until a new schedule is published. The new schedule of wage rates for the period of July, 2017 through June, 2018 shall be deemed inserted and part of this Contract when published and received by the Contractor.

#### Art. 46 - FEDERAL LABOR STANDARDS AND NONDISCRIMINATION PROVISIONS.

The Contractor and all subcontractors shall comply with all the requirements of the Labor Standards Provisions, including the Contract Work Hours and Safety Standards Act--Overtime Compensation, Apprentices and Trainees, Payrolls and Basic Records, Compliance with Copeland Regulations, Withholding of Funds, Subcontracts, Contract Termination--Debarment, Nondiscrimination Provisions, and Contract Work Hours and Safety Standards Act-- Safety and Health.

Art. 47 - NONDISCRIMINATION IN EMPLOYMENT.

During the performance of this Contract, the Contractor agrees as follows:

- A) The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin, ancestry, marital status, sex, affectual or sexual orientation, and will take affirmative action to ensure that they are afforded equal employment opportunities without discrimination because of race, creed, color or national origin. Such action shall be taken with reference, but not limited to: recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff or termination, rates of pay or other forms of compensation, and selection for training or retraining, including apprenticeship and on-the-job training.
- B) The Contractor will send to each labor union or representative of workers with which the Contractor has or is bound by a collective bargaining or other agreement or understanding, a notice, to be provided by the State Commission for human rights, advising such labor union or representative of the Contractor's agreement under these clauses hereinafter called "nondiscrimination clauses". If the Contractor was directed to do so by the Municipality as part of the Bid or negotiation of this Contract, the Contractor shall request labor union or representative to furnish a written statement that such labor union or representative will not discriminate because of race, creed, color or national origin and that such labor union or representative either will affirmatively cooperate within the limits of its legal and contractual authority, in the implementation of the policy and provisions of these nondiscrimination clauses or that it consents and agrees that recruitment, employment, and the terms and conditions of employment under this Contract shall be in accordance with the purposes and provisions of these nondiscrimination clauses. If such labor union or representative fails or refuses to comply with such a request, that it furnish such a statement, the Contractor shall promptly notify the State Commission for Human Rights of such failure or refusal.
- C) The Contractor will post and keep posted in conspicuous places, available to employees and applicants for employment, notices to be provided by the State Commission for Human Rights setting forth the substance of the provisions of clauses (a) through (b) and such provisions of the State's Laws against discrimination as the State Commission for Human Rights shall determine.
- D) The Contractor will state, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, that all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color or national origin.
- E) The Contractor will comply with the provisions of the Executive Law, Human Rights Law, Article 15, will furnish all information and reports deemed necessary by the State Commission for Human Rights under these nondiscrimination clauses and such sections of the Executive Law, and will permit access to the Contractor's books, records and accounts by the State Commission for Human Rights, the Attorney General, District Commissioner of Housing and Community Renewal and the Industrial Commission for purposes of investigation to ascertain compliance with these nondiscrimination clauses of the Executive Law, Human Rights Law, Article 15.
- F) This Contract may be forthwith canceled, terminated or suspended, in whole or in part, by the Municipality upon the basis of a finding made by the State Commission for Human Rights that the Contractor has not complied with these non-discrimination clauses, and the Contractor may be declared ineligible for future contracts made by or on behalf of the State or a public authority or agency of the State or housing authority, or an urban renewal agency, or contracts requiring the approval of the Commissioner of Housing and Community Renewal, until the Contractor has satisfied the State Commission for Human Rights after conciliation efforts by the Commission have failed to achieve compliance with these nondiscrimination clauses and after a verified complaint has been filed with the Commission, notice thereof has been given to the Contractor and an opportunity has been afforded the Contractor to be heard publicly before three members of the

Commission. Such sanctions may be imposed and remedies invoked independently of or in addition to sanctions and remedies otherwise provided by law.

- G) If this Contract is canceled or terminated under clause (F), in addition to other rights of the Municipality provided in this Contract upon its breach by the Contractor, the Contractor will hold the Municipality harmless against any additional expenses or costs incurred by the Municipality in completing the work or in purchasing the services, materials, equipment or supplies contemplated by this Contract, and the Municipality may withhold payments from the Contractor in an amount sufficient for this purpose and recourse may be had against the surety on the Performance and Payment Bonds, if necessary.
- H) The Contractor will include the provisions of clauses (A) and (B) in every subcontract or purchase order altered only to reflect the proper identity of the parties in such a manner that such provisions will be binding upon each subcontractor or vendor as to operations to be performed within the State of New York. The Contractor will take such actions in enforcing such provisions of such subcontract or purchase order as the Municipality may direct, including sanctions or remedies for noncompliance. If the Contractor becomes involved in or is threatened with litigation with a subcontractor or vendor as a result of such direction by the Owner, the Contractor shall promptly so notify the Attorney General, requesting the Attorney General to intervene and to protect the interest of the State of New York.

#### Art. 48 - SOCIAL SECURITY ACT.

The Contractor shall be and remain an independent contractor with respect to all services performed hereunder and agrees to and does hereby accept full and exclusive liability for the payment of any and all contributions or taxes for social security, unemployment insurance or old age retirement benefits, pensions or annuities now or hereafter imposed under any State or Federal law which are measured by the wages, salaries, or other remuneration paid to persons employed by the Contractor on work performed under the terms of this Contract, and further agrees to obey all lawful rules and regulations and to meet all lawful requirements which are now or hereafter may be issued or promulgated under said respective laws by any duly authorized State or Federal officials; and said Contractor also agrees to indemnify and save harmless the Owner and Engineer from any such contributions or taxes or liability therefore.

#### Art. 49 - SAFETY AND HEALTH PROVISIONS.

In accordance with generally accepted construction practices, the Contractor shall be solely and completely responsible for conditions at the job site, including noise, water and air pollution, and safety of all persons and property affected directly or indirectly by the Contractor's operations. This requirement will apply continuously 24 hours per day until final acceptance of the work by the Owner and shall not be limited to normal working hours. The duty of the Owner or Engineer to conduct construction observation of the Contractor's performance is not intended to include review of the adequacy of the Contractor's safety measures, in, on, or near the construction site.

The Contractor shall perform all work and conduct all operations in conformity with the standards of the Occupational Safety and Health Act of 1970; as amended July 1, 1989; as amended October 31, 1989; and including any and all subsequent updates, amendments, additions and changes; the Construction Safety Code, and applicable Regulations of the Bureau of Engineering and Safety of the State Department of Labor and Industry.

Nothing in the Occupational Safety and Health Act shall be construed to supersede or in any manner affect any worker's compensation law or statutory rights, duties, or liabilities of employers and employees under any law with respect to injuries, diseases, or death of employees arising out of, or in the course of, employment.

The contractor shall keep on site, available and ready for immediate use, all articles necessary for giving first aid to the injured, including stretchers, harnesses, and all other necessary equipment and supplies. The contractor shall also have standing arrangements for the immediate removal and hospital treatment of any employees or persons who may be injured on or about the work.

#### Art. 50 - LAND FOR CONTRACTOR'S USE.

Land and easements for the purpose of this Contract will be provided by the Owner. If the Contractor deems these lands to be inadequate and desires the temporary use, during construction, of land or lands to which the Owner has no rights, the Contractor shall secure written permission from the owners of such land and shall file a duplicate copy of such permission with the Owner. Land shall not be used or occupied by the Contractor prior to the securing of permission. The Contractor shall at all times save harmless the Owner, the Engineer, and their agents from actions by third parties by reason of any acts or omissions by the Contractor.

Should it be required as a part of this Contract to perform work within the limits of private property, or in rights-of-way, such work shall be done in conformity with all permits and agreements between the Owner and the owners of such property, and whether or not such a condition be part of the agreement, care shall be taken to avoid injury to the premises entered, which premises shall be left in a neat and orderly condition by sweeping and the removal of rubbish and the grading of surplus materials and the restoration of said private property to the same condition as at the time of entry for work to be performed under this Contract, to the full satisfaction of the owner of the land as evidenced by a written release.

#### Art. 51 - USE OF PREMISES.

The Contractor shall confine materials and their storage and the operations of workers to the limits noted on the drawings and to those limits indicated by law, ordinances, permits, or the directions of the Owner, and will not unreasonably encumber the premises with such materials, but shall store them in orderly fashion, so that they will not interfere with the work under this or other contracts. The Contractor shall not load or permit any part of the work to be loaded with a weight that will endanger its safety or unduly affect trenches, structures or any parts thereof. The Contractor shall enforce the instructions of the Owner regarding travel routes, signs, advertisements, fires and smoking.

#### Art. 52 - PROTECTION OF PREMISES.

The Contractor shall properly protect the Owner's property and adjoining property from injury or damage. Any damage to same must be made good without delay. The Contractor shall make good, at the Contractor's own expense, any such injury or damage done and shall leave all in as good condition as found when operations were started, to the full satisfaction of the Owner or owners as evidenced by a written release.

#### Art. 53 - CARE AND PROTECTION OF WORK AND MATERIALS.

From the commencement of the work until its completion, the Contractor shall be solely responsible for damages caused to the property of the Owner or others, for the care and protection of the work covered by the Contract, and for the materials and equipment delivered at the site or incorporated in the work.

All excavated materials, construction equipment, and materials and equipment to be incorporated in the work or desired by the Owner as noted, shall be so placed as not to injure the work and so that free access may be had at any time to all parts of the work and to all public utility installations in the vicinity of the work as approved by the Owner. Materials and equipment shall be kept neatly piled and compactly and conveniently stored so as to inconvenience as little as possible the Owner's operations, public travel and adjoining tenants.

All loss, injury, or damage to the Owner's property or the work or materials, from whatever cause, shall be made good at the Contractor's expense.

All removed equipment, parts, materials, rubbish and other things not required to be incorporated in the work or desired by the Owner as noted, shall be promptly removed from the property and disposed of in an approved manner and to an approved disposal site.

The Contractor shall provide suitable, secure and adequate storage room as required for materials and equipment during the progress of the work, including approved weathertight storage for all materials and equipment which might deteriorate if left uncovered. The Contractor shall provide

protection against damage or deterioration for all equipment during storage and after installation, complying in all respects with the manufacturer's instructions for storage, until the equipment is put to use by the Owner.

The Contractor shall be solely responsible for compensation and replacement for any and all thefts.

During adverse weather, the Contractor shall take all necessary precautions so that the work may be properly done and be satisfactory in all respects. When required, protection shall be provided by the use of tarpaulins, wood and building paper shelters, or other approved means.

During cold weather, materials shall be preheated, if required, and the materials and adjacent structure into which they are to be incorporated and shall be made and kept sufficiently warm so that a proper bond will take place and proper curing, aging or drying will result. Protected spaces shall be artificially heated by approved means which will result in a moist or a dry atmosphere according to the particular requirements of the work being protected.

The Owner may suspend construction operations at any time when, in the Owner's judgement, the conditions are unsuitable or the proper precautions are not being taken, whatever the weather may be in any season.

As directed and approved, the Contractor shall have, at all times, a sufficient number of guards to protect the property of the Owner or others, to exclude unauthorized persons from the work, and to protect traffic where Contractor's trucks enter or leave public roads.

#### Art. 54 - SECURED INSTRUMENTS.

No materials or equipment or supplies for the work shall be purchased by the Contractor subject to any secured instruments or under a conditional sale or other agreement by which an interest is retained by the seller. The Contractor warrants possession of clear title to all materials, equipment and supplies used in the work.

#### Art. 55 - OWNERSHIP OF EQUIPMENT AND MATERIALS.

Nothing in this Contract shall be considered as vesting in the Contractor any right of property in equipment or materials used, after they shall have been attached or affixed to the work or the soil, nor in equipment and materials which have been accepted for partial payment at the site of the work, as provided hereinafter, but all such equipment or materials shall, upon being so attached or affixed, or so accepted, become the property of the Owner.

#### Art. 56 - LINES AND GRADES.

All work shall be constructed to the lines and grades shown and approved. The Contractor shall provide a base line and elevation monument.

The Contractor shall employ a Land Surveyor, licensed to practice in the State of New York for laying out the work, including setting of key stakes, markers and levels from available official monuments, benchmarks, etc., for horizontal and vertical control wherever said benchmarks and monuments may be located. Any work improperly done without lines or levels shall be removed and replaced by the Contractor at the Contractor's expense.

The Surveyor shall submit field notes, drawings, sketches, calculations at periodic intervals when directed by the Owner.

The Contractor shall furnish all stakes, markers and other materials and shall give any assistance the Engineer or Owner may request in checking and measuring the work. Whenever the Engineer or Owner finds it necessary to carry on operations on Saturdays, Sundays, holidays or at other times when the work of the Contractor is not in progress, the Contractor shall furnish all necessary service and assistance.

No direct payment will be made for the cost to the Contractor of any work or delay occasioned by survey work, or making necessary measurements, or by performing inspections or observations. Compensation therefore shall be considered as having been included in the Contract price.

#### Art. 57 - CONSTRUCTION CONTROL SURVEYS.

In addition to requirements for construction lines and grades, the Contractor shall establish a system of offset lines and settlement reading points, make periodic readings therefrom, and shall record same. The object of the surveys is to protect existing or new structures, utility lines, and streets, whether within the project site or not, by acting as a control for the Contractor's construction operations. The results and analyses of the survey readings will provide one means for the Owner to assess the adequacy and suitability of the Contractor's methods. Construction activities for which control surveys will be required are:

- A) Excavation, including dredging: surveys to detect lateral and vertical movement in and adjacent to the excavated slopes.
- B) Sheeting and bracing: surveys to detect lateral movement in the sheeting at several levels, vertical movement at adjacent structures, and vertical movement at the top of sheeting or soldier piles, especially where tie-back anchors are used.
- C) Pile driving: to detect heave, settlements or lateral displacement of new or existing adjacent piles, utilities or structures.
- D) Dewatering: surveys to detect settlement of adjacent structures.
- E) Blasting: surveys to detect ground vibration & air blast.

Prior to the commencement of these or other operations which, in the opinion of the Owner, could cause ground vibration, air blast, settlement or lateral movement, the Contractor shall submit for the review of the Owner a detailed description and drawings showing locations of the reading points, bench marks or sighting points, etc. The construction operation shall not start until the approved survey points have been established and two sets of readings completed. The Contractor shall furnish competent surveyors and adequate equipment for the control surveys. Bench marks and sighting points for offset lines shall be located outside the effects of construction. Readings shall be made to an accuracy of 0.01 feet. The submitted description shall note the proposed frequency of the readings, but in no case shall they be made at less than one-week intervals, unless the Owner approves, in writing, discontinuance or greater intervals. Readings shall be submitted to the Owner's field representative within 24 hours after they are made.

The Owner will check the location, settlement and lateral movement reports of the Surveyor as is deemed necessary. The Contractor shall grant the Surveyors right of entry to any location within the Contractor's jurisdiction and at any time.

#### Art. 58 - CONSTRUCTION PHOTOGRAPHS AND/OR VIDEO TAPES.

Refer Contract Specification Section No. 01380

#### Art. 59 - RECORD DRAWINGS.

Concurrent with progress of installation, the Contractor shall maintain a set of as-built record drawings, consisting of a reproducible (at the Contractor's own cost) marked set of Contract Drawings with additional sketches as required, denoting and dimensioning accurately all elevation, location and size of all equipment, materials and any other work whether deviating from the Contract Documents or not. The set shall be kept in the Contractor's field office and be made available for inspection by the Owner upon request.

Upon completion of work, the Contractor shall deliver to the Owner two(2) legible up-to-date set of these as-built record drawings.

Art. 60 - TIME OF THE ESSENCE.

Inasmuch as the provisions of this Contract relating to the time for performance and completion of the work or various phases thereof are for the purpose of enabling the Owner to proceed with the construction of a public improvement in accordance with a pre-determined program, and inasmuch as failure to complete the work within the period specified may result in tangible losses to Owner for matters such as public health, welfare and the like, such provisions are of the essence of this Contract.

It is expressly understood and agreed, by and between the Contractor and the Owner, that the Contract time or times for the completion of the work or portions of the work described herein is/are reasonable, taking into consideration the average weather, labor and economic conditions and other factors prevailing.

In the event that the Contractor requests an extension of time, the Contractor shall furnish such justification and supporting evidence as the Owner may deem necessary for determination as to whether the Contractor is entitled to an extension of time. The Owner will, after receipt of such justification and supporting evidence, make a decision thereon, and the Contractor will be advised in writing thereof. If the Owner finds that the Contractor is entitled to an extension of time, such extension will be binding on the Contractor. The Contractor acknowledges and agrees that delays in activities which do not affect the Contract completion dates will not be the basis for any change in the Contract completion dates. Each request for a change in the Contract completion dates shall be submitted by the Contractor within three days after the beginning of the delay for which time extension is requested. No time extension will be considered for requests which are not submitted within the foregoing limit.

The Contractor shall note that such extensions of time will rarely, if ever, be granted, and if any consideration for same is to be given by the Owner, full justification with backup data and documents must be provided by the Contractor.

Art. 61 - NIGHT, SATURDAY, SUNDAY AND HOLIDAY WORK.

No work will be permitted on Saturday, Sunday or legal holidays, nor at night, unless written permission is granted by the Owner. Work on week days must be done only between the hours of **7:30 A.M. and 5:30 P.M.**, unless written permission otherwise is granted by the Owner.

Art. 62 - WORK IN FREEZING OR STORMY WEATHER.

Work liable to be affected by freezing or stormy weather shall be suspended during such weather. When work proceeds in such weather, with the approval of the Owner, the Contractor shall provide sufficient and approved facilities for creating workable, suitable and safe conditions and protecting the work after its completion, as approved by the Owner.

Art. 63 - NOISE CONTROL.

The Contractor shall use every effort and means possible to minimize or eliminate noise caused by operations which the Owner may consider objectionable. The Contractor shall abide by the noise abatement requirements of OSHA and shall provide working machinery equipped with silencers, mufflers or other devices where required, and utilize machinery designed to operate with the least possible noise.

The Contractor shall comply with the Town of Yorktown Noise Control Law.

Art. 64 - WORK IN STREETS AND HIGHWAYS.

The Contractor shall not close or obstruct any portion of a street, road, or private way without obtaining permits therefore from the proper agencies or owner's thereof. If any street or private way shall be rendered unsafe by the Contractor's operations, the Contractor shall immediately make such repairs or provide such temporary ways, signs, barriers, lights, and guards as shall be acceptable to the Owner and to the owners or agencies having jurisdiction over said traveled way, as evidenced by a written statement from the parties concerned. Refer to Contract Lump Sum Bid Item No.10 & Contract Specification Section No.01025 (Part J) for additional information.



Art. 65 - MAINTAINING AND SAFEGUARDING TRAFFIC.

As directed by the Owner, the Contractor shall build and maintain such temporary roads, passageways, trestles and bridges as shall be deemed necessary for the accommodation of traffic on streets, roadways and private ways interfered with by the Contractor's operations, for convenient access to the various parts of the work, for access to adjacent buildings and properties, and for other necessary purposes incidental to the work. The Contractor shall erect such temporary guards, fences, warning signs, lights and signals as may be necessary or required by the owners or agencies having control of the travel ways, to protect all traffic on the streets and roadways and provide all necessary guards and flaggers. The Contractor shall not obstruct vehicular traffic unless permission has been obtained from the agencies having jurisdiction to bar temporarily all traffic from the site of the work, or access thereto.

The Contractor shall not deprive any building or property of safe and proper access except with the consents of the owner and occupant and after due notice to the Owner. Free access must be given to every fire alarm box, fire hydrant, valve box, or valve chamber. The temporary roads and the Contractor's access roads shall be located where directed or approved and shall be maintained in good condition. Calcium chloride or other approved means shall be used to maintain the roads in a dust-free condition. The Contractor shall indemnify and save harmless the Owner and Engineer from any expense or litigation whatsoever due to the Contractor's operations in streets and highways.

Art. 66 - HAULING MATERIALS.

Before starting any work, where ordered by the Owner, the Contractor shall arrange with the Local, County, or State officials having jurisdiction for the use of routes of travel for hauling materials that will result in a minimum of inconvenience to the traveling public.

All trucks entering or leaving the site with fill or excavated materials, sand, gravel, or topsoil, or any other material subject to loss from the truck as a result of truck movement or wind, shall be covered. Streets shall be cleaned of any spillage from the Contractor's trucks daily. Adequate dust control, as approved by the Owner, and the owners or agencies having control, shall be employed.

Art. 67 - PROTECTING EXISTING STRUCTURES.

The Contractor shall, at the Contractor's expense, protect any pipes, buildings, utilities or structures which may be encountered or endangered in the prosecution of the work, and which may not be otherwise provided for, and shall repair and make good any damages caused to any such property by reason of the Contractor's operations, to the satisfaction of the owner's thereof, as evidenced by a release from same.

Art. 68 - PROTECTING EXISTING TREES, SHRUBBERY AND PAVEMENT.

The Contractor shall protect trees, shrubs, grassed areas, plantings and pavements from being cut, trimmed or injured, unless specifically ordered otherwise. Any damage to trees, shrubs, grassed areas or paved areas shall be made good by the Contractor, to the satisfaction of the owner's thereof, at the Contractor's expense. The Contractor shall obtain a written release from all private and public property owners indicating that the Contractor has restored their property to their satisfaction.

Tree or shrubbery roots shall not be mutilated nor shall they be cut except by permission of the owner's thereof. When permitted to cut roots, the Contractor shall cut ends off smoothly, without splitting or shattering. The trunks of trees shall be carefully protected from damage, and if unavoidable damage occurs, the injured portions shall be neatly trimmed and covered with an application of grafting wax. Excavating machinery, cranes, etc. shall be handled with care to prevent damage to trees, particularly to overhanging branches, and branches shall not be cut off except by special permission of the owner's thereof. No compensation will be made for the protecting of existing trees and shrubbery, but such cost shall be considered as having been included in the Contract price for the work to be done under this Contract.

#### Art. 69 - OBSTRUCTIONS ENCOUNTERED.

In addition to showing structures to be built under this Contract, the drawings show certain information regarding the pipe lines conduits and other structures which exist at and near the site of the work, both at and below the surface of the ground. The Owner expressly disclaims any responsibility or the accuracy or completeness of the information given on the drawings with regard to existing structures, conduits, and pipe lines, and the Contractor will not automatically be entitled to any extra compensation on account of inaccuracy or incompleteness of such information. Said information is being shown only for the convenience of the Contractor, who must verify the information. However, the Contractor shall be entitled to additional expenses actually incurred and related directly to underground or hidden conditions encountered which are significantly at variance with any conditions represented in the Contract Documents, where so determined by the Owner.

The Contractor shall promptly notify the Owner in writing if such variance is encountered, and the Owner will promptly investigate the conditions, and if the Owner finds that such conditions do so materially differ and cause an increase or decrease in the cost of, or in the time required for, performance of the work, an equitable adjustment shall be made and the Contract shall be modified by a change order. Any claim of the Contractor for adjustment hereunder shall not be allowed unless the Contractor has given the required written notice within seven calendar days.

The giving of information regarding pipe lines, conduits and other structures upon the Contract Drawings will not relieve the Contractor of any obligation to support and protect all pipe lines and other structures which may be encountered during the construction of the work, and to make good all damages done to such pipe lines and structures, as provided herein.

#### Art. 70 - EXISTING UTILITIES AND CONTINUITY AND PROTECTION OF SERVICES.

The Contractor shall, at the Contractor's own expense, do everything necessary to protect, support and sustain all sewers, water, gas service pipes, electric lights, power, telephone or telegraph poles, conduits, railroad tracks, and other fixtures laid across or along the site of the work. The company or corporation owning said pipes, poles or conduits, shall be notified of same by the Contractor before any such fixtures are removed or molested. In case any of the said pipes, electric light, power, telephone or telegraph poles, conduits or other fixtures are damaged, the authorities having jurisdiction over same shall be immediately notified and they shall repair the damage. The expense of said repairs shall be deducted from the moneys which are due or become due the Contractor under this Contract.

Should it become necessary to change the position of, or temporarily remove any conduits, poles, pipes or wires, in order to permit the Contractor to use a particular method of construction or in order to clear the structure being built, the Contractor shall promptly notify the Owner of the location and circumstances, and shall cease work if necessary, until satisfactory arrangements have been made by the owners of the said pipes, conduits, poles, or wires to properly care for the same. No claims for the damages will be allowed on account of any delay occasioned thereby. The entire cost of the changes or temporary removal is deemed to be included in the Contract price.

In all cases where temporary pipes must be installed or where sewage, water, gas or drainage must be pumped or otherwise carried over or around excavations or any other portions of the work to maintain the mandatory continuity of flow, the Contractor shall furnish such pipes, pumps, energy, and all other materials, equipment and labor as are required to maintain continuity of service in the utilities affected.

#### Art. 71 - MONUMENTS AND LANDMARKS.

When any bench mark or other surveying monument, whether of stone, concrete, or pipe, or a mark upon the pavement, designating the lines of the streets or highways or of private property, is in the line of any construction work and may have to be removed, the Contractor shall notify the Owner in writing at least 24 hours in advance. Under no circumstances shall such monument be removed or disturbed by the Contractor or by any of the Contractor's personnel without a written order from the Owner. The Contractor shall furnish the necessary labor and services which may be required for resetting the monument. Should any monument be destroyed through accident or neglect, the Contractor shall be required to employ a licensed surveyor to reestablish the monument, at no additional cost to the Owner.

Art. 72 - SEWAGE, SURFACE AND FLOOD FLOWS.

The Contractor shall furnish all the necessary materials, pumps, equipment, chambers, etc., and shall take all necessary pre-cautions, and shall assume the entire cost of handling any sewage, seepage, storm, surface and flood flows which may be encountered at any time during the work. The manner of providing for these flows shall meet with the approval of the agencies having jurisdiction thereof and the Owner, and the entire cost of said work shall be considered as included in the Contract price.

Art. 73 - SUSPENSION OF WORK.

If the Owner deems it advisable, the Owner may order the Contractor in writing to stop work on all or any part of the Contract, and the Contractor shall do no work when so ordered unless, and until the Contractor has received written notice from the Owner to resume work. When work is suspended due to no fault of the Contractor, payments for the completed parts on suspended work will be made as provided hereinafter, and a suitable extension of time for completing the work will be granted. No payment will be made for work done by the Contractor when done in violation of said order.

Art. 74 - ABANDONMENT OF WORK.

Should the Contractor abandon or in any manner fail to complete the work under this Contract, the Owner is hereby authorized and empowered to pay any subcontractors, laborers or mechanics for work done who may have been employed by said Contractor upon the work herein, and to pay any claims against the Contractor for materials or equipment furnished, out of any funds that would otherwise be due or become due said Contractor under this Contract, and in every such case the Owner is hereby authorized to ascertain the amount or amounts due or owing to such subcontractor, laborer or laborers, or for materials or equipment, from said Contractor, in such manner and upon such proof as said Owner may deem sufficient. And the amount or amounts so found by to be due and payable to such subcontractor, labor or laborers, or for materials or equipment furnished, shall be final and conclusive against the Contractor, and may thereafter be paid by the Owner to said subcontractor, laborer or laborers, or to liquidate claims for materials or equipment furnished; and any payment will be withheld from said Contractor until all such claims for subcontracts, labor, materials or equipment have been satisfied.

Art. 75 - DEFAULT OF CONTRACTOR.

The Owner has the right to declare the Contractor in default:

- 1) If the Contractor shall fail, within the time required, to begin the work to be done under this Contract, or
- 2) If the work to be done under this Contract shall be abandoned, or
- 3) If the Contractor shall be adjudged bankrupt or make an assignment for the benefit of creditors, or
- 4) If a receiver or liquidator shall be appointed for the Contractor or for any of the Contractor's property and shall not be dismissed within twenty (20) calendar days after such appointment, or the proceedings in connection therewith shall not be dismissed within twenty (20) calendar days after such appointment, or the proceedings in connection therewith shall not be stayed on appeal within the said twenty (20) calendar days, or
- 5) If the Contractor shall fail to or refuse to regard laws, ordinances and regulations, and such orders as may from time to time be given by the Owner with respect to the work, or
- 6) If the Contractor shall refuse or fail, after notice from the Owner, to supply enough properly skilled workers or proper materials and equipment, or

- 7) If the Contractor shall violate any of the provisions or covenants of the Contract Documents or shall not perform the same in good faith in accordance with the terms thereof, or
- 8) If the Contractor shall refuse or fail to prosecute the work or any part thereof with such diligence as will insure its completion within the periods specified (or any duly authorized extension thereof) or shall fail to complete the work or phases of the work within said periods, or
- 9) If the Contractor shall fail to make prompt payment to subcontractors, persons supplying labor, equipment or materials for the work, or
- 10) If the Contractor shall assign or sublet the work otherwise than as permitted in the Contract Documents; or
- 11) If the Owner should determine that the work or any part thereof is unnecessarily or unreasonably delayed, or that the Contractor is not complying with the Owner's orders, or is not executing the Contract in good faith, or in accordance with the Contract Documents, or that suitable and sufficient workers, materials, equipment, plant, power, tools, supplies or other means or carrying on the work are not provided to carry out all requirements of the Contract.

#### Art. 76 - UNFINISHED WORK COMPLETED BY THE OWNER.

Upon a declaration of default of the Contractor as hereinbefore provided, the Owner shall, by written notice, order the Contractor not to begin, or not to resume, or to discontinue all work under this Contract or any part of such work, and thereupon the Contractor shall not begin, or shall not resume, or shall discontinue all work or such part thereof and the Owner shall thereupon have the power, in the manner prescribed by these Contract Documents or by law, to contract for the completion of the work or such part thereof, or to place such and so many persons as they may deem advisable by contract, or call on Surety to complete the work, or otherwise to work at and to complete the work or part thereof, or so much of the work or part thereof as the Owner may direct, or may place under contract, and take possession of and use any or all plant, tools, appliances, equipment, supplies, property, and materials as they may find upon the site of the work, and procure or cause to be procured, by contract or otherwise, all plant, tools appliances, equipment, supplies, property, and materials for the completion of the same and charge the whole expenses of the completion of the work, or part thereof, to the Contractor or the Contractor's Surety.

The expenses so charged including legal, technical, administrative, etc., and also liquidated damages for delay in the completion of the work, if any, as provided, shall be deducted and paid by the Owner out of such moneys as may be then due or may at any time thereafter become due under and by virtue of this Contract or any part thereof. In case such expenses and liquidated damages, if any, shall exceed the sum completed by the Contractor, the Contractor shall and will pay the amount of such excess to the Owner; and in case such expense and liquidated damages, if any, shall be less than the sum which would be payable to the Contractor if the Contractor has completed the Contract, the Contractor shall be entitled to the difference, subject to all the other terms, covenants and conditions of these Contract Documents.

#### Art. 77 - CERTIFICATE OF COST OF WORK COMPLETED BY OWNER.

In the event of the Owner's undertaking, by contract or otherwise, to perform the work or any part thereof as hereinbefore described, the certificate of the Owner as to the amount of work done, the cost and the amount of excess cost, if any, of performing or completing the work called for by this Contract, and as to the amount of liquidated damages hereunder shall be binding and conclusive upon the Contractor, the Contractor's Sureties, successors, assigns, lienors and to all claimants of any part of the moneys payable hereunder.

Art. 78 - TERMINATION FOR CONVENIENCE.

- A) The performance of work under this Contract may be terminated by the Owner in accordance with this clause in whole, or from time to time in part, whenever the Owner determines that such termination is in the best interest of the Owner. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which performance of work under the Contract is terminated, and the date upon which such termination becomes effective.
- B) After receipt of a Notice of Termination, and except as otherwise directed by the Owner, the Contractor shall:
- 1) Stop work under the Contract on the date and to the extent specified in the Notice of Termination;
  - 2) Place no further orders or subcontracts for materials, services, or facilities except as may be necessary for completion of such portion of the work under the Contract as is not terminated;
  - 3) Terminate all orders and subcontracts to the extent that they relate to the performance of work terminated by the Notice of Termination;
  - 4) Assign to the Owner, in the manner, at the times, and to the extent directed by the Owner, all of the right, title, and interest of the Contractor under the orders and subcontracts so terminated, in which case the Owner shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts.
  - 5) Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with the approval or ratification of the Owner to the extent required, which approval or ratification shall be final for all the purposes of this clause;
  - 6) Transfer title to the Owner, and deliver in the manner, at the times, and to the extent, if any, directed by the Owner, (i) the fabricated or unfabricated parts and equipment, work in process, completed work, supplies, and other material produced as a part of, or acquired in connection with the performance of, the work terminated by the Notice of Termination, and (ii) the completed or partially completed plans, drawings, information, and other property which, if the Contract had been completed, would have been required to be furnished to the Owner;
  - 7) Use best efforts to sell, in the manner, at the times, to the extent, and at the price or prices directed or authorized by the Owner, any property of the types referred to in (6) above: Provided, however, that the Contractor (i) shall not be required to extend credit to any purchaser, and (ii) may acquire any such property under the conditions prescribed and at a price or prices approved by the Owner; And provided further, that the proceeds of any such transfer of disposition shall be applied in reduction of any payments to be made by the Owner to the Contractor under this Contract or shall otherwise be credited to the price or cost of the work covered by this Contract or paid in such other manner as the Owner may direct;
  - 8) Complete performance of such part of the work as shall not have been terminated by the Notice of Termination; and
  - 9) Take such action as may be necessary, or as the Owner may direct, for the protection and preservation of the property related to this Contract which is in the possession of the Contractor and in which the Owner has or may acquire an interest.
- C) After receipt of a Notice of Termination, the Contractor shall submit to the Owner a termination claim, in the form and with the certification prescribed by the Owner. Such

claim shall be submitted promptly, but in no event, later than one month from the effective date of termination, unless one or more extensions in writing are granted by the Owner upon request of the Contractor made in writing within such period or authorized extension thereof. However, if the Owner determines that the facts justify such action, the Owner may receive and act upon any such termination claim at any time after such period or extension thereof. Upon failure of the Contractor to submit a termination claim within the time allowed, the Owner may, determine, on the basis of information available, the amount, if any, due to the Contractor by reason of the termination and shall thereupon pay to the Contractor the amount so determined.

- D) Subject to the provisions of paragraph (C), the Contractor and the Owner may agree upon the whole or any part of the amount or amounts to be paid to the Contractor by reason of the total or partial termination of work pursuant to this clause, which amount or amounts may include a reasonable allowance for profit on work done: Provided, that such agreed amount or amounts, exclusive of settlement costs, shall not exceed the total contract price as reduced by the amount of payments otherwise made and as further reduced by the contract price of work not terminated. The Contract shall be amended accordingly, and the Contractor shall be paid the agreed amount. Nothing in paragraph (E) of this clause, prescribing the amount to be paid to the Contractor in the event of failure of the Contractor and the Owner to agree upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this clause, shall be deemed to limit, restrict, or otherwise determine or affect the amount or amounts which may be agreed upon to be paid to the Contractor pursuant to this paragraph (D).
- E) In the event of the failure of the Contractor and the Owner to agree as provided in paragraph (D) upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this clause, the Owner shall determine, on the basis of information available, the amount, if any, due to the Contractor by reason of the termination and shall pay to the Contractor the amounts determined as follows:
- 1) With respect to all contract work performed prior to the effective date of the Notice of Termination, the total (without duplication of any items) of the following:
    - i) The cost of such work;
    - ii) The cost of settling and paying claims arising out of the termination of work under subcontracts or orders as provided in paragraph (B) (5) above, exclusive of the amounts paid or payable on account of supplies or materials delivered or services furnished by the subcontractor prior to the effective date of the Notice of Termination of work under this Contract, which amounts shall be included in the cost on account of which payment is made under (i) above; and
    - iii) A sum, as profit on (i) above, determined by the Owner to be fair and reasonable: Provided, however, that if it appears that the Contractor would have sustained a loss on the entire Contract had it been completed, no profit shall be included or allowed under this subdivision (iii) and an appropriate adjustment shall be made reducing the amount of the settlement to reflect the indicated rate of loss; and
  - 2) The reasonable cost of the preservation and protection of property incurred as determined by the Owner pursuant to paragraph (B) (9); and any other reasonable cost incidental to termination of work under this Contract, including expense incidental to the determination of the amount due to the Contractor as the result of the termination of work under this Contract.

The total sum to be paid to the Contractor under (E)(1) above shall not exceed the total contract price as reduced by the amount of payments other-wise made and as further reduced by the estimated price of work terminated as determined by the Owner. Except for normal spoilage, and except to the extent that the

Owner shall have otherwise expressly assumed the risk of loss, there shall be excluded from the amounts payable to the Contractor under (E)(1) above, the fair value, as determined by the Owner of property which is destroyed, lost, stolen, or damaged so as to become undeliverable to the Owner, or to a buyer pursuant to paragraph (B)(7).

- F) The Contractor shall have the right to dispute under Article 107 of these General Conditions entitled "Arbitration" from any determination made by the Owner under paragraph (C) or (E) above, except that, if the Contractor has failed to submit a claim within the time provided in paragraph (C) above and has failed to request extension of such time, the Contractor shall have no such right of appeal. In any case where the Owner has made a determination of the amount due under paragraph (C) or (E) above, the Owner will pay to the Contractor the following: (1) If there is no right of appeal so determined by the Owner, or (2) if an "Arbitration" proceeding is initiated, the amount finally determined in such "Arbitration" proceeding.
- G) In arriving at the amount due the Contractor under this clause, there shall be deducted (1) all unliquidated advance or other payments on account theretofore made to the Contractor, applicable to the termination portion of this Contract, (2) any claim which the Owner may have against the Contractor in connection with this contract; and (3) the agreed price for, or the proceeds of sale of, any materials, supplies, or other things kept by the Contractor or sold, pursuant to the provisions of this clause, and not otherwise recovered by or credited to the Owner.
- H) If the termination hereunder be partial, prior to the settlement of the terminated portion of this Contract, the Contractor may file with the Owner a request in writing for an equitable adjustment of the price or prices specified in the Contract relating to the continued portion of the Contract (the portion not terminated by the Notice of Termination), and such equitable adjustment as may be agreed upon shall be made in such price or prices; however, nothing contained herein shall limit the right of the Owner and the Contractor to agree upon the amount or amounts to be paid to the Contractor for the completion of the continued portion of the Contract when said Contract does not contain an established contract price for such continued portion.

#### Art. 79 - CONTINUATION OF WORK BY CONTRACTOR.

When only a particular part of this work is being carried on by the Owner, by contract or otherwise, under the provisions of these Contract Documents, the Contractor agrees to continue the remainder of the work in conformity with the terms of these Contract Documents and in such manner as in no wise to hinder or interfere with the Contractor, persons or workers employed by the Owner.

#### Art. 80 - OWNER'S RIGHT TO DO WORK AND THREE-DAY CLAUSE.

If the Contractor should neglect to prosecute the work properly or fail to perform any provisions of the Contract Documents, the Owner, after three (3) calendar days written notice to the Contractor, may without prejudice to any other remedy, make good such deficiencies and may deduct the cost thereof from any payment then or thereafter due the Contractor.

#### Art. 81 - ESTIMATED QUANTITIES.

Wherever the estimated quantities of work to be done and materials to be furnished under this Contract are shown in any of the Contract Documents, including the Proposal, they are given for use in the preparation and comparison of bids, and the right is especially reserved, to increase them or diminish them as may be deemed necessary or desirable by the Owner to complete the work contemplated under this Contract. Such increase or diminution shall in no way vitiate this Contract, or modify the unit prices bid.

#### Art. 82 - CHANGES IN THE WORK.

Without invalidating the Contract, the Owner may order extra work, diminish the work, or order changes by altering, adding to, or deducting from the work, the Contract Price being adjusted accordingly.

Such ordered changes in the work shall be executed under the conditions of the Contract, except that any claim for extension of time caused thereby shall be adjusted at the time of ordering such change.

No changes in the work covered by the Contract Documents shall be done or made by the Contractor without the written directive of the Owner, except that, during an emergency or where time is of the essence, the Owner may give an oral field directive; this, however, must be confirmed by a written directive within four hours. The directive shall include an agreed-upon price or a method for determining such price.

Charges or credits for the work so ordered and approved by the Owner shall be determined by one or more, or a combination of, methods, as approved by the Owner, as follows:

- A) By such Owner approved applicable unit prices as are bid or set forth in the lump sums breakdown; or
- B) If no such unit prices are bid or set forth, then by unit prices or by a lump sum mutually agreed upon by the Owner and Contractor; or
- C) If no such unit prices are bid or set forth and if the parties cannot agree upon prices or a lump sum, then, for extra work performed the Contractor shall receive as compensation the actual cost, which shall include:
  - 1) Labor, including foremen, but not including superintendents; actual hourly rate of the individual and their benefits, not to exceed the individual's classification according to the current New York Department of Labor Prevailing Wage Rate Determination guidelines that are part of this Contract.;
  - 2) Materials entering permanently into the work;
  - 3) The ownership or rental cost of construction plant and/or equipment actually used for the completion of the extra ordered or changed work. The rental rate that will be accepted by the Owner shall be the "daily" rate if the equipment is used for one to three days, the "weekly" rate if the equipment is used for a total of four days to twenty (20) calendar days, and the "monthly" rate if the equipment is used for a total of twenty one (21) calendar days or more. Rates accepted by the Owner shall be from a Nationally recognized standard compilation of equipment rental rates or if none is available, the average of three local suppliers standard rates. The local supplier's rates shall be compiled and submitted by the Contractor.
  - 4) Power and consumable supplies for the operation of power equipment during the above time;
  - 5) Insurance;
  - 6) Social Security Taxes, Medicare Taxes, Federal and State Unemployment Taxes;
  - 7) Plus a fixed fee equal to fifteen (15%) percent of the summation of items (1) through (6) above, which fee shall be compensation to cover the cost of supervision, overhead, bond, profit, and any other general expenses. The prime contractor will not be permitted to include both the Contractor's fifteen (15%) percent and any subcontractor's percentage for the items enumerated herein, but only a single fifteen (15%) percent.

For a diminution of work, the amount to be deducted shall be determined as noted in (A) or (B) above or on a mutually agreed upon sum as acceptable to the Owner.

The Contractor shall give the Owner access to all accounts, bills, payrolls, and voucher relating to such work, and agrees that no claim for compensation for such work shall be made unless a statement in writing of the actual cost of the same, fully itemized as to labor, materials and other allowable costs, is



presented to the Owner before the fifteenth day of the month following that during which each specific change in the work was complied.

It is understood and agreed by the Contractor that the Owner reserves the right to have extra work done by any person, persons, or corporation other than the Contractor, unless an agreement upon the prices to be paid for such extra work can be promptly reached between the Owner and the Contractor. Should said extra work be done by any person, persons, or corporation other than the Contractor, all of the provisions as hereinbefore provided shall apply, and the Contractor agrees to make no claim for damages or for any privileges or rights, other than that provided in the Contract, by reason of such work by others, except for an extension of time to perform this Contract as may be certified by the Owner.

If the Contractor considers extra compensation is due on account of the before mentioned alterations or changes, the Contractor shall notify the Owner by making a claim in writing before proceeding with the work in question. Should the Contractor proceed with the said work in compliance with the written order of the Owner, it is to be construed as acceptance of the order of stipulated compensation for the said work.

"The Contractor is entitled to all identifiable direct job costs with Extra Work excluding the subcontractor's costs. For Extra Work not in excess of \$10,000 the contractors may add up to ten (10%) percent overhead factor to their identifiable direct job costs, but excluding the cost of any subcontracting, plus up to ten (10%) percent profit factor to their identifiable direct costs plus overhead amount.

As general policy, these overhead and profit factors may be accepted by owners as reasonable in lieu of requiring submission of additional supporting data. However, the owner must reserve its right to review any cost of profit element on a case-by-case basis, where the submission for overhead and profit is in excess of the ten (10%) percent overhead and ten (10%) percent profit indicated above.

Cost increase in subcontracted work may be similarly handled and a prime contractor may add up to ten (10%) percent to the total cost (including overhead and profit factors) incurred by the subcontractor. In such cases, the same reservations for rights shall apply.

For Extra Work in the amount of \$10,000 to \$100,000, the above factors may be included initially for equitable adjustments but will be subject to negotiation, cost and pricing data, and owner review requirements.

The contractor is entitled to all identifiable direct job equipment costs associated with extra work. The compensable cost for construction equipment shall be based upon the most current costs established in "Rental Rates for Construction Equipment" and "Rental Rates for Older Construction Equipment" (Blue Book), Nielsen/Dataquest (A.C. Nielsen Company), 2800 -T West Bayshore Rd., P.O. Box 10113, Palo Alto, California 94303.

Overhead and profits factors allowed above shall only be applied to the rates charged for rental equipment used by the contractor for extra work."

Add the form "Contract Modifications Proposal and Acceptance," included in the following pages, immediately after page no. GC-50 of the General Conditions.

#### Art. 83 - CLAIMS FOR EXTRA WORK.

If the Contractor claims that any instructions issued by the Owner, involve extra cost under this Contract, the Contractor shall give the Owner written notice thereof within 72 hours after the receipt of such instruction, and in any event before proceeding to execute the work, except in emergency endangering life or property. The procedure shall then be as provided for in the previous article. No such claim shall be valid unless so made.

#### Art. 84 - SUPPLEMENTARY CONTRACT.

Where conditions require an unforeseen and major change in the work after the Contract has been executed, and which is not reasonably within the scope of the Contract, the Contractor will, if requested by the Owner, undertake to enter into a Supplementary Contract at agreed prices, to cover the cost of said changed work, and shall, if requested, waive any right to do such work as extra work.

#### Art. 85 - CONTRACTOR'S CLAIM FOR DAMAGES.

If the Contractor shall claim compensation for any damage sustained by reason of the acts of the Owner or its agents, the Contractor shall, within seven days after sustaining of such damage, make a written claim and statement to the Owner of the nature of damage sustained. On or before the fifteenth day of the month subsequent to that in which any such damage shall have been sustained, the Contractor shall file with the Owner an itemized statement of the details and the amount of such damage alleged to have been sustained, and unless such statement is made as thus required, a claim for compensation will not be considered.

In addition to the foregoing statements, the Contractor shall, upon notice from the Owner, produce for examination by the Owner, all books of accounts, bills, invoices, payrolls, subcontracts, time books, daily reports, bank deposit books, bank statements, check books, and canceled checks, showing all acts and transactions in connection with or relating to or arising by reason of this Contract, and submit and persons in employ for examination under oath by any person designated by the Owner to investigate claims made against the Owner. Unless the aforesaid statements shall be made and filed within the time aforesaid and the aforesaid records submitted for examination, and the Contractor and the Contractor's employees submit themselves for examination as aforesaid, the Owner shall be released from all claims arising under, relating to or by reason of this Contract, except for the sums certified by the Owner to due under the provisions of this Contract.

#### Art. 86 - EXTENSION OF TIME FOR COMPLETING THE WORK.

If the Contractor is delayed in completion of the work or phases of the work, under the Contract by any act or neglect of the Owner or of any other Contractor employed by the Owner, or by changes in the work, or by any priority or allocation order duly issued by the Federal government, or by any unforeseeable cause beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God or of the public enemy, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and abnormally severe weather, or by delays of subcontractors or suppliers occasioned by any of the caused described above, or by delay authorized by the Owner for any cause which the Owner shall deem justifiable, then:

For each day of delay in the completion of the work or a phase of the work so caused, the Contractor will be allowed one day additional to the time limitation specified in the Contract, it being understood and agreed that the allowance of same shall be solely at the discretion and approval of the Owner.

No such extension of time will be made for any delay unless the Contractor, within 3 days after the beginning of the delay, shall have informed the Owner in writing of the nature of the delay, its cause, and its estimated duration. The Owner will ascertain the facts regarding the delay and notify the Contractor within a reasonable time of its decision in the matter.

The Contractor shall use all honorable and reasonable means to prevent or settle strikes, to avoid violations of labor agreements or other actions calculated to create dissatisfaction with working conditions. Should strikes occur, the Contractor shall make all proper and reasonable efforts to effect early settlement and resumption of the work. Should collusion by the Contractor be proven in the case of strikes or lockouts, then no extension of time for completion of the Contract will be given. Burden of proof in this case shall rest entirely with the Contractor.

If adverse weather conditions are cited as 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 and could not have been reasonably anticipated and that weather conditions had an adverse effect on the scheduled construction.

No claim for damages or any claim other than for extensions of time as herein provided shall be made or asserted against the Owner by reason of any delays caused by the reasons herein above mentioned.

Art. 87 - LIQUIDATED DAMAGES. (DELETED FROM THE CONTRACT DOCUMENTS)

Art. 88 - PREPARATION OF ESTIMATES FOR PERIODIC PAYMENTS.

Preliminary drafts of estimates for partial or periodic payment certificates for work done and materials and equipment delivered shall be delivered to the Resident Representative's office. After the preliminary drafts have been approved, final drafts of such estimates shall be prepared by the Contractor and delivered to the Resident Representative's office. Items of work listed on an estimate for partial payment shall be only those approved, and in the quantities so approved. Equipment, materials and installation prices shall conform to the unit prices bid, stipulated or delineated in the approved Breakdown Statement of lump sums bid and shall be considered only to the extent, indicated on daily work report sheets, as of the date on which the work was done or the equipment and materials delivered.

No such estimate or payment shall be required to be made when the total value of the work done since the last estimate amounts to less than Five Thousand Dollars (\$ 5,000.00).

Deviation from the above procedure by the Contractor will result in disapproval of the estimate. The work and materials included on such disapproved estimate shall not be submitted for consideration until the next estimate is submitted.

Generally speaking, unless otherwise noted elsewhere in the specifications, periodic payments will be made on a monthly (calendar month) basis.

Art. 89 - DAILY WORK REPORTS AND DELIVERY SLIPS.

Daily work reports shall be prepared by the Contractor on forms supplied by the Owner and shall be submitted to the Owner, properly prepared and signed on or before noon of the day following the day's work reported.

The Contractor shall furnish the Owner with copies of delivery slips covering all materials and equipment delivered to the site of the work which are to be included in any periodic estimate. All materials and equipment delivered to the site of the work, whether from a supplier's warehouse or from the Contractor's stock, shall be covered by such delivery slips. Delivery slips shall be submitted daily with the daily work report sheets.

Deviation from the above procedure by the Contractor as to daily work reports and delivery slips will result in disapproval of items of work. Such disapproved items shall not be included in any periodical estimate until properly reported on daily work reports and/or on approved delivery slips.

Art. 90 - EQUIPMENT AND MATERIALS INCLUDED IN PERIODIC ESTIMATES.

Allowances for payment to the extent listed herein, for equipment and materials specifically listed on the approved breakdown statement of lump sums bid, may be included in the next periodic payment certificate after the stages enumerated herein have been reached:

- |     |  |  |
|-----|--|--|
| (a) | Upon completion of delivery on the site, and acceptable to the Owner | 95 percent of the material price bid or shown in the approved breakdown statement of lump sums bid   |
| (b) | Upon completion of erection  | 100 percent of the approved lump sum breakdown price, or price bid, less cost of testing and startup |
| (c) | Upon successful completion   | 100 percent of the applicable approved lump sum breakdown price or price bid                         |

All payments noted above are subject to the retainages noted hereinafter.

All such materials included for payment in the periodical estimates shall be and become the property of the Owner and, on demand, the Contractor shall promptly execute, acknowledge and deliver or cause to be executed, acknowledged and delivered to the Owner for any and all such materials or

equipment included in any estimate, proper bills of sale or other instruments in writing in a form and as required by the Owner from the Contractor and from any person, firm or corporation manufacturing for, or selling or shipping or delivering to, the Contractor any such equipment or materials, conveying and assuring to the Owner title to such material included in such estimates free from all liens and encumbrances. The Contractor, at the Contractor's own expense, shall take such other steps, if any, as the Owner may require or regard necessary to vest title in the Owner to such materials free from all liens and encumbrances. Notwithstanding such transfer of title to the Owner, however, the Contractor shall be absolutely responsible to the Owner for any loss or damage to such equipment or materials unless the same shall have been completely installed and tested, and all work under the Contract completed and accepted and utilized by the Owner. The Contractor shall, at the Contractor's own expense, replace any equipment and materials lost or damaged.

Transfer of title to the Owner shall become effective upon the adoption of a resolution authorizing payment of the Periodic Payment Certificate in question. The Contractor shall deliver appropriate releases of all liens, including warehouseman's liens for past and all future claims against the Contractor and/or the property itself. The releases of the warehouseman's lien shall contain language in which the warehouseman expressly agrees that it waives the assertion of any warehouseman's lien for charges which may have arisen in the past or for any future charges for the continued storage of the material.

#### Art. 91 - PAYMENT.

Not later than forty five (45) calendar days after receipt of the approved Periodic Payment Certificate, the Owner will make partial payment to the Contractor on the basis of an approved estimate of the work performed during the preceding period by the Contractor, which estimate will include the allowances set forth here in above. All such payments shall be considered tentative only, subject to correction in the final payment certificate. These payments are to be made purely to aid the Contractor to meet current bills and for no other purpose.

The Owner will retain five (5%) percent of the amount of each such payment certificate, provided the Contractor is making satisfactory progress and there is no specific cause for greater withholding.

The Contractor shall pay:

- A) for all transportation and utility services not later than the twentieth day of the calendar month following that in which such services were rendered;
- B) for all materials, tools and expendable equipment and supplies to the extent of 95 percent of the cost thereof, not later than the twentieth day of the calendar month following that in which such materials, tools and equipment were delivered to the site of the Project, and the balance of the cost thereof not later than the thirtieth day following the completion of that part of the work in or on which such materials, tools and equipment were incorporated or used; and
- C) to each subcontractor, not later than the fifth day following each payment to the Contractor, the respective amounts allowed the Contractor on account of the work performed by subcontractors, to the extent of each such subcontractor's interest therein.

Failure by the Contractor to defray the charges listed in (A), (B) and (C) above shall constitute grounds for disapproval by the Owner of the current periodic payment.

#### Art. 92 - OWNER'S RIGHT TO WITHHOLD PAYMENTS AND MAKE APPLICATION THEREOF.

The Owner will withhold as much of any approved payments due the Contractor as may in the opinion of the Owner be necessary:

- A) To assure payment of just claims of any persons supplying services, labor, equipment or materials for the work then due and unpaid;

- B) To protect the Owner from loss due to defective work or incomplete work not remedied; or
- C) To protect the Owner from loss due to injury to persons or damage to the work or property of the public, the Owner, other contractors, subcontractors, owners of utilities, or others caused by the act or neglect of the Contractor or of any subcontractors.

Failure by the Contractor to defray the charges listed in (A), (B) and (C) above shall constitute grounds for disapproval by the Engineer of the current periodic payment.

The Contractor shall, at the request of the Owner, furnish satisfactory proof that all obligations of the nature hereinabove described have been paid, remedied, discharged, or waived. If the Contractor fails to do so, then the Owner may, after having served written notice, withhold from the Contractor's unpaid compensation a sum of money deemed reasonably sufficient to cover any and all such claims for which the Contractor has written notice until satisfactory evidence is furnished that all liabilities have been fully discharged, whereupon payment to the Contractor shall be resumed in accordance with the terms of this Contract.

In paying any unpaid bills or obligations of the Contractor, the Owner shall be deemed the agent of the Contractor, and any payment so made by the Owner shall be considered as a payment made under this Contract by the Owner to the Contractor, and the Owner shall not be liable to the Contractor for any such payments made in good faith.

If the moneys retained under this Contract are insufficient to pay the sums found by the Owner to be due under claims for labor, equipment and materials, the Owner may, at the Owner's discretion, pay such sums, and the Contractor or the Contractor's Surety shall repay to the Owner all sums so paid out.

#### Art. 93 - TESTS.

Prior to and as a requirement for receiving semi-final payment, the Contractor shall conduct all tests, including but not limited to, tests of leakage, watertightness, motors, valves, meters, gauges and other instruments, tests of all control and alarm systems, pumping equipment, machinery, electrical systems, heating, ventilating and air conditioning and process systems, and other tests as called for in the Contract Documents or directed. Testing procedures shall be submitted to and approved by the Owner prior to testing. Tests shall be performed in the presence of the Owner or the Owner's authorized representatives.

In the event that any tests fail to meet the requirements of the Contract Documents, the Contractor shall make alteration, repairs or replacements as required in order that all systems, equipment and appurtenances meet the requirements as specified or directed. The intent of the Contract is to provide a complete installation in accordance with the Contract Documents, in proper and efficient working order and ready for operation.

#### Art. 94 - CLEANING UP.

The Contractor shall expressly undertake at no cost to the Owner:

- A) daily: clean up all refuse, rubbish, debris and scrap and surplus materials caused by the Contractor's operations or workers to the end that at all times the site of the work shall present a neat, orderly appearance;
- B) before Substantial Completion: remove all surplus materials, false work, temporary structures including foundations thereof, plant of any description, and refuse, rubbish and debris of every nature resulting from operations or workers and put the site in a neat, orderly condition;
- C) before Substantial Completion: restore all areas which have been used for storage of materials and equipment, and all areas which have been disturbed by the Contractor's operations to their original condition, or to a condition satisfactory to and approved by the Owner. The Contractor shall seed or sod any grassed areas damaged by the Contractor's operations (except for delayed seeding as provided in the Contract), and

shall maintain such areas until the expiration of the warranty period. Any such areas fail to show a uniform stand of grass shall be reseeded or resodded until an acceptable stand of grass exists.

- D) Permanent pavement replacement is excluded from the above requirements when permanent pavement replacement is required to be performed after Substantial Completion.

#### Art. 95 - CERTIFICATE OF SUBSTANTIAL COMPLETION.

Upon "Substantial Completion" of all phase of the work of the Contract, including testing and startup required, but excluding the tentative list of items to be completed or corrected, "warranty", and permanent pavement replacement (if required), the Contractor shall submit the releases and documents noted below and then the Owner will file a "Certificate of Substantial Completion" with the Contractor certifying that essentially all work performed; materials and equipment were supplied in full accordance with the terms of the Contract Documents. Issuance of the Certificate of Substantial Completion by the Owner shall constitute "acceptance of the work" and be conditional upon the Owner's receipt of the following described documents:

The Contractor shall submit three (3) executed originals of AIA Document Form No. G704-2000, titled "Certificate of Substantial Completion" -- Noted as pages "SCR-1 and SCR-2".

The Contractor shall submit three (3) executed originals of AIA Document Form No. G706A-1994, titled "Contractor's Affidavit of Release of Liens" -- Noted as pages "SCR-3 and SCR-4".

The Contractor shall submit three (3) executed originals of AIA Document Form No. G706-1994, titled "Contractor's Affidavit of Payment of Debts and Claims" - Noted as pages "SCR-5 and SCR-6".

The Contractor shall submit three (3) executed originals of AIA Document Form No. G707-1994, titled "Consent of Surety to Final Payment" - Noted as pages "SCR-7 and SCR-8".

The Contractor shall submit three (3) executed originals of "Acknowledgment by Principal if a Corporation" -- Noted as page "SCR-9".

The Contractor shall submit three (3) executed originals of "Acknowledgment by Principal if a Partnership" -- Noted as page "SCR-10".

The contractor shall submit three (3) executed originals of "Acknowledgment by Principal if an Individual" - Noted as page "SCR-11".

The Contractor shall execute and deliver an affidavit indicating that he has paid his employees the minimum wage requirements under the terms of the Contract Documents.

If the Contractor wishes to reserve from the Releases specific claims against the Owner, such claims exempted from the Releases shall be specifically detailed and delineated with an assigned monetary value by the Contractor.

#### Art. 96 - LIENS.

If, at any time before or within 60 days after the whole work herein agreed to be performed and all the labor, equipment and materials herein agreed to be performed or delivered shall have been performed or delivered or completed or accepted by the Owner, any person or persons claiming to have performed any labor or furnished any equipment or materials or services toward the performance or completion of this Contract shall file with the Owner any such notice as is described in the appropriate Lien Law, the Owner shall retain until the discharge thereof, from the moneys under its control, so much of such moneys as shall be sufficient to satisfy and discharge the amount is such notice claimed to be due, together with the costs of any action or actions that may be brought to enforce such lien created by the filing of such notice.

If the moneys retained under this Contract are insufficient to pay the sums found by the Owner to be due under the claims for labor, equipment and materials, and services the Owner may, at the Owner's

discretion, pay such sums, and the Contractor or the Contractor's Surety shall repay to Owner all sums so paid out.

Art. 97 - SEMI-FINAL PAYMENT.

Upon Substantial Completion of all work and issuance of the "Certificate of Substantial Completion", the Owner will prepare and issue in conjunction with said certificate, a Periodic Payment Certificate, stating, from actual measurements or observation, the entire amount of work performed and compensation earned by the Contractor, including extra work and compensation therefore and less any amounts required to assure completion of any work on the tentative list of items to be completed or corrected or other work or any amount required in accordance with the terms of the Contract. The Owner reserves the right to disregard claims for compensation submitted by the Contractor after the date of the Certificate of Substantial Completion unless said claims are accepted on the Substantial Completion Release.

Within forty five (45) calendar days after the issuance of the Periodic Payment Certificate, the Owner will pay to the Contractor the amount therein stated, less the retainages noted in Art. 92 and all prior payments and advances whatsoever to the account of the Contractor and amounts necessary to assure completion of all outstanding work on the tentative list of items to be completed or corrected. All prior payments will be subject to correction by this payment, which throughout this Contract is called the semi-final payment. In any event, the semi-final payment will not be released to the Contractor until all outstanding claims against the Contractor shall have been satisfied

Art. 98 - ACCEPTANCE OF FINAL PAYMENT CONSTITUTES RELEASE.

The acceptance by the Contractor of the final payment shall be and shall operate as a release for all things done or furnished in connection with this work and for every act of the Owner and others relating to or arising out of this work. No payment, however, final or otherwise, shall operate to release the Contractor or the Contractor's Sureties from any obligations under this Contract during the Warranty Period.

As noted in Art. 95 the Contractor shall submit the Release as therein described prior to the final payment.

Art. 99 - WARRANTY.

Contractor warrants and guarantees to Owner and Engineer that all work will be in accordance with the Contract Documents and will not be defective work. Prompt notice of all defects shall be given to Contractor. All defective work, whether or not in place, may be rejected or accepted by the Owner; if accepted, the work shall be corrected by the Contractor to conform with provisions in the Contract Documents relating to the work.

During a warranty period of one year subsequent to the date of Substantial Completion, except as provided below, the Contractor agrees to replace equipment and materials furnished under this Contract which do not conform to the Contract requirements, and to repair any defects in the equipment and materials, or to make any changes required to correct defective work without cost to the Owner, to the satisfaction of the Owner, and in conformity with the Contract Documents, provided that orders for such replacements, repairs or changes are received by the Contractor in writing within the one-year period.

If a Substantial Completion certificate has been issued for partial utilization of part of the Work, then the warranty period shall be for one year subsequent to the date of Substantial Completion for that part of the Work. The Contractor is not obligated thereby to do any work of replacement or repair after the date when the Owner puts to use that part of the equipment requiring replacements or repairs, if the Contractor proves to the satisfaction of the Owner that the need for replacement or repair resulted solely from abuse of the equipment by parties other than the Contractor.

If the Owner shall deem it necessary and shall so order, replacements, changes or repairs shall be undertaken within forty eight (48) hours after service of notice. If the Contractor unnecessarily delays or fails to make the ordered replacements, changes or repairs within the time specified, or if any replacements, change or repairs are of such nature as not to permit the delay incident to the service of a notice, then the Owner shall have the right to make such replacements, changes or repairs and the

expense thereof shall be paid by the Contractor or deducted from any moneys due the Contractor, or from any moneys of the Contractor retained by the Owner.

The Contractor shall note that the Performance Bond shall remain in full force and effect for a period of one year after acceptance of the Work by the Owner.

The Contractor shall keep the work in good and serviceable condition during the warranty period.

It is understood and agreed that the liability of the Contractor on Warranty is for the entire cost of any repairs or replacements required by enforcing the warranty.

If the Owner puts to the use any work previous to the acceptance of all Work under the Contract, the warranty period for such work shall be calculated from the time when such use begins.

If any work shall fail and is repaired or replaced under the warranty procedure, then the same warranty on that work repaired or replaced shall extend for one year from the date of repair or replacement.

#### Art. 100 - MANUFACTURER'S EQUIPMENT CERTIFICATION.

For all significant items of equipment and those items requested by the Owner, the Contractor shall supply to the Owner a certificate from each manufacturer of equipment, certifying that the equipment as installed and tested meets all requirements of the Contract Documents, that it is fully suitable and will function properly for the use intended and within the system called for by the Contract Documents, and that guarantee or warranty required by the Contract Documents will be in full force and effect.

When the specifications call for "supervision, installation, adjustment, start-up," and words of similar intent, by the manufacturer's factory employed technicians," the Contractor shall provide a certificate co-signed by the manufacturer as to compliance with the stipulated requirements.

The Contractor is hereby put on notice that final acceptance of any equipment will be withheld, appropriate amounts of money will be retained by the Owner, and the warranty period will not commence until such certifications are supplied.

#### Art. 101 - FINAL CERTIFICATE AND FINAL PAYMENT.

One (1) year after the acceptance of the work by the Owner, the Owner will issue a "final certificate" certifying that all phases of work has been performed and materials and equipment supplied in full accordance with the terms of the Contract, and stating therein the amount retained, as provided under Art. 97. Upon issuance of the final certificate, the Owner will pay to the Contractor the amount therein stated, less any amounts deemed by the Owner to be sufficient to cover possible subsequent repair and replacement of equipment that failed during the warranty period and amounts to compensate the Owner for any minor "unfinished" work.

Final payment, however, will not be released to the Contractor until:

1. The Contractor shall submit three (3) executed original final completion release ----- noted on pages FCR-1, FCR-2, FCR-3, FCR-4, and FCR-5.
2. The Contractor shall submit three (3) executed originals of AIA Document Form No. G706A-1994 titled "Contractor's Affidavit of Release of Liens" noted as pages FCR-6 and FCR-7
3. The Contractor furnishes the Owner the Certifications noted under Art.100.
4. The Contractor secures releases from highway officials and private property owners, as applicable, that they are fully satisfied with their property restoration.
5. The Contractor shall execute and deliver an affidavit indicating that he has paid his employees the minimum wage requirements under the terms of the Contract Documents.



6. The Contractor shall submit three (3) executed originals of AIA` Document Form No. G706-1994 titled "Contractor's Affidavit of Payment of Debts and Claims" noted as pages FCR-8 and FCR-9.

Art. 102 - NO WAIVER OF CONTRACT.

Neither an extension of time for any reason or parts thereof or parts thereof beyond the times fixed herein for the completion of the Contract, nor the delivery and acceptance of any equipment, materials, nor any payment for, nor acceptance of, the whole or any part of the work of the Owner, nor any possession taken by the Owner or its employees or agents shall be deemed to be a waiver by the Owner of the right to abrogate this Contract for abandonment or delay or nonperformance in the manner herein provided, nor shall it operate to void or annul any of the terms of this Contract.

Art. 103 - NO ESTOPPEL.

Neither the Owner nor any of the Owner's officers shall be precluded or estopped by any certificate made or given by the Owner, the Engineer, or other officer, agent or appointee of the Owner under provision of this Contract, from at any time (before the completion and acceptance of the work and payment therefore, or before the end of the warranty period) showing the true and correct amount and character of the work done and equipment and materials furnished by the Contractor or any other person under this Contract, or that any such certificate is incorrect or improperly made in any particular, or that the work, equipment and materials, or any part thereof, do not in fact conform to the Contract Documents, and the Owner shall not be precluded or estopped, notwithstanding any such certificate and payment in accordance therewith, from demanding and recovering from the Contractor such damages as it may sustain by reason of the Contractor's failure to comply with the Contract Documents.

Art. 104 - PAVEMENT MAINTENANCE BOND.

The Contractor shall deliver to the Owner, prior to pavement restoration, an approved pavement maintenance bond running for a period of two (2) years subsequent to the date of acceptance of the work by the Owner, or the owners of public traffic ways, with the provision that at any time during this two(2) year period, the Contractor, when directed by the Owner, shall immediately make repairs to the traffic ways and roadway pavements disturbed or installed under the Contract.

The pavement maintenance bond shall be in the amounts noted for paved public traffic ways or roadways installed or repaved under the Contract.

"A pavement maintenance bond shall be provided in the amount of ten (\$10.00) per square foot of bituminous concrete top course installed as part of this Contract".

Art. 105 - INTEREST OF MEMBER OF, OR DELEGATE TO, CONGRESS.

No member of, or delegate to, Congress shall be admitted to any share or part of this Contract or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this Contract if made with a corporation for its general benefit.

Art. 106 - OTHER PROHIBITED INTERESTS.

No official of the Owner who is authorized in such capacity and on behalf of the Owner to negotiate, make, accept or approve, or to take part in negotiating, making, accepting, or approving any architectural, engineering, inspection, construction or material or material supply contract or any subcontract in connection with the construction of the Project shall become directly or indirectly interested personally in this Contract or in any part hereof. No officer, employee, architect, attorney, engineer or inspector of, or for, the Owner who is authorized in such capacity and on behalf of the Owner to exercise any legislative, executive, supervisory or other similar functions in connection with the construction of the Project shall become directly or indirectly interested personally in this Contract or in any part hereof, any material supply contract, subcontract, insurance contract, or any other contract pertaining to the Project.

Art. 107 - ARBITRATION.

Notwithstanding the provisions of any standard specifications herein referred to, disputes arising under the within Contract Documents shall not be subject to arbitration except as noted in Article 78, Section F, or upon mutual consent of the parties, and as otherwise noted.

Art. 108 - DISPUTES.

The Agreement shall be governed by and constructed in accordance with the laws of the State of New York without giving effect to that State's choice of law rules. The Parties hereby submit to the exclusive jurisdiction of the Supreme Court of the State of New York, County of Westchester, in any action or proceeding arising out of or relating to this Agreement. Any proceeding against the Town will be tried without a jury.





**CONTRACT MODIFICATION PROPOSAL AND ACCEPTANCE (PAGE 3)**

14. ISSUING OFFICE & PROJECT NO.

15. CONTRACT NO.

16. MODIFICATION NO.

A-315

CO # \_\_\_\_\_

17. CONTRACTORS ORIGINAL CONTRACT BID PRICE = \$ \_\_\_\_\_  
TOTAL OF ALL PREVIOUS CHANGE ORDERS = \$ \_\_\_\_\_  
THIS CHANGE ORDER = \$ \_\_\_\_\_  
TOTAL CHANGE ORDERS TO DATE = \$ \_\_\_\_\_

18. NECESSITY FOR CHANGE AND REASON FOR OMISSION FROM PLANS AND SPECIFICATIONS

19. OTHER IMPACTS RESULTANT OF THIS CHANGE

20. RESUME OF NEGOTIATIONS OR RECOMMENDATIONS (Issuing Office Representative)

DATE:

TYPED NAME AND TITLE OF ISSUING  
OFFICE'S REPRESENTATIVE

SIGNATURE

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## Use of the Change Order Form entitled “Contract Modification Proposal and Acceptance”

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- When the Loanee wishes to issue a change to the contract, the attached “Contract Modification Proposal and Acceptance” form should be used as a request for proposal. Upon final settlement of the change, this same form is then completed and serves as the contract modification.
- The Loanee in requesting a proposal for a change would execute items 1 thru 8 (exclusive of the revised contract price and duration data) and 9 thru 12. Pages 1 and 2 of this form are then forwarded to the contractor, specifying scope of work and requesting the contractor’s proposal.
- The contractor should execute page 2 of the form. He then submits pages 1 and 2 of the form as his proposal, attaching additional sheets as necessary to provide his detailed breakdown of costs.
- Upon negotiation of a final settlement, the Loanee completes page 1 of the form, and all concerned parties authorized contractor representative, engineer ( P.E.), owner (authorized individual\*) sign this document as the contract modification. Note governing body approval process for change orders shall be in accordance with NJAC 5:30-11.5 and evidence of that procedure shall be provided with the change order.
- Page 3 of the form is executed by the Loanee for documentation of the change, and to provide the necessary details for review by the Regulatory Agencies.
- Submit a minimum of two original copies with raised engineer’s seal. It is suggested that one original be kept for your records.
- \*must be authorized to sign with supporting resolution

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## Detailed Instructions for Executing “Contract Modification Proposal and Acceptance” Form

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Item 1. Enter the name of the Loanee.

Item 2. Enter State Project number.

Item 3. Enter the contract number or designation.

Item 4. Enter the number identifying this modification.

Item 5. Enter the name of the Contractor.

Item 6. Enter the project title and location.

Item 7. Requests a proposal for the specified change order work, but does not direct contractor to proceed. The owner or his authorized representative must execute this statement by signature with date and title blocks entered.

Item 8. Provide a clear description of the scope of work for this change. Upon final settlement of the modification costs, enter cost data by line item for unit priced items or by sum; and state total cost of this modification – net increase, decrease or no change in contract price. Enter appropriate information for any change in contract time, including number of calendar days involved. The modification is executed when all appropriate signatures are included.

Items 9 – 12. Same as items 1 – 4.

Item 13. Executed by the contractor, stating net effect of change in appropriate box for money and time. A detailed breakdown must be provided in this item; and appropriate signature of authorized representative of contractor included.

Item 14. Enter the Loanee’s name and State Project number.

Item 15. Enter the contract number or designation.

Item 16. Enter number identifying this modification.

Item 17. Enter appropriate financial data. Include a detailed engineer’s estimate of the work to be performed. This estimate will serve as the basis for determining the compensation to be paid by the owner (loanee) to the contractor.

Item 18 Explain and justify the necessity for the change order. Clearly designate the category the change falls under, i.e., changed condition, errors/omissions in plans and specs, design change, etc.

CCS-002A

Item 19. Explain all other impacts resulting from this change with estimate of costs involved. This should include impact on other contractors and the Consulting Engineers.

Item 20. Document that negotiations were held as required by the regulations and explain the events leading to the final settlement in price and time. This statement should include, at a minimum, date and location of negotiations, persons attending, summary of negotiations leading to final price and time settlements, and a statement that the agreed-to price is "fair and reasonable". Engineer's independent estimate should be prepared at the time of change order directive and provided with the submitted change order. This estimate along with other factors will be used to determine the reasonableness of the change order costs.





# **STATE WAGE RATES**



New York State Department of Labor

Prevailing Wage

Unemployment Benefits

Career Services

Business Services

Worker Protection

Forms and Publications

Home

Wage Schedule · Submit Notice Of Award · Submit Notice Of Project Completion

PRC#: 2017000550

Type of Contracting Agency: Town

Acceptance Status: Accepted Article 8

<p><b>Contracting Agency</b></p> <p>Town of Yorktown, New York                  Michael Quinn                  Town Engineer, P.E.                  Town Hall                  383 Underhill Avenue                  Yorktown Heights NY 10598                  (914) 962-5722 Ext: 220                  (914) 962-6591 Fax                  engineering@yorktownny.org</p>	<p><b>Send Reply To</b></p> <p>Steven Trinidad                  Office Engineer                  Charles A Mangano Consulting                  Consulting Engineers, P.C.                  7 West Cross Street                  Hawthorne NJ 10532                  (914) 769-3400                  (914) 769-1976 Fax                  strinidad@camengineers.com</p>
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**Project Information**

<b>Project Title</b>	Mohegan Ave. Retaining Wall
<b>Description of Work</b>	Cleaning & grubbing and removal of the existing metal guide rail system/tree & stump removal and modifications to the existing bid wall. Installation of a new precast modular block retaining walls/dumped riprap/metal guide rail/pavement restoration/traffic control/etc.
<b>Contract Id No.</b>	Not Available
<b>Project Location(s)</b>	Mohegan Avenue
<b>Route No / Street Address</b>	3460 Mohegan Avenue
<b>Village / City</b>	Yorktown Heights
<b>Town</b>	Westchester County
<b>State / Zip</b>	NY 10547
<b>Nature of Project</b>	Other New Construction (Explain)
<b>Approximate Bid Date</b>	04/01/2017
<b>Checked Occupation(s)</b>	Construction (Building, Heavy & Highway, Sewer, Water, Tunnel)

**Applicable Counties**

Westchester



Andrew M. Cuomo, Governor

Roberta Reardon, Commissioner

Town of Yorktown, New York

Steven Trinidad, Office Engineer  
Charles A Manganaro Consulting  
Consulting Engineers, P.C.  
7 West Cross Street  
Hawthorne NJ 10532

Schedule Year 2018 through 2019  
Date Requested 01/18/2017  
PRC# 2017000550

Location Mohegan Avenue  
Project ID# Not Available  
Project Type Cleaning & grubbing and removal of the existing metal guide rail system/tree & stump removal and modifications to the existing bid wall. Installation of a new precast modular block retaining walls/

**PREVAILING WAGE SCHEDULE FOR ARTICLE 8 PUBLIC WORK PROJECT**

Attached is the current schedule(s) of the prevailing wage rates and prevailing hourly supplements for the project referenced above. A unique Prevailing Wage Case Number (PRC#) has been assigned to the schedule(s) for your project.

The schedule is effective from July 2018 through June 2019. All updates, corrections, posted on the 1st business day of each month, and future copies of the annual determination are available on the Department's website [www.labor.state.ny.us](http://www.labor.state.ny.us). Updated PDF copies of your schedule can be accessed by entering your assigned PRC# at the proper location on the website.

It is the responsibility of the contracting agency or its agent to annex and make part, the attached schedule, to the specifications for this project, when it is advertised for bids and /or to forward said schedules to the successful bidder(s), immediately upon receipt, in order to insure the proper payment of wages.

Please refer to the "General Provisions of Laws Covering Workers on Public Work Contracts" provided with this schedule, for the specific details relating to other responsibilities of the Department of Jurisdiction.

Upon completion or cancellation of this project, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

**NOTICE OF COMPLETION / CANCELLATION OF PROJECT**

Date Completed: \_\_\_\_\_ Date Cancelled: \_\_\_\_\_

Name & Title of Representative: \_\_\_\_\_

Phone: (518) 457-5589 Fax: (518) 485-1870  
W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12240



## **General Provisions of Laws Covering Workers on Article 8 Public Work Contracts**

### **Introduction**

The Labor Law requires public work contractors and subcontractors to pay laborers, workers, or mechanics employed in the performance of a public work contract not less than the prevailing rate of wage and supplements (fringe benefits) in the locality where the work is performed.

### **Responsibilities of the Department of Jurisdiction**

A Department of Jurisdiction (Contracting Agency) includes a state department, agency, board or commission; a county, city, town or village; a school district, board of education or board of cooperative educational services; a sewer, water, fire, improvement and other district corporation; a public benefit corporation; and a public authority awarding a public work contract.

The Department of Jurisdiction (Contracting Agency) awarding a public work contract MUST obtain a Prevailing Rate Schedule listing the hourly rates of wages and supplements due the workers to be employed on a public work project. This schedule may be obtained by completing and forwarding a "Request for wage and Supplement Information" form (PW 39) to the Bureau of Public Work. The Prevailing Rate Schedule MUST be included in the specifications for the contract to be awarded and is deemed part of the public work contract.

Upon the awarding of the contract, the law requires that the Department of Jurisdiction (Contracting Agency) furnish the following information to the Bureau: the name and address of the contractor, the date the contract was let and the approximate dollar value of the contract. To facilitate compliance with this provision of the Labor Law, a copy of the Department's "Notice of Contract Award" form (PW 16) is provided with the original Prevailing Rate Schedule.

The Department of Jurisdiction (Contracting Agency) is required to notify the Bureau of the completion or cancellation of any public work project. The Department's PW 200 form is provided for that purpose.

Both the PW 16 and PW 200 forms are available for completion online.

### **Hours**

No laborer, worker, or mechanic in the employ of a contractor or subcontractor engaged in the performance of any public work project shall be permitted to work more than eight hours in any day or more than five days in any week, except in cases of extraordinary emergency. The contractor and the Department of Jurisdiction (Contracting Agency) may apply to the Bureau of Public Work for a dispensation permitting workers to work additional hours or days per week on a particular public work project. There are very few exceptions to this rule. Complete information regarding these exceptions is available on the "4 Day / 10 Hour Work Schedule" form (PW 30.1).

### **Wages and Supplements**

The wages and supplements to be paid and/or provided to laborers, workers, and mechanics employed on a public work project shall be not less than those listed in the current Prevailing Rate Schedule for the locality where the work is performed. If a prime contractor on a public work project has not been provided with a Prevailing Rate Schedule, the contractor must notify the Department of Jurisdiction (Contracting Agency) who in turn must request an original Prevailing Rate Schedule form from the Bureau of Public Work. Requests may be submitted by: mail to NYSDOL, Bureau of Public Work, State Office Bldg. Campus, Bldg. 12, Rm. 130, Albany, NY 12240; Fax to Bureau of Public Work (518) 485-1870; or electronically at the NYSDOL website [www.labor.ny.gov](http://www.labor.ny.gov).

Upon receiving the original schedule, the Department of Jurisdiction (Contracting Agency) is REQUIRED to provide complete copies to all prime contractors who in turn MUST, by law, provide copies of all applicable county schedules to each subcontractor and obtain from each subcontractor, an affidavit certifying such schedules were received. If the original schedule expired, the contractor may obtain a copy of the new annual determination from the NYSDOL website [www.labor.ny.gov](http://www.labor.ny.gov).

The Commissioner of Labor makes an annual determination of the prevailing rates. This determination is in effect from July 1st through June 30th of the following year. The annual determination is available on the NYSDOL website [www.labor.ny.gov](http://www.labor.ny.gov).

### **Payrolls and Payroll Records**

Contractors and subcontractors are required to establish, maintain, and preserve for not less than six (6) years, contemporaneous, true, and accurate payroll records. Payrolls must show the following information for each person employed on a public work project: Name, Address, Last 4 Digits of Social Security Number, Classification(s) in which the worker was employed, Hourly wage rate(s) paid, Supplements paid or provided, and Daily and weekly number of hours worked in each classification.

The filing of payrolls to the Department of Jurisdiction is a condition of payment. Every contractor and subcontractor shall submit to the Department of Jurisdiction (Contracting Agency), within thirty (30) days after issuance of its first payroll and every thirty (30) days thereafter, a transcript of the original payrolls, subscribed and affirmed as true under penalty of perjury. The original payrolls or transcripts must be maintained for a period of at least (5) years, by the Department of Jurisdiction (Contracting Agency), from the project's date of completion. The Department of Jurisdiction (Contracting Agency) shall collect, review for facial validity, and maintain such payrolls.

In addition, the Commissioner of Labor may require contractors to furnish, with ten (10) days of a request, payroll records sworn to as their validity and accuracy for public work and private work. Payroll records include, but are not limited to time cards, work description sheets, proof that supplements were provided, cancelled payroll checks and payrolls. Failure to provide the requested information within the allotted ten (10) days will result in the withholding of up to 25% of the contract, not to exceed \$100,000.00. If the contractor or subcontractor does not maintain a place of business in New York State and the amount of the contract exceeds \$25,000.00, payroll records and certifications must be kept on the project worksite.

The prime contractor is responsible for any underpayments of prevailing wages or supplements by any subcontractor.

All contractors or their subcontractors shall provide to their subcontractors a copy of the Prevailing Rate Schedule specified in the public work contract as well as any subsequently issued schedules. A failure to provide these schedules by a contractor or subcontractor is a violation of Article 8, Section 220-a of the Labor Law.

All subcontractors engaged by a public work project contractor or its subcontractor, upon receipt of the original schedule and any subsequently issued schedules, shall provide to such contractor a verified statement attesting that the subcontractor has received the Prevailing Rate Schedule and will pay or provide the applicable rates of wages and supplements specified therein. (See NYS Labor Laws, Article 8 . Section 220-a).

### **Determination of Prevailing Wage and Supplement Rate Updates Applicable to All Counties**

The wages and supplements contained in the annual determination become effective July 1st whether or not the new determination has been received by a given contractor. Care should be taken to review the rates for obvious errors. Any corrections should be brought to the Department's attention immediately. It is the responsibility of the public work contractor to use the proper rates. If there is a question on the proper classification to be used, please call the district office located nearest the project. Any errors in the annual determination will be corrected and posted to the NYS DOL website on the first business day of each month. Contractors are responsible for paying these updated rates as well, retroactive to July 1st.

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. To the extent possible, the Department posts rates in its possession that cover periods of time beyond the July 1st to June 30th time frame covered by a particular annual determination. Rates that extend beyond that instant time period are informational ONLY and may be updated in future annual determinations that actually cover the then appropriate July 1st to June 30th time period.

### **Withholding of Payments**

When a complaint is filed with the Commissioner of Labor alleging the failure of a contractor or subcontractor to pay or provide the prevailing wages or supplements, or when the Commissioner of Labor believes that unpaid wages or supplements may be due, payments on the public work contract shall be withheld from the prime contractor in a sufficient amount to satisfy the alleged unpaid wages and supplements, including interest and civil penalty, pending a final determination.

When the Bureau of Public Work finds that a contractor or subcontractor on a public work project failed to pay or provide the requisite prevailing wages or supplements, the Bureau is authorized by Sections 220-b and 235.2 of the Labor Law to so notify the financial officer of the Department of Jurisdiction (Contracting Agency) that awarded the public work contract. Such officer MUST then withhold or cause to be withheld from any payment due the prime contractor on account of such contract the amount indicated by the Bureau as sufficient to satisfy the unpaid wages and supplements, including interest and any civil penalty that may be assessed by the Commissioner of Labor. The withholding continues until there is a final determination of the underpayment by the Commissioner of Labor or by the court in the event a legal proceeding is instituted for review of the determination of the Commissioner of Labor.

The Department of Jurisdiction (Contracting Agency) shall comply with this order of the Commissioner of Labor or of the court with respect to the release of the funds so withheld.

### **Summary of Notice Posting Requirements**

The current Prevailing Rate Schedule must be posted in a prominent and accessible place on the site of the public work project. The prevailing wage schedule must be encased in, or constructed of, materials capable of withstanding adverse weather conditions and be titled "PREVAILING RATE OF WAGES" in letters no smaller than two (2) inches by two (2) inches.

The "Public Work Project" notice must be posted at the beginning of the performance of every public work contract, on each job site.

Every employer providing workers. compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers. Compensation Board in a conspicuous place on the jobsite.

Every employer subject to the NYS Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers, notices furnished by the State Division of Human Rights.

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the NYS Department of Labor.

## **Apprentices**

Employees cannot be paid apprentice rates unless they are individually registered in a program registered with the NYS Commissioner of Labor. The allowable ratio of apprentices to journeymen in any craft classification can be no greater than the statewide building trade ratios promulgated by the Department of Labor and included with the Prevailing Rate Schedule. An employee listed on a payroll as an apprentice who is not registered as above, must be paid the prevailing journeyworker's wage rate for the classification of work the employee is actually performing.

NYSDOL Labor Law, Article 8, Section 220-3, require that only apprentices individually registered with the NYS Department of Labor may be paid apprenticeship rates on a public work project. No other Federal or State Agency of office registers apprentices in New York State.

Persons wishing to verify the apprentice registration of any person must do so in writing by mail, to the NYSDOL Office of Employability Development / Apprenticeship Training, State Office Bldg. Campus, Bldg. 12, Albany, NY 12240 or by Fax to NYSDOL Apprenticeship Training (518) 457-7154. All requests for verification must include the name and social security number of the person for whom the information is requested.

The only conclusive proof of individual apprentice registration is written verification from the NYSDOL Apprenticeship Training Albany Central office. Neither Federal nor State Apprenticeship Training offices outside of Albany can provide conclusive registration information.

It should be noted that the existence of a registered apprenticeship program is not conclusive proof that any person is registered in that program. Furthermore, the existence or possession of wallet cards, identification cards, or copies of state forms is not conclusive proof of the registration of any person as an apprentice.

## **Interest and Penalties**

In the event that an underpayment of wages and/or supplements is found:

- Interest shall be assessed at the rate then in effect as prescribed by the Superintendent of Banks pursuant to section 14-a of the Banking Law, per annum from the date of underpayment to the date restitution is made.
- A Civil Penalty may also be assessed, not to exceed 25% of the total of wages, supplements, and interest due.

## **Debarment**

Any contractor or subcontractor and/or its successor shall be ineligible to submit a bid on or be awarded any public work contract or subcontract with any state, municipal corporation or public body for a period of five (5) years when:

- Two (2) willful determinations have been rendered against that contractor or subcontractor and/or its successor within any consecutive six (6) year period.
- There is any willful determination that involves the falsification of payroll records or the kickback of wages or supplements.

## **Criminal Sanctions**

Willful violations of the Prevailing Wage Law (Article 8 of the Labor Law) may be a felony punishable by fine or imprisonment of up to 15 years, or both.

## **Discrimination**

No employee or applicant for employment may be discriminated against on account of age, race, creed, color, national origin, sex, disability or marital status.

No contractor, subcontractor nor any person acting on its behalf, shall by reason of race, creed, color, disability, sex or national origin discriminate against any citizen of the State of New York who is qualified and available to perform the work to which the employment relates (NYS Labor Law, Article 8, Section 220-e(a)).

No contractor, subcontractor, nor any person acting on its behalf, shall in any manner, discriminate against or intimidate any employee on account of race, creed, color, disability, sex, or national origin (NYS Labor Law, Article 8, Section 220-e(b)).



The Human Rights Law also prohibits discrimination in employment because of age, marital status, or religion.

There may be deducted from the amount payable to the contractor under the contract a penalty of \$50.00 for each calendar day during which such person was discriminated against or intimidated in violation of the provision of the contract (NYS Labor Law, Article 8, Section 220-e(c) ).

The contract may be cancelled or terminated by the State or municipality. All monies due or to become due thereunder may be forfeited for a second or any subsequent violation of the terms or conditions of the anti-discrimination sections of the contract (NYS Labor Law, Article 8, Section 220-e(d) ).

Every employer subject to the New York State Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers notices furnished by the State Division of Human Rights.

### **Workers' Compensation**

In accordance with Section 142 of the State Finance Law, the contractor shall maintain coverage during the life of the contract for the benefit of such employees as required by the provisions of the New York State Workers' Compensation Law.

A contractor who is awarded a public work contract must provide proof of workers' compensation coverage prior to being allowed to begin work.

The insurance policy must be issued by a company authorized to provide workers' compensation coverage in New York State. Proof of coverage must be on form C-105.2 (Certificate of Workers' Compensation Insurance) and must name this agency as a certificate holder.

If New York State coverage is added to an existing out-of-state policy, it can only be added to a policy from a company authorized to write workers' compensation coverage in this state. The coverage must be listed under item 3A of the information page.

The contractor must maintain proof that subcontractors doing work covered under this contract secured and maintained a workers' compensation policy for all employees working in New York State.

Every employer providing worker's compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers' Compensation Board in a conspicuous place on the jobsite.

### **Unemployment Insurance**

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the New York State Department of Labor.



Andrew M. Cuomo, Governor

Roberta Reardon, Commissioner

Town of Yorktown, New York  
Steven Trinidad, Office Engineer  
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Consulting Engineers, P.C.  
7 West Cross Street  
Hawthorne NJ 10532

Schedule Year 2018 through 2019  
Date Requested 01/18/2017  
PRC# 2017000550

Location Mohegan Avenue  
Project ID# Not Available  
Project Type Cleaning & grubbing and removal of the existing metal guide rail system/tree & stump removal and modifications to the existing bid wall. Installation of a new precast modular block retaining walls/

### Notice of Contract Award

New York State Labor Law, Article 8, Section 220.3a requires that certain information regarding the awarding of public work contracts, be furnished to the Commissioner of Labor. One "Notice of Contract Award" (PW 16, which may be photocopied), **MUST** be completed for **EACH** prime contractor on the above referenced project.

Upon notifying the successful bidder(s) of this contract, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

### Contractor Information

All information must be supplied

Federal Employer Identification Number: _____		
Name: _____		
Address: _____ _____		
City: _____	State: _____	Zip: _____
Amount of Contract: \$ _____	Contract Type:	
Approximate Starting Date: ____/____/____	<input type="checkbox"/> (01) General Construction	
Approximate Completion Date: ____/____/____	<input type="checkbox"/> (02) Heating/Ventilation	
	<input type="checkbox"/> (03) Electrical	
	<input type="checkbox"/> (04) Plumbing	
	<input type="checkbox"/> (05) Other : _____	

Phone: (518) 457-5589 Fax: (518) 485-1870  
W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12240



# IMPORTANT NOTICE

FOR

## CONTRACTORS & CONTRACTING AGENCIES

### Social Security Numbers on Certified Payrolls

The Department of Labor is cognizant of the concerns of the potential for misuse or inadvertent disclosure of social security numbers. Identity theft is a growing problem and we are sympathetic to contractors' concerns with regard to inclusion of this information on payrolls if another identifier will suffice.

For these reasons, *the substitution of the use of the last four digits of the social security number on certified payrolls submitted to contracting agencies on public work projects is now acceptable to the Department of Labor.*

**NOTE:** This change does not affect the Department's ability to request and receive the entire social security number from employers during the course of its public work / prevailing wage investigations.

**To all State Departments, Agency Heads and Public Benefit Corporations  
IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND**

## **Budget Policy & Reporting Manual**

# **B-610**

### **Public Work Enforcement Fund**

*effective date December 7, 2005*

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#### **1. Purpose and Scope:**

This Item describes the Public Work Enforcement Fund (the Fund, PWEF) and its relevance to State agencies and public benefit corporations engaged in construction or reconstruction contracts, maintenance and repair, and announces the recently-enacted increase to the percentage of the dollar value of such contracts that must be deposited into the Fund. This item also describes the roles of the following entities with respect to the Fund:

- New York State Department of Labor (DOL),
- The Office of the State of Comptroller (OSC), and
- State agencies and public benefit corporations.

#### **2. Background and Statutory References:**

DOL uses the Fund to enforce the State's Labor Law as it relates to contracts for construction or reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law. State agencies and public benefit corporations participating in such contracts are required to make payments to the Fund.

Chapter 511 of the Laws of 1995 (as amended by Chapter 513 of the Laws of 1997, Chapter 655 of the Laws of 1999, Chapter 376 of the Laws of 2003 and Chapter 407 of the Laws of 2005) established the Fund.

#### **3. Procedures and Agency Responsibilities:**

The Fund is supported by transfers and deposits based on the value of contracts for construction and reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law, into which all State agencies and public benefit corporations enter.

Chapter 407 of the Laws of 2005 increased the amount required to be provided to this fund to .10 of one-percent of the total cost of each such contract, to be calculated at the time agencies or public benefit corporations enter into a new contract or if a contract is amended. The provisions of this bill became effective August 2, 2005.

**To all State Departments, Agency Heads and Public Benefit Corporations  
IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND**

OSC will report to DOL on all construction-related ("D") contracts approved during the month, including contract amendments, and then DOL will bill agencies the appropriate assessment monthly. An agency may then make a determination if any of the billed contracts are exempt and so note on the bill submitted back to DOL. For any instance where an agency is unsure if a contract is or is not exempt, they can call the Bureau of Public Work at the number noted below for a determination. Payment by check or journal voucher is due to DOL within thirty days from the date of the billing. DOL will verify the amounts and forward them to OSC for processing.

For those contracts which are not approved or administered by the Comptroller, monthly reports and payments for deposit into the Public Work Enforcement Fund must be provided to the Administrative Finance Bureau at the DOL within 30 days of the end of each month or on a payment schedule mutually agreed upon with DOL.

Reports should contain the following information:

- Name and billing address of State agency or public benefit corporation;
- State agency or public benefit corporation contact and phone number;
- Name and address of contractor receiving the award;
- Contract number and effective dates;
- Contract amount and PWEF assessment charge (if contract amount has been amended, reflect increase or decrease to original contract and the adjustment in the PWEF charge); and
- Brief description of the work to be performed under each contract.

Checks and Journal Vouchers, payable to the "New York State Department of Labor" should be sent to:

Department of Labor  
Administrative Finance Bureau-PWEF Unit  
Building 12, Room 464  
State Office Campus  
Albany, NY 12240

Any questions regarding billing should be directed to NYSDOL's Administrative Finance Bureau-PWEF Unit at (518) 457-3624 and any questions regarding Public Work Contracts should be directed to the Bureau of Public Work at (518) 457-5589.

# **Construction Industry Fair Play Act**

## **Required Posting For Labor Law Article 25-B § 861-d**

Construction industry employers must post the "Construction Industry Fair Play Act" notice in a prominent and accessible place on the job site.

Failure to post the notice can result in penalties of up to \$1,500 for a first offense and up to \$5,000 for a second offense.

The posting is included as part of this wage schedule. Additional copies may be obtained from the NYS DOL website, [www.labor.ny.gov](http://www.labor.ny.gov).

If you have any questions concerning the Fair Play Act, please call the State Labor Department toll-free at 1-866-435-1499 or email us at: [dol.misclassified@labor.state.ny.us](mailto:dol.misclassified@labor.state.ny.us) .



New York State Department of Labor  
Required Notice under Article 25-B of the Labor Law

**ATTENTION ALL EMPLOYEES, CONTRACTORS AND SUBCONTRACTORS:  
YOU ARE COVERED BY THE  
CONSTRUCTION INDUSTRY FAIR PLAY ACT**

The law says that you are an employee unless:

- You are free from direction and control in performing your job AND
- You perform work that is not part of the usual work done by the business that hired you AND
- You have an independently established business

Your employer cannot consider you to be an independent contractor unless all three of these facts apply to your work.

**IT IS AGAINST THE LAW FOR AN EMPLOYER TO MISCLASSIFY EMPLOYEES AS  
INDEPENDENT CONTRACTORS OR PAY EMPLOYEES OFF-THE-BOOKS.**

**Employee rights.** If you are an employee:

- You are entitled to state and federal worker protections such as
  - unemployment benefits, if unemployed through no fault of your own, able to work, and otherwise qualified
  - workers' compensation benefits for on-the-job injuries
  - payment for wages earned, minimum wage, and overtime (under certain conditions)
  - prevailing wages on public work projects
  - the provisions of the National Labor Relations Act and
  - a safe work environment
- It is a violation of this law for employers to retaliate against anyone who asserts their rights under the law. Retaliation subjects an employer to civil penalties, a private lawsuit or both.

**Independent Contractors:** If you are an independent contractor:

- You must pay all taxes required by New York State and Federal Law.

**Penalties for paying off-the-books or improperly treating employees as independent contractors:**

- **Civil Penalty** First Offense: up to \$2,500 per employee.  
Subsequent Offense(s): up to \$5,000 per employee.
- **Criminal Penalty** First Offense: Misdemeanor - up to 30 days in jail, up to a \$25,000 fine and debarment from performing Public Work for up to one year.  
Subsequent Offense(s): Misdemeanor - up to 60 days in jail, up to a \$50,000 fine and debarment from performing Public Work for up to 5 years.

**If you have questions about your employment status or believe that your employer may have violated your rights and you want to file a complaint, call the Department of Labor at 1(866)435-1499 or send an email to [dol.misclassified@labor.state.ny.us](mailto:dol.misclassified@labor.state.ny.us). All complaints of fraud and violations are taken seriously and you can remain anonymous.**

**Employer Name:**



# WORKER NOTIFICATION

(Labor Law §220, paragraph a of subdivision 3-a)

*Effective February 24, 2008*

This provision is an addition to the existing prevailing wage rate law, Labor Law §220, paragraph a of subdivision 3-a. It requires contractors and subcontractors to provide written notice to all laborers, workers or mechanics of the *prevailing wage rate* for their particular job classification *on each pay stub*\*. It also requires contractors and subcontractors to *post a notice* at the beginning of the performance of every public work contract *on each job site* that includes the telephone number and address for the Department of Labor and a statement informing laborers, workers or mechanics of their right to contact the Department of Labor if he/she is not receiving the proper prevailing rate of wages and/or supplements for his/her particular job classification. The required notification will be provided with each wage schedule, may be downloaded from our website [www.labor.state.ny.us](http://www.labor.state.ny.us) or made available upon request by contacting the Bureau of Public Work at 518-457-5589.

\* In the event that the required information will not fit on the pay stub, an accompanying sheet or attachment of the information will suffice.

Paid: See (1) on HOLIDAY PAGE

Note: Last working day preceding Christmas and New Years day, workers shall work no later than 12:00 noon and shall receive 8 hrs pay.

Overtime: See ( 2\*, 4, 6, 16, 25 ) on HOLIDAY PAGE.

\*Note: Labor Day triple time if worked.

**REGISTERED APPRENTICES**

(1) year terms:

Insulator Apprentices:

1st	2nd	3rd	4th
\$ 23.27	\$ 28.17	\$ 37.96	\$ 42.87

Discomfort & Additional Training Apprentices:

1st	2nd	3rd	4th
\$ 24.65	\$ 29.64	\$ 40.02	\$ 45.22

Supplemental Benefits paid per hour:

Insulator Apprentices:

1st term	\$ 13.50
2nd term	16.70
3rd term	23.10
4th term	26.30

Discomfort & Additional Training Apprentices:

1st term	\$ 14.27
2nd term	17.66
3rd term	24.44
4th term	27.83

8-91

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**Ironworker**

**02/01/2019**

**JOB DESCRIPTION** Ironworker

**DISTRICT 4**

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**PARTIAL COUNTIES**

Rockland: Southern section - south of Convent Road and east of Blue Hills Road.

**WAGES**

Per hour: 07/01/2018 07/01/2019

Reinforcing & Metal Lathing \$ 56.28 \$ 2.00/Hr. to be Allocated

"Basic" Wage \$ 54.65\*\*

\*\*Overtime to be calculated on "Basic" wage

**SUPPLEMENTAL BENEFITS**

Per hour:

Reinforcing & Metal Lathing \$ 35.30

**OVERTIME PAY**

See (B, E, Q, \*X) on OVERTIME PAGE

\*Only \$22.00 per Hour for non worked hours

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 11, 13, 18, 19, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

(1) year terms at the following wage rates:

Wages Per Hour:

1st term	2nd term	3rd term	4th Term
\$ 26.38	\$ 30.38	\$ 35.38	\$ 37.38

**SUPPLEMENTAL BENIFITS**

Per Hour:

1st term \$ 15.37	2nd term \$ 17.37	3rd term \$ 19.33	4th Term \$ 20.33
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4-46Reinf

**Ironworker**

**02/01/2019**

**JOB DESCRIPTION** Ironworker

**DISTRICT 9**

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**WAGES**

Per Hour: 07/01/2018

Ironworker Rigger \$ 62.84

Ironworker Stone  
Derrickman \$ 62.84

**SUPPLEMENTAL BENEFITS**

Per hour: \$ 39.79

**OVERTIME PAY**

See (B, D1, \*E, Q, \*\*V) on OVERTIME PAGE

\*Time and one-half shall be paid for all work on Saturday up to eight (8) hours and double time shall be paid for all work thereafter.

\*\* Benefits same premium as wages on Holidays only

**HOLIDAY**

Paid: See (18) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 25) on HOLIDAY PAGE

\*Work stops at schedule lunch break with full day's pay.

**REGISTERED APPRENTICES**

Wage per hour:

1/2 year terms at the following hourly wage rate:

	1st	2nd	3rd	4th	5th	6th
07/01/2018	\$31.42	\$31.42	\$44.54	\$43.07	\$54.41	\$54.41

Supplemental benefits:

Per hour:	\$19.97	\$19.97	\$30.02	\$30.02	\$30.02	\$30.02
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9-197D/R

**Ironworker**

**02/01/2019**

**JOB DESCRIPTION** Ironworker

**DISTRICT 4**

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**WAGES**

Per Hour: 07/01/2018 01/01/2019

Ornamental	\$44.65	\$1.25/hr.
Chain Link Fence	44.65	to be Allocated
Guide Rail	44.65	

**SUPPLEMENTAL BENEFITS**

Per hour:  
Journeyworker: \$ 54.05

**OVERTIME PAY**

See (B, B1, E2, Q, V) on OVERTIME PAGE

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

1st term represents first 1-10 months, thereafter (1/2) year terms at the following percentage of Journeyman's wage.

1st	2nd	3rd	4th	5th
50%	55%	60%	70%	80%

Supplemental Benefits per hour:

1st Term	\$ 41.37
2nd Term	42.67
3rd Term	43.91
4th Term	46.44
5th Term	48.98

4-580-Or

**Ironworker**

**02/01/2019**

**JOB DESCRIPTION** Ironworker

**DISTRICT 4**

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**WAGES**

PER HOUR:

	07/01/2018	01/01/2019	07/01/2019
Ironworker:			Additional
Structural	\$ 50.70	\$ 51.05	\$1.93/Hr.
Bridges			to be allocated
Machinery			

**SUPPLEMENTAL BENEFITS**

PER HOUR:

Journeyman	\$ 73.93	\$ 77.40
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**OVERTIME PAY**

See (B, B1, Q) on OVERTIME PAGE

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 18, 19) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

WAGES PER HOUR:

6 month terms at the following rate:

1st	\$ 26.44	\$ 22.62
2nd	27.04	27.22
3rd - 6th	27.65	27.83

Supplemental Benefits

PER HOUR:

All Terms	52.68	53.60
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4-40/361-Str

**Laborer - Building**

**02/01/2019**

**JOB DESCRIPTION** Laborer - Building

**DISTRICT 8**

**ENTIRE COUNTIES**

Putnam, Westchester

**WAGES**

07/01/2018

Laborer	\$ 38.95
Laborer - Asbestos & Hazardous Materials Removal	\$ 40.60*

\* Abatement/Removal of:

- Lead based or lead containing paint on materials to be repainted is classified as Painter.
- Asbestos containing roofs and roofing material is classified as Roofer.

NOTE: Upgrade/Material condition work plan for work performed during non-outage under a wage formula of 90% wage/100% fringe benefits at nuclear power plants.

**SUPPLEMENTAL BENEFITS**

Per hour: 07/01/2018

Journeyworker \$ 25.75

**OVERTIME PAY**

See (B, E, E2, Q, \*V) on OVERTIME PAGE

\*Note: For Sundays and Holidays worked benefits are at the same premium as wages.

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

LABORER ONLY

Hourly terms at the following wage:

Level A	Level B	Level C	Level D	Level E
0-1000	1001-2000	2001-3000	3001-4000	4001+
\$ 23.18	\$ 27.10	\$ 30.68	\$ 37.00	\$ 38.95

Supplemental Benefits per hour:

**Apprentices**

Level A	\$ 12.30
Level B	14.95
Level C	17.80
Level D	17.95
Level E	25.75

8-235/B

**Laborer - Heavy&Highway**

02/01/2019

**JOB DESCRIPTION** Laborer - Heavy&Highway

**DISTRICT 8**

**ENTIRE COUNTIES**

Putnam, Westchester

**WAGES**

\*\*PUTNAM: APPLIES TO ALL HEAVY & HIGHWAY WORK EXCLUDING HIGHWAYS, STREETS, AND BRIDGES\*\*

GROUP I: Blaster and Quarry Master

GROUP II: Burner, Drillers(jumbo, joy, wagon, air track, hydraulic), Drill Operator, Self Contained Rotary Drill, Curbs/ Asphalt Screedman/Raker, Bar Person.

GROUP III: Pavement Breakers, Jeeper Operator, Jack Hammer, Pneumatic Tools (all), Gas Driller, Guniting, Railroad Spike Puller, Pipelayer, Chain Saw, Deck winches on scows, Power Buggy Operator, Power Wheelbarrow Operator, Bar Person Helper.

GROUP IV: Concrete Laborers, Asph. Worker, Rock Scaler, Vibrator Oper., Bit Grinder, Air Tamper, Pumps, Epoxy (adhesives, fillers and troweled on), Barco Rammer, Concrete Grinder, Crack Router Operator, Guide Rail-digging holes and placing concrete and demolition when not to be replaced, distribution of materials and tightening of bolts.

GROUP V: Drillers Helpers, Common Laborer, Mason Tenders, Signal Person, Pit Person, Truck Spotter, Powder Person, Landscape/Nursery Person, Dump Person, Temp. Heat.

GROUP VIA: Asbestos/Toxic Waste Laborer-All removal (Roads, Tunnels, Landfills, etc.) Confined space laborer

Wages:(per hour)	07/01/2018	03/31/2019
GROUP I	\$ 42.17*	Additional \$ 2.15**
GROUP II	40.82*	2.15**
GROUP III	40.42*	2.15**
GROUP IV	40.07*	2.15**
GROUP V	39.72*	2.15**
GROUP VIA	41.72*	2.15**
Operator Qualified		
Gas Mechanic	52.17*	2.15**
Flagperson	33.37*	2.15**

\*NOTE: To calculate overtime premiums, deduct \$0.10 from above wages

SHIFT WORK: A shift premium will be paid on Public Work contracts for off-shift or irregular shift work when mandated by the NYS D.O.T. or other Governmental Agency contracts. Employees shall receive an additional 15% per hour above current rate for all regular and irregular shift work. Premium pay shall be calculated using the 15% per hour differential as base rate.

**SUPPLEMENTAL BENEFITS**

Per hour:

Journeyworker:

First 40 Hours	
Per Hour	\$ 22.38
Over 40 Hours	
Per Hour	16.78

**OVERTIME PAY**

See (B, E, P, R, S) on OVERTIME PAGE

**HOLIDAY**

Paid: See (5, 6, 8, 9, 15, 25) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 9, 15, 25) on HOLIDAY PAGE

NOTE: For Holiday Overtime: 5, 6 - Code 'S' applies  
 For Holiday Overtime: 8, 9, 15, 25 - Code 'R' applies

**REGISTERED APPRENTICES**

	1st term	2nd term	3rd term	4th term
	1-1000hrs	1001-2000hrs	2001-3000hrs	3001-4000hrs
07/01/2018	\$ 22.65	\$ 26.72	\$ 30.79	\$ 34.76

Supplemental Benefits per hour:

1st term	\$ 3.85 - After 40 hours: \$ 3.60
2nd term	\$ 3.95 - After 40 hours: \$ 3.60
3rd term	\$ 4.45 - After 40 hours: \$ 4.00
4th term	\$ 5.00 - After 40 hours: \$ 4.50

8-60H/H

**Laborer - Tunnel**

02/01/2019

**JOB DESCRIPTION** Laborer - Tunnel

**DISTRICT** 11

**ENTIRE COUNTIES**

Dutchess, Orange, Otsego, Putnam, Rockland, Sullivan, Ulster, Westchester

**PARTIAL COUNTIES**

Chenango: Townships of Columbus, Sherburne and New Berlin.

Columbia: Townships of Ancram, Claverack, Clermont, Copake, Gallatin, Germantown, Greenport, Hillside, Hudson, Livingston, Philmont and Taghkanic

Delaware: Townships of Andes, Bovina, Middletown, Roxbury, Franklin, Hamden, Stamford, Delhi, Kortright, Harpersfield, Merideth and Davenport.

Greene: Township of Catskill

**WAGES**

Class 1: All support laborers/sandhogs working above the shaft or tunnel.

Class 2: All laborers/sandhogs working in the shaft or tunnel.

Class 4: Safety Miners

WAGES: (per hour)

	07/01/2018
Class 1	\$ 48.05
Class 2	\$ 50.20
Class 4	\$ 56.60

Toxic and hazardous waste, lead abatement and asbestos abatement work will be paid an additional \$ 3.00 an hour.

SHIFT DIFFERENTIAL: On all Government mandated irregular shift work, Employee shall be paid at time and one half the regular rate Monday through Friday.

Saturday shall be paid at 1.65 times the regular rate.

Sunday shall be paid at 2.15 times the regular rate.

**SUPPLEMENTAL BENEFITS**

Per hour:

Journeyman \$ 29.50 on  
 straight hours  
 \* \$ 44.25

\*This benefit rate is applicable on overtime, irregular shift work, Saturday, Sunday and Holiday hours.

**OVERTIME PAY**

See (B, E, P, \*X) on OVERTIME PAGE

\*Applicable to Paid Holidays not worked.

**HOLIDAY**

Paid: See (5, 6, 15, 25) on HOLIDAY PAGE

Overtime: See (\*16) on HOLIDAY PAGE

\* Double rate and benefits if worked

11-17/60/235/754Tun

**Lineman Electrician**

**02/01/2019**

**JOB DESCRIPTION** Lineman Electrician

**DISTRICT 6**

**ENTIRE COUNTIES**

Westchester

**WAGES**

Below rates apply to electrical overhead and underground distribution and maintenance work and overhead and underground transmission line work, electrical substations, switching structures, continuous pipe-type underground fluid or gas filled transmission conduit and cable installations, maintenance jobs or projects, railroad catenary installations and maintenance, third rail installations, the bonding of rails and the installation of fiber optic cable. (Ref #14.04.01)

Includes Teledata Work performed within ten (10) feet of high voltage (600 volts or over) transmission lines.

Per hour:	07/01/2018	05/06/2019	05/04/2020
Lineman, Tech, Welder	\$ 53.11	\$ 54.81	\$ 56.51
Crane, Crawler Backhoe	53.11	54.81	56.51
Cable Splicer-Pipe Type	58.42	60.29	62.16
Digging Mach Operator	47.80	49.33	50.86
Cert. Welder-Pipe Type	55.77	57.55	59.34
Tractor Trailer Driver	45.14	46.59	48.03
Groundman, Truck Driver	42.49	43.85	45.21
Equipment Mechanic	42.49	43.85	45.21
Flagman	31.87	32.89	33.91

Additional \$1.00 per hour for entire crew when a helicopter is used.

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED BETWEEN THE HOURS LISTED BELOW:

1ST SHIFT	8:00 AM TO 4:30 PM REGULAR RATE
2ND SHIFT	4:30 PM TO 1:00 AM REGULAR RATE PLUS 17.3%
3RD SHIFT	12:30 AM TO 9:00 AM REGULAR RATE PLUS 31.4%

**\*\* IMPORTANT NOTICE \*\***

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

\*Effective 05/06/2013, Tuesday thru Friday may be worked with no make-up day.

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

**SUPPLEMENTAL BENEFITS**

Per hour worked (but also required on non-worked holidays):

Journeyman	\$ 23.40 *plus 6.75% of hourly wage	\$ 24.15 *plus 6.75% of hourly wage	\$ 24.90 *plus 6.75% of hourly wage
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\*The 6.75% is based on the hourly wage paid, straight time or premium time.

**OVERTIME PAY**

See ( B, E, Q, ) on OVERTIME PAGE. \*Note\* Double time for emergency work designated by the Dept of Jurisdiction.

NOTE: WAGE CAP...Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

**HOLIDAY**

Paid See ( 5, 6, 8, 13, 25 ) on HOLIDAY PAGE plus Governor of NYS Election Day.  
 Overtime See ( 5, 6, 8, 13, 25 ) on HOLIDAY PAGE plus Governor of NYS Election Day.

NOTE: All paid holidays falling on Saturday shall be observed on the preceding Friday. All paid holidays falling on Sunday shall be observed on the following Monday. Supplements for holidays paid at straight time.

**REGISTERED APPRENTICES**

WAGES: Per hour. 1000 hour terms.

	07/01/2018	05/06/2019	05/04/2020
1st term	\$ 31.87	\$ 32.89	\$ 33.91
2nd term	34.52	35.63	36.73
3rd term	37.18	38.37	39.56
4th term	39.83	41.11	42.38
5th term	42.49	43.85	45.21
6th term	45.14	46.59	48.03
7th term	47.80	49.33	50.86

SUPPLEMENTAL BENEFITS: Same as Journeyman

6-1249aWest

**Lineman Electrician - Teledata**

02/01/2019

**JOB DESCRIPTION** Lineman Electrician - Teledata

**DISTRICT 6**

**ENTIRE COUNTIES**

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuylar, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

**WAGES**

Per hour:

For outside work, stopping at first point of attachment (demarcation).

	07/01/2018	01/01/2019	01/01/2020	01/01/2021
Cable Splicer	\$ 31.83	\$ 32.78	\$ 33.77	\$ 34.78
Installer, Repairman	30.21	\$ 31.12	\$ 32.05	\$ 33.01
Teledata Lineman	30.21	\$ 31.12	\$ 32.05	\$ 33.01
Tech., Equip. Operator	30.21	\$ 31.12	\$ 32.05	\$ 33.01
Groundman	16.01	\$ 16.49	\$ 16.99	\$ 17.50

NOTE: EXCLUDES Teledata work within ten (10) feet of High Voltage (600 volts and over) transmission lines. For this work please see LINEMAN.

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED:

1ST SHIFT	REGULAR RATE
2ND SHIFT	REGULAR RATE PLUS 10%
3RD SHIFT	REGULAR RATE PLUS 15%

**SUPPLEMENTAL BENEFITS**

Per hour:

Journeyman	\$ 4.73	\$ 4.73	\$ 4.73	\$ 4.73
	*plus 3% of wage paid	*plus 3% of wage paid	*plus 3% of wage paid	*plus 3% of wage paid

\*The 3% is based on the hourly wage paid, straight time rate or premium rate.

**OVERTIME PAY**

See (B, E, Q) on OVERTIME PAGE



NOTE: WAGE CAP...Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked.  
 Contractor is still responsible to pay the hourly benefit amount for each hour worked.

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 16) on HOLIDAY PAGE

6-1249LT - Teledata

**Lineman Electrician - Traffic Signal, Lighting**

**02/01/2019**

**JOB DESCRIPTION** Lineman Electrician - Traffic Signal, Lighting

**DISTRICT 6**

**ENTIRE COUNTIES**

Westchester

**WAGES**

Lineman/Technician shall perform all overhead aerial work. A Lineman/Technician on the ground will install all electrical panels, connect all grounds, install and connect all electrical conductors which includes, but is not limited to road loop wires; conduit and plastic or other type pipes that carry conductors, flex cables and connectors, and to oversee the encasement or burial of such conduits or pipes.

A Groundman/Groundman Truck Driver shall: Build and set concrete forms, handle steel mesh, set footer cages, transport concrete in a wheelbarrow, hand or machine concrete vibrator, finish concrete footers, mix mortar, grout pole bases, cover and maintain footers while curing in cold weather, operate jack hammer, operate hand pavement breaker, tamper, concrete and other motorized saws, as a drill helper, operate and maintain generators, water pumps, chainsaws, sand blasting, operate mulching and seeding machine, air tools, electric tools, gas tools, load and unload materials, hand shovel and/or broom, prepare and pour mastic and other fillers, assist digger operator equipment operator in ground excavation and restoration, landscape work and painting. Only when assisting a lineman technician, a ground man/truck driver may assist in installing conduit, pipe, cables and equipment.

A flagger's duties shall consist of traffic control only.  
 (Ref #14.01.03)

Per hour:

	07/01/2018	05/06/2019	05/04/2020
Lineman, Technician	\$ 48.71	\$ 50.16	\$ 51.61
Crane, Crawler Backhoe	48.71	50.16	51.61
Certified Welder	51.15	52.67	54.19
Digging Machine	43.84	45.14	46.45
Tractor Trailer Driver	41.40	42.64	43.87
Groundman, Truck Driver	38.97	40.13	41.29
Equipment Mechanic	38.97	40.13	41.29
Flagman	29.23	30.10	30.97

Above rates applicable on all Lighting and Traffic Signal Systems with the installation, testing, operation, maintenance and repair of all traffic control and illumination projects, traffic monitoring systems, road weather information systems, and the installation of Fiber Optic Cable.

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED BETWEEN THE HOURS LISTED BELOW:

1ST SHIFT	8:00 AM TO 4:30 PM REGULAR RATE
2ND SHIFT	4:30 PM TO 1:00 AM REGULAR RATE PLUS 17.3%
3RD SHIFT	12:30 AM TO 9:00 AM REGULAR RATE PLUS 31.4%

**\*\* IMPORTANT NOTICE \*\***

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.  
 \*Effective 05/06/2013, Tuesday thru Friday may be worked with no make-up day.

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

**SUPPLEMENTAL BENEFITS**

Per hour worked (but also required on non-worked holidays):

Journeyman	\$ 23.40 *plus 6.75% of hourly wage	\$ 24.15 *plus 6.75% of hourly wage	\$ 24.90 *plus 6.75% of hourly wage
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\*The 6.75% is based on the hourly wage paid, straight time rate or premium rate.  
 Supplements paid at STRAIGHT TIME rate for holidays.

**OVERTIME PAY**

See (B, E, Q) on OVERTIME PAGE. \*Note\* Double time for emergency work designated by the Dept. of Jurisdiction.  
 NOTE: WAGE CAP...Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked.  
 Contractor is still responsible to pay the hourly benefit amount for each hour worked.

**HOLIDAY**

Paid: See ( 5, 6, 8, 13, 25 ) on HOLIDAY PAGE and Governor of NYS Election Day.  
 Overtime: See ( 5, 6, 8, 13, 25 ) on HOLIDAY PAGE and Governor of NYS Election Day.

NOTE: All paid holidays falling on Saturday shall be observed on the preceding Friday. All paid holidays falling on Sunday shall be observed on the following Monday. Supplements for holidays paid at straight time.

**REGISTERED APPRENTICES**

WAGES: Per hour. 1000 hour terms.

	07/01/2018	05/06/2019	05/04/2020
1st term	\$ 29.23	\$ 30.10	\$ 30.97
2nd term	31.66	32.60	33.55
3rd term	34.10	35.11	36.13
4th term	36.53	37.62	38.71
5th term	38.97	40.13	41.29
6th term	41.40	42.64	43.87
7th term	43.84	45.14	46.45

SUPPLEMENTAL BENEFITS: Same as Journeyman

6-1249aWestLT

**Mason - Building**

**02/01/2019**

**JOB DESCRIPTION** Mason - Building

**DISTRICT 9**

**ENTIRE COUNTIES**

Nassau, Rockland, Suffolk, Westchester

**WAGES**

Per hour: 07/01/2018

Tile Finisher \$ 43.36

**SUPPLEMENTAL BENEFITS**

Per Hour: \$ 28.99

**OVERTIME PAY**

See (B, E, Q, \*V) on OVERTIME PAGE  
 Work beyond 10 hours on a Saturday shall be paid at double the hourly wage rate.

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 11, 15, 16, 25) on HOLIDAY PAGE

9-7/88A-tf

**Mason - Building**

**02/01/2019**

**JOB DESCRIPTION** Mason - Building

**DISTRICT 11**

**ENTIRE COUNTIES**

Putnam, Rockland, Westchester

**PARTIAL COUNTIES**

Orange: Only the Township of Tuxedo.

**WAGES**

Per hour: 07/01/2018 06/01/2019

Bricklayer	\$ 41.46	\$ 42.09
Cement Mason Bldg	41.46	42.09
Plasterer/Stone Mason	41.46	42.09
Pointer/Caulker	41.46	42.09

Additional \$1.00 per hour for power saw work  
 Additional \$0.50 per hour for swing scaffold or staging work

**SHIFT WORK:** When shift work or an irregular work day is mandated or required by state, federal, county, local or other governmental agency contracts, the following premiums apply:

- Irregular work day requires 15% premium
- Second shift an additional 15% of wage plus benefits to be paid
- Third shift an additional 25% of wage plus benefits to be paid

**SUPPLEMENTAL BENEFITS**

Per hour:

Journeyman \$ 34.08 \$ 35.20

**OVERTIME PAY**

**OVERTIME:**

- Cement Mason See ( B, E, Q, W ) on OVERTIME PAGE.
- All Others See ( B, E, Q ) on OVERTIME PAGE.

**HOLIDAY**

- Paid: See (1) on HOLIDAY PAGE
- Overtime: See (5, 6) on HOLIDAY PAGE

Whenever any of the above holidays fall on Sunday, they will be observed on Monday. Whenever any of the above holidays fall on Saturday, they will be observed on Friday.

**REGISTERED APPRENTICES**

Wages per hour:

750 hour terms at the following percentage of Journeyman's wage

1st	2nd	3rd	4th	5th	6th	7th	8th
50%	55%	60%	65%	70%	75%	80%	85%

Supplemental Benefits per hour

750 hour terms at the following percentage of journeyman supplements

1st	2nd	3rd	4th	5th	6th	7th	8th
50%	55%	60%	65%	70%	75%	80%	85%

Apprentices indentured before June 1st, 2011 receive full journeyman benefits

11-5wp-b

**Mason - Building**

**02/01/2019**

**JOB DESCRIPTION** Mason - Building

**DISTRICT 9**

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**WAGES**

Building:

07/01/2018

Wages per hour:

Mosaic & Terrazzo Mechanic \$ 52.46  
 Mosaic & Terrazzo Finisher \$ 50.86

**SUPPLEMENTAL BENEFITS**

Per hour:

Mosaic & Terrazzo Mechanic \$ 34.06  
 Mosaic & Terrazzo Finisher \$ 34.04

**OVERTIME PAY**

See (A, \*E, Q) on OVERTIME PAGE

**HOLIDAY**

- Paid: See (1) on HOLIDAY PAGE
- Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE

Easter Sunday is an observed holiday. Holidays falling on a Saturday will be observed on that Saturday. Holidays falling on a Sunday will be celebrated on the Monday.

**REGISTERED APPRENTICES**

Wages per hour:

(750 Hour) terms at the following wage rate.

1st	2nd	3rd	4th	5th	6th	7th	8th
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07/01/2018	\$ 26.23	\$ 28.85	\$ 31.48	\$ 34.10	\$ 36.72	\$ 39.35	\$ 44.59	\$ 49.84
Supplemental benefits per hour:								
07/01/2018	\$ 17.05	\$ 18.74	\$ 20.43	\$ 22.15	\$ 23.85	\$ 25.55	\$ 28.96	\$ 32.37 9-7/3

**Mason - Building** **02/01/2019**

**JOB DESCRIPTION** Mason - Building **DISTRICT 9**

**ENTIRE COUNTIES**  
 Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**WAGES**  
 Per hour: 07/01/2018

Building-Marble Restoration:  
 Marble, Stone & Terrazzo Polisher, etc \$ 40.99

**SUPPLEMENTAL BENEFITS**  
 Per Hour:  
 Journeyworker:

Building-Marble Restoration:  
 Marble, Stone & Polisher \$ 26.59

**OVERTIME PAY**  
 See (B, \*E, Q, V) on OVERTIME PAGE  
 \*ON SATURDAYS, 8TH HOUR AND SUCCESSIVE HOURS PAID AT DOUBLE HOURLY RATE.

**HOLIDAY**  
 Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 8, 11, 15, 25) on HOLIDAY PAGE  
 1ST TERM APPRENTICE GETS PAID FOR ALL OBSERVED HOLIDAYS.

**REGISTERED APPRENTICES**  
 WAGES per hour:

2701 hour term at the following wage:

	1st	2nd	3rd	4th
	1-900	901-1800	1801-2700	2701
07/01/2018	\$28.63	\$32.75	\$36.87	\$40.99

Supplemental Benefits Per Hour:

07/01/2018	\$ 24.24	\$ 25.02	\$ 25.81	\$ 26.59	9-7/24-MP
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**Mason - Building** **02/01/2019**

**JOB DESCRIPTION** Mason - Building **DISTRICT 9**

**ENTIRE COUNTIES**  
 Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Sullivan, Ulster, Westchester

**WAGES**  
 Wages: 07/01/2018

Marble Cutters & Setters \$ 58.63

**SUPPLEMENTAL BENEFITS**  
 Per Hour:  
 Journeyworker \$ 36.12

**OVERTIME PAY**  
 See (B, E, Q, V) on OVERTIME PAGE

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Wage Per Hour:

7500 hour terms at the following wage.

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
1-750	751-1500	1501-2250	2251-3000	3001-3750	3751-4500	4501-5250	5251-6000	6001-6751	6751-7500
07/01/2018									
\$23.34	\$26.29	\$29.22	\$32.16	\$35.11	\$38.05	\$40.98	\$43.93	\$49.82	\$55.68

Supplemental Benefits per hour:

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
\$25.69	\$26.55	\$27.44	\$28.30	\$29.16	\$30.03	\$30.91	\$31.77	\$33.50	\$35.26
									9-7/4

**Mason - Building**

**02/01/2019**

**JOB DESCRIPTION** Mason - Building

**DISTRICT 9**

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**WAGES**

Per hour: 07/01/2018

Marble, Stone, etc.  
 Maintenance Finishers: \$ 22.77

Note 1: An additional \$2.00 per hour for time spent grinding floor using "60 grit" and below.  
 Note 2: Flaming equipment operator shall be paid an additional \$25.00 per day.

**SUPPLEMENTAL BENEFITS**

Per Hour:

Marble, Stone, etc  
 Maintenance Finishers: \$ 13.24 .

**OVERTIME PAY**

See (B, \*E, Q, V) on OVERTIME PAGE  
 \*Double hourly rate after 8 hours on Saturday

**HOLIDAY**

Paid: See (5, 6, 8, 11, 15, 25) on HOLIDAY PAGE  
 Overtime: See (5, 6, 8, 11, 15, 25) on HOLIDAY PAGE  
 1st term apprentice gets paid for all observed holidays.

**REGISTERED APPRENTICES**

WAGES per hour:  
 (750 hour)terms at the following percentage of journeyman's wage rate: 07/01/2018

1st term	\$15.90
2nd term	\$16.82
3rd term	\$17.73
4th term	\$18.65
5th term	\$20.02
6th term	\$21.85
7th term	\$22.77

Supplemental Benefits:

Per hour:

1st term	\$ 13.14
2nd term	\$ 13.15
3rd term	\$ 13.17
4th term	\$ 13.18
5th term	\$ 13.20
6th term	\$ 13.20
7th term	\$ 13.24

9-7/24M-MF

**Mason - Building**

**02/01/2019**

**JOB DESCRIPTION** Mason - Building

**DISTRICT 9**

**ENTIRE COUNTIES**

Nassau, Rockland, Suffolk, Westchester

**WAGES**

Per hour: 07/01/2018

Tile Setters \$ 56.13

**SUPPLEMENTAL BENEFITS**

Per Hour: \$ 33.29

**OVERTIME PAY**

See (B, E, Q, V) on OVERTIME PAGE

\* This portion of benefits subject to same premium rate as shown for overtime wages.  
 Work beyond 10 hours on Saturday shall be paid at double the hourly wage rate.

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 11, 15, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Wage per hour:

Tile Setters:

(750 hour) term at the following wage rate:

Term:	1st	2nd	3rd	4th	5th	6th	7th	8th
	1-750	751-1500	1501-2250	2251-3000	3001-3750	3751-4500	4501-5250	5251-6000
	\$29.13	\$33.57	\$36.69	\$40.13	\$43.77	\$47.22	\$50.15	\$53.93

Supplemental Benefits per hour:

1st	2nd	3rd	4th	5th	6th	7th	8th
\$ 15.70	\$ 15.75	\$ 17.70	\$ 18.15	\$ 18.98	\$ 20.03	\$ 21.57	\$ 26.76

9-7/52A

**Mason - Building / Heavy&Highway**

**02/01/2019**

**JOB DESCRIPTION** Mason - Building / Heavy&Highway

**DISTRICT 9**

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**WAGES**

Per hour: 07/01/2018

Marble-Finisher \$ 46.76

**SUPPLEMENTAL BENEFITS**

Journeyworker:  
 per hour

Marble- Finisher \$ 33.93

**OVERTIME PAY**

See (B, E, Q, V) on OVERTIME PAGE

**HOLIDAY**

Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE

\* Work beyond 8 hours on a Saturday shall be paid at double the rate.

\*\* When an observed holiday falls on a Sunday, it will be observed the next day.

9-7/20-MF

**Mason - Heavy&Highway**

**02/01/2019**

**JOB DESCRIPTION** Mason - Heavy&Highway

**DISTRICT** 11

**ENTIRE COUNTIES**

Putnam, Rockland, Westchester

**PARTIAL COUNTIES**

Orange: Only the Township of Tuxedo.

**WAGES**

Per hour:

	07/01/2018	06/01/2019
Bricklayer	\$ 41.96	\$ 42.59
Cement Mason	41.96	42.59
Marble/Stone Mason	41.96	42.59
Plasterer	41.96	42.59
Pointer/Caulker	41.96	42.59

Additional \$1.00 per hour for power saw work

Additional \$0.50 per hour for swing scaffold or staging work

SHIFT WORK: When shift work or an irregular work day is mandated or required by state, federal, county, local or other governmental contracts, the following rates apply:

Irregular work day requires 15% premium

Second shift an additional 15% of wage plus benefits to be paid

Third shift an additional 25% of wage plus benefits to be paid

**SUPPLEMENTAL BENEFITS**

Per hour:

Journeyman	\$ 33.88	\$ 34.99
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**OVERTIME PAY**

Cement Mason See ( B, E, Q, W, X )

All Others See ( B, E, Q, X )

**HOLIDAY**

Paid: See (5, 6, 15, 25) on HOLIDAY PAGE

Overtime: See (5, 6, 15, 25) on HOLIDAY PAGE

Whenever any of the above holidays fall on Sunday, they will be observed on Monday. Whenever any of the above holidays fall on Saturday, they will be observed on Friday.

**REGISTERED APPRENTICES**

Wages per hour:

750 hour terms at the following percentage of Journeyman's wage

1st	2nd	3rd	4th	5th	6th	7th	8th
50%	55%	60%	65%	70%	75%	80%	85%

Supplemental Benefits per hour

750 hour terms at the following percentage of journeyman supplements

1st	2nd	3rd	4th	5th	6th	7th	8th
50%	55%	60%	65%	70%	75%	80%	85%

Apprentices indentured before June 1st, 2011 receive full journeyman benefits

11-5WP-H/H

**Operating Engineer - Building**

**02/01/2019**

**JOB DESCRIPTION** Operating Engineer - Building

**DISTRICT** 9

**ENTIRE COUNTIES**

Bronx, Kings, New York, Putnam, Queens, Richmond, Westchester

**PARTIAL COUNTIES**

Dutchess: that part of Dutchess County lying south of the North City Line of the City of Poughkeepsie.

**WAGES**

NOTE:Construction surveying

Party chief—One who directs a survey party

Instrument Man—One who runs the instrument and assists Party Chief.

Rodman—One who holds the rod and assists the Survey Crew

Wages:(Per Hour) 07/01/2018

**Building Construction:**

Party Chief	\$ 72.87
Instrument Man	\$ 58.07
Rodman	\$ 39.85

**Steel Erection:**

Party Chief	\$ 73.48
Instrument Man	\$ 58.64
Rodman	\$ 41.31

**Heavy Construction-NYC counties only:  
(Foundation, Excavation.)**

Party Chief	\$ 78.61
Instrument man	\$ 59.45
Rodman	\$ 50.93

**SUPPLEMENTAL BENEFITS**

Per Hour: 07/01/2018

Building Construction & Steel \$21.85\* + 6.90

Heavy Construction \$22.10\* + 6.90

\* This portion subject to same premium as wages

**OVERTIME PAY**

See (A, B, E, Q) on OVERTIME PAGE

Code "A" applies to Building Construction and has double the rate after 7 hours on Saturdays.

Code "B" applies to Heavy Construction and Steel Erection and had double the rate after 8 hours on Saturdays.

**HOLIDAY**

Paid: See (5, 6, 9, 11, 15, 16, 25) on HOLIDAY PAGE

Overtime: See (5, 6, 9, 11, 15, 16, 25) on HOLIDAY PAGE

9-15Db

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**Operating Engineer - Building**

**02/01/2019**

**JOB DESCRIPTION** Operating Engineer - Building

**DISTRICT 8**

**ENTIRE COUNTIES**

Putnam, Westchester

**PARTIAL COUNTIES**

Dutchess: All the counties of Westchester and Putnam and the southern part of Dutchess County defined by the northern boundary line of the City of Poughkeepsie, then due east to Route 115, then north along Route 115 to Bedell Road, then east along Bedell Road to Van Wagner Road, then north along Van Wagner Road to Bower Road, then east along Bower Road to Route 44 and along Route 44 east to Route 343, then along Route 343 east to the northern boundary of Town of Dover Plains and east along the northern boundary of Town of Dover Plains to the border line of the State of Connecticut and bordered on the west by the middle of the Hudson River.

**WAGES**

**GROUP I:**

Cranes (All Types up to 49 tons), Boom Trucks, Cherry Pickers (All Types), Clamshell Crane, Derrick (Stone and Steel), Dragline, Franki Pile Rig or similar, High Lift (Lull or similar) with crane attachment and winch used for hoisting or lifting, Hydraulic Cranes, Pile Drivers, Potain and similar.



Cranes (All types 50-99 tons), Drill Rig Casa Grande (CAT or similar), Franki Pile Rig or similar, Hydraulic Cranes (All types including Crawler Cranes- No specific boom length).

Cranes (All types 100 tons and over), All Tower Cranes, All Climbing Cranes Irrespective of manufacturer and regardless of how the same is rigged, Franki Pile Rig or similar, Conventional Cranes (All types including Crawler Cranes-No specific boom length), Hydraulic Cranes.

GROUP I-A: Barber Green Loader-Euclid Loader, Bulldozer, Carrier-Trailer Horse, Concrete Cleaning Decontamination Machine Operator, Concrete-Portable Hoist, Conway or Similar Mucking Machines, Elevator & Cage, Excavators all types, Front End Loaders, Gradall, Shovel, Backhoe, etc. (Crawler or Truck), Heavy Equipment Robotics Operator/Mechanic, Hoist Engineer-Material, Hoist Portable Mobile Unit, Hoist (Single, Double or Triple Drum), Horizontal Directional Drill Locator, Horizontal Directional Drill Operator and Jersey Spreader, Letourmeau or Tournapull (Scrapers over 20 yards Struck), Lift Slab Console, etc., Lull HiLift or Similar, Master Environmental Maintenance Mechanics, Mucking Machines Operator/Mechanic or Similar Type, Overhead Crane, Pavement Breaker (Air Ram), Paver (Concrete), Post Hole Digger, Power House Plant, Road Boring Machine, Road Mix Machine, Ross Carrier and Similar Machines, Rubber tire double end backhoes and similar machines, Scoopmobile Tractor-Shovel Over 1.5 yards, Shovel (Tunnels), Spreader (Asphalt) Telephie (Cableway), Tractor Type Demolition Equipment, Trenching Machines-Vermeer Concrete Saw Trencher and Similar, Ultra High Pressure Waterjet Cutting Tool System, Vacuum Blasting Machine operator/mechanic, Winch Truck A Frame.

GROUP I-B: Compressor (Steel Erection), Mechanic (Outside All Types), Negative Air Machine (Asbestos Removal), Push Button (Buzz Box) Elevator.

GROUP II: Compactor Self-Propelled, Concrete Pump, Crane Operator in Training (Over 100 Tons), Grader, Machines Pulling Sheep's Foot Roller, Roller (4 ton and over), Scrapers (20 yards Struck and Under), Vibratory Rollers, Welder.

GROUP III-A: Asphalt Plant, Concrete Mixing Plants, Forklift (All power sources), Joy Drill or similar, Tractor Drilling Machine, Loader (1 1/2 yards and under), Portable Asphalt Plant, Portable Batch Plant, Portable Crusher, Skid Steer (Bobcat or similar), Stone Crusher, Well Drilling Machine, Well Point System.

GROUP III-B: Compressor Over 125 cu. Feet, Conveyor Belt Machine regardless of size, Compressor Plant, Ladder Hoist, Stud Machine.

GROUP IV-A: Batch Plant, Concrete Breaker, Concrete Spreader, Curb Cutter Machine, Finishing Machine-Concrete, Fine Grading Machine, Hepa Vac Clean Air Machine, Material Hopper (sand, stone, cement), Mulching Grass Spreader, Pump Gypsum etc, Pump-Plaster-Grout-Fireproofing. Roller (Under 4 Ton), Spreading and Fine Grading Machine, Steel Cutting Machine, Siphon Pump, Tar Joint Machine, Television Cameras for Water, Sewer, Gas etc. Turbo Jet Burner or Similar Equipment, Vibrator (1 to 5).

GROUP IV-B: Compressor (all types), Heater (All Types), Fire Watchman, Lighting Unit (Portable & Generator) Pump, Pump Station (Water, Sewer, Portable, Temporary), Welding Machine (Steel Erection & Excavation).

GROUP V: Mechanics Helper, Motorized Roller (walk behind), Stock Attendant, Welder's Helper.

GROUP VI-B: Utility Man, Warehouse Man.

WAGES: (per hour)

07/01/2018

GROUP I	
Cranes- up to 49 tons	\$ 61.70
Cranes- 50 tons to 99 tons	63.86
Cranes- 100 tons and over	72.99
GROUP I-A	53.95
GROUP I-B	49.68
GROUP II	52.03
GROUP III-A	50.11
GROUP III-B	47.67
GROUP IV-A	49.60
GROUP IV-B	41.85
GROUP V	45.17
GROUP VI-A	52.96
GROUP VI-B	
Utility Man	42.83
Warehouse Man	44.92

An additional 20% to wage when required to wear protective equipment on hazardous/toxic waste projects.

Engineers operating cranes with booms 100 feet but less than 149 feet in length will be paid an additional \$2.00 per hour.

Engineers operating cranes with booms 149 feet or over in length will be paid an additional \$3.00 per hour.

Loader operators over 5 cubic yard capacity additional .50 per hour.

Shovel operators over 4 cubic yard capacity additional \$1.00 per hour.

#### SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker 07/01/2018  
 \$ 28.52

**OVERTIME PAY**

OVERTIME:..... See ( B, E,P,R\*,V ) on OVERTIME PAGE.

**HOLIDAY**

Paid:..... See ( 5, 6, 11, 12, 15, 25 ) on HOLIDAY PAGE.

Overtime:..... See ( 5, 6, 11, 12, 15, 25 ) on HOLIDAY PAGE.

\* For Holiday codes 11, 12, 15, 25, code R applies.

Note: If employees are required to work on Easter Sunday they shall be paid at the rate of triple time.

8-137B

**Operating Engineer - Heavy&Highway**

02/01/2019

**JOB DESCRIPTION** Operating Engineer - Heavy&Highway

**DISTRICT 8**

**ENTIRE COUNTIES**

Putnam, Westchester

**PARTIAL COUNTIES**

Dutchess: All the counties of Westchester and Putnam and the southern part of Dutchess County defined by the northern boundary line of the City of Poughkeepsie, then due east to Route 115, then north along Route 115 to Bedell Road, then east along Bedell Road to Van Wagner Road, then north along Van Wagner Road to Bower Road, then east along Bower Road to Route 44 and along Route 44 east to Route 343, then along Route 343 east to the northern boundary of Town of Dover Plains and east along the northern boundary of Town of Dover Plains to the border line of the State of Connecticut and bordered on the west by the middle of the Hudson River.

**WAGES**

GROUP I: Boom Truck, Cherry Picker, Clamshell, Crane, (Crawler, Truck),

Dragline, Drill Rig (Casa Grande, Cat, or Similar), Floating Crane (Crane on Barges) under 100 tons, Gin Pole, Hoist Engineer-Concrete (Crane-Derrick-Mine Hoist), Knuckle Boom Crane, Rough Terrain Crane.

GROUP I-A: Auger (Truck or Truck Mounted), Boat Captain, Bulldozer-All Sizes, Central Mix Plant Operator, Chipper (all types), Close Circuit T.V., Combination Loader/Backhoe, Compactor with Blade, Concrete Finishing Machine, Gradall, Grader (Motor Grader), Elevator & Cage (Materials or Passenger), Excavator (and all attachments), Front End Loaders (1 1/2 yards and over), High Lift Lull and similar, Hoist (Single, Double, Triple Drum), Hoist Portable Mobile Unit, Hoist Engineer (Material), Jack and Bore Machine, Log Skidders, Mill Machines, Mucking Machines, Overhead Crane, Paver (concrete), Post Pounder (of any type), Push Cats, Road Reclaimer, Robot Hammer (Brokk or similar), Robotic Equipment (Scope of Engineer Schedule), Ross Carrier and similar, Scrapers (20 yard struck and over), Side Boom, Slip Form Machine, Spreader (Asphalt), Trenching Machines (Telephiles-Vermeer Concrete Saw), Tractor Type Demolition Equipment, Vacuum Truck.

GROUP I-B: Asphalt Mobile Conveyor/Transfer Machine, Road Paver (Asphalt).

GROUP II-A: Ballast Regulators, Compactor Self Propelled, Fusion Machine, Rail Anchor Machines, Roller (4 ton and over), Scrapers (20 yard struck and under), Vibratory Roller (Riding), Welder.

GROUP II-B: Mechanic (Outside) All Types.

GROUP III: Air Tractor Drill, Asphalt Plant, Batch Plant, Boiler (High Pressure), Concrete Breaker (Track or Rubber Tire), Concrete Pump, Concrete Spreader, Excavator Drill, Farm Tractor, Forklift (all types), Gas Tapping (Live), Hydroseeder, Loader (1 1/2 yards and under), Locomotive (all sizes), Machine Pulling Sheep's Foot Roller, Portable Asphalt Plant, Portable Batch Plant, Portable Crusher (Apprentice), Powerhouse Plant, Roller (under 4 ton), Sheer Excavator, Skid Steer/Bobcat, Stone Crusher, Sweeper (with seat), Well Drilling Machine.

GROUP IV: Service Person (Grease Truck).

GROUP IV-B: Conveyor Belt Machine (Truck Mounted), Heater (all types), Lighting Unit (Portable), Maintenance Engineer (For Crane Only), Mechanic's Helper, Pump (Fireproofing), Pumps-Pump Station/Water/Sewer/Gypsum/Plaster, etc., Pump Truck (Sewer Jet or Similar), Welder's Helper, Welding Machine (Steel Erection), Well Point System.

GROUP V: All Tower Cranes-All Climbing Cranes and all cranes of 100-ton capacity or greater (3900 Manitowac or similar) irrespective of manufacturer and regardless of how the same is rigged, Hoist Engineer (Steel), Engineer-Pile Driver, Jersey Spreader, Pavement Breaker/Post Hole Digger.

WAGES: Per hour:	07/01/2018	03/04/2019	03/02/2020
Group i	\$ 59.75	\$ 61.03	\$ 62.38
Group I-A	52.71	53.80	54.95
Group I-B	55.52	56.69	57.92
Group II-A	50.49	51.52	52.61
Group II-B	52.06	53.13	54.26
Group III	49.61	50.61	51.68

Group IV-A	45.12	46.00	46.93
Group IV-B	38.78	39.49	40.24
Group V-A			
Engineer All Tower, Climbing and Cranes of 100 Tons	67.64	69.14	70.72
Hoist Engineer(Steel)	61.28	62.61	64.00
Engineer(Pile Driver)	65.33	66.77	68.27
Jersey Spreader,Pavement Breaker (Air Ram)Post Hole Digger	51.65	52.71	53.83

**SHIFT DIFFERENTIAL:**

A 15% premium on all hours paid, including overtime hours for 2nd, 3rd shifts  
 on all government mandated off-shift work

Engineers operating cranes with booms 100 feet but less than 149 feet in length will be paid an additional \$2.00 per hour over the rate listed in the Wage Schedule. Engineers operating cranes with booms 149 feet or over in length will be paid an additional \$3.00 per hour over the rate listed in the Wage Schedule. Loader and Excavator Operators: over 5 cubic yards capacity \$0.50 per hour over the rate listed in the Wage Schedule. Shovel Operators: over 4 cubic yards capacity \$1.00 per hour over the rate listed in the Wage Schedule.

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday; Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

**SUPPLEMENTAL BENEFITS**

Per hour:

Journeyman:	07/01/2018	03/04/2019	03/02/2020
	\$ 20.85 on all hours.	\$ 21.55 on all hours.	\$ 22.50 on all hours.
	PLUS \$ 8.00 for first 40 hours worked.	PLUS \$ 8.00 for first 40 hours worked.	PLUS \$ 8.00 for first 40 hours worked.

**OVERTIME PAY**

See (B, E, E2, P, \*R, \*\*U) on OVERTIME PAGE

**HOLIDAY**

Paid:..... See ( 5, 6, 8, 9, 15, 25 ) on HOLIDAY PAGE

Overtime..... See ( 5, 6, 8, 9, 15, 25 ) on OVERTIME PAGE

\* For Holiday codes 8,9,15,25 code R applies

\*\* For Holiday Codes 5 & 6 code U applies

Note: If employees are required to work on Easter Sunday they shall be paid at the rate of triple time.

**REGISTERED APPRENTICES**

(1)year terms at the following rate.

	07/01/2018	03/04/2019	03/02/2020
1st term	\$ 26.36	\$ 26.90	\$ 27.48
2nd term	31.62	32.28	32.97
3rd term	36.90	37.66	38.47
4th term	42.17	43.04	43.96

Supplemental Benefits per hour:

Apprentices:	07/01/2018	03/04/2019	03/02/2020
	\$ 20.85	\$ 21.55	\$ 22.50

8-137HH

**Operating Engineer - Heavy&Highway**

**02/01/2019**

**JOB DESCRIPTION** Operating Engineer - Heavy&Highway

**DISTRICT** 9

**ENTIRE COUNTIES**

Putnam, Westchester

**PARTIAL COUNTIES**

Dutchess: South of the North city line of Poughkeepsie

**WAGES**

Party Chief - One who directs a survey party

Instrument Man - One who runs the instrument and assists Party Chief

Rodman - One who holds the rod and in general, assists the Survey Crew

Categories cover GPS & Underground Surveying

Per Hour: 07/01/2018

Party Chief	\$ 75.94
Instrument Man	57.30
Rodman	48.99

**SUPPLEMENTAL BENEFITS**

Per Hour: 07/01/2018

All Categories  
Straight Time: \$ 22.10\* plus \$6.90

Premium:  
Time & 1/2 \$ 33.15\* plus \$6.90

Double Time \$ 44.20\* plus \$6.90

**OVERTIME PAY**

See (B, \*E, Q) on OVERTIME PAGE

\* Doubletime paid on all hours in excess of 8 hours on Saturday

**HOLIDAY**

Paid: See (5, 6, 7, 11, 12) on HOLIDAY PAGE

Overtime: See (5, 6, 7, 11, 12) on HOLIDAY PAGE

9-15Dh

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**Operating Engineer - Heavy&Highway - Tunnel**

**02/01/2019**

**JOB DESCRIPTION** Operating Engineer - Heavy&Highway - Tunnel

**DISTRICT 8**

**ENTIRE COUNTIES**

Putnam, Westchester

**PARTIAL COUNTIES**

Dutchess: All the counties of Westchester and Putnam and the southern part of Dutchess County defined by the northern boundary line of the City of Poughkeepsie, then due east to Route 115, then north along Route 115 to Bedell Road, then east along Bedell Road to Van Wagner Road, then north along Van Wagner Road to Bower Road, then east along Bower Road to Route 44 and along Route 44 east to Route 343, then along Route 343 east to the northern boundary of Town of Dover Plains and east along the northern boundary of Town of Dover Plains to the border line of the State of Connecticut and bordered on the west by the middle of the Hudson River.

**WAGES**

GROUP I: Boom Truck, Cherry Picker, Clamshell, Crane(Crawler,Truck), Dragline, Drill Rig Casa Grande(Cat or Similar), Floating Crane(Crane on Barge-Under 100 Tons), Hoist Engineer(Concrete/Crane-Derrick-Mine Hoist), Knuckle Boom Crane, Rough Terrain Crane.

GROUP I-A: Auger(Truck or Truck Mounted), Boat Captain, Bull Dozer-all sizes, Central Mix Plant Operator, Chipper-all types, Close Circuit T.V., Combination Loader/Backhoe, Compactor with Blade, Concrete Finishing Machine, Gradall, Grader(Motor Grader), Elevator & Cage(Materials or Passengers), Excavator(and all attachments), Front End Loaders(1 1/2 yards and over), High Lift Lull, Hoist(Single, Double, Triple Drum), Hoist Portable Mobile Unit, Hoist Engineer(Material), Jack and Bore Machine, Log Skidder, Milling Machine, Moveable Concrete Barrier Transfer & Transport Vehicle, Mucking Machines, Overhead Crane, Paver(Concrete), Post Pounder of any type, Push Cats, Road Reclaimer, Robot Hammer(Brokk or similar), Robotic Equipment(Scope of Engineer Schedule), Ross Carrier and similar machines, Scrapers(20 yards struck and over), Side Boom, Slip Form Machine, Spreader(Asphalt), Trenching Machines, Telephies-Vermeer Concrete Saw, Tractor type demolition equipment, Vacuum Truck.

GROUP I-B: Asphalt Mobile Conveyor/Transfer Machine, Road Paver(Asphalt).

GROUP II-A: Ballast Regulators, Compactor(Self-propelled), Fusion Machine, Rail Anchor Machines, Roller(4 ton and over), Scrapers(20 yard struck and under), Vibratory Roller(riding), Welder.

GROUP II-B: Mechanic(outside)all types.

**GROUP III:** Air Tractor Drill, Asphalt Plant, Batch Plant, Boiler(High Pressure), Concrete Breaker(Track or Rubber Tire), Concrete Pump, Concrete Spreader, Excavator Drill, Farm Tractor, Forklift(all types of power), Gas Tapping(Live), Hydroseeder, Loader(1 1/2 yards and under), Locomotive(all sizes), Machine Pulling Sheeps Foot Roller, Portable Asphalt Plant, Portable Batch Plant, Portable Crusher(Apprentice), Powerhouse Plant, Roller(under 4 ton), Sheer Excavator, Skidsteer/Bobcat, Stone Crusher, Sweeper(with seat), Well Drilling Machine.

**GROUP IV-A:** Service Person(Grease Truck).

**GROUP IV-B:** Conveyor Belt Machine(Truck Mounted), Heater(all types), Lighting Unit(Portable), Maintenance Engineer(for Crane only), Mechanics Helper, Pump(Fireproofing), Pumps-Pump Station/Water/Sewer/Gypsum/Plaster, etc., Pump Truck(Sewer Jet or similar), Welding Machine(Steel Erection), Welders Helper.

**GROUP V-A:** Engineer(all Tower Cranes, all Climbing Cranes & all Cranes of 100 ton capacity or greater),Hoist Engineer(Steel-Sub Structure), Engineer-Pile Driver, Jersey-Spreader, Pavement breaker, Post Hole Digger

**WAGES: (per hour)**

	07/01/2018	03/04/2019	03/02/2020
GROUP I	\$ 59.75	\$ 61.03	\$ 62.38
GROUP I-A	52.71	53.80	54.95
GROUP I-B	55.52	56.69	57.92
GROUP II-A	50.49	51.52	52.61
GROUP II-B	52.06	53.13	54.26
GROUP III	49.61	50.61	51.68
GROUP IV-A	45.12	46.00	46.93
GROUP IV-B	38.78	39.49	40.24
GROUP V-A			
Engineer-Cranes	67.64	69.14	70.72
Engineer-Pile Driver	65.33	66.77	68.27
Hoist Engineer	61.28	62.61	64.00
Jersey Spreader	51.65	52.71	53.83
Pavement Breaker	51.65	52.71	53.83
Post Hole Digger	51.65	52.71	53.83

**SHIFT DIFFERENTIAL:**

A 15% premium on all hours paid, including overtime hours for 2nd, 3rd shifts on all government mandated off-shift work

An additional 20% to wage when required to wear protective equipment on hazardous/toxic waste projects. Operators required to use two buckets pouring concrete on other than road pavement shall receive \$0.50 per hour over scale. Engineers operating cranes with booms 100 feet but less than 149 feet in length will be paid an additional \$2.00 per hour. Engineers operating cranes with booms 149 feet or over in length will be paid an additional \$3.00 per hour. Operators of shovels with a capacity over (4) cubic yards shall be paid an additional \$1.00 per hour. Operators of loaders with a capacity over (5) cubic yards shall be paid an additional \$0.50 per hour.

**SUPPLEMENTAL BENEFITS**

Per hour:

Journeyworker:

	07/01/2018	03/04/2019	03/02/2020
	\$ 20.85	\$ 21.55	\$ 22.50
	+ \$ 8.00	+ \$ 8.00	+ \$ 8.00
	(Limited to 40 hours)	(Limited to 40 hours)	(Limited to 40 hours)

**OVERTIME PAY**

See (D, O, \*U, V) on OVERTIME PAGE

**HOLIDAY**

Paid: See (5, 6, 8, 9, 15, 25) on HOLIDAY PAGE  
 Overtime: See (5, 6, 8, 9, 15, 25) on HOLIDAY PAGE

\* Note: For Holiday codes 5 & 6, code U applies.

Note: If employees are required to work on Easter Sunday, they shall be paid at the rate of triple time.

**REGISTERED APPRENTICES**

(1)year terms at the following rates:

	07/01/2018	03/04/2019	03/02/2020
1st term	\$ 24.81	\$ 25.31	\$ 25.84
2nd term	29.77	30.37	31.01

3rd term	34.73	35.43	36.18
4th term	39.69	40.49	41.34

Supplemental Benefits per hour:

	07/01/2018	03/04/2019	03/02/2020
All terms	\$ 20.85	\$ 21.55	\$ 22.50

8-137Tun

**Operating Engineer - Marine Dredging**

**02/01/2019**

**JOB DESCRIPTION** Operating Engineer - Marine Dredging

**DISTRICT 4**

**ENTIRE COUNTIES**

Albany, Bronx, Cayuga, Chautauqua, Clinton, Columbia, Dutchess, Erie, Essex, Franklin, Greene, Jefferson, Kings, Monroe, Nassau, New York, Niagara, Orange, Orleans, Oswego, Putnam, Queens, Rensselaer, Richmond, Rockland, St. Lawrence, Suffolk, Ulster, Washington, Wayne, Westchester

**WAGES**

These wages do not apply to Operating Engineers on land based construction projects. For those projects, please see the Operating Engineer Heavy/Highway Rates. The wage rates below for barge mounted cranes and other equipment are only for marine dredging work in navigable waters found in the counties listed above.

Per Hour:

<b>DREDGING OPERATIONS</b>	07/01/2018
<b>CLASS A</b>	
Operator, Leverman, Lead Dredgeman	\$ 38.18

<b>CLASS A1</b>	To conform to Operating Engineer
Dozer, Front Loader Operator	Prevailing Wage in locality where work is being performed including benefits.

<b>CLASS B</b>	\$ 33.02
Barge Operator Spider/Spill Tug Operator(over1000hp), OperatorII, Fill Placer, Derrick Operator, Engineer, Chief Mate, Electrician, Chief Welder, Maintenance Engineer	

Certified Welder, Boat Operator(licensed)	\$ 31.09
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<b>CLASS C</b>	\$ 30.24
Drag Barge Operator, Steward, Mate, Assistant Fill Placer,	

Welder (please add)\$ 0.06

Boat Operator	\$ 29.26
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<b>CLASS D</b>	\$ 24.30
Shoreman, Deckhand, Rodman, Scowman, Cook, Messman, Porter/Janitor	

Oiler(please add)\$ 0.09

**SUPPLEMENTAL BENEFITS**

Per Hour:

THE FOLLOWING SUPPLEMENTAL BENEFITS APPLY TO ALL CATEGORIES

All Classes A & B	07/01/2018 \$11.23 plus 8% of straight time
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wage, Overtime hours  
add \$ 0.63

All Class C                      \$10.93 plus 8%  
of straight time  
wage, Overtime hours  
add \$ 0.48

All Class D                      \$10.63 plus 8%  
of straight time  
wage, Overtime hours  
add \$ 0.33

**OVERTIME PAY**  
See (B, F, R) on OVERTIME PAGE

**HOLIDAY**  
Paid:                      See (1) on HOLIDAY PAGE  
Overtime:                See (5, 6, 8, 15, 26) on HOLIDAY PAGE

4-25a-MarDredge

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**Operating Engineer - Survey Crew - Consulting Engineer**

**02/01/2019**

**JOB DESCRIPTION** Operating Engineer - Survey Crew - Consulting Engineer                      **DISTRICT 9**

**ENTIRE COUNTIES**  
Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Suffolk, Westchester

**PARTIAL COUNTIES**  
Dutchess: That part in Dutchess County lying South of the North City line of Poughkeepsie.

**WAGES**  
Feasibility and preliminary design surveying, any line and grade surveying for inspection or supervision of construction.

Per hour:                      07/01/2018  
Survey Classifications

Party Chief                      \$ 43.10  
Instrument Man                36.01  
Rodman                          31.54

**SUPPLEMENTAL BENEFITS**  
Per Hour:

All Crew Members:                \$ 18.50

**OVERTIME PAY**  
OVERTIME:..... See ( B, E\*, Q, V ) ON OVERTIME PAGE.  
\*Doubletime paid on the 9th hour on Saturday.

**HOLIDAY**  
Paid:                      See (5, 6, 7, 11, 16) on HOLIDAY PAGE  
Overtime:                See (5, 6, 7, 11, 16) on HOLIDAY PAGE

9-15dconsult

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**Painter**

**02/01/2019**

**JOB DESCRIPTION** Painter                      **DISTRICT 8**

**ENTIRE COUNTIES**  
Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Suffolk, Westchester

**WAGES**  
Per hour:                      07/01/2018

Brush                              \$ 46.85\*

Abatement/Removal of lead based  
or lead containing paint on  
materials to be repainted.                46.85\*

Spray & Scaffold	\$ 49.85*
Fire Escape	49.85*
Decorator	49.85*
Paperhanger/Wall Coverer	50.03*

\*Subtract \$ 0.10 to calculate premium rate.

**SUPPLEMENTAL BENEFITS**

Per hour: 07/01/2018

Paperhanger	\$ 28.19
All others	26.72
Premium	29.22**

\*\*Applies only to "All others" category, not paperhanger journeyman.

**OVERTIME PAY**

See (A, H) on OVERTIME PAGE

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

One ( 1 ) year terms at the following wage rate.

Per hour:	07/01/2018
Appr 1st term...	\$ 17.85*
Appr 2nd term...	23.26*
Appr 3rd term...	28.14*
Appr 4th term...	37.52*

\*Subtract \$ 0.10 to calculate premium rate.

Supplemental benefits:

Per Hour:	07/01/2018
Appr 1st term...	\$ 13.81
Appr 2nd term...	16.82
Appr 3rd term...	19.42
Appr 4th term...	24.56

8-NYDC9-B/S

**Painter**

**02/01/2019**

**JOB DESCRIPTION** Painter

**DISTRICT 8**

**ENTIRE COUNTIES**

Putnam, Suffolk, Westchester

**PARTIAL COUNTIES**

Nassau: All of Nassau except the areas described below: Atlantic Beach, Ceaderhurst, East Rockaway, Gibson, Hewlett, Hewlett Bay, Hewlett Neck, Hewlett Park, Inwood, Lawrence, Lido Beach, Long Beach, parts of Lynbrook, parts of Oceanside, parts of Valley Stream, and Woodmere. Starting on the South side of Sunrise Hwy in Valley Stream running east to Windsor and Rockaway Ave., Rockville Centre is the boundary line up to Lawson Blvd. turn right going west all the above territory. Starting at Union Turnpike and Lakeville Rd. going north to Northern Blvd. the west side of Lakeville road to Northern blvd. At Northern blvd. going east the district north of Northern blvd. to Port Washington Blvd. West of Port Washington blvd. to St. Francis Hospital then north of first traffic light to Port Washington and Sands Point, Manor HAven, Harbour Acres.

**WAGES**

Per hour:	07/01/2018
Drywall Taper	\$ 46.85*

\*Subtract \$ 0.10 to calculate premium rate.

**SUPPLEMENTAL BENEFITS**

Per hour:	07/01/2018
Journeyman	\$ 26.72

**OVERTIME PAY**

See (A, H) on OVERTIME PAGE

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**



Wages - Per Hour: 07/01/2018

1500 hour terms at the following wage rate:

1st term	\$ 17.85*
2nd term	\$ 23.26*
3rd term	\$ 28.14*
4th term	\$ 37.52*

\*Subtract \$ 0.10 to calculate premium rate.

Supplemental Benefits - Per hour:

One year term (1500 hours) at the following dollar amount.

1st year	\$ 13.81
2nd year	\$ 16.82
3rd year	\$ 19.42
4th year	\$ 24.56

8-NYDCT9-DWT

**Painter - Bridge & Structural Steel**

**02/01/2019**

**JOB DESCRIPTION** Painter - Bridge & Structural Steel

**DISTRICT 8**

**ENTIRE COUNTIES**

Albany, Bronx, Clinton, Columbia, Dutchess, Essex, Franklin, Fulton, Greene, Hamilton, Kings, Montgomery, Nassau, New York, Orange, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Suffolk, Sullivan, Ulster, Warren, Washington, Westchester

**WAGES**

Per Hour:

STEEL:

Bridge Painting:	07/01/2018	10/01/2018
	\$ 49.50	\$ 49.50
	+ 6.38*	+ 6.38*

ADDITIONAL \$6.00 per hour for POWER TOOL/SPRAY, whether straight time or overtime.

NOTE: All premium wages are to be calculated on base rate per hour only.

\* For the period of May 1st to November 15th, this amount is payable up to 40 hours. For the period of Nov 16th to April 30th, this amount is payable up to 50 hours. EXCEPTION: First and last week of employment, and for the weeks of Memorial Day, Independence Day and Labor Day, where the amount is paid for the actual number of hours worked (no cap).

NOTE: Generally, for Bridge Painting Contracts, ALL WORKERS on and off the bridge (including Flagmen) are to be paid Painter's Rate; the contract must be ONLY for Bridge Painting.

**SUPPLEMENTAL BENEFITS**

Per Hour:

Journeyworker:	07/01/2018	10/01/2018
	\$ 8.25	\$ 9.50
	+ 24.35*	+ 26.05*

\* For the period of May 1st to November 15th, this amount is payable up to 40 hours. For the period of Nov 16th to April 30th, this amount is payable up to 50 hours. EXCEPTION: First and last week of employment, and for the weeks of Memorial Day, Independence Day and Labor Day, where the amount is paid for the actual number of hours worked (no cap).

**OVERTIME PAY**

See (A, F, R) on OVERTIME PAGE

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (4, 6) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Wage - Per hour:

Apprentices: (1) year terms

	07/01/2018	10/01/2018
1st year	\$ 22.65	\$ 23.13

2nd year	33.98	34.73
3rd year	45.30	46.30

Supplemental Benefits - Per hour:

1st year	\$ 12.76	\$ 13.44
2nd year	19.14	20.16
3rd year	25.52	26.88

8-DC-9/806/155-BrSS

**Painter - Line Striping**

**02/01/2019**

**JOB DESCRIPTION** Painter - Line Striping

**DISTRICT 8**

**ENTIRE COUNTIES**

Albany, Bronx, Clinton, Columbia, Dutchess, Essex, Franklin, Fulton, Greene, Hamilton, Kings, Montgomery, Nassau, New York, Orange, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Suffolk, Sullivan, Ulster, Warren, Washington, Westchester

**WAGES**

Per hour:

Painter (Striping-Highway):	07/01/2018
Striping-Machine Operator*	\$ 29.93
Linerman Thermoplastic	\$ 36.06

Note: \* Includes but is not limited to: Positioning of cones and directing of traffic using hand held devices. Excludes the Driver/Operator of equipment used in the maintenance and protection of traffic safety.

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work Schedule,' as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

**SUPPLEMENTAL BENEFITS**

Per hour paid:	07/01/2018
Journeyworker:	

Striping-Machine operator	\$ 7.44
Linerman Thermoplastic	\$ 7.44

**OVERTIME PAY**

See (B, B2, E2, F, S) on OVERTIME PAGE

**HOLIDAY**

Paid:	See (5, 20) on HOLIDAY PAGE
Overtime:	See (5, 20) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

One (1) year terms at the following wage rates:

	07/01/2018
1st term	\$ 11.97
2nd term	17.96
3rd term	23.94

Supplemental Benefits per hour:

1st term	\$ 7.44
2nd term	7.44
3rd term	7.44

8-1456-LS

**Painter - Metal Polisher**

**02/01/2019**

**JOB DESCRIPTION** Painter - Metal Polisher

**DISTRICT 8**

**ENTIRE COUNTIES**

Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

**WAGES**

	07/01/2018
Metal Polisher	\$ 30.58
Metal Polisher*	31.53
Metal Polisher**	34.08

\*Note: Applies on New Construction & complete renovation

\*\* Note: Applies when working on scaffolds over 34 feet.

**SUPPLEMENTAL BENEFITS**

Per Hour: 07/01/2018

Journeyworker:  
 All classification \$ 7.72

**OVERTIME PAY**

See (B, E, P, T) on OVERTIME PAGE

**HOLIDAY**

Paid: See (5, 6, 11, 15, 16, 25, 26) on HOLIDAY PAGE

Overtime: See (5, 6, 9, 11, 15, 16, 25, 26) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Wages per hour:

One (1) year term at the following wage rates:

	07/01/2018	01/01/2019
1st year	\$ 13.00	\$ 15.00
2nd year	13.00	15.00
3rd year	15.75	15.75
1st year*	\$ 15.39	\$ 17.39
2nd year*	15.44	17.44
3rd year*	16.29	18.29
1st year**	\$ 17.50	19.50
2nd year**	17.50	19.50
3rd year**	18.25	20.25

\*Note: Applies on New Construction & complete renovation

\*\* Note: Applies when working on scaffolds over 34 feet.

Supplemental benefits:

Per hour:

1st year	\$ 5.52	\$ 5.52
2nd year	5.52	5.52
3rd year	5.52	5.52

8-8A/28A-MP

**Plumber**

**02/01/2019**

**JOB DESCRIPTION** Plumber

**DISTRICT 8**

**ENTIRE COUNTIES**

Putnam, Westchester

**WAGES**

Per hour:

07/01/2018

Plumber and  
 Steamfitter \$ 55.66

**SHIFT WORK:**

When directly specified in public agency or authority contract documents, shift work outside the regular hours of work shall be comprised of eight (8) hours per shift not including Saturday, Sundays and holidays. One half (1/2) hour shall be allowed for lunch after the first four (4) hours of each shift. Wage and Fringes for shift work shall be straight time plus a shift premium of twenty-five (25%) percent. A minimum of five days Monday through Friday must be worked to establish shift work.

**SUPPLEMENTAL BENEFITS**

Per hour:

Journeyworker \$ 34.11

**OVERTIME PAY**

See (B, E, E2, Q, V) on OVERTIME PAGE  
OVERTIME:... See on OVERTIME PAGE.

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
Overtime: See (5, 6, 8, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

(1)year terms at the following wages:

1st Term	\$ 20.59
2nd Term	23.65
3rd Term	27.29
4th Term	39.05
5th Term	41.91

Supplemental Benefits per hour:

1st term	\$ 14.24
2nd term	15.85
3rd term	18.90
4th term	24.74
5th term	26.20

8-21.1-ST

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**Plumber - HVAC / Service**

**02/01/2019**

**JOB DESCRIPTION** Plumber - HVAC / Service

**DISTRICT 8**

**ENTIRE COUNTIES**

Dutchess, Putnam, Westchester

**PARTIAL COUNTIES**

Delaware: Only the townships of Middletown and Roxbury

Ulster: Entire County (including Walkill and Shawangunk Prisons) except for remainder of Town of Shawangunk and Towns of Plattekill, Marlboro, and Wawarsing.

**WAGES**

Per hour: 07/01/2018

HVAC Service \$ 38.18  
+ \$ 4.32\*

\*Note: This portion of wage is not subject to overtime premium.

**SUPPLEMENTAL BENEFITS**

Per hour:

07/01/2018

Journeyworker HVAC Service

\$ 22.44

**OVERTIME PAY**

See (B, F, R) on OVERTIME PAGE

**HOLIDAY**

Paid: See (5, 6, 16, 25) on HOLIDAY PAGE  
Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

**HVAC SERVICE**

(1)year terms at the following wages:

07/01/2018

1st yr.	2nd yr.	3rd yr.	4th yr.	5th yr.
\$ 17.37	\$ 20.50	\$ 25.69	\$ 31.56	\$ 38.18
+\$2.37*	+\$2.67*	+\$3.22*	+\$3.84*	+\$4.07*

\*Note: This portion of wage is not subject to overtime premium.

Supplemental Benefits per hour:

Apprentices 07/01/2018

1st term	\$ 17.82
2nd term	18.61
3rd term	19.54
4th term	20.74
5th term	21.63

8-21.1&2-SF/Re/AC

**Plumber - Jobbing & Alterations**

02/01/2019

**JOB DESCRIPTION** Plumber - Jobbing & Alterations

**DISTRICT 8**

**ENTIRE COUNTIES**

Dutchess, Putnam, Westchester

**PARTIAL COUNTIES**

Ulster: Entire county (including Walkill and Shawangunk Prisons in Town of Shawangunk) EXCEPT for remainder of Town of Shawangunk, and Towns of Plattekill, Marlboro, and Wawarsing.

**WAGES**

Per hour:	07/01/2018
Journeyworker:	\$ 43.15

Repairs, replacements and alteration work is any repair or replacement of a present plumbing system that does not change existing roughing or water supply lines.

**SHIFT WORK:**

When directly specified in public agency or authority contract documents, shift work outside the regular hours of work shall be comprised of eight (8) hours per shift not including Saturday, Sundays and holidays. One half (1/2) hour shall be allowed for lunch after the first four (4) hours of each shift. Wage and Fringes for shift work shall be straight time plus a shift premium of twenty-five (25%) percent. A minimum of five days Monday through Friday must be worked to establish shift work.

**SUPPLEMENTAL BENEFITS**

Per hour:	
Journeyworker	\$ 28.84

**OVERTIME PAY**

See (B, \*E, E2, Q, V) on OVERTIME PAGE

\*When used as a make-up day, hours after 8 on Saturday shall be paid at time and one half.

**HOLIDAY**

Paid:	See (1) on HOLIDAY PAGE
Overtime:	See (5, 6, 8, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

(1) year terms at the following wages:

1st year	\$ 18.84
2nd year	20.88
3rd year	22.51
4th year	31.68
5th year	33.42

Supplemental Benefits per hour:

1st year	\$ 9.13
2nd year	10.82
3rd year	14.45
4th year	19.45
5th year	21.20

8-21.3-J&A

**Roofer**

**02/01/2019**

**JOB DESCRIPTION** Roofer

**DISTRICT 9**

**ENTIRE COUNTIES**

Bronx, Dutchess, Kings, New York, Orange, Putnam, Queens, Richmond, Rockland, Sullivan, Ulster, Westchester

**WAGES**

Per Hour: 07/01/2018

Roofer/Waterproofer \$ 49.50

Note: Abatement/Removal of Asbestos containing roofs and roofing material is classified as Roofer.

**SUPPLEMENTAL BENEFITS**

Per Hour: \$ 26.37

**OVERTIME PAY**

See (B, H) on OVERTIME PAGE

Note: An observed holiday that falls on a Sunday will be observed the following Monday.

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

( 1 ) year term

1st	2nd	3rd	4th
\$ 14.88	\$ 24.75	\$ 29.70	\$ 37.14

Supplements:

1st	2nd	3rd	4th
\$ 3.30	\$ 13.21	\$ 15.84	\$ 19.79

9-8R

**Sheetmetal Worker**

**02/01/2019**

**JOB DESCRIPTION** Sheetmetal Worker

**DISTRICT 8**

**ENTIRE COUNTIES**

Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester

**WAGES**

SheetMetal Worker 07/01/2018

\$ 43.70

**SHIFT WORK**

For all NYS D.O.T. and other Governmental mandated off-shift work:

10% increase for additional shifts for a minimum of five (5) days

**SUPPLEMENTAL BENEFITS**

Journeyworker \$ 41.42

**OVERTIME PAY**

OVERTIME... See ( B, E, Q, ) on OVERTIME PAGE.

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 15, 16, 23) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

1st	2nd	3rd	4th	5th	6th	7th	8th
\$16.18	\$18.20	\$ 20.23	\$ 22.25	\$ 24.27	\$ 26.30	\$ 28.80	\$ 31.29

Supplemental Benefits per hour:

Apprentices

1st term	\$ 17.86
2nd term	20.09
3rd term	22.31
4th term	24.58
5th term	26.79
6th term	29.02
7th term	30.77
8th term	32.55

8-38

**Sheetmetal Worker**

**02/01/2019**

**JOB DESCRIPTION** Sheetmetal Worker

**DISTRICT 4**

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Suffolk, Westchester

**WAGES**

Per Hour:	07/01/2018	08/01/2018
Sign Erector	\$ 47.67	Additional \$1.95/hr.

NOTE: Structurally Supported Overhead Highway Signs(See STRUCTURAL IRON WORKER CLASS)

**SUPPLEMENTAL BENEFITS**

Per Hour:	07/01/2018	08/01/2018
Sign Erector	\$ 44.44	Additional \$1.64/hr

**OVERTIME PAY**

See (A, F, S) on OVERTIME PAGE

**HOLIDAY**

Paid: See (5, 6, 10, 11, 12, 16, 25) on HOLIDAY PAGE  
 Overtime: See (5, 6, 10, 11, 12, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Per Hour:  
 6 month Terms at the following percentage of Sign Erectors wage rate:

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
35%	40%	45%	50%	55%	60%	65%	70%	75%	80%

**SUPPLEMENTAL BENEFITS**

Per Hour:	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
	\$13.11	\$14.85	\$16.59	\$18.34	\$25.56	\$27.80	\$30.76	\$33.07	\$35.36	\$37.65

4-137-SE

**Sprinkler Fitter**

**02/01/2019**

**JOB DESCRIPTION** Sprinkler Fitter

**DISTRICT 1**

**ENTIRE COUNTIES**

Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester

**WAGES**

Per hour	07/01/2018	01/01/2019
Sprinkler Fitter	\$ 45.42	45.42

**SUPPLEMENTAL BENEFITS**

Per hour	
Journeyman	\$ 23.42 23.97

**OVERTIME PAY**

See (B, E, Q) on OVERTIME PAGE

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6) on HOLIDAY PAGE

Note: When a holiday falls on Sunday, the following Monday shall be considered a holiday and all work performed on either day shall be at the double time rate. When a holiday falls on Saturday, the preceding Friday shall be considered a holiday and all work performed on either day shall be at the double time rate.

**REGISTERED APPRENTICES**

Wages per hour

For Apprentices HIRED ON OR AFTER 04/01/2010:

One Half Year terms at the following percentage of journeyman's wage.

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
45%	50%	55%	60%	65%	70%	75%	80%	85%	90%

Supplemental Benefits per hour worked

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
\$ 9.05	\$ 9.11	\$ 17.24	\$ 17.30	\$ 17.86	\$ 17.92	\$ 17.98	\$ 18.03	\$ 18.09	\$ 18.15

For Apprentices HIRED ON OR AFTER 04/01/2013:

One Half Year terms at the following percentage of journeyman's wage.

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
45%	50%	55%	60%	65%	70%	75%	80%	85%	90%

Supplemental Benefits per hour worked

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
\$ 8.27	\$ 8.27	\$ 17.24	\$ 17.24	\$ 17.49	\$ 17.49	\$ 17.49	\$ 17.49	\$ 17.49	\$ 17.49 1-669.2

**Teamster - Building / Heavy&Highway**

**02/01/2019**

**JOB DESCRIPTION** Teamster - Building / Heavy&Highway

**DISTRICT 8**

**ENTIRE COUNTIES**

Putnam, Westchester

**WAGES**

GROUP A: Straight Trucks (6-wheeler and 10-wheeler), A-frame, Winch, Dynamite Seeding, Mulching, Agitator, Water, Attenuator, Light Towers, Cement (all types), Suburban, Station Wagons, Cars, Pick Ups, any vehicle carrying materials of any kind.

GROUP B: Tractor & Trailers (all types).

GROUP BB: Tri-Axle, 14 Wheeler

GROUP C: Low Boy (carrying equipment).

GROUP D: Fuel Trucks, Tire Trucks.

GROUP E: Off-road Equipment (over 40 tons): Athey Wagons, Belly Dumps, Articulated Dumps, Trailer Wagons.

GROUP F: Off-road Equipment (over 40 tons) Euclid, DJB.

GROUP G: Off-road Equipment (under 40 tons) Athey Wagons, Belly Articulated Dumps, Trailer Wagons.

GROUP H: Off-road Equipment (under 40 tons), Euclid.

GROUP HH: Off-road Equipment (under 40 tons) D.J.B.

GROUP I: Off-road Equipment (under 40 tons) Darts.

GROUP II: Off-road Equipment (under 40 tons) RXS.

WAGES:(per hour)

07/01/2018

GROUP A	\$ 40.92*
GROUP B	41.54*
GROUP BB	41.04*
GROUP C	43.67*
GROUP D	41.37*
GROUP E	41.92*
GROUP F	42.92*
GROUP G	41.67*
GROUP H	42.29*
GROUP HH	42.67*
GROUP I	42.42*
GROUP II	42.79*



\* To calculate premium wage, subtract \$ .20 from the hourly wage.

Note: Fuel truck operators on construction sites addit. \$5.00 per day.  
For work on hazardous/toxic waste site addit. 20% of hourly rate.

Shift Differential:NYS DOT or other Governmental Agency contracts shall receive a shift differential of Fifteen(15%)percent above the wage rate

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Fridays and Saturdays may be used as make-up days at straight time when a day during the work week has been lost due to inclement weather.

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

#### SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker

First 40 hours	\$ 29.42
41st-45th hours	13.38
Over 45 hours	0.25

NOTE: Employees entitled to 1 week of paid vacation based on group classification after 90 days of employment.

#### OVERTIME PAY

See (B, E, P, R) on OVERTIME PAGE

#### HOLIDAY

Paid: See (5, 6, 8, 9, 15, 25) on HOLIDAY PAGE  
Overtime: See (5, 6, 8, 9, 15, 25) on HOLIDAY PAGE

8-456

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#### Welder

02/01/2019

**JOB DESCRIPTION** Welder

**DISTRICT 1**

#### ENTIRE COUNTIES

Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

#### WAGES

Per hour 07/01/2018

Welder: To be paid the same rate of the mechanic performing the work.\*

\*EXCEPTION: If a specific welder certification is required, then the 'Certified Welder' rate in that trade tag will be paid.

#### OVERTIME PAY

#### HOLIDAY

1-As Per Trade

## Overtime Codes

Following is an explanation of the code(s) listed in the OVERTIME section of each classification contained in the attached schedule. Additional requirements may also be listed in the HOLIDAY section.

NOTE: Supplemental Benefits are 'Per hour worked' (for each hour worked) unless otherwise noted

- ( AA ) Time and one half of the hourly rate after 7 and one half hours per day
- ( A ) Time and one half of the hourly rate after 7 hours per day
- ( B ) Time and one half of the hourly rate after 8 hours per day
- ( B1 ) Time and one half of the hourly rate for the 9th & 10th hours week days and the 1st 8 hours on Saturday.  
Double the hourly rate for all additional hours
- ( B2 ) Time and one half of the hourly rate after 40 hours per week
- ( C ) Double the hourly rate after 7 hours per day
- ( C1 ) Double the hourly rate after 7 and one half hours per day
- ( D ) Double the hourly rate after 8 hours per day
- ( D1 ) Double the hourly rate after 9 hours per day
- ( E ) Time and one half of the hourly rate on Saturday
- ( E1 ) Time and one half 1st 4 hours on Saturday; Double the hourly rate all additional Saturday hours
- ( E2 ) Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
- ( E3 ) Between November 1st and March 3rd Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather, provided a given employee has worked between 16 and 32 hours that week
- ( E4 ) Saturday and Sunday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
- ( E5 ) Double time after 8 hours on Saturdays
- ( F ) Time and one half of the hourly rate on Saturday and Sunday
- ( G ) Time and one half of the hourly rate on Saturday and Holidays
- ( H ) Time and one half of the hourly rate on Saturday, Sunday, and Holidays
- ( I ) Time and one half of the hourly rate on Sunday
- ( J ) Time and one half of the hourly rate on Sunday and Holidays
- ( K ) Time and one half of the hourly rate on Holidays
- ( L ) Double the hourly rate on Saturday
- ( M ) Double the hourly rate on Saturday and Sunday
- ( N ) Double the hourly rate on Saturday and Holidays
- ( O ) Double the hourly rate on Saturday, Sunday, and Holidays
- ( P ) Double the hourly rate on Sunday
- ( Q ) Double the hourly rate on Sunday and Holidays
- ( R ) Double the hourly rate on Holidays
- ( S ) Two and one half times the hourly rate for Holidays, if worked

- ( S1 ) Two and one half times the hourly rate the first 8 hours on Sunday or Holidays One and one half times the hourly rate all additional hours.
- ( T ) Triple the hourly rate for Holidays, if worked
- ( U ) Four times the hourly rate for Holidays, if worked
- ( V ) Including benefits at SAME PREMIUM as shown for overtime
- ( W ) Time and one half for benefits on all overtime hours.
- ( X ) Benefits payable on Paid Holiday at straight time. If worked, additional benefit amount will be required for worked hours. (Refer to other codes listed.)

## Holiday Codes

### PAID Holidays:

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

### OVERTIME Holiday Pay:

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays. The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Following is an explanation of the code(s) listed in the HOLIDAY section of each classification contained in the attached schedule. The Holidays as listed below are to be paid at the wage rates at which the employee is normally classified.

- ( 1 ) None
- ( 2 ) Labor Day
- ( 3 ) Memorial Day and Labor Day
- ( 4 ) Memorial Day and July 4th
- ( 5 ) Memorial Day, July 4th, and Labor Day
- ( 6 ) New Year's, Thanksgiving, and Christmas
- ( 7 ) Lincoln's Birthday, Washington's Birthday, and Veterans Day
- ( 8 ) Good Friday
- ( 9 ) Lincoln's Birthday
- ( 10 ) Washington's Birthday
- ( 11 ) Columbus Day
- ( 12 ) Election Day
- ( 13 ) Presidential Election Day
- ( 14 ) 1/2 Day on Presidential Election Day
- ( 15 ) Veterans Day
- ( 16 ) Day after Thanksgiving
- ( 17 ) July 4th
- ( 18 ) 1/2 Day before Christmas
- ( 19 ) 1/2 Day before New Years
- ( 20 ) Thanksgiving
- ( 21 ) New Year's Day
- ( 22 ) Christmas
- ( 23 ) Day before Christmas
- ( 24 ) Day before New Year's
- ( 25 ) Presidents' Day
- ( 26 ) Martin Luther King, Jr. Day
- ( 27 ) Memorial Day
- ( 28 ) Easter Sunday



**New York State Department of Labor - Bureau of Public Work  
State Office Building Campus  
Building 12 - Room 130  
Albany, New York 12240**

**REQUEST FOR WAGE AND SUPPLEMENT INFORMATION**

As Required by Articles 8 and 9 of the NYS Labor Law

Fax (518) 485-1870 or mail this form for new schedules or for determination for additional occupations.

**This Form Must Be Typed**

Submitted By:

(Check Only One)

Contracting Agency     Architect or Engineering Firm     Public Work District Office    Date:

**A. Public Work Contract to be let by: (Enter Data Pertaining to Contracting/Public Agency)**

1. Name and complete address  (Check if new or change)

Telephone: (    )  
E-Mail:

Fax: (    )

2. NY State Units (see Item 5)

- |   |  |
|---|--|
| <input type="checkbox"/> 01 DOT                                   | <input type="checkbox"/> 07 City   |
| <input type="checkbox"/> 02 OGS                                   | <input type="checkbox"/> 08 Local School District  |
| <input type="checkbox"/> 03 Dormitory Authority                   | <input type="checkbox"/> 09 Special Local District, i.e.,<br>Fire, Sewer, Water District |
| <input type="checkbox"/> 04 State University<br>Construction Fund | <input type="checkbox"/> 10 Village  |
| <input type="checkbox"/> 05 Mental Hygiene<br>Facilities Corp.    | <input type="checkbox"/> 11 Town   |
| <input type="checkbox"/> 06 OTHER N.Y. STATE UNIT                 | <input type="checkbox"/> 12 County   |
|   | <input type="checkbox"/> 13 Other Non-N.Y. State<br>(Describe)                           |

3. SEND REPLY TO  (check if new or change)  
Name and complete address:

Telephone:(    )  
E-Mail:

Fax: (    )

4. SERVICE REQUIRED. Check appropriate box and provide project information.

New Schedule of Wages and Supplements.

APPROXIMATE BID DATE :

Additional Occupation and/or Redetermination

PRC NUMBER ISSUED PREVIOUSLY FOR  
THIS PROJECT :

OFFICE USE ONLY

**B. PROJECT PARTICULARS**

5. Project Title \_\_\_\_\_  
Description of Work \_\_\_\_\_  
Contract Identification Number \_\_\_\_\_  
Note: For NYS units, the OSC Contract No. \_\_\_\_\_

6. Location of Project:  
Location on Site \_\_\_\_\_  
Route No/Street Address \_\_\_\_\_  
Village or City \_\_\_\_\_  
Town \_\_\_\_\_  
County \_\_\_\_\_

7. Nature of Project - Check One:

- 1. New Building
- 2. Addition to Existing Structure
- 3. Heavy and Highway Construction (New and Repair)
- 4. New Sewer or Waterline
- 5. Other New Construction (Explain)
- 6. Other Reconstruction, Maintenance, Repair or Alteration
- 7. Demolition
- 8. Building Service Contract

8. OCCUPATION FOR PROJECT :

- |  |   |
|--|---|
| <input type="checkbox"/> Construction (Building, Heavy<br>Highway/Sewer/Water) | <input type="checkbox"/> Guards, Watchmen                                   |
| <input type="checkbox"/> Tunnel  | <input type="checkbox"/> Janitors, Porters, Cleaners,<br>Elevator Operators |
| <input type="checkbox"/> Residential   | <input type="checkbox"/> Moving furniture and<br>equipment                  |
| <input type="checkbox"/> Landscape Maintenance                                 | <input type="checkbox"/> Trash and refuse removal                           |
| <input type="checkbox"/> Elevator maintenance                                  | <input type="checkbox"/> Window cleaners                                    |
| <input type="checkbox"/> Exterminators, Fumigators                             | <input type="checkbox"/> Other (Describe)                                   |
| <input type="checkbox"/> Fire Safety Director, NYC Only                        |   |

9. Has this project been reviewed for compliance with the Wicks Law involving separate bidding?    YES     NO

10. Name and Title of Requester

**Signature**





NEW YORK STATE DEPARTMENT OF LABOR  
Bureau of Public Work - Debarment List

**LIST OF EMPLOYERS INELIGIBLE TO BID ON OR BE  
AWARDED ANY PUBLIC WORK CONTRACT**

Under Article 8 and Article 9 of the NYS Labor Law, a contractor, sub-contractor and/or its successor shall be debarred and ineligible to submit a bid on or be awarded any public work or public building service contract/sub-contract with the state, any municipal corporation or public body for a period of five (5) years from the date of debarment when:

- Two (2) final determinations have been rendered within any consecutive six-year (6) period determining that such contractor, sub-contractor and/or its successor has WILLFULLY failed to pay the prevailing wage and/or supplements;
- One (1) final determination involves falsification of payroll records or the kickback of wages and/or supplements.

The agency issuing the determination and providing the information, is denoted under the heading 'Fiscal Officer'. DOL = New York State Department of Labor; NYC = New York City Comptroller's Office; AG = New York State Attorney General's Office; DA = County District Attorney's Office.

**Debarment Database:** To search for contractors, sub-contractors and/or their successors debarred from bidding or being awarded any public work contract or subcontract under NYS Labor Law Articles 8 and 9, or under NYS Workers' Compensation Law Section 141-b, access the database at this link: <https://applications.labor.ny.gov/EDList/searchPage.do>

**For inquiries where WCB is listed as the "Agency", please call 1-866-546-9322**





**NYS DOL Bureau of Public Work Debarment List 02/11/2019**

**Article 8**

AGENCY	Fiscal Officer	FEIN	EMPLOYER NAME	EMPLOYER DBA NAME	ADDRESS	DEBARMENT START DATE	DEBARMENT END DATE
DOL	DOL	*****0996	A-1 CONSTRUCTION & RENOVATION INC		1973 81ST ST - SUITE A-5 BROOKLYN NY 11214	01/08/2015	01/08/2020
DOL	NYC		ABDUL KARIM		C/O NORTH AMERICAN IRON W 1560 DECATUR STREET RIDGEWOOD NY 11385	05/15/2015	05/15/2020
DOL	DOL	*****3344	ACT INC		6409 LAND O LAKES BLVD LAND O LAKES FL 34638	11/10/2015	11/10/2020
DOL	DOL	*****1687	ADVANCED SAFETY SPRINKLER INC		261 MILL ROAD P O BOX 296 EAST AURORA NY 14052	07/29/2015	07/29/2020
DOL	NYC	*****6775	ADVENTURE MASONRY CORP.		1535 RICHMOND AVENUE STATEN ISLAND NY 10314	12/13/2017	12/13/2022
DOL	DOL		AJ TORCHIA		10153 ROBERTS RD SAUQUOIT NY 13456	08/09/2016	08/09/2021
DOL	DOL	*****3344	ALL CATASTROPHE CONSTRUCTION TEAM INC	ACT INC	6409 LAND O LAKES BLVD LAND O LAKES FL 34638	11/10/2015	11/10/2020
DOL	DOL	*****8740	ALLSTATE ENVIRONMENTAL CORP		C/O JOSE MONTAS 27 BUTLER PLACE YONKERS NY 10710	03/18/2011	03/19/2020
DOL	DOL		AMADEO J TORCHIA	TORCHIA'S HOME IMPROVEMENT	10153 ROBERTS RD SAUQUOIT NY 13456	08/09/2016	08/09/2021
DOL	DOL		ANGELO F COKER			12/04/2018	12/04/2023
DOL	NYC		ANISUL ISLAM		C/O RELIANCE GENERAL CONS 644 OCEAN PARKWAY BROOKLYN NY 11230	09/02/2015	09/02/2020
DOL	DOL		ANITA SALERNO		158 SOLAR ST SYRACUSE NY 13204	01/07/2019	01/07/2024
DOL	DOL	*****7004	ANNEX CONTRACTING LTD		3005 WYNSUM AVENUE MERRICK NY 11566	08/18/2014	08/18/2019
DOL	DOL	*****7004	ANNEX GENERAL CONTRACTING INC		3005 WYNSUM AVENUE MERRICK NY 11566	08/18/2014	08/18/2019
DOL	DA		ANTHONY CARDINALE		58-48 58TH STREET MASPETH NY 11378	05/16/2012	05/08/2020
DOL	DOL		ANTHONY J MINGARELLI JR		C/O T & T CONCRETE INC 2580 HAMBURG TURNPIKELACKAWANNA NY 14218	07/08/2015	07/08/2020
DOL	DOL		ANTHONY PERGOLA		3 WEST MAIN ST/SUITE 208 ELMSFORD NY 10323	01/23/2017	01/23/2022
DOL	DOL		ANTONIO ESTIVEZ		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL	*****3020	APCO CONTRACTING CORP		24 SOUTH MARYLAND AVENUE PORT WASHINGTON NY 11050	09/24/2012	09/02/2020
DOL	DOL	*****3219	APOLLO CONSTRUCTION SERVICES CORP	APOLLO PAINTING CO	157 TIBBETTS ROAD YONKERS NY 10705	03/12/2014	03/12/2019
DOL	DOL		APOLLO PAINTING CO		157 TIBBETTS ROAD YONKERS NY 10705	03/12/2014	03/12/2019
DOL	DOL	*****3295	APOLLO PAINTING CORP		3 ALAN B SHEPART PLACE YONKERS NY 10705	03/12/2014	03/12/2019
DOL	NYC	*****8403	AQUA JET PAINTING CORP		10 VIKING DRIVE WEST ISLIP NY 11795	04/16/2014	04/16/2019
DOL	NYC	*****9232	ARKAY CONSTRUCTION INC		102-104 GREYLOCK AVENUE BELLEVILLE NJ 07109	07/15/2015	07/15/2020
DOL	NYC	*****4779	ASTORIA GENERAL CONTRACTING CORP		35-34 31ST STREET LONG ISLAND CITY NY 11106	09/02/2015	09/02/2020
DOL	NYC	*****7217	ASTRO COMMUNICATIONS OF NY CORP		79 ALEXANDER AVE- STE 36A BRONX NY 10454	10/30/2015	10/30/2020
DOL	NYC	*****6046	ATLANTIC SUN CONSTRUCTION CORP		58-46 59TH AVENUE MASPETH NY 11378	05/08/2015	05/08/2020
DOL	NYC	*****6683	ATLAS RESTORATION CORP.		35-12 18TH AVENUE ASTORIA NY 11105	08/02/2017	08/02/2022
DOL	NYC		AUDLEY O'BRIEN		1273 NORTH AVENUE #1 CP NEW ROCHELLE NY 10804	04/07/2015	04/07/2020
DOL	NYC	*****2591	AVI 212 INC.		260 CROPSY AVENUE APT 11G BROOKLYN NY 11214	10/30/2018	10/30/2023
DOL	DOL		AVIS R HILL		3510 HICKORY WALK LANE ELLENWOOD GA 32094	01/22/2015	01/22/2020

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DOL	AG		AVTAR SINGH		116-24 127TH STREET SOUTH OZONE PARK NY 11420	12/22/2015	12/22/2020
DOL	AG		BALDEV SINGH		116-24 127TH STREET SOUTH OZONE PARK NY 11420	12/22/2015	12/22/2020
DOL	DOL		BARBARA CASSIDY		7 BLENIS PLACE VALHALLA NY 10595	04/02/2015	04/02/2020
DOL	DOL		BARRY KINNEY		6409 LAND O LAKES BLVD LAND O LAKES FL 34638	11/10/2015	11/10/2020
DOL	NYC	*****3915	BEACON RESTORATION INC		SUITE B-8 782 PELHAM PARKWAY SOUTHBRONX NY 10462	04/21/2016	04/21/2021
DOL	DOL		BIAGIO CANTISANI			06/12/2018	06/12/2023
DOL	DOL	*****8551	BRANDY'S MASONRY		216 WESTBROOK STREET P O BOX 304SAYRE PA 18840	08/09/2016	08/09/2021
DOL	NYC	*****6555	BROOKLYN WELDING CORP		1273 NORTH AVENUE/ #1 CP NEW ROCHELLE NY 10804	04/07/2015	04/07/2020
DOL	DOL	*****1449	BRRESTORATION NY INC		140 ARCADIA AVENUE OSWEGO NY 13126	09/12/2016	09/12/2021
DOL	DOL		BRUCE MORSEY		C/O KENT HOLLOW SIDING LL 29A BRIDGE STREETNEW MILFORD CT 06776	01/15/2016	01/15/2021
DOL	DOL		BRUCE P. NASH JR.		5841 BUTTERNUT ROAD EAST SYRACUSE NY 13057	09/12/2018	09/12/2023
DOL	DOL	*****6156	C & J LANDSCAPING & MAINTENANCE INC		520 PINE HILL ROAD CHESTER NY 10940	06/23/2014	06/23/2019
DOL	DOL	*****8809	C.B.E. CONTRACTING CORPORATION		310 MCGUINNESS BLVD GREENPOINT NY 11222	03/07/2017	03/07/2022
DOL	DOL	*****9383	C.C. PAVING AND EXCAVATING, INC.		2610 SOUTH SALINA ST SUITE 12SYRACUSE NY 13205	12/04/2018	12/04/2023
DOL	DOL		CANTISANI & ASSOCIATES LTD		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL		CANTISANI HOLDING LLC			06/12/2018	06/12/2023
DOL	DOL		CARIBBEAN POOLS		C/O DOUGLAS L MALARKEY 64 VICTORIA DRIVEBINGHAMTON NY 13904	02/04/2016	02/04/2021
DOL	DOL	*****3812	CARMODY "2" INC			06/12/2018	06/12/2023
DOL	DOL	*****1143	CARMODY BUILDING CORP	CARMODY CONTRACTIN G AND CARMODY CONTRACTIN G CORP.	442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL		CARMODY CONCRETE CORPORATION			06/12/2018	06/12/2023
DOL	DOL		CARMODY ENTERPRISES, LTD.		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL		CARMODY INC		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL	*****3812	CARMODY INDUSTRIES INC			06/12/2018	06/12/2023
DOL	DOL		CARMODY MAINTENANCE CORPORATION		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL		CARMODY MASONRY CORP		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	NYC	*****9172	CASSIDY EXCAVATING INC		14 RAILROAD AVENUE VALHALLA NY 10595	05/15/2014	04/02/2020
DOL	DOL	*****6745	CATSKILL FENCE INSTALLATIONS INC		5445 ROUTE 32 CATSKILL NY 12414	08/22/2014	08/22/2019
DOL	DOL	*****8809	CBE CONTRACTING CORP		142 EAST MARKET STREET LONG BEACH NY 11561	03/07/2017	03/07/2022
DOL	AG		CESAR J. AGUDELO		81-06 34TH AVENUE APT. 6EJACKSON HEIGHTS NY 11372	02/07/2018	02/07/2023
DOL	DOL	*****7655	CHAMPION CONSTRUCTION SERVICES CORP		2131 SCHENECTADY AVENUE BROOKLYN NY 11234	11/18/2015	11/18/2020
DOL	NYC		CHARLES CASSIDY JR		14 RAILROAD AVENUE VALHALLA NY 10595	05/15/2014	04/02/2020
DOL	DOL		CHARLES ZIMMER JR		216 WESTBROOK STREET P O BOX 304SAYRE PA 18840	08/09/2016	08/09/2021
DOL	DOL		CHRISTINE J HEARNE		C/O CJ-HEARNE CONSTRUCTIO 131 PONCE DE LEON AVE NEATLANTA GA 30308	12/01/2015	12/01/2020

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DOL	DOL		CHRISTOPHER J MAINI		19 CAITLIN AVE JAMESTOWN NY 14701	09/17/2018	09/17/2023
DOL	DOL	*****3360	CITY LIMITS GROUP INC		2279 HOLLERS AVENUE BRONX NY 10475	01/07/2014	06/23/2019
DOL	DOL	*****0671	CJ-HEARNE CONSTRUCTION CO		SUITE 204 131 PONCE DE LEON AVENUE ATLANTA GA 30308	12/01/2015	12/01/2020
DOL	DOL	*****2703	CONKLIN'S TECH- MECHANICAL INC		5 PARKER AVENUE POUGHKEEPSIE NY 12601	03/25/2014	03/25/2019
DOL	DOL	*****1927	CONSTRUCTION PARTS WAREHOUSE, INC.	CPW	5841 BUTTERNUT ROAD EAST SYRACUSE NY 13057	09/12/2018	09/12/2023
DOL	NYC	*****4468	CRAFT CONTRACTING GROUP INC		3256 BRUNER AVENUE BRONX NY 10469	07/29/2014	07/29/2019
DOL	NYC	*****8507	CRAFT FENCE INC		3256 BRUNER AVENUE BRONX NY 10469	07/29/2014	07/29/2019
DOL	NYC	*****2164	CREATIVE TRUCKING INC		58-83 54TH STREET MASPETH NY 11378	02/26/2016	02/26/2021
DOL	DOL	*****7761	D L MALARKEY CONSTRUCTION		64 VICTORIA DRIVE BINGHAMTON NY 13904	02/04/2016	02/04/2021
DOL	DOL	*****7888	D L MALARKEY CONSTRUCTION INC		64 VICTORIA DRIVE BINGHAMTON NY 13904	02/04/2016	02/04/2021
DOL	DOL	*****5629	DAKA PLUMBING AND HEATING LLC		2561 ROUTE 55 POUGHQUAG NY 12570	02/19/2016	02/19/2021
DOL	DOL		DANICA IVANOSKI		61 WILLETT ST. PASSAIC NJ 07503	10/26/2016	10/26/2021
DOL	DOL		DARIAN L COKER		2610 SOUTH SALINA ST SUITE 2C SYRACUSE NY 13205	12/04/2018	12/04/2023
DOL	DOL		DARYL T RIEKS		C/O RIEKS CONTRACTING LLC 4804 GAHWILER ROAD AUBURN NY 13021	05/01/2015	05/01/2020
DOL	NYC	*****7707	DASSLE CONTRACTING INC		213-37 39TH AVE/SUITE 120 BAYSIDE NY 11360	05/08/2015	05/08/2020
DOL	DOL		DAVID MARTINEZ		C/O EMPIRE TILE INC 8 TREMONT COURTHUNTINGTON STATION NY 11746	03/08/2016	03/08/2021
DOL	NYC		DAWN AVILA AKA DAWN BECHTOLD		1ST FLOOR STORE FRONT 88-10 LITTLE NECK PARKWAY FLORAL PARK NY 11001	06/24/2014	06/24/2019
DOL	NYC		DAWN BECHTOLD AKA DAWN AVILA		1ST FLOOR STORE FRONT 88-10 LITTLE NECK PARKWAY FLORAL PARK NY 11001	06/24/2014	06/24/2019
DOL	DOL		DEBBIE STURDEVANT		29 MAPLEWOOD DRIVE BINGHAMTON NY 13901	02/21/2017	02/21/2022
DOL	AG		DEBRA MARTINEZ		31 BAY ST BROOKLYN NY 11231	03/28/2018	03/28/2023
DOL	DOL		DEDA GAZIVODAN		C/O DAKA PLUMBING AND H 2561 ROUTE 55 POUGHQUAG NY 12570	02/19/2016	02/19/2021
DOL	DOL		DENNIS SCHWANDTNER		C/O YES SERVICE AND REPAIR 145 LODGE AVE HUNTINGTON STATION NY 11476	08/09/2016	08/09/2021
DOL	DOL		DF CONTRACTORS OF ROCHESTER, INC.		1835 DAANSEN RD. PALMYRA NY 14522	05/16/2017	05/16/2022
DOL	DOL		DF CONTRACTORS, INC.		1835 DAANSEN RD. PALMYRA NY 14522	05/16/2017	05/16/2022
DOL	DOL	*****9252	DI BERNARDO TILE AND MARBLE CO INC		15 WALKER WAY ALBANY NY 12205	03/21/2014	03/21/2019
DOL	NYC		DIMITRIOS KOUTSOUKOS		C/O ASTORIA GENERAL CONTR 35-34 31ST STREET LONG ISLAND CITY NY 11106	09/02/2015	09/02/2020
DOL	NYC		DIMITRIOS TSOUMAS		35-12 19TH AVENUE ASTORIA NY 11105	08/02/2017	08/02/2022
DOL	DOL	*****3242	DONALD R. FORSAY	DF LAWN SERVICE	1835 DAANSEN RD. PALMYRA NY 14522	05/16/2017	05/16/2022
DOL	DOL		DONALD R. FORSAY		1835 DAANSEN RD. PALMYRA NY 14522	05/16/2017	05/16/2022
DOL	DOL		DORIS SKODA		C/O APCO CONTRACTING CORP 24 SOUTH MARYLAND AVENUE PORT WASHINGTON NY 11050	09/24/2012	09/02/2020
DOL	NYC	*****7404	DOSANJH CONSTRUCTION CORP		9439 212TH STREET QUEENS VILLAGE NY 11428	02/25/2016	02/25/2021
DOL	DOL		DOUGLAS L MALARKEY	MALARKEY CONSTRUCTION	64 VICTORIA DRIVE BINGHAMTON NY 13904	02/04/2016	02/04/2021

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DOL	DOL	*****6982	DUFOUR GROUP INC	DUFOUR MASONRY	353 WEST 56TH STREET #7M NEW YORK NY 10019	06/10/2014	06/10/2019
DOL	DOL		DUFOUR MASONRY		353 WEST 56TH ST #7M NEW YORK NY 10019	06/10/2014	06/10/2019
DOL	DOL		DUFOUR MASONRY & RESTORATION INC		123 ALBANY NY	06/10/2014	06/10/2019
DOL	DOL		E C WEBB		6409 LAND O LAKES BLVD LAND O LAKES FL 34638	11/10/2015	11/10/2020
DOL	DOL		EARL L WILSON	WILSON BROTHER DRYWALL CONTRACTOR S	36 ABERSOLD STREET ROCHESTER NY 14621	08/31/2015	08/31/2020
DOL	DOL		EAST COAST PAVING		2238 BAKER RD GILLETT PA 16923	03/12/2018	03/12/2023
DOL	NYC		EDWARD MENKEN		C/O AQUA JET PAINTING 10 VIKING DRIVEWEST ISLIP NY 11795	04/16/2014	04/16/2019
DOL	NYC	*****0900	EF PRO CONTRACTING INC		147 BROOME AVENUE ATLANTIC BEACH NY 11509	03/03/2014	03/03/2019
DOL	NYC		EFSTRATIOS BERNARDIS		23-73 48TH STREET LONG ISLAND CITY NY 11103	04/24/2014	04/24/2019
DOL	DOL	*****0780	EMES HEATING & PLUMBING CONTR		5 EMES LANE MONSEY NY 10952	01/20/2002	01/20/3002
DOL	DOL	*****3270	EMPIRE TILE INC		8 TREMONT COURT HUNTINGTON STATION NY 11746	03/08/2016	03/08/2021
DOL	DOL	*****7403	F & B PAINTING CONTRACTING INC		2 PARKVIEW AVENUE HARRISON NY 10604	09/26/2016	09/26/2021
DOL	DOL		F KALAFATIS		2279 HOLLERS AVENUE BRONX NY 10475	01/07/2014	06/23/2019
DOL	DOL		FAY MATTHEW		C/O CHAMPION CONSTRUCTION 2131 SCHENECTADY AVENUEBROOKLYN NY 11234	11/18/2015	11/18/2020
DOL	DOL		FAZIA GINA ALI-MOHAMMED	C/O CHAMPION CONSTRUCTI ON	2131 SCHENECTADY AVENUE BROOKLYN NY 11234	11/18/2015	11/18/2020
DOL	DOL		FRAN MICELI		2279 HOLLERS AVENUE BRONX NY 10475	01/07/2014	06/23/2019
DOL	DOL		FRANCES KALAFATIS		2279 HOLLERS AVENUE BRONX NY 10475	01/07/2014	06/23/2019
DOL	DOL		FRANCES KALAFATIS-MICELI		2279 HOLLERS AVENUE BRONX NY 10475	01/07/2014	06/23/2019
DOL	DOL		FRANK BENEDETTO		19 CATLIN AVE JAMESTOWN NY 14701	09/17/2018	09/17/2023
DOL	DOL		FRANK BENEDETTO		C/O F & B PAINTING CONTRA 2 PARKVIEW AVENUEHARRISON NY 10604	09/26/2016	09/26/2021
DOL	DOL	*****4722	FRANK BENEDETTO AND CHRISTOPHER J MAINI	B & M CONCRETE	19 CAITLIN AVE JAMESTOWN NY 14701	09/17/2018	09/17/2023
DOL	DOL		FRANK DEMARTINO		101-81 99TH STREET OZONE PARK NY 11416	02/15/2017	02/15/2022
DOL	DOL		FRANK DEMARTINO		101-81 99TH STREET OZONE PARK NY 11416	02/15/2017	02/15/2022
DOL	DOL	*****2724	FRESH START PAINTING CORP		157 TIBBETS ROAD YONKERS NY 10705	03/12/2014	03/12/2019
DOL	DOL		G FUCCI CONSTRUCTION SERVICES		3 ALAN B SHEPARD PLACE YONKERS NY 10705	03/12/2014	03/12/2019
DOL	DOL	*****6767	G FUCCI PAINTING INC		C/O SPIEGEL & UTRERA 1 MAIDEN LANE - 5TH FLNEW YORK NY 10038	03/12/2014	03/12/2019
DOL	DOL	*****4546	GAF PAINTING LLC		157 TIBBETS ROAD YONKERS NY 10705	03/12/2014	03/12/2019
DOL	DOL		GALINDA ROTENBERG		C/O GMDV TRANS INC 67-48 182ND STREETFRESH MEADOWS NY 11365	06/24/2016	06/24/2021
DOL	DOL		GARDEN STATE PAINTING		157 TIBBETTS ROAD YONKERS NY 10705	03/12/2014	03/12/2019
DOL	DOL		GEOFF CORLETT		415 FLAGGER AVE #302STUART FL 34994	10/31/2018	10/31/2023
DOL	DOL		GEORGE DI BERNARDO		C/O DI BERNARDO TILE 15 WALKER WAYALBANY NY 12205	03/21/2014	03/21/2019
DOL	DA		GEORGE LUCEY		150 KINGS STREET BROOKLYN NY 11231	01/19/1998	01/19/2998
DOL	DOL	*****5674	GMDV TRANS INC		67-48 182ND STREET FRESH MEADOWS NY 11365	06/24/2016	06/24/2021

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DOL	NYC		GREAT ESTATE CONSTRUCTION, INC.		327 STAGG ST BROOKLYN NY 11206	10/10/2017	10/10/2022
DOL	DOL		GREGORY A FUCCI		C/O PAF PAINTING SERVICES 157 TIBBETTS ROAD YONKERS NY 10705	03/12/2014	03/12/2019
DOL	DOL		GREGORY FUCCI JR		C/O APOLLO CONSTRUCTION 157 TIBBETTS ROAD YONKERS NY 10705	03/12/2014	03/12/2019
DOL	DOL		GREGORY S. OLSON		P.O BOX 100 200 LATTA BROOK PARKHORSEHEADS NY 14845	03/08/2018	03/08/2023
DOL	NYC	*****0346	H N H CONTRACTORS CORP		4558 BROADWAY # 6 NEW YORK NY 10040	08/04/2014	08/04/2019
DOL	NYC		HAMEEDUL HASAN		240 HOME STREET TEANECK NJ 07666	08/04/2014	08/04/2019
DOL	NYC		HARMEL SINGH		15 CLINTON LANE HICKSVILLE NY 11801	02/25/2016	02/25/2021
DOL	NYC		HAROLD KUEMMEL		58-83 54TH STREET MASPETH NY 11378	02/26/2016	02/26/2021
DOL	DOL		HENRY VAN DALRYMPLE		2663 LANTERN LANE ATLANTA GA 30349	12/01/2015	12/01/2020
DOL	DOL	*****6370	HILLIANO CONSTRUCTION & ELECTRICAL INC		354 MAGNOLIA STREET ROCHESTER NY 14611	01/22/2015	01/22/2020
DOL	DOL	*****8282	IDEMA DEVELOPMENT INC		91 COLLEGE AVENUE POUGHKEEPSIE NY 12603	12/04/2015	12/04/2020
DOL	DOL	*****8282	IDEMA GENERAL CONTRACTORS INC		91 COLLEGE AVENUE POUGHKEEPSIE NY 12603	12/04/2015	12/04/2020
DOL	DOL	*****7001	INTEGRATED CONSTRUCTION & POWER SYSTEMS INC		SUITE 400 2105 W GENESEE STREETS YRACUSE NY 13219	01/06/2016	01/06/2021
DOL	DOL	*****5131	INTEGRITY MASONRY, INC.	M&R CONCRETE	722 8TH AVE WATERVLIET NY 12189	06/05/2018	06/05/2023
DOL	AG		J A M CONSTRUCTION CORP		SUITE 125 265 SUNRISE HIGHWAY ROCKVILLE CENTRE NY 10457	04/07/2016	04/07/2021
DOL	DOL	*****7598	J M RICH LLC		P O BOX 268 STILLWATER NY 12170	09/16/2013	03/21/2019
DOL	DOL	*****3478	J N P CONSTRUCTION CORP		50 LOUIS COURT P O BOX 1907 SOUTH HACKENSACK NY 07606	03/21/2014	03/21/2019
DOL	DOL		J N RICH LLC		P O BOX 268 STILLWATER NY 12170	09/16/2013	03/21/2019
DOL	DOL	*****4910	J V MAGIC TOUCH CORPORATION		94-25 57TH AVENUE, APT 5G ELMHURST NY 11373	01/12/2015	01/12/2020
DOL	DOL		J.A. HIRES CADWALLADER		P.O BOX 100 200 LATT A BROOK PARKHORSEHEADS NY 14845	03/08/2018	03/08/2023
DOL	DOL		JAMES B RHYNDERS		91 COLLEGE AVENUE POUGHKEEPSIE NY 12603	12/04/2015	12/04/2020
DOL	DOL		JAMES C. DELGIACCO		722 8TH AVE WATERVLIET NY 12189	06/05/2018	06/05/2023
DOL	DOL		JAMES E RHYNDERS		91 COLLEGE AVENUE POUGHKEEPSIE NY 12603	12/04/2015	12/04/2020
DOL	AG		JAMES FALCONE		SUITE 125 265 SUNRISE HIGHWAY ROCKVILLE CENTRE NY 10457	04/07/2016	04/07/2021
DOL	DOL		JAMES LIACONE		9365 WASHINGTON ST LOCKPORT IL 60441	07/23/2018	07/23/2023
DOL	DOL		JAMES RACHEL		9365 WASHINGTON ST LOCKPORT IL 60441	07/23/2018	07/23/2023
DOL	DOL		JAMES RHYNDERS SR		91 COLLEGE AVENUE POUGHKEEPSIE NY 12603	12/04/2015	12/04/2020
DOL	DOL		JAMES SICKAU		3090 SHIRLEY ROAD NORTH COLLINS NY 14111	04/19/2011	07/08/2020
DOL	DOL		JASON M RICH		P O BOX 268 STILLWATER NY 12170	09/16/2013	03/21/2019
DOL	DOL		JASON W MILLIMAN		C/O ROCHESTER ACOUSTICAL P O BOX 799 HILTON NY 14468	02/19/2016	02/19/2021
DOL	DOL	*****5368	JCH MASONRY & LANDSCAPING INC.		35 CLINTON AVE OSSINING NY 10562	09/12/2018	09/12/2023
DOL	DOL		JEFF P BRADLEY		520 PINE HILL ROAD CHESTER NY 10940	06/23/2014	06/23/2019
DOL	NYC		JEFFREY CASSIDY		14 RAILROAD AVENUE VALHALLA NY 10595	05/15/2014	04/02/2020

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DOL	DOL		JEROME LACITIGNOLA		C/O CATSKILL FENCE INSTAL 5445 ROUTE 32 CATSKILL NY 12414	08/22/2014	08/22/2019
DOL	DOL		JESSICA WHITESIDE		C/O BRRESTORATION NY INC 140 ARCADIA AVENUEOSWEGO NY 13126	09/12/2016	09/12/2021
DOL	AG		JOHN ANTHONY MASSINO		36-49 204TH STREET BAYSIDE NY 11372	02/07/2018	02/07/2023
DOL	DOL		JOHN F. CADWALLADER		200 LATTA BROOK PARK HORSEHEADS NY 14845	03/08/2018	03/08/2023
DOL	DOL	*****4612	JOHN F. CADWALLADER, INC.	THE GLASS COMPANY	P. O BOX 100 200 LATTA BROOK PARKHORSEHEADS NY 14845	03/08/2018	03/08/2023
DOL	AG	*****0600	JOHNCO CONTRACTING, INC.		36-49 204TH STREET BAYSIDE NY 11372	02/07/2018	02/07/2023
DOL	DOL		JON E DEYOUNG		261 MILL ROAD P O BOX 298EAST AURORA NY 14052	07/29/2015	07/29/2020
DOL	DOL		JORGE VILLALOBOS		94-25 57TH AVENUE - APT 5 ELMHURST NY 11373	01/12/2015	01/12/2020
DOL	DOL		JORI PEDERSEN		415 FLAGER AVE #302STUART FL 34994	10/31/2018	10/31/2023
DOL	DOL		JOSE CHUCHUCA		35 CLINTON AVE OSSINING NY 10562	09/12/2018	09/12/2023
DOL	DOL		JOSE MONTAS		27 BUTLER PLACE YONKERS NY 10710	03/18/2011	03/19/2020
DOL	AG		JOSEPH FALCONE		SUITE 125 265 SUNRISE HIGHWAYROCKVILLE CENTRE NY 10457	04/07/2016	04/07/2021
DOL	DOL	*****9273	JOSEPH M LOVETRO		P O BOX 812 BUFFALO NY 14220	08/09/2016	08/09/2021
DOL	NYC		JOSEPH MARTINO		1535 RICHMOND AVENUE STATEN ISLAND NY 10314	12/13/2017	12/13/2022
DOL	DOL		JUANA MARTINEZ		C/O LEAD CONSTRUCTION 27 BUTLER PLACEYONKERS NY 10710	03/19/2015	03/19/2020
DOL	DOL		JULIUS AND GITA BEHREND		5 EMES LANE MONSEY NY 10952	11/20/2002	11/20/3002
DOL	DOL	*****5062	K R F SITE DEVELOPMENT INC		375 LAKE SHORE DRIVE PUTNAM VALLEY NY 10579	01/23/2017	01/23/2022
DOL	DOL		KATIE BURDICK		2238 BAKER RD GILLETT PA 16923	03/12/2018	03/12/2023
DOL	DOL		KENNETH FIORENTINO		375 LAKE SHORE DRIVE PUTNAM VALLEY NY 10579	01/23/2017	01/23/2022
DOL	DOL	*****9732	KENT HOLLOW SIDING LLC		29A BRIDGE STREET NEW MILFORD CT 06776	01/15/2016	01/15/2021
DOL	DOL		KEVIN BABCOCK JR		P O BOX 46 THOMPSON RIDGE NY 10985	08/22/2014	08/22/2019
DOL	DOL		KEVIN M BABCOCK		P O BOX 46 THOMPSON RIDGE NY 10985	08/22/2014	08/22/2019
DOL	DOL		KIM SOROCENSKI		C/O SOLUTION MATTERS INC 198 NORWOOD ROADPORT JEFFERSON NY 11776	11/19/2015	11/19/2020
DOL	DOL	*****3490	L & M CONSTRUCTION/DRYWALL INC.		1079 YONKERS AVE YONKERS NY 10704	08/07/2018	08/07/2023
DOL	DA	*****8816	LAKE CONSTRUCTION AND DEVELOPMENT CORPORATION		150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998
DOL	DOL	*****6224	LAKESIDE FIRE SPRINKLERS LLC		125 CHAUTAUQUA AVENUE LAKEWOOD NY 14750	06/24/2015	06/24/2020
DOL	AG	*****4643	LALO DRYWALL, INC.		221 OLD FORD ROAD NEW PLATZ NY 12561	05/20/2016	05/20/2021
DOL	DOL	*****4505	LARAPINTA ASSOCIATES INC		29 MAPLEWOOD DRIVE BINGHAMTON NY 13901	02/21/2017	02/21/2022
DOL	DOL		LAVERN GLAVE		161 ROBYN RD MONROE NY 10950	09/15/2014	09/15/2019
DOL	DOL		LAVERN GLAVE		161 ROBYN RD MONROE NY 10950	01/30/2018	01/30/2023
DOL	DOL		LAWRENCE J RUGGLES		P O BOX 371 ROUND LAKE NY 12151	05/12/2014	05/12/2019
DOL	DOL	*****1364	LEAD CONSTRUCTION SERVICES INC		3 ALAN B SHEPARD PLACE YONKERS NY 10705	03/19/2015	03/19/2020
DOL	DOL	*****4388	LEN.J CONSTRUCTION, LLC		PO BOX 10007 ALBANY NY 12201	06/24/2016	09/19/2022
DOL	DOL	*****4388	LEN.J CONSTRUCTION, LLC		PO BOX 10007 ALBANY NY 12201	06/24/2016	09/19/2022

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DOL	DOL	*****4388	LEN.J CONSTRUCTION, LLC		PO BOX 10007 ALBANY NY 12201	09/19/2017	09/19/2022
DOL	DOL	*****4388	LEN.J CONSTRUCTION, LLC		PO BOX 10007 ALBANY NY 12201	09/19/2017	09/19/2022
DOL	DOL	*****4388	LEN.J CONSTRUCTION, LLC		PO BOX 10007 ALBANY NY 12201	01/17/2017	09/19/2022
DOL	DOL	*****4388	LEN.J CONSTRUCTION, LLC		PO BOX 10007 ALBANY NY 12201	09/19/2017	09/19/2022
DOL	DOL	*****4388	LEN.J CONSTRUCTION, LLC		PO BOX 10007 ALBANY NY 12201	09/19/2017	09/19/2022
DOL	DOL	*****4388	LEN.J CONSTRUCTION, LLC		PO BOX 10007 ALBANY NY 12201	08/14/2017	09/19/2022
DOL	DOL		LEROY NELSON JR		PO BOX 10007 ALBANY NY 12201	09/19/2017	09/19/2022
DOL	DOL		LEROY NELSON JR		PO BOX 10007 ALBANY NY 12201	09/19/2017	09/19/2022
DOL	DOL		LEROY NELSON JR		PO BOX 10007 ALBANY NY 12201	09/19/2017	09/19/2022
DOL	DOL		LEROY NELSON JR		PO BOX 10007 ALBANY NY 12201	09/19/2017	09/19/2022
DOL	DOL		LEROY NELSON JR		PO BOX 10007 ALBANY NY 12201	08/14/2017	08/14/2022
DOL	DOL		LEROY NELSON JR		PO BOX 10007 ALBANY NY 12201	01/17/2017	09/19/2022
DOL	DOL		LINDSEY R CRILL		143 FILLMORE AVENUE BUFFALO NY 14210	01/08/2015	01/08/2020
DOL	DA	*****4460	LONG ISLAND GLASS & STOREFRONTS, LLC		4 MANHASSET TRL RIDGE NY 11981	09/06/2018	09/06/2023
DOL	AG	*****4216	LOTUS-C CORP.		81-06 34TH AVENUE APT. 6EJACKSON HEIGHTS NY 11372	02/07/2018	02/07/2023
DOL	AG		LUIS MARTINEZ	LALO DRYWALL	211 MAIN ST. NEW PALTZ NY 12561	05/20/2016	05/20/2021
DOL	DOL		M ANVER BEIG		142 EAST MARKET STREET LONG BEACH NY 11561	03/07/2017	03/07/2022
DOL	AG	*****6957	M B DIN CONSTRUCTION INC		8831 20TH AVENUE/SUITE 6E BROOKLYN NY 11214	11/17/2015	11/17/2020
DOL	NYC	*****6317	M S QUALITY CONSTRUCTION LLC		27 MAPLEWOOD AVENUE COLONIA NJ 07067	02/04/2015	02/04/2020
DOL	DOL		M. ANVER BEIG		142 EAST MARKET STREET LONG BEACH NY 11561	03/07/2017	03/07/2022
DOL	NYC		MACIEJ SONTOWSKI		27 MAPLEWOOD AVENUE COLONIA NJ 07067	02/04/2015	02/04/2020
DOL	NYC	*****9580	MACK GLASSNAUTH IRON WORKS INC		137 LIBERTY AVENUE BROOKLYN NY 11212	12/21/2015	12/21/2020
DOL	NYC	*****3141	MACKEY REED ELECTRIC INC		1ST FLOOR STORE FRONT 88-10 LITTLE NECK PARKWAYFLORAL PARK NY 11001	06/24/2014	06/24/2019
DOL	DOL	*****1784	MADISON AVE CONSTRUCTION CORP		39 PENNY STREET WEST ISLIP NY 11795	11/02/2016	11/02/2021
DOL	DOL		MALARKEY'S BAR & GRILL LLC		64 VICTORIA DRIVE BINGHAMTON NY 13904	02/04/2016	02/04/2021
DOL	DOL	*****0705	MALARKEY'S PUB & GRUB LLC		64 VICTORIA DRIVE BINGHAMTON NY 13904	02/04/2016	02/04/2021
DOL	DA		MANUEL P TOBIO		150 KINGS STREET BROOKLYN NY 14444	08/19/1998	08/19/2998
DOL	DA		MANUEL TOBIO		150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998
DOL	DOL		MARIACHI'S PIZZERIA		C/O DOUGLAS L MALARKEY 64 VICTORIA DRIVEBINGHAMTON NY 13904	02/04/2016	02/04/2021
DOL	DOL		MARK MIONIS		6409 LAND O LAKES BLVD LAND O LAKES FL 34638	11/10/2015	11/10/2020
DOL	DOL		MARVIN A STURDEVANT		29 MAPLEWOOD DRIVE BINGHAMTON NY 13901	02/21/2017	02/21/2022
DOL	DOL		MASONRY CONSTRUCTION, INC.		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL	*****3333	MASONRY INDUSTRIES, INC.		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL		MATTHEW IDEMA GENERAL CONTRACTORS INC		91 COLLEGE AVENUE POUGHKEEPSIE NY 12603	12/04/2015	12/04/2020
DOL	DOL		MAURICE GAWENO		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL	*****6416	MCCALL MASONRY		P O BOX 304 SAYRE PA 18840	08/09/2016	08/09/2021

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DOL	DOL		MCLEAN "MIKKI BEANE"		1229 JAMES STREET SYRACUSE NY 13203	05/02/2017	05/02/2022
DOL	DOL		MCLEAN "MIKKI" DRAKE		1229 JAMES STREET SYRACUSE NY 13203	05/02/2017	05/02/2022
DOL	DOL		MCLEAN M DRAKE-BEANE		1229 JAMES STREET SYRACUSE NY 13203	05/02/2017	05/02/2022
DOL	DOL	*****9445	MCLEAN M WALSH	ELITE PROFESSION AL PAINTING OF CNY	1229 JAMES STREET SYRACUSE NY 13203	05/02/2017	05/02/2022
DOL	DOL	*****9445	MCLEAN M WALSH	ELITE PROFESSION AL PAINTING OF CNY	1229 JAMES STREET SYRACUSE NY 13203	05/02/2017	05/02/2022
DOL	NYC	*****5330	METRO DUCT SYSTEMS INC		1219 ASTORIA BOULEVARD LONG ISLAND CITY NY 11102	04/16/2014	11/19/2020
DOL	DOL	*****3368	MICEK CONSTRUCTION CO INC		20 CROSS STREET FALCONER NY 14733	12/02/2014	12/02/2019
DOL	DOL		MICHAEL A PASCARELLA		SUITE 100 2105 WEST GENESEE STREET SYRACUSE NY 13219	01/06/2016	01/06/2021
DOL	NYC		MICHAEL HIRSCH		C/O MZM CORP 163 S MAIN STREET NEW CITY NY 10956	01/28/2016	01/28/2021
DOL	DOL		MICHAEL LENIHAN		1079 YONKERS AVE UNIT 4 YONKERS NY 10704	08/07/2018	08/07/2023
DOL	AG		MICHAEL RIGLIETTI		31 BAY ST BROOKLYN NY 11231	03/28/2018	03/28/2023
DOL	DOL		MICHAEL WILSON	WILSON BROTHER DRYWALL CONTRACTOR S	36 ABERSOLD STREET ROCHESTER NY 14621	08/31/2015	08/31/2020
DOL	NYC		MILANCE HADZIC		22 CALIFORNIA AVE - STE 1 PATERSON NJ 07503	03/11/2015	03/11/2020
DOL	AG		MOHAMMED N CHATHA		8831 20TH AVENUE/SUITE 6E BROOKLYN NY 11214	11/17/2015	11/17/2020
DOL	DOL	*****2737	MOUNTAIN'S AIR INC		2471 OCEAN AVENUE- STE 7A BROOKLYN NY 11229	09/24/2012	09/18/2020
DOL	AG		MSR ELECTRICAL CONSTRUCTION CORP.		31 BAY ST BROOKLYN NY 11231	03/28/2018	03/28/2023
DOL	DOL		MUHAMMAD BEIG		142 EAST MARKET STREET LONG BEACH NY 11561	03/07/2017	03/07/2022
DOL	DOL		MUHAMMAD BEIG		142 EAST MARKET STREET LONG BEACH NY 11561	03/07/2017	03/07/2022
DOL	DOL		MUHAMMAD PERVAIZ		C/O CHAMPION CONSTRUCTION 2131 SCHENECTADY AVENUE BROOKLYN NY 11234	11/18/2015	11/18/2020
DOL	NYC	*****3613	MZM CORP		163 S MAIN STREET NEW CITY NY 10956	01/28/2016	01/28/2021
DOL	NYC	*****1284	NEW AMERICAN RESTORATION INC		22 CALIFORNIA AVE - STE 1 PATERSON NJ 07503	03/11/2015	03/11/2020
DOL	DA	*****6988	NEW YORK INSULATION INC		58-48 59TH STREET MASPETH NY 11378	05/16/2012	05/08/2020
DOL	NYC	*****4839	NEW YORK RIGGING CORP		58-83 54TH STREET MASPETH NY 11378	02/26/2016	02/26/2021
DOL	NYC		NICHOLAS PROVENZANO		147 BROOME AVENUE ATLANTIC BEACH NY 11509	03/03/2014	03/03/2019
DOL	NYC		NICHOLAS PROVENZANO		147 BROOME AVENUE ATLANTIC BEACH NY 11509	03/03/2014	03/03/2019
DOL	NYC	*****1968	NORTH AMERICAN IRON WORKS INC		1560 DECATUR STREET RIDGEWOOD NY 11385	05/15/2015	05/15/2020
DOL	DOL	*****6966	NORTH COUNTRY DRYWALL AND PAINT		23167 COUNTY ROUTE 59 DEXTER NY 13634	10/24/2016	10/24/2021
DOL	DOL	*****0065	NORTHEAST LANDSCAPE AND MASONRY ASSOC		3 WEST MAIN ST/SUITE 208 ELMSFORD NY 10523	01/23/2017	01/23/2022
DOL	DOL	*****1845	OC ERECTERS, LLC A/K/A OC ERECTERS OF NY INC.		1207 SW 48TH TERRACE DEERFIELD BEACH FL 33442	01/16/2018	01/16/2023
DOL	NYC	*****8337	OPTIMUM CONSTRUCTION INC		23-73 48TH STREET LONG ISLAND CITY NY 11103	04/24/2014	04/24/2019
DOL	NYC		ORSON ARROYO		C/O METRO DUCT SYSTEMS 12-19 ASTORIA BOULEVARD LONG ISLAND CITY NY 11102	04/16/2014	11/19/2020
DOL	DOL	*****4546	PAF PAINTING CORP		161 TIBBETTS ROAD YONKERS NY 10705	03/12/2014	03/12/2019



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DOL	DOL	*****5242	PAF PAINTING SERVICES INC	GARDEN STATE PAINTING	157 TIBBETTS ROAD YONKERS NY 10103	03/12/2014	03/12/2019
DOL	DOL		PAF PAINTING SERVICES OF WESTCHESTER INC		C/O SPIEGEL & UTRERA 1 MAIDEN LANE - 5TH FL NEW YORK NY 10038	03/12/2014	03/12/2019
DOL	DOL	*****8802	PAT'S HEATING AND AIR CONDITIONING LTD		P O BOX 371 ROUND LAKE NY 12151	05/12/2014	05/12/2019
DOL	DOL		PATRICIA M RUGGLES		P O BOX 371 ROUND LAKE NY 12151	05/12/2014	05/12/2019
DOL	NYC	*****9422	PELIUM CONSTRUCTION, INC.		22-33 35TH ST. ASTORIA NY 11105	12/30/2016	12/30/2021
DOL	DOL		PETER M PERGOLA		3 WEST MAIN ST/SUITE 208 ELMSFORD NY 10523	01/23/2017	01/23/2022
DOL	DOL		PIERRE LAPORT		224 COUNTY HIGHWAY 138 BROADALBIN NY 12025	03/07/2017	03/07/2022
DOL	DOL	*****1543	PJ LAPORT FLOORING INC		224 COUNTY HIGHWAY 138 BROADALBIN NY 12025	03/07/2017	03/07/2022
DOL	DOL	*****2989	PROFESSIONAL ESTIMATING & BUSINESS CORP		157 TIBBETS ROAD YONKERS NY 10705	03/12/2014	03/12/2019
DOL	DOL	*****6895	PROLINE CONCRETE OF WNY INC		3090 SHIRLEY ROAD NORTH COLLINS NY 14111	04/19/2011	07/08/2020
DOL	DA	*****6817	QUADRANT METAL BUILDINGS LLC		2740 SW MARTIN DOWNS BLVD PALM CITY FL 34990	08/25/2016	08/25/2021
DOL	NYC		RAMESHWAR ASU		137 LIBERTY AVENUE BROOKLYN NY 11212	12/21/2015	12/21/2020
DOL	DOL		RANA A KAHN		1973 81ST ST - SUITE A-5 BROOKLYN NY 11214	01/08/2015	01/08/2020
DOL	NYC		RANTIK PARIKH		13 LORIANN ROAD WARREN NJ 07059	07/15/2015	07/15/2020
DOL	DOL	*****2633	RAW POWER ELECTRIC CORP		3 PARK CIRCLE MIDDLETOWN NY 10940	09/16/2013	09/15/2019
DOL	DOL	*****2633	RAW POWER ELECTRIC CORP		3 PARK CIRCLE MIDDLETOWN NY 10940	01/30/2018	01/30/2023
DOL	NYC		RAYMOND PEARSON		P O BOX 957 PORT JEFFERSON STA NY 11776	03/12/2014	03/12/2019
DOL	AG	*****7015	RCM PAINTING INC.		69-06 GRAND AVENUE 2ND FLOOR MASPETH NY 11378	02/07/2018	02/07/2023
DOL	DOL		REGINALD WARREN		161 ROBYN RD MONROE NY 10950	09/15/2014	09/15/2019
DOL	DOL		REGINALD WARREN		161 ROBYN RD MONROE NY 10950	01/30/2018	01/30/2023
DOL	NYC	*****3461	RELIANCE GENERAL CONSTRUCTION INC		644 OCEAN PARKWAY BROOKLYN NY 11230	09/02/2015	09/02/2020
DOL	DOL		REVOLUTIONARY FLOORS LLC		P O BOX 268 STILLWATER NY 12170	09/16/2013	03/21/2019
DOL	DA		RIANN MULLER		2740 SW MARTIN DOWNS BLVD PALM CITY FL 34990	08/25/2016	08/25/2021
DOL	DOL	*****9148	RICH T CONSTRUCTION		107 WILLOW WOOD LANE CAMILLUS NY 13031	11/13/2018	11/13/2023
DOL	DOL		RICHARD MACONE		8617 THIRD AVE BROOKLYN NY 11209	09/17/2018	09/17/2023
DOL	DOL	*****9148	RICHARD TIMIAN	RICH T CONSTRUCTION	108 LAMONT AVE SYRACUSE NY 13209	10/16/2018	10/16/2023
DOL	DOL		RICHARD TIMIAN JR.		108 LAMONT AVE SYRACUSE NY 13209	10/16/2018	10/16/2023
DOL	DOL		RICHARD TIMIAN JR.		108 LAMONT AVE SYRACUSE NY 13209	11/13/2018	11/13/2023
DOL	DOL		RICHARD WILSON		C/O DUFOUR GROUP INC 353 WEST 56TH STREET #7M NEW YORK NY 10019	06/10/2014	06/10/2019
DOL	DOL	*****8618	RIEKS CONTRACTING LLC		4804 GAHWILER ROAD AUBURN NY 13021	05/01/2015	05/01/2020
DOL	DOL		ROBBYE BISSEAR		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	01/11/2003	01/11/3003
DOL	DOL		ROBERT BRUNO		3 GAYLORD ST AUBURN NY 13021	11/15/2016	11/15/2021
DOL	DOL	*****1855	ROBERT D BISHOP JR	ROBERT D BISHOP JR	P O BOX 112 MORRISONVILLE NY 12962	07/15/2014	07/15/2019
DOL	DOL		ROBERT D BISHOP JR		P O BOX 112 MORRISONVILLE NY 12962	07/15/2014	07/15/2019
DOL	NYC		ROBERT GUIDO		3256 BRUNER AVENUE BRONX NY 10469	07/29/2014	07/29/2019

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DOL	DOL		ROBERT TORDELLA		125 CHAUTAUQUA AVENUE LAKEWOOD NY 14750	06/24/2015	06/24/2020
DOL	DOL	*****3859	ROCHESTER ACOUSTICAL CORP		P O BOX 799 HILTON NY 14468	02/19/2016	02/19/2021
DOL	DOL		RODERICK PUGH		404 OAK ST SUITE 101SYRACUSE NY 13203	07/23/2018	07/23/2023
DOL	DOL	*****4880	RODERICK PUGH CONSTRUCTION INC.		404 OAK ST SUITE 101SYRACUSE NY 13203	07/23/2018	07/23/2023
DOL	NYC		RODNEY SCOTT		201 HEMPSTEAD AVENUE WEST HEMPSTEAD NY 11552	10/30/2015	10/30/2020
DOL	DOL		ROMEO WARREN		161 ROBYN RD MONROE NY 10950	09/16/2013	09/15/2019
DOL	DOL		ROMEO WARREN		161 ROBYN RD MONROE NY 10950	01/30/2018	01/30/2023
DOL	DOL		ROSEANNE CANTISANI			06/12/2018	06/12/2023
DOL	DOL		RYAN ALBIE		21 S HOWELLS POINT ROAD BELLPORT NY 11713	02/21/2017	02/21/2022
DOL	DOL	*****3347	RYAN ALBIE CONTRACTING INC		21 S HOWELLS POINT ROAD BELLPORT NY 11713	02/21/2017	02/21/2022
DOL	NYC		SABIR MUHAMMED		SUITE B-8 782 PELHAM PARKWAY SOUTHBRONX NY 10462	04/21/2016	04/21/2021
DOL	NYC		SAEED HASAN		4558 BROADWAY #6 NEW YORK NY 10040	08/04/2014	08/04/2019
DOL	NYC	*****2117	SCOTT ELECTRICAL LLC		201 HEMPSTEAD AVENUE WEST HEMPSTEAD NY 11552	10/30/2015	10/30/2020
DOL	DOL	*****8751	SCW CONSTRUCTION		544 OLD ROUTE 23 ACRE NY 12405	02/14/2017	02/14/2022
DOL	DOL		SEAN BURBAGE	C/O SEAN BURBAGE CORP	445 ROOSA GAP ROAD BLOOMINGBURG NY 12721	04/14/2014	04/14/2019
DOL	DOL	*****6586	SEAN BURBAGE CORP		445 ROOSA GAP ROAD BLOOMINGBURG NY 12721	04/14/2014	04/14/2019
DOL	AG		SERGIO RAYMUNDO		109 DUBOIS RD. NEW PALTZ NY 12561	05/20/2016	05/20/2021
DOL	DOL	*****1961	SHANE BURDICK	CENTRAL TRAFFIC CONTROL, LLC.	2238 BAKER ROAD GILLET PA 16923	03/12/2018	03/12/2023
DOL	DOL		SHANE BURDICK		2238 BAKER ROAD GILLET PA 16923	03/12/2018	03/12/2023
DOL	DOL		SHANE NOLAN		9365 WASHINGTON ST LOCKPORT IL 60441	07/23/2018	07/23/2023
DOL	DOL	*****0816	SOLAR ARRAY SOLUTIONS, LLC		9365 WASHINGTON ST LOCKPORT IL 60441	07/23/2018	07/23/2023
DOL	DOL	*****4025	SOLUTION MATTERS INC		198 NORWOOD ROAD PORT JEFFERSON NY 11776	11/19/2015	11/19/2020
DOL	NYC	*****4934	SPHINX CONTRACTING CORP		240 HOME STREET TEANECK NJ 07666	08/04/2014	08/04/2019
DOL	DOL	*****3496	STAR INTERNATIONAL INC		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	08/11/2003	08/11/3003
DOL	DOL	*****9751	STEPHEN C WAGAR		544 OLD ROUTE 23 ACRE NY 12405	02/14/2017	02/14/2022
DOL	DOL		STEVE TATE		415 FLAGER AVE #302STUART FL 34994	10/31/2018	10/31/2023
DOL	DOL		STEVEN P SUCATO		15-68 208TH STREET BAYSIDE NY 11360	06/23/2016	06/23/2021
DOL	DOL		STEVEN SAGGESE		3005 WYNSUM AVENUE MERRICK NY 11566	08/18/2014	08/18/2019
DOL	DOL		STEVEN TESTA		50 SALEM STREET - BLDG B LYNNFIELD MA 01940	01/23/2017	01/23/2022
DOL	NYC	*****9432	SUBLINK LTD		346 THIRD AVENUE PELHAM NY 10803	11/19/2015	11/19/2020
DOL	DOL	*****8209	SYRACUSE SCALES, INC.		158 SOLAR ST SYRACUSE NY 13204	01/07/2019	01/07/2024
DOL	DOL	*****7441	T & T CONCRETE INC		2560 HAMBURG TURNPIKE P O BOX 367LACKAWANNA NY 14218	07/08/2015	07/08/2020
DOL	DOL	*****7417	TADCO CONSTRUCTION		101-61 99TH STREET OZONE PARK NY 11416	02/15/2017	02/15/2022
DOL	DOL		TADCO CONSTRUCTION		101-61 99TH STREET OZONE PARK NY 11416	02/15/2017	02/15/2022
DOL	DOL	*****7417	TADCO CONSTRUCTION CORP		101-61 99TH STREET OZONE PARK NY 11416	02/15/2017	02/15/2022

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DOL	DOL		TALAILA OCAMPA		1207 SW 48TH TERRACE DEERFIELD BEACH FL 33442	01/16/2018	01/16/2023
DOL	DOL		TAMMY LACITIGNOLA		C/O CATSKILL FENCE INSTAL 5445 ROUTE 32CATSKILL NY 12414	08/22/2014	08/22/2019
DOL	DOL	*****9852	TAP STEEL INC		ROUTE 26 3101 P O BOX 457CONSTABLEVILLE NY 13325	01/28/2016	01/28/2021
DOL	DOL		TECH-MECHANICAL FAB DC INC		5 PARKER AVENUE POUGHKEEPSIE NY 12601	03/25/2014	03/25/2019
DOL	DOL	*****5570	TESTA CORP		50 SALEM STREET - BLDG B LYNNFIELD MA 01940	01/23/2017	01/23/2022
DOL	DOL	*****0887	THE BRINSON PAINTING CORPORATION		72 TAUNTON PLACE BUFFALO NY 14216	04/14/2015	04/14/2020
DOL	DOL	*****5766	THE COKER CORPORATION	COKER CORPORATIO N	2610 SOUTH SALINA ST SUITE 14SYRACUSE NY 13205	12/04/2018	12/04/2023
DOL	DOL	*****8174	THE DALRYMPLE CORPORATION		UNIT 278 541 10TH STREET NWATLANTA GA 30318	12/01/2015	12/01/2020
DOL	DOL	*****8174	THE DALRYMPLE GROUP LLC		289 JONESBORO RD/ STE 216 MCDONOUGH GA 30253	12/01/2015	12/01/2020
DOL	DOL	*****9243	THE WELCOME MAT PROPERTY MANAGEMENT LLC		P O BOX 268 STILLWATER NY 12170	09/16/2013	03/21/2019
DOL	DOL		TIMOTHY A PALUCK		C/O TAP STEEL INC RTE 26 3101/ P O BOX 457CONSTABLEVILLE NY 13325	01/28/2016	01/28/2021
DOL	DOL	*****0600	TOMSON ALLOYS RECYCLING INC		143 FILLMORE AVENUE BUFFALO NY 14210	01/08/2015	01/08/2020
DOL	DOL	*****3453	TORCHIA'S HOME IMPROVEMENT		10153 ROBERTS RD SAUQUOIT NY 13456	08/09/2016	08/09/2021
DOL	DOL	*****6914	TRI-COUNTY RESTORATIONS & CONSTRUCTION INC		13 SUMMERSET DRIVE WALKKILL NY 12589	08/22/2014	08/22/2019
DOL	DOL		TRI-COUNTY RESTORATIONS INC		392 ROCK CUT ROAD WALDEN NY 12586	08/22/2014	08/22/2019
DOL	DOL	*****8311	TRIPLE B FABRICATING, INC.		61 WILLETT ST. PASSAIC NJ 07503	10/26/2016	10/26/2021
DOL	DOL	*****9407	TURBO GROUP INC		15-68 208TH STREET BAYSIDE NY 11360	06/23/2016	06/23/2021
DOL	NYC	*****7174	V&R CONTRACTING		P O BOX 957 PORT JEFFERSON STA NY 11776	03/12/2014	03/12/2019
DOL	DOL	*****6392	V.M.K CORP.		8617 THIRD AVE BROOKLYN NY 11209	09/17/2018	09/17/2023
DOL	NYC		VALERIE VISCONTI		346 THIRD AVENUE PELHAM NY 10803	11/19/2015	11/19/2020
DOL	DOL		VICTOR ROTENBERG		C/O GMDV TRANS INC 67048 182ND STREETFRESH MEADOWS NY 11365	06/24/2016	06/24/2021
DOL	NYC		VIKTAR PATONICH		2630 CROPSEY AVE BROOKLYN NY 11214	10/30/2018	10/30/2023
DOL	NYC		VINCENT PIZZITOLA		P O BOX 957 PORT JEFFERSON STA NY 11776	03/12/2014	03/12/2019
DOL	NYC		VITO GARGANO		1535 RICHMOND AVE STATEN ISLAND NY 10314	12/13/2017	12/13/2022
DOL	DOL		WAYNE LIVINGSTON JR	NORTH COUNTRY DRYWALL AND PAINT	23167 COUNTY ROUTE 59 DEXTER NY 13634	10/24/2016	10/24/2021
DOL	DOL		WHITE PLAINS CARPENTRY CORP		442 ARMONK RD	06/12/2018	06/12/2023
DOL	DOL		WILLIAM C WATKINS		1229 JAMES STREET SYRACUSE NY 13203	05/02/2017	05/02/2022
DOL	DOL		WILLIAM CONKLIN		5 PARKER AVENUE POUGHKEEPSIE NY 12601	03/25/2014	03/25/2019
DOL	DOL		WILLIAM DEAK		C/O MADISON AVE CONSTR CO 39 PENNY STREETWEST ISLIP NY 11795	11/02/2016	11/02/2021
DOL	DOL		WILLIE BRINSON		72 TAUNTON PLACE BUFFALO NY 14216	04/14/2015	04/14/2020
DOL	DOL	*****6195	WILSON BROTHER DRYWALL CONTRACTORS		36 ABERSOLD STREET ROCHESTER NY 14621	08/31/2015	08/31/2020
DOL	DOL	*****4043	WINDSHIELD INSTALLATION NETWORK, INC.		200 LATTA BROOK PARK HORSEHEADS NY 14845	03/08/2018	03/08/2023

**NYSDOL Bureau of Public Work Debarment List 02/11/2019**  
**Article 8**

DOL	DOL	*****4730	XGD SYSTEMS, LLC	TDI GOLF	415 GLAGE AVE #302STUART FL 34994	10/31/2018	10/31/2023
DOL	DOL	*****7345	YES SERVICE AND REPAIRS CORPORATION		145 LODGE AVE HUNTINGTON STATION NY 11476	08/09/2016	08/09/2021
DOL	DOL		YURIY IVANIN		C/O MOUNTAIN'S AIR INC 2471 OCEAN AVENUE-STE 7BROOKLYN NY 11229	09/24/2012	09/18/2020
DOL	NYC		ZAKIR NASEEM		30 MEADOW ST BROOKLYN NY 11206	10/10/2017	10/10/2022
DOL	NYC	*****8277	ZHN CONTRACTING CORP		30 MEADOW ST BROOKLYN NY 11206	10/10/2017	10/10/2022

# **DETAILED SPECIFICATIONS**



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**TOWN OF YORKTOWN**

**Mohegan Avenue Retaining Wall Replacement Project  
CONTRACT NO. 18-1**

**DETAILED SPECIFICATIONS**

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Not Applicable

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**DIVISION NO SIXTEEN - ELECTRICAL**

Not Applicable



**DIVISION NO. ONE  
GENERAL REQUIREMENTS**



**PART 1      GENERAL**

1.01      SUMMARY

- A.      The Project is titled **Mohegan Avenue Retaining Wall Replacement Project, Contract No. 18-1** for the Town of Yorktown, New York.
  
- B.      The Work to be done under this Contract and in accordance with the Project Manual; specifications and plans consist of furnishing of labor, equipment, materials, superintendence, and all other incidental items necessary for the required modifications to Mohegan Avenue retaining wall, in the Town of Yorktown Heights, situated in the County of Westchester.

The Contractor shall perform all work required for Mohegan Avenue Retaining Wall Replacement Project in accordance with the Contract Documents (Plans & Specifications) and subject to the terms and conditions of the contract, complete and ready for use.

- C.      The principal features of the work to be performed and equipment to be provided for the following areas under this project and included under the contract includes:

Install Temporary Traffic Control Measures (Installation of Wall & Street Paving)

- a) Installation of the turbidity curtain & maintenance during the construction of the contract.
  
- b) Inlet protection (catch basin) & maintenance during construction of the contract.
  
- c) Cleaning & grubbing the area outlined on the contract drawings.
  
- d) Tree & stump removal & material to be removed from the construction site.
  
- e) Installation of the precast modular block retaining walls, reinforced concrete collars/crushed stone/clean fill/corrugated metal pipe extension/geotextile filter fabric material/Styrofoam boards/etc.
  
- f) Installation of dumped riprap as shown on the contract drawings.
  
- g) Modifications to the existing bin wall – remove top stringer/connecting channel and cut off a portion of the vertical connector as shown on the contract drawings.

- h) Installation of a new 8 foot wide by 600 linear feet long of paved surface as shown on the contract drawings.
- i) Installation of a new 3 foot wide by 600 linear feet long additional paved surface over the new retaining wall.
- j) Key all paved surface to the existing road pavement.
- k) Repair of Pot holes and settled pavement areas prior to resurfacing – approx. 100 linear feet in length by 6 feet wide as shown on the contract drawings.
- l) Resurfacing the of the existing road surface – approx. 600 linear feet in length by 20 linear feet wide including milling approx. 2.0 inch thick of existing roadway surface.
- m) Installation of Pavement markings (Double solid yellow lines & white lines as shown on the contract drawings.
- n) Installation of 600 linear feet of 4” diameter perforated HDPE drainage piping and associated details.
- o) Installation of 100 linear feet of 4” diameter HDPE drainage pipe and associated pipe fittings.
- p) Installation of 15” diameter HDPE drainage pipe as shown on the contract drawings.
- q) Concrete sidewalk replacement – as required.
- r) Curb replacement – as required.
- s) Temporary and permanent vegetation cover – as required.
- t) Site Restoration Work.
- u) Contractor to hire a Sub-Consultant to perform Geotechnical Investigation for the proposed wall constructed along the Mohegan Avenue. The cost to be borne by the Contractor.
- v) All other work required to complete the above.

D. The foregoing is a general description only and shall not be construed as a complete description of the work to be performed on this project.

1.02           CONTRACTS

- A.     Contractor shall perform the repairs, replacements and reconstructions without disruption to ongoing operations.
- B.     Contractor shall visit the site of the work before bidding and shall obtain all necessary information, and make his/her own determinations of any and all conditions which may affect in any way the performance of his/her work under this contract.

1.03           SEQUENCE OF WORK

- A.     Work to be sequenced in order listed below, unless otherwise suggested by the Contractor with Owner's approval.
  - 1.     Mobilize labor, materials and equipment.
  - 2.     Submit construction schedules, working drawings, shop drawings and other required submittals.
  - 3.     Take pre construction photographs and video imaging.
  - 4.     Obtain and prepare staging areas.
  - 5.     Perform Geotechnical Investigation
  - 6.     Set up traffic control measures
  - 7.     Purchase and deliver materials with approved submittals.
  - 8.     Layout all work with flags, indicate trees to be removed, flag limit of disturbance and obtain Owner's approval of the layout prior to commencing the work. Provide and install erosion and sediment control measures in accordance with the Westchester County Planning Standards.
  - 9.     Provide equipment for dewatering the work area and install dewatering at the location of the new retaining walls.
  - 10.    Remove the selected trees from the work area, remove the tree stumps and backfill the stump holes.
  - 11.    Demolish the existing stone retaining walls as shown in the contract drawings. Remove existing guardrail and reinstall on construction of the retaining wall as needed. Install new drainage pipe and the retaining walls. Install dumped riprap as shown.

12. Restore disturbed land, vegetation and soil aggregate roads.
13. Mill & Pave the existing roadway surface / etc.
14. Complete, test and place installation into operation.
15. Prepare Substantial Completion Contract Closeout documents.
16. Complete remaining (Punch List) work.
17. Prepare Final Completion Contract Closeout documents.
18. Clean up and restore site as required.

1.04 USE OF PREMISES AND WORKSITE

- A. The Contractor will be responsible for preparing the staging areas, parking, material and equipment storage should it be deemed necessary.
- B. The Contractor shall be responsible for bringing telephone and electrical utilities to any site, should the Contractor elect to do so.
- C. Contractor may utilize Town water and sewer system with prior approval and with approved backflow prevention device. Existing valves and hydrants will be operated by Town personnel only.

**PART 2 PRODUCTS**

DISPOSAL

- A. Dispose of materials in accordance with (IAW) Federal, State and Local laws, rules and regulations.

**PART 3 EXECUTION - Not Applicable.**

**END OF SECTION**



**PART 1      GENERAL**

1.01      GENERAL

- A.      This Measurement and Payment Section separates the work of these Contracts into measurable units for payment purposes, in identical units to those presented in the Proposal. The Contractor shall be entirely responsible for performing all Work described in the Contract, whether or not specifically or fully described in this Measurement and Payment Section. The total Proposal Price must include all Work described in the Contract whether or not such Work is explicitly described in this Measurement and Payment Section.
  
- B.      No direct or separate payment will be made for providing miscellaneous temporary or accessory works, plant, services, Contractor's or Engineer's field offices, layout surveys, job signs, sanitary requirements, testing, safety devices, approval and record drawings, water supplies, power, maintaining traffic, removal of waste, watchmen, bonds, insurance, and all other requirements of the General Conditions, Supplementary Conditions, and the General Requirements. Compensation for all such services, things and materials shall be included in the prices stipulated for the lump sum and bid price unit price items listed herein.
  
- C.      Each item lump sum and item unit bid price will be deemed to include an amount considered by Contractor to be adequate to provide and install all equipment and materials and cover Contractor's overhead and profit under each separately identified Item.
  
- D.      The Item numbers in this Section correspond to the Items listed in the Proposal. The Section numbers in this Section correspond to the most applicable Specification Section where the technical requirements of the item are described.

1.02      ENGINEER'S ESTIMATE OF QUANTITIES

- A.      Engineer's estimated quantities for unit price items, as listed in the Bid Form, are approximate only and are included solely for the purpose of comparison of Bids. Owner does not expressly or by implication agree that the nature of the materials encountered below the surface of the ground or the actual quantities of material encountered or required will correspond therewith and reserves the right to increase or decrease any quantity by fifteen (15%) percent or to eliminate any quantity as Owner may deem necessary. Contractor will not be entitled to any adjustment in a unit bid price as a result of any change in an estimated quantity and agrees to accept the aforesaid unit bid prices as complete and total compensation for any additions caused by changes or alterations in the work ordered by Owner.

## ITEM DESCRIPTIONS

**A. ITEM NO. 1: Mobilization:** (Price Limited to Section No. 01505)1. Measurement:

Mobilization shall consist of the cost of initiating the Contract. The Contractor shall furnish all insurance, bonds, applicable permits and other work required by the Contract Documents, and shall provide, furnish, deliver and install all materials, equipment, things, services, appurtenances and accessories, as specified in Section No. 01505, Mobilization, of Division No. 1 - General Requirements:

2. Payment: (Lump Sum)

Payment for mobilization will be made at the lump sum price bid for this item in the proposal, which price shall include the cost of initiating the contract. The provisions for payment for the item mobilization superseded any provisions elsewhere in the specifications for including the costs of these initial services and facilities in the prices bid for the various items scheduled in the proposal. The lump sum price bid for mobilization shall be payable to the contractor whenever he shall have completed ten (10%) percent of the work of the contract. For the purposes of this item, ten (10%) percent of the work shall be considered completed when the total of payment earned, exclusive of the amount bid for this item, shown on the monthly certificates of the approximate quantities of work done, shall exceed ten (10%) percent of the total bid price for the contract.

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

Original Contract Amount (including Mobilization)		Maximum Amount for Item of <u>Mobilization</u>
<u>From More than</u>	<u>To and Including</u>	
\$0	\$100,000	\$3,000
100,000	500,000	15,000
500,000	1,000,000	30,000
1,000,000	2,000,000	60,000

**B. ITEM NO. 2: Construction Photographs (Pre, During & Post)**

1. Measurement:

The unit of measure for Item No. 2, providing two hundred (200) photographs per set and two (2) hours of video tape with duplicate tapes or DVD's of the Work, shall be an all inclusive lump quantity for photographic prints and video tapes or DVD's submitted to the Owner in accordance with Section No. 01380.

2. Payment: (Lump Sum)

The lump sum price bid under Item No. 2 shall be full compensation for photographing, processing, printing and submitting two hundred (200) photographs per set, videoing, copying and submitting two (2) hours of video with duplicate tapes or DVD's and all of the Work as specified in Section No. 01380. Additional photographs when directed by the Owner to be taken will be paid on a pro rated basis by Change Order.

The lump sum price bid includes all work, equipment and materials specified in Section No. 01380.

The lump sum price bid shall be proportioned as follows in accordance with the work performed during the Contract time period covered by the application for periodic payment.

The calculation shall be in accordance with the following formula:

$S=C \times (V_m/V_T)$ , where:

S = C MULTIPLIED BY % MINUS previous payments.

S = Sum to be included in monthly estimate for periodic payment.

C = The lump sum price bid under Item No. 2.

% = Percent of Work completed EQUALS total number of photographs taken complete with two (2) sets of prints, negatives and table of contents suitable for binding DIVIDED by two hundred (200).

**C. ITEM NO. 3: As Built Record Drawings:**

1. Measurement:
2. Payment: (Lump Sum)

The lump sum payment for Item No. 3 shall be full compensation for providing detailed As Built Record Drawings in accordance with Section No. 01328 and the drawings of the Contract Documents.

**D. ITEM NO. 4: Mohegan Avenue Retaining Wall Modifications:**

1. Measurement:

All work required to remove and dispose of the trees/ stumps/ and modification to the existing bin wall/etc. and to furnish and install the precast modular block retaining walls/paving/pipe extensions/etc. as described below:

- a) Install temporary traffic control measures. (installation of wall & street paving).
- b) Installation of the turbidity curtain & maintenance during the construction of the contract.
- c) Inlet protection (catch basin) & maintenance during construction of the contract.
- d) Cleaning & grubbing the area outlined on the contract drawings.
- e) Tree & stump removal & material to be removed from the construction site.
- f) Installation of the precast modular block retaining walls, reinforced concrete collars/crushed stone/clean fill/corrugated metal pipe extension/geotextile filter fabric material/Styrofoam boards/etc.
- g) Installation of dumped riprap as shown on the contract drawings.
- h) Modifications to the existing bin wall – remove top stringer/connecting channel and cut off a portion of the vertical connector as shown on the contract drawings.
- i) Installation of a new 8 foot wide by 600 linear feet long paved road surface as shown on the contract drawings.
- j) Installation of a new 3 foot wide by 600 linear feet long additional paved surface over the new retaining wall.

- k) Key all paved surface to the existing road pavement.
- l) Repair of Pot holes and settled pavement areas prior to resurfacing – approx. 100 linear feet in length by 6 feet wide as shown on the contract drawings.
- m) Resurfacing the of the existing road surface – approx. 600 linear feet in length by 20 linear feet wide including milling approx. 2.0 inch thick of existing roadway surface.
- n) Installation of Pavement markings (Double solid yellow lines & white lines as shown on the contract drawings.
- o) Installation of 600 linear feet of 4” diameter perforated HDPE drainage piping and associated fittings.
- p) Installation of 100 linear feet of 4” diameter HDPE drainage piping and associated pipe fittings.
- q) Installation of 15” diameter HDPE drainage pipe as shown on the contract drawings.
- r) Concrete sidewalk replacement – as required.
- s) Curb replacement – as required.
- t) Site Restoration Work.
- u) Temporary and Permanent Vegetation Cover – As required.
- v) Contractor to hire a Sub-Consultant to perform Geotechnical Investigation for the proposed wall constructed along the Mohegan Avenue. The cost to be borne by the Contractor.
- w) All other work required to complete the above.

A breakdown statement of lump sum(s) bid shall be submitted to the owner in conformance with the requirements of the General Conditions. The breakdown statement shall contain a cost for each of the elements of the item.

2. Payment: (Lump Sum)

The approved costs for Item No. 4 other than “installed costs” shall be included in each estimate for periodic payment in proportion to the percentage completion of the contract as represented by approved monthly payments. The calculation shall be in accordance with the following

formula:

$S = C \times (V_m/V_t)$ , where:

S = Sum included in monthly estimate for payment.

C = Approved cost of the Item elements completed in payment period other than Ainstalled costs@.

V<sub>m</sub> = Value in dollars of completed work as represented by the latest previously approved periodic payment and including latest Ainstalled costs@.

V<sub>t</sub> = Lump sum contract item bid amount.

For all other elements in this Item, the contractor may include in the monthly estimate for periodic payment an amount equal to the sum of the improved "installed" costs as shown by proof of payment or invoice, notarized as a true copy.

**E. ITEM NO. 5: Rock Excavation:**

1. Measurement:

The quantity to be measured for payment under Item No. 5 shall be the number of cubic yards of rock removed and disposed from within the planes defined by the existing rock surface and the limits specified in Section No. 02222 and shown on the Drawings. Actual quantities for which the Contractor will be paid shall be reviewed and approved by the Owner.

2. Payment: Unit Price (Cubic Yard)

The price per cubic yard bid under Item No. 5 shall cover all costs of excavating rock, removing rock and disposing of rock, and all other related work as specified in Section No. 02222 as shown, or required, including explosives and safeguards. Final payment will be based on actual surveyed quantities.

**F. ITEM NO. 6: Reconstruction of Uncharted and Mismarked Utilities:**

1. Measurement:

The quantity to be measured for payment under Item No. 6 shall be the number of units of utility reconstructed in its final location as specified in Section No. 02201 and as approved.

2. Payment: Unit Price (Unit)

Definition of a Unit: A unit shall be a linear foot of pipe time's foot of depth to pipe invert time's inch of internal pipe diameter.

Example: 10 linear feet of 6 inch internal diameter main with 4 feet of cover from grade to invert would be: 10 feet x 6 inch x 4 feet = 240 units. If the price bid was \$1.00/unit, payment would be: 240 units x \$1.00/unit = \$240.00.

If the utility relocation is done or paid for by the Utility Company, there will be no payment.

**G. ITEM NO. 7: Temporary and Permanent Vegetation Cover:**

1. Measurement:

The quantity to be measured and considered for payment under Item No. 7, furnishing and installing Temporary and Permanent Vegetative Cover shall be the square yards of vegetative cover, as measured in place.

2. Payment: Unit Price (Per Square Foot)

The unit price bid for Item No. 7 shall be payment in full for furnishing and installing each Temporary and Permanent Vegetative Cover complete as shown on the contract drawings and as specified including topsoil, seedbed preparation, seed installation, mulching and mulch netting. Temporary Vegetative Cover will be paid at the unit price bid and Permanent Vegetative Cover will be paid at the unit price bid. Temporary Vegetative Cover work shall be as specified in Section No. 02900, Temporary Vegetative Cover. Permanent Vegetative Cover work shall be as specified in Section No. 02950, Permanent Vegetative Cover and Section No. 02270, Soil Erosion and Sediment Control.

**H. ITEM NO. 8: Additional Concrete:**

1. Measurement:

The quantity to be measured and considered for payment under Item No. 8 shall be the number of cubic yards of additional cast-in-place concrete as specified in Section No. 03300, placed in addition to that shown on the contract drawings, and when ordered by the owner.

2. Payment: Unit Price (Per Cubic Yard)

The unit price per cubic yard bid under Item No 8 shall be payment in

full for providing all additional concrete, complete with reinforcing steel, forms, and accessories as ordered.

The minimum unit price the owner will consider for this Item No. 8 shall be \$300.00 per cubic yard. No direct payment will be made for wire, welding, chairs, supports or any other required accessory. The cost for all such accessories will be included in the price bid.

**I. ITEM NO. 9: Additional Foundation Material:**

1. Measurement:

The unit of measure for Item No. 10 shall be the number of cubic yards of Additional Foundation Material measured in place.

2. Payment: Unit Price (Per Cubic Yard)

The unit price per cubic yard bid under Item No. 9 shall be payment in full for furnishing, placing and compacting additional foundation material, as specified in Section No. 02220 and as shown on the Contract Drawings, when ordered by the Owner. No allowance will be made for loss from consolidation of material. Truck measurement shall not be permitted.

The unit price bid shall include all costs of material, excavation, deposit, geotextile, and disposal.

The minimum unit price bid the Owner will consider for this Item No. 9 shall be \$45.00 per cubic yard.

Additional Foundation Material furnished because of unapproved overfilling, over-grading beyond limits shown on the Drawings, shall be supplied and placed by the Contractor at no additional cost to the Owner.

Note: Final payment will be based on actual quantities. This item shall not be started unless said item is approved and ordered by the Owner.

**J. ITEM NO. 10: Police Traffic Control Allowance:**

1. Measurement & Payment:

Payment for police officer & police car provided by the Town of Yorktown, to direct traffic will be made based on the actual amount invoiced to the Contractor by the Yorktown Police Department. The Contractor will pay the Yorktown Police Department directly. **No markup will be allowed on police officer payments.** The allowance price established in the Bid Form is for bidding purposes only and the amount paid for Traffic Control may differ from this amount.



All other costs associated with traffic control for the Contract Work, including traffic control devices, signage, vehicles, equipment, personnel, and administrative costs, shall be included in the lump sum price bid on the Bid Form, Bid Item No.4.

The contractor shall furnish copies of all Yorktown Police Officer invoices and shall be submitted with each monthly payment estimate.

The total cost of **\$10,000.00** for this item is included in the total bid price.

**K. ITEM NO. 11: All Work Allowance:**

1. Measurement:

The Contractor shall provide all labor, equipment, and materials necessary to provide additional work upon the Owner's written instruction in accordance with the Contract and as defined by the General Conditions Article 82, Changes In The Work. The total cost of \$ **25,000.00** for this item shall be included in the total bid price bid. The Contractor shall develop their work program and schedule with time allotted for performing the value of the contingency item.

2. Payment: (Lump Sum)

The contingency allowance shall cover the cost of labor, products, delivery, installation, insurance, payroll, bonding equipment rental, overhead and profit in accordance with General Conditions Article 82 and Supplementary Conditions Article SC-82 which will be included in the Owner's written instructions authorizing the Contractor to provide the additional work and authorizing the expenditures of funds from this contingency allowance. Final Contract Payment for contingency allowance items shall be based upon actual payments, and not on the approximate amounts cited herein. Any amounts not expended prior to completion of the Project shall be deducted from the final payment made to the Contractor.

**PART 2 PRODUCTS - Not Applicable**

**PART 3 EXECUTIONS - Not Applicable**

**END OF SECTION**



**PART 1 GENERAL**

1.01 SUMMARY

- A. The Schedule of Values is an itemized list that establishes the breakdown cost of each lump sum bid price for each Item of the Work. It shall be used as the basis for preparing periodic estimates for progress payments and may be used as a basis for negotiations concerning additional work or credits which may arise during the construction.
- B. Related Work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
  - 2. Preparation and submittal of a Schedule of Values is required by the General Conditions, Article 5, Breakdown Statement of Lump Sum(s) Bid.
  - 3. Schedule of Values is required to be compatible with the application for periodic payment form.

1.02 SUBMITTALS

- A. Prior to first application for periodic payment, submit a proposed Schedule of Values to the Owner.
  - 1. Meet with the Owner and determine additional data, if any, required to be submitted.
  - 2. Submit two (2) copies of Schedule to Owner for approval at least twenty (20) days prior to submitting first application for periodic payment. After review by the Owner, revise and resubmit Schedule as required until it is approved.

1.03 QUALITY ASSURANCE

- A. Use required means to assure arithmetical accuracy of the sums described.
  - . When so required by the Owner, provide copies of the subcontracts or other data acceptable to the Owner, substantiating the sums described.

1.04 DESCRIPTION

- A. Show at a minimum quantity and unit cost of breakdown items.

- B. Provide sufficient detail breakdown, provide at least a breakdown indicating separate amounts for each applicable Section of the Specifications.
- C. Provide Schedule of Values on 8 1/2-inch by 11-inch white paper.
- D. Use Table of Contents of the Specifications as basis for Schedule format and identify each item with number and title in the Table of Contents. List sub-items of major products or systems as appropriate or when requested by Owner.

The sum of the individual values shown on the Schedule of Values must equal the total Contract Price; include unit price bid Items.

Each Item shall include a directly proportional amount of the Contractor's overhead and profit.

Schedule shall show the purchase and delivery costs for materials and equipment that the Contractor anticipates he shall request payment for prior to their installation.

**PART 2 PRODUCTS - Not Applicable**

**PART 3 EXECUTION - Not Applicable**

**END OF SECTION**

**PART 1      GENERAL**

**1.01      SUMMARY**

- A.    The Contractors shall coordinate their work and cooperate among themselves in every way required to assure satisfactory, expeditious completion of the Project within the Contract Time. They shall cooperate fully with all subcontractors, manufacturers, fabricators, suppliers, distributors, installers, testing agencies, and all others whose services, materials or equipment are required to assure completion of the work within the Contract Time.
  
- B.    The Contractor shall review progress schedules and installation procedures under all Sections and Contracts which may affect its work and shall coordinate the installation of all such work with the appropriate party or parties. The Contractor shall provide openings in concrete formwork and in other construction work as required to accommodate the work of other Sections and other Contractors, shall assist other Contractors in installing "built-in" items required for their work, and shall protect all such "built-in" items and other work of other Contractors from damage.
  
- C.    Coordination meetings shall be held on a weekly basis unless it is mutually agreed by all parties that another schedule is suitable.
  
- D.    The first meeting shall be held immediately upon execution of the Contracts to allocate space requirements on site, construction plant requirements, Shop Drawing interchange among prime Contractors, and future meetings. This meeting may be concurrent with preconstruction conference required by Article 9 of the General Conditions unless otherwise directed by Owner.
  
- E.    Purposes of the meetings are:
  - 1.    Establish and modify work schedules and agree upon an orderly sequence of operations acceptable to all prime Contractors.
  - 2.    Review and adjust conflicts, work arrangements, and schedules to avoid delays and work stoppages.
  - 3.    Discuss and prepare coordination drawings prepared by each prime Contractor, as required to assist and guide the others.
  
- F.    Meetings will be arranged through Owner and shall be separate from and in addition to job progress meetings. Owner will keep notes, records and write minutes of the meetings.

- G. Representatives of the prime Contractors at the meetings shall have the competence and authority to make any necessary decisions. Their decisions and statements shall commit the prime Contractors to the agreed procedures, sequence of operations and schedules.
- H. Failure to be represented at these meetings shall cause the absent prime Contractor to be liable for any and all damages, delays, costs of alterations, and other costs which result because he was not present to arrange coordination of his work with the scheduled construction activities.
- I. Owner will give the Contractor notice of the time, place and tentative agenda of the meetings. If a prime Contractor cannot, for compelling reasons, attend a meeting he shall give timely notice so that the meeting may be rescheduled. The Contractor may initiate a meeting by addressing a request to Owner.
- J. Where procedures have been agreed upon and coordination drawings accepted by all prime Contractors concerned, it shall become binding upon them to follow the drawings and procedures, both as to time and performance.
- K. Contractor shall maintain at the site sufficient competent personnel for the purpose of preparing layout and coordination drawings. Where such drawings are to be prepared by Subcontractors, the subcontractor shall have the required personnel on site. The Contractor shall provide his own drafting equipment and supplies.
- L. If, in the opinion of the Contractor, coordination meetings do not achieve their purpose that prime Contractor shall notify Owner in writing that another prime Contractor on the Project is failing to coordinate its work with the work of other Contractors as directed, Owner will promptly investigate the charge. If Owner finds it to be true, he will promptly issue such directions to the other Contractor with respect thereto as the situation may require. Owner shall not, however, be liable for any damages suffered by a prime Contractor by reason of the other Contractor's failure to promptly comply with the directions so issued by Owner, or by reason of another Contractor's default in performance. Owner does not guarantee the responsibility or continued efficiency of the Contractor.

**PART 2 PRODUCTS - Not Applicable**

**PART 3 EXECUTION - Not Applicable**

**END OF SECTION**

**PART 1      GENERAL**

1.01      SUMMARY

- A. Contractor shall provide all labor, equipment, insurance, supervision, and material necessary to implement, furnish and install specified special project procedures.

1.02      CONFINED SPACE SAFETY PROVISIONS

- A. The portions of the interior of the reservoir work of this Contract are classified as confined space work, and it is the responsibility of the Contractor to conform to all current applicable OSHA, Federal, State, and Local Regulations.
- B. The Contractor shall furnish all labor, materials, equipment, tools, appurtenances, safety devices and equipment and procedures required to provide safety protection for all personnel entering or working in the standpipe and reservoir as required by OSHA, Federal, State, and Local Regulations.
- C. 29 CFR 1926.21 (a) (6) (ii) and 29 CFR 1910.146. For purposes of this Section, "confined or enclosed space" means any space having a limited means of egress, which is subject to the accumulation of toxic or flammable contaminants or has an oxygen deficient atmosphere. Confined or enclosed spaces include, but are not limited to, storage tanks, process vessels, bins, boilers, ventilation or exhaust ducts, sewers, underground utility vaults, tunnels, pipelines, and open top spaces more than 4 feet in depth such as pits, tubs, vaults, and vessels.

1.03      SITE SPECIFIC HEALTH AND SAFETY PROCEDURES

- A. Portions of the work of this Contract are considered hazardous material work and it is the responsibility of the Contractor to conform to all Federal, State and Local Laws and Regulations.
- B. The Contractor shall furnish all labor, materials equipment, tools, appurtenances, personnel protection equipment, safety devices and equipment required to comply with statues regulating the work. For the purposes of this specification, the primary, although not exclusive, regulation governing the work is 29 CFR 1910.120.
- C. The Contractor shall submit to the Owner a Site Specific Health and Safety Plan for the interior coating of this project, prior to initiating work. The Owner and/or Engineer will not bear any responsibility for the safety of the Contractor's employees or subcontractors.

- D. The Site Specific Health and Safety Plan shall provide satisfactory and acceptable documentation that all of the Contractor's employees on the project site related to the interior preparation and coating the proper training, health monitoring and annual refresher training as defined in 29 CFR 1910.120.

1.04 GENERAL

- A. The Contractor shall employ at least one OSHA qualified person as a safety inspector when work is being performed inside the standpipe and reservoir. The responsibility of the safety inspector shall be to insure that the safety measures and precautions enumerated in this Section and elsewhere in the specifications are satisfied for the benefit of the Contractor, Owner, Owner's Representatives and visitors.
- B. The safety inspector shall maintain and submit to the Owner a daily record for the working period of safety conditions and test results observed. Duties of the Contractor's safety inspector shall include, but not be limited to the following:
  - 1. Checking all signs, barricades and barricade lights for legibility, pipe placement, illumination and conforming to applicable regulations.
  - 2. Checking traveled ways within the work areas to insure that no obstructions or hazardous conditions exist.
  - 3. Checking first aid and emergency equipment, and insuring replacement of any item which may be missing.
  - 4. Checking self-contained breathing apparatus (SCBA) equipment at the work areas to insure that it is in proper operating condition.
  - 5. Checking the atmosphere in the inside of the reservoir area for oxygen and combustible gases prior to workers entering the tank.
  - 6. Maintaining the rosters, and the site specific Health and Safety Plan.
  - 7. Implement and monitor OSHA confined space entry permit system.
  - 8. Appoint and supervise attendants, trained in compliance with OSHA Confined Space Regulations, at confined space entry point for benefit of Contractor, Owner and visitors.
- C. Unauthorized persons shall not be allowed in the immediate vicinity of the work at any time.
- D. The Contractor shall be required to observe and enforce all sections of the Federal Occupational Safety and Health Act.



- E. The Local Fire Department shall be contacted, and arrangements shall be made to familiarize them with all aspects of the work. Contact with Fire Department is required before entering the standpipe and reservoir.

1.05 ELECTRICAL

- A. Safety-related work practices shall be employed to prevent electric shock or other injuries resulting from either direct or indirect electrical contacts, when working inside the standpipe and reservoir. All electrical equipment shall be explosion proof rated. The specific safety-related work practices shall be consistent with the nature and extent of the associated electrical hazards.

**PART 2 PRODUCTS - Not Applicable**

**PART 3 EXECUTION - Not Applicable**

**END OF SECTION**



**PART 1      GENERAL**

1.01      SUMMARY

- A.      Date, Time and Location: Conference will be held after execution of the Agreement and before construction is started at the site. Engineer will fix the date, time and location of the meeting in accordance with the General Conditions.
- B.      Engineer shall prepare agenda, preside at meeting, and prepare and distribute a transcript of proceedings to all parties.
- C.      Contractor(s) shall provide data required, contribute appropriate items for discussion, and be prepared to discuss all items on agenda.

1.02      REQUIRED ATTENDANCE

- A.      Contractor(s) and major subcontractors.
- B.      Owner's representative.
- C.      Consulting Engineer.
- D.      Others as Appropriate.

1.03      PRECONSTRUCTION CONFERENCE AGENDA

- A.      Agenda will include, but will not necessarily be limited to, the following:
  - 1.      Documentation submitted by Engineer to Contractor.
    - a.      Four (4) sets of Contract Documents (Bidding & Detailed Specifications + Contract Drawings).
    - b.      Contractor's Daily Work Report Form.
    - c.      Contractor's Monthly Payment Estimate Forms (Cover sheet AIA Document G702 + breakdown sheet AIA Document G703).
    - d.      Contractor's Change Order Form.
    - e.      CAMCE Cover Sheet
    - f.      Contractor's executed contract document (specifications only/no drawings)
  - 2.      Time for completion.
    - a.      Notice to Proceed – effective date
    - b.      Substantial and Final completion date
    - c.      Liquidated damages
  - 3.      Contractor's work program and schedule.

4. Supervision by Contractor.
5. Competent persons to be employed.
6. Protection and use of premises/Environmental Requirements.
7. Contractors and subcontractors insurance.
8. Contractors schedule of shop drawing/manuals submittals.
9. Substitutions or Equal Items (Shop Drawings).
10. Working hours and time restrictions.
11. Emergency telephone numbers.
12. Commercial temporary telephone service.
13. Construction photographs and/or Video DVD'S.
14. Safety and health provisions (OSHA).
15. State labor standard.
16. As - Built (record drawings).
17. Contractors pay estimates and breakdown and processing change orders.
18. Contractors daily work reports and delivery slips.
19. Inspection and testing services.
20. Material disposal.
21. Noise control, Soil erosion and sediment control measures.
22. Temporary sanitary facilities;
23. Use of Town of Yorktown fire hydrants.
24. Monthly Job meetings and or field meetings.

**PART 2 PRODUCTS - Not Applicable**

**PART 3 EXECUTION - Not Applicable**

**END OF SECTION**

**PART 1 GENERAL**

1.01 SUMMARY

A. Date and Time:

1. Regular Meetings: As mutually agreed upon by Owner, Resident Engineer and Contractor.
2. Other Meetings: On call.

B. Place: Engineer's field office at Project site or other mutually agreed upon location.

C. Engineer shall prepare agenda, preside at meetings, and prepare and distribute a transcript of proceedings to all parties.

D. Contractor shall provide data required and be prepared to discuss all items on agenda.

E. Representatives present for each party shall be authorized to act on their behalf.

1.02 MINIMUM ATTENDANCE

A. Contractor:

1. When needed for the discussion of a particular agenda item, Contractor shall require representatives of Subcontractors or suppliers to attend a meeting.

B. Owner:

1. Owner's representative, if required.

C. Consulting Engineer.

D. NYSDEC, USACE, WCDOH/etc.

E. Others as appropriate.

1.03            PROGRESS MEETING AGENDA

A.        Agenda will include, but will not necessarily be limited to, the following:

1.        Transcript of previous meeting.
2.        Progress since last meeting.
3.        Planned progress for next period.
4.        Problems, conflicts and observations.
5.        Status of payment estimates, change orders and off-duty police invoices.
6.        Status of shop drawings submittals.
7.        Quality standards and control.
8.        Schedules, including off-site fabrication and delivery schedules.  
          Corrective measures, if required.
9.        Coordination between parties.
10.      Safety concerns.
11.      Status on as-built record drawings.
12.      Other business.

**PART 2        PRODUCTS - Not Applicable**

**PART 3        EXECUTION - Not Applicable**

**END OF SECTION**

**PART 1 GENERAL**

1.01 SECTION INCLUDES

- A. Shop drawings.
- B. Product data.
- C. Samples.
- D. Submittal Procedures.
- E. Contractor's work program and schedule.
- F. Manufacturers' instructions.
- G. Manufacturers' certificates.
- H. Spare parts.
- I. Special tools.
- J. Extended bonds.
- K. Equivalent or "Or Equal" items.
- L. Record information.

1.02 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division No. One, of these Specifications.
- B. Related Sections:  
  
All Sections

1.03 DEFINITIONS

- A. Work-related submittals are categorized for convenience as follows:
- B. Shop Drawings:
  - 1. Shop drawings as specified in individual work sections include, but are not necessarily limited to, custom-prepared data such as fabrication and erection/installation drawings, scheduled manufacturing instructions, custom templates, special wiring diagrams, coordination drawings, individual system or equipment inspection and test reports including performance curves and certifications, as applicable to the Work.

2. All shop drawings submitted by subcontractors for approval shall be sent directly to the Contractor for preliminary checking. The Contractor shall be responsible for their submission at the proper time so as to prevent delays in delivery of materials.
3. The Contractor shall check all subcontractor's shop drawings regarding measurements, size of members, materials and details to satisfy himself that they conform to the intent of the drawings and specifications. Drawings found to be inaccurate or otherwise in error shall be returned to the subcontractors for correction before submission thereof.
4. All details on shop drawings submitted for approval shall show clearly the elevations of the various parts to the main members and lines of the structures and where correct fabrication of the work depends upon field measurements; such measurements shall be made and noted on the drawings before being submitted for approval.

C. Product Data:

1. As specified in individual sections include, but are not necessarily limited to, standard prepared data for manufactured products (sometimes referred to as catalog data), such as the manufacturer's product specification and installation instructions, availability of colors and patterns, manufacturer's printed statements of compliance and applicability, roughing-in diagrams and templates, catalog cuts, product photographs, standard wiring diagrams, printed performance curves and operational-range diagrams, production or quality control inspection and test reports and certifications, mill reports, product operating and maintenance instructions and recommended spare parts listing, and printed warranties as applicable to the work.

D. Samples:

1. Samples as specified in individual sections include but are not necessarily limited to physical examples of the work, such as sections of manufactured or fabricated work, small cuts or containers of materials, complete units of repetitively-used products, color/texture/pattern swatches and range sets, specimens for coordination of visual effect, graphic symbols and units of work to be used by the Engineer or Owner for independent inspection and testing, as applicable to the Work.



**PART 2 PRODUCTS - Not Applicable**

**PART 3 EXECUTION**

**3.01 SUBMITTAL PROCEDURES**

- A. The Contractor shall review working drawings, product data and samples prior to submission to determine and verify the following:
  - 1. Field measurements
  - 2. Field construction criteria
  - 3. Catalog numbers and similar data
  - 4. Conformance with the specifications.
- B. Each shop drawing, sample and product data submitted by the Contractor shall have affixed to it the following Certification Statement, signed by the Contractor: "Certification Statement: by this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data and I have checked and coordinated each item with other applicable approved shop drawings and all Contract requirements".
- C. Any submittal without this certification statement will not be considered and will be returned to the Contractor for resubmission.
- D. Notify the Owner in writing, at the time of submittal, of any deviations in the submittals from the requirements of the contract documents.
- E. No portion of the work requiring a working drawings, shop drawing, sample or product data shall be started nor shall any materials be fabricated or installed prior to the approval or qualified approval of such items. Fabrication performed, materials purchased or on-site construction accomplished which does not conform to approved working drawings, shop drawings and data shall be at the Contractor's risk. The Owner will not be liable for any expense or delay due to corrections or remedies required for accomplish to conformity.
- F. Project work, materials, fabrications and installation shall conform with approved shop drawings, working drawings, applicable samples and catalog data.
- G. Make submittals promptly in accordance with approved schedule and in such sequence as to cause no delay in the Work or in the work of any other Contractor.

- H. Number of submittals required:
1. Shop Drawings: Submit seven (7) copies.
  2. Product Data: Submit seven (7) copies.
  3. Samples: Submit the number stated in the respective Specification Section.
- I. Each submission of drawings larger than 11" x 17" shall consist of one (1) reproducible and seven black on white prints.
- J. Submittals shall contain:
1. The date of submission and the dates of any previous submissions.
  2. The Contract title and number.
  3. Contractor identification.
  4. The names of:
    - a. Contractor
    - b. Subcontractor
    - c. Supplier
    - d. Manufacturer
  5. Identification of the item of work with the specification section number.
  6. Field dimensions, clearly identified as such.
  7. Relation to adjacent or critical feature of the Work or materials.
  8. Applicable standards, such as ASTM or Federal specification numbers.
  9. Identification of deviations from Contract Documents.
  10. Identification of revisions on resubmittals.
  11. An eight (8) inch x three (3) inch blank space for Contractor and Engineer stamp.

K. Resubmission Requirements:

1. Make any corrections or changes in the Submittals required by the Owner and resubmit until approved.
2. Shop Drawings, Working Drawings and Product Data:
  - a. Revise initial drawings or data and resubmit as specified for the initial submittal.
  - b. Indicate any changes which have been made other than those requested by the Owner.
2. Samples: Submit new samples as required for initial submittal.

L. Distribution:

1. Distribute reproductions of approved working drawings, shop drawings and copies of approved product data and samples, where required, to the job site file and elsewhere as directed by the Owner. Number of copies shall be as directed by Owner, but shall not exceed two (2).

M. General Procedures for Submittals:

1. Coordination of Submittal Times: Prepare and transmit each submittal sufficiently in advance of performing the related work of other applicable activities, or within the times specified in the individual work sections of the specifications, so that the installation will not be delayed by processing times including disapproval and resubmittal (if required), coordination with other submittals, testing, purchasing, fabricating, delivery and similar sequenced activities. No extension of time will be authorized because of the contractor's failure to transmit submittals sufficiently in advance of the work.
2. Each shop drawing or other submission will be marked by the Owner with one of the following actions:
  - a. **"Acceptable" or "A"** - means that the equipment or materials described therein is apparently in accordance with the applicable sections of the Contract Documents, and no additional shop drawing or submission regarding said equipment or material is required.
  - b. **"Acceptable with the Exceptions Noted" or "AEN"** - means that the equipment or material described therein is apparently essentially in accordance with the applicable sections of the Contract Documents; however, minor discrepancies as noted must be addressed and incorporated, and promptly resubmitted to the

Owner.

- c. **"Rejected" or "R"** - means that the equipment or material is not in compliance with the Contract Documents, and is not acceptable to the Owner. Rejected submissions may or may not note areas of non-compliance, at the discretion of the Owner.
- d. However, any notes shall not be misconstrued as a change in the Contract Documents, and shall be considered a partial list of deficiencies only, provided as a courtesy. Said notes do not relieve the Contractor of the Contractor's duty to fully comply with all Contract Documents, whether included in the aforementioned notes, or not. Rejected submissions shall be promptly replaced or corrected and resubmitted to the Owner for review.

### 3.02 WORK PROGRAM AND SCHEDULE

- A. Submit initial work program and schedule in duplicate within twenty (20) days after the date of the Notice to Proceed.
- B. Submit Construction Schedule in accordance with the Supplementary Conditions.

### 3.03 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for product data.
- B. Identify conflicts between manufacturers' instructions and Contract Documents.

### 3.04 MANUFACTURER'S CERTIFICATES

- A. When specified in individual specification sections, submit manufacturers' certificate to Owner for review, in quantities specified for product data.

### 3.05 SPARE PARTS

- A. Provide manufacturer recommended spare parts as specified in Sections.
- B. Provide in individual marked boxes.

### 3.06 SPECIAL TOOLS

- A. Provide manufacturer recommended special tools as specified in Sections.

### 3.07 EXTENDED BONDS

- A. Where specific units of work require the issuance of an extended bond or similar

provision in excess of the one-year warranty required by the General Conditions, as a means of assuring the Owner that failure of the work to perform as represented will be rectified at someone else's expense, submit fully executed bond backed by a surety company acceptable to the Owner and in the principal amount indicated. Include information sheet for the Owner's maintenance/ operating personnel outlining proper procedures in case of failure or other instances which might affect the validity of the bond; list names, addresses and telephone numbers for the Owner's emergency and follow-up in connection with the implementation of each bond.

### 3.08 EQUIVALENT OR "OR EQUAL" ITEMS

- A. Wherever in the Contract Documents any item of equipment or material is designated by reference to a particular brand, manufacturer, or trade name (which are used to designate acceptable suppliers) or by technical description, it is understood that unless otherwise noted, an approved equal product, acceptable to the Owner, may be provided by the Contractor subject to the limitations set forth below. Determination of equality shall be based upon, but not limited to, the following consideration: composition, characteristics, workmanship, durability, performance, method of functioning or operation, suitability for the purpose intended, and economy and ease of operation and maintenance, and availability and location of spare parts. The decision of acceptability of the equipment or material proposed shall be in the Owner's sole discretion, and shall be final.
- B. As a prerequisite for obtaining approval of providing equivalent or "or equal" products the Contractor must submit the following "Proof of Suitability" information to the Owner in writing:
1. Proof that the Contractor has investigated the effect of the product on all facets of the work and the work of other contractors directly or indirectly involved.
  2. Drawings, descriptions, illustrations, catalogs, records of tests and all other information essential for judging the quality, suitability and durability of the product.
  3. Proof of suitability shall constitute a point by point comparison of the equivalent or "or equal" product with the specified product. This comparison shall include all appropriate catalogs, descriptions, drawings, illustrations and records of test for both products; and all other information essential for judging the quality, suitability, durability and availability of service of the product. The onus of "Proof of Suitability" of the product shall be entirely the Contractor's responsibility, and at no extra cost to the Owner.
  4. As previously noted, the submission of equivalent or "or equal" products may result in delays in the Owner's review of submissions.

- C. If, in the opinion of the Owner, the data submitted for a equivalent or “or equal” product is insufficient for judging its qualify of suitability, the Owner reserves the right to reject the substitution or to require testing of such product by a laboratory of the Owner's choosing. The Contractor shall bear all costs of testing products.
- D. When specified equipment or materials cannot be delivered to meet the construction schedule, or if such equipment or material is no longer available, the Contractor shall submit a letter to such effect written by the manufacturer.
- E. When utilization of “equal” equipment or material requires redesign of structures, supports, partitions, piping, wiring, ductwork or any other work shown on the Contract drawings or on the contract drawings of related contracts, such redesign, revised drawings and details shall be prepared by the Contractor at the Contractor’s expense. All costs of incorporating such changes in the work and in the work of other contractors, as well as the cost of services rendered by the Engineer (including review and redesign) in connection with same, shall be borne by the Contractor. **All Engineers charges shall be at the Engineer’s usual charge, which is defined as direct technical salary times a factor of 3.1.**

3.09 RECORD INFORMATION

- A. Concurrent with the progress of the installation, the Contractor shall maintain informational written records and sketches needed to denote and dimension accurately all changes in elevation, location and size of all equipment, materials and any other work deviating from the Contract Documents.

**END OF SECTION**

**PART 1      GENERAL**

1.01      SUMMARY

- A. Throughout progress of the Work, maintain an accurate record of changes in the Contract Drawings, as described in Article 3.01 below and, upon completion of the Work, transfer the recorded changes to a set of Record Drawings, as described in Article 3.02 below.

1.02      RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
- B. Other requirements affecting Project Record Drawings may appear in pertinent other Sections of these Specifications.

1.03      SUBMITTALS

- A. Comply with pertinent provisions under Shop Drawings in the Contract Documents.
- B. The Owner's approval of the current status of Project Record Drawings may be a prerequisite to the Owner's approval of requests for progress payment and request for final payment under the Contract.
- C. Prior to submitting each request for progress payment, secure the Owners approval of the current status of the Project Drawings.
- D. Prior to submitting request for final payment, submit the final Project Record Drawings to the Owner and secure Owners approval.

1.04      QUALITY ASSURANCE

- A. Delegate the responsibility for maintenance of Record Drawings to one person on the Contractor's staff as approved by the Owner.
- B. Accuracy of records:
  - 1. Thoroughly coordinate changes within the Record Drawings, making adequate and proper entries on each sheet of Drawings where such entry is required to show the change properly.
  - 2. Accuracy of records shall be such that future searches for items shown in the Contract Drawings may rely reasonably on

information obtained from the approved Project Record Drawings.

- C. Make entries within twenty-four (24) hours after receipt of information that the change has occurred.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Maintain the job set of Record Drawings completely protected from deterioration and from loss and damage until completion of the Work and transfer of all recorded data to the final Project Record Drawings.
  - 1. All additional “paper” or reproducible drawings are to be obtained by the Contractor at their own expense.
- B. In the event of loss of recorded data, use means necessary to again secure the data to the Owners approval.
  - 1. Such means shall include, if necessary in the opinion of the Owner, removal and replacement of concealing materials.
  - 2. In such case, provide replacements to the standards originally required by the Contract Documents.

**PART 2 PRODUCTS**

2.01 RECORD DRAWINGS

- A. Job set: Promptly following receipt of the Owner’s Notice to Proceed, secure from the Owner, at no charge to the Contractor, one (1) complete set of “paper” copies of the Drawings.
- B. Final Record Drawings: At a time nearing the completion of the Work, secure from the Owner, at no charge to the Contractor, one (1) complete set of all Drawings in the Contract on USB flash drive, in AutoCAD latest format.

**PART 3 EXECUTION**

3.01 MAINTENANCE OF JOB SET

- A. Immediately upon receipt of the job set described in Paragraph 2.01(A) above, identify each of the Drawings with the title, “RECORD DRAWINGS - JOB SET.”



B. Preservation:

1. Considering the Contract completion time, the probable number of occasions upon which the job set must be taken out for new entries and for examination, and the conditions under which these activities will be performed, devise a suitable method for protecting the job set to the approval of the Owner.
3. Do not use the job set for any purpose except entry of new data and for review by the Owner, until start of transfer of data to final Project Record Drawings.
3. Maintain the job set at the site of Work as that site is designated by the Owner.

C. Making entries on Drawings:

1. Using an erasable colored pencil (not ink or indelible pencil), clearly describe the change by graphic line and note as required.
2. Date all entries.
3. Call attention to the entry by a “cloud” drawn around the area or areas affected.
4. In the event of overlapping changes, use different colors for the overlapping changes.

D. The Contractor shall record neatly and legibly, using reasonable drafting care, all approved change(s) (including minor revisions or corrections of pipe, ducts, electric outlets, circuit panels and other features, as well as invert elevations and locations of underground lines).

1. Contractor installed water mains - Record depth of cover and datum elevation of top of pipe at changes in grade and at fifty (50) foot stations; record type and location of all fittings with three (3) ties to structures or trees shown on Drawings; record type, dimensions, depth and elevation of encountered underground pipes, conduits, cables, and other objects.

3.02 FINAL PROJECT RECORD DRAWINGS

A. The purpose of the final Project Record Drawings is to provide factual information regarding all aspects of the Work, both concealed and visible, to enable future modification of the Work to proceed without lengthy and expensive site measurement, investigation, and examination.

B. Approval of recorded data prior to transfer:

1. Following receipt of the transparencies described in Paragraph

2.01(B) above, and prior to the start of transfer of recorded data thereto, secure the Owner's approval of all recorded data.

2. Make required revisions.

C. Transfer of data to Drawings:

1. Carefully transfer change data shown on the job set of Record Drawings to the corresponding transparencies, coordinating the changes as required.
2. Clearly indicate at each affected detail and other drawing a full description of changes made during construction, and the actual location of items described in subparagraph 3.01(C) above.
3. Call attention to each entry by drawing a "cloud" around the area or areas affected.
4. Make changes neatly, consistently, and with the proper media to assure longevity and clear reproduction.
5. On each Record Drawing the Contractor shall indicate under "Record Drawing Certification" (above the title box) the recorded data.
6. When all approved changes are recorded and clearly identified, the Contractor shall return the Record Drawings in acceptable condition to the Owner's Inspector, who will sign each drawing, signifying concurrence with the indicated changes, and subsequently transmit them to the Owner.

D. Review and submittal:

1. Submit the two (2) copies of completed set of Project Record Drawings to the Owner as described in Paragraph 3.02 above.
2. Participate in review meetings as required.
3. Make required changes and promptly deliver the final Project Record Drawings to the Owner.

### 3.03 CHANGES SUBSEQUENT TO ACCEPTANCE

- A. The Contractor has no responsibility for recording changes in the Work subsequent to Final Completion, except for changes resulting from work performed under Warranty.

**END OF SECTION**

**PART 1      GENERAL**

1.01      SUMMARY

- A.      Work Included: The Contractor shall provide all labor, equipment and materials necessary to produce and provide construction photographs and videos as specified herein and approved by the Owner.

1.02      WORK INCLUDED

Photography: Owners Representative Photographs, Prints, Negatives, Proofs, Video, Technique, Views & Quality.

1.03      RELATED WORK

- A.      Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division No. One, of these Specifications.

1.04      PERFORMANCE REQUIREMENTS

- A.      Provide factual presentation.
- B.      Provide correct exposure and focus, high resolution and sharpness, maximum depth of field, and minimum distortion.

1.05      SUBMITTALS

- A.      Deliver three (3) sets of preconstruction photographic proofs and view identity for approval with first Application for Payment with transmittal letter.
- B.      Deliver sufficient loose-leaf binders suitable for the three (3) sets of prints with the first Application for Payment and additional binders as need during the duration of the Contract.
- C.      Deliver three (3) copies of identified preconstruction photographic prints with table of contents suitable for binder insertion with second Application for Payment.
- D.      Deliver original and one (1) duplicate preconstruction video tapes with first Application for Payment.
- E.      Deliver three (3) sets of identified construction progress photographic negatives and prints, with revised table of contents, of photographs taken during period covered by each Application for Periodic Payment.

1.06 QUALITY ASSURANCE

A. Provide the work to the industry standard of care.

1. Standard of Care: The degree of care, skill and proficiency exercised by reasonably careful, skillful and prudent practitioners of the same class in the same locality acting under the same or similar circumstances.

1.07 QUALIFICATIONS

A. Photographer: Company specializing in the production of construction and progress photography with a minimum of ten (10) years' experience.

B. Photographic Laboratory: Company specializing in the development of commercial color photographic film with a minimum of ten (10) years' experience.

C. Videographer: Company specializing in video tape recording of construction and preconstruction sites with a minimum of ten (10) years' experience.

**PART 2 PRODUCTS**

2.01 PHOTOGRAPHS

Provide photographs produced by an experienced commercial photographer, acceptable to Owner.

2.02 PRINTS

A. Provide full color, three (3) prints of each view.

B. Paper: single weight.

C. Finish: smooth surface, glossy.

D. Size: 4 x 6 inch mount with binder tabs.

E. Identify each print on the reverse side. Mark with name of project, Contract I.D., street location, control point, station, orientation of view, date and time of view, name and address of photographer's numbered identification of exposure.

2.03 NEGATIVES/CD/DVD

A. Provide negatives or CD/DVD of construction photographs, cataloged and indexed in chronological sequence; provide typed table of contents.

2.04 PROOFS

- A. Provide with negatives, proof sheets of all negatives, with a photograph index to the negatives.

2.05 VIDEO

- A. Provide DVD format, recorded in high quality (HQ) mode.

**PART 3 EXECUTION**

3.01 EXAMINATION

- A. Verify base line stations and control points at which photographs will be taken have been marked or staked.

3.02 VIEWS

- A. Consult with Owner on views.
- B. Incorporate in the view a large visible scale in feet to show dimensions of conditions prior to demolition or during demolition.
- C. The location of photographs shall be sufficiently identified so that upon completion of the construction, or during construction if necessary, subsequent photographs can be taken from the same control points.
- D. Provide preconstruction photography and videos prior to any disturbance of the following:
  - 1. Existing conditions at construction site or sites.
  - 2. Areas to be disturbed, cleared, or use for access.
  - 3. Environmentally critical areas within and adjacent to construction site or sites.
  - 4. Each 100 feet of construction area.
  - 5. Additional photographs at the direction of the Owner.
  - 6. Owner shall approve the views to be taken and approve the time at which they will be taken.
  - 7. Video recording shall provide videos of entire construction site or sites including adjacent areas within 100 feet of site and closeups of damaged or defective physical features.

- E. Provide construction progress photography as follows:
1. Owner shall approve the views to be taken and approve the time at which they will be taken.
  2. Views of critical construction which will become covered, buried or hidden upon completion of work.
  3. Environmental and cultural resources protection and restoration measures.
  4. Environmentally critical areas.

3.03 QUANTITY

- A. Take a minimum of two hundred (200) color photographs of the existing conditions.
- B. Take a minimum of two (2) hours of video taping with duplicate DVD's or USB flash drives of the existing conditions.
- C. Take a minimum of two hundred (200) color photographs during and post construction.

**END OF SECTION**

**PART 1 GENERAL**

1.01 SUMMARY

- A. Provide all materials, equipment, labor, insurance, bonds, and work necessary to commence the Work.

1.02 SECTION INCLUDES

- A. Mobilization.

1.03 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division No. 1 of these Specifications.

1.04 MEASUREMENT AND PAYMENT

- A. Measurement:

Mobilization shall consist of the cost of initiating the contract. The Contractor shall furnish all insurance, bonds, and applicable permits, and shall furnish, deliver and install all temporary construction facilities, and all materials, equipment, things, services, appurtenances and accessories, as shown and specified in Division No. 1 - General Requirements except those Sections for which a Bid Item is listed in the Proposal. The work required under this Item includes but is not limited to:

<u>Section</u>	<u>Title</u>
01010	Summary of Work
01025	Measurement & Payment
01026	Schedules of Values
01041	Project Coordination
01110	Special Project Procedures – Health and Safety Procedures
01210	Pre-Construction Conference
01220	Progress Meetings
01300	Submittals
01520	Temporary Construction Facilities
01541	Protection of Work and Property
01560	Environmental Controls
01570	Maintenance and Protection of Traffic
01610	Transportation and Handling of Materials and Equipment
01611	Storage of Materials
01710	General Cleaning

B. Payment:

1. Payment for mobilization will be made at the lump sum price bid for this item in the proposal, which price shall include the cost of initiating the contract. The provisions for payment for the item mobilization supersede any provisions elsewhere in the specifications for including the costs of these initial services and facilities in the prices bid for the various items scheduled in the proposal. The lump sum price bid for mobilization shall be payable to the contractor whenever he shall have completed ten (10%) percent of the work of the contract. For the purposes of this item, ten (10%) percent of the work shall be considered completed when the total of payments earned, exclusive of the amount bid for this item, shown on the monthly certificates of the approximate quantities of work done, shall exceed ten (10%) percent of the total price bid for the contract.
2. The lump sum price bid for mobilization is limited to the following maximum amounts:

Original Contract Amount (including Mobilization)		Maximum Amount for Item of Mobilization
From More than	To and Including	
\$ 0	\$ 100,000	\$ 3,000
\$ 100,000	\$ 500,000	\$ 15,000
\$ 500,000	\$ 1,000,000	\$ 30,000
\$ 1,000,000	\$ 2,000,000	\$ 60,000

**PART 2 PRODUCTS - Not Applicable**

**PART 3 EXECUTION - Not Applicable**

**END OF SECTION**



**PART 1        GENERAL**

1.01        SUMMARY

- A.    Scope: The Contractor shall furnish, install and remove all temporary construction facilities required to perform the work of this Contract. Contractor shall make all arrangements with utility service companies for temporary services and shall pay all costs associated therewith.
- B.    Work under this Section shall include, but not be limited to, the following:
1.    Temporary lighting and power requirements
  2.    Temporary ventilation
  3.    Temporary water service
  4.    Temporary sanitary facilities
  5.    Exterior enclosures
  6.    Progress cleaning
  7.    Removal of utilities and facilities
  8.    Insurance, Bonds, Permits and Licenses
  9.    Temporary Telephone Services
  10.   All other work required to complete the above.
- C.    Related Sections:

CONSTRUCTION PHOTOGRAPHS

Section 01380

1.02        TEMPORARY LIGHTING AND POWER REQUIREMENTS

- A.    Installation and Maintenance: Temporary general lighting, electric power and small power requirements shall be connected and serviced by temporary systems, furnished and maintained by the Contractor. All systems shall be operated in a manner consistent with the National Electric Code, most current addition.

The cost of maintaining temporary electric power and lighting facilities shall be borne by the Contractor.

1.03        TEMPORARY VENTILATION

- A.    Ventilate enclosed areas to assist in the curing of materials, to dissipate humidity, and to prevent the accumulation of dust, fumes, vapors. All ventilation systems employed shall be explosion proof.

1.04 TEMPORARY WATER SERVICE

- A. The Contractor may connect to existing water sources for construction operations with appropriate backflow prevention devices, only after receipt of written approval to do so by the Owner of the said water source.
- B. Obtaining water for construction operations shall be the responsibility of the Contractor. The Owner and/or the Owners Representative shall bear no responsibility or costs related to the Contractors obtaining water for construction activities.

1.05 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain temporary sanitary facilities for the personnel involved with the project. At no time during the course of the work of the Contract, shall a sanitary facility or “Porta-John” be more than 100 feet from the location of the work. Sanitary facilities shall be provided in sufficient quantities and serviced frequently enough so as to not cause an overload condition or situation.

1.06 EXTERIOR ENCLOSURES

- A. Provide temporary weather-tight closure of exterior openings to accommodate acceptable working conditions and protection to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons, as required. No excavation is to be left open or unattended overnight. All excavations in streets, roads, traffic ways or sidewalks shall be secured in a manner so not to endanger vehicular or pedestrian traffic.

1.07 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris and rubbish. Maintain site in a clean and orderly condition.
- B. Remove debris and rubbish from pipe trenches, and other closed or remote spaces, prior to backfilling the space.
- C. Remove waste materials, debris, and rubbish from site periodically and dispose off-site.

1.08 REMOVAL OF UTILITIES AND FACILITIES

- A. Remove temporary utilities, equipment, facilities, materials, prior to Application for Substantial Completion.
- B. Clean and repair damage caused by installation or use of temporary work. All repairs shall restore the site to pre-construction conditions.

- C. Restore existing systems and properties used during construction to original condition.

1.09 INSURANCE, BONDS, PERMITS AND LICENSES

- A. Prior to the start of any work under his Contract, the Contractor shall deliver to the Owner for approval all required insurance certificates and bonds. Insurance and bonds shall be as specified under the General Conditions and heretofore. For all work by the Contractor and his subcontractors requiring permits and/or licenses from various governmental agencies, public utilities and manufacturers, the Contractor shall obtain and pay for such permits and/or licenses. The Contractor shall not proceed with such work until copies of the required permits and/or licenses have been delivered to the Owner.

**PART 2 PRODUCTS - Not Applicable**

**PART 3 EXECUTION - Not Applicable**

**END OF SECTION**



PROTECTION OF THE WORK AND PROPERTY**PART 1 GENERAL**

## 1.01 SUMMARY

- A. Contractor shall be responsible for taking all precautions, providing all programs, and taking all actions necessary to protect the work and all public and private property and facilities from damage as specified in the General Conditions and herein.
- B. In order to prevent damage, injury or loss, Contractor(s) actions shall include, but not be limited to, the following:
  - 1. Store apparatus, materials, supplies, and equipment in an orderly, safe manner that will not unduly interfere with the progress of the work or the work of any other contractor or utility service company.
  - 2. Provide suitable storage facilities for all materials which are subject to injury by exposure to weather, theft, breakage, or otherwise.
  - 3. Place upon the work or any part thereof only such loads as are consistent with the safety of that portion of the work.
  - 4. Clean up frequently all refuse, rubbish, scrap materials, and debris caused by his operations, to the end that at all times the site of the work shall present a safe, orderly and workmanlike appearance.
  - 5. Provide barricades and guard rails around openings, for scaffolding, for temporary stairs and ramps, around excavations, elevated walkways and other hazardous areas.
- C. Contractor shall not, except after written consent from proper parties, enter or occupy privately-owned land with men, tools, materials or equipment, except on easements provided herein.
- D. Contractor shall assume full responsibility for the preservation of all public and private property or facility on or adjacent to the site. If any direct or indirect damage is done by or on account of any act, omission, neglect or misconduct in the execution of the work by the Contractor, it shall be restored by the Contractor, at his expense, to a condition equal to that existing before the damage was done.

## 1.02 BARRICADES AND WARNING SIGNALS

- A. Where work is performed on or adjacent to any roadway, right-of- way, or public place, Contractor shall provide barricades, fences, lights, warning signs, danger signals, watchmen, police, flagmen, and shall take other precautionary measures for the protection of persons or property and of the work. Barricades shall be

painted to be visible at night and shall be equipped with reflectors. From sunset to sunrise, Contractor shall furnish and maintain at least one light at each barricade. Sufficient barricades shall be erected to keep vehicles from being driven on or into work under construction. Contractor shall furnish watchmen in sufficient numbers to protect the work. Contractor's responsibility for the maintenance of barricades, signs, lights, and for providing watchmen shall continue until the Project is accepted by Owner.

1.03 TREE AND PLANT PROTECTION

- A. Contractor shall protect existing trees, shrubs and plants on or adjacent to the site.
- B. Materials or equipment shall not be stored or parked within the drip line.
- C. Temporary fences or barricades shall be installed to protect trees and plants in areas subject to traffic.
- D. All damaged trees and plants that die or suffer permanent injury shall be removed when ordered by the Engineer and replaced by a specimen of equal or better quality.

1.04 PROTECTION OF EXISTING STRUCTURES

A. Underground Structures:

- 1. Underground structures are defined to include, but not be limited to, all sewer, water, gas, and other piping, and manholes, chambers, electrical conduits, tunnels and other existing subsurface work located within or adjacent to the limits of the work.
- 2. All underground structures known to Engineer are shown for the assistance of Contractor in accordance with the best information available, but are not guaranteed to be correct or complete.
- 3. Contractor shall explore ahead of his trenching and excavation work and shall uncover all obstructing underground structures sufficiently to determine their location, to prevent damage to them and to prevent interruption to the services which such structures provide. If Contractor damages an underground structure, he shall restore it to original condition at his expense.
- 4. Necessary changes in the location of the work may be made by Engineer, to avoid unanticipated underground structures.
- 5. If permanent relocation of an underground structure or other subsurface facility is required and is not otherwise provided for in the Contract Documents, Engineer will direct Contractor in writing to perform the work, which shall be paid for under the provisions of Article 11 of the General Conditions.

B. Surface Structures:

1. Surface structures are defined as all existing buildings, structures and other facilities above the ground surface. Included with such structures are their foundations or any extension below the surface. Surface structures include, but are not limited to, buildings, tanks, walls, bridges, roads, dams, channels, open drainage, piping, poles, wires, posts, signs, markers, curbs, walks and all other facilities that are visible above the ground surface.

C. Protection of Underground and Surface Structures:

1. Contractor shall sustain in their places and protect from direct or indirect injury all underground and surface structures located within or adjacent to the limits of the work. Such sustaining and supporting shall be done carefully and as required by the party owning or controlling such structure. Before proceeding with the work of sustaining and supporting such structure, Contractor shall satisfy the Engineer that the methods and procedures to be used have been approved by the party owning same.
2. Contractor shall assume all risks attending the presence or proximity of all underground and surface structures within or adjacent to the limits of the work. Contractor shall be responsible for all damage and expense for direct or indirect injury caused by his work to any structure. Contractor shall repair immediately all damage caused by his work, to the satisfaction of the owner of the damaged structure.

- D. All other existing surface facilities, including but not limited to, guard rails, posts, guard cables, signs, poles, markers, and curbs which are temporarily removed to facilitate installation of the work shall be replaced and restored to their original condition at Contractor's expense.

1.05 PROTECTION OF INSTALLED PRODUCTS AND LANDSCAPING

- A. Provide protection of installed products to prevent damage from subsequent operations. Remove protection facilities when no longer needed, prior to completion of work.
- B. Control traffic to prevent damage to equipment, materials and surfaces.
- C. Provide coverings to protect equipment and materials from damage.

**PART 2 PRODUCTS - Not Applicable**

**PART 3 EXECUTION - Not Applicable**

**END OF SECTION**





**PART 1      GENERAL**

1.01          SUMMARY

- A. Contractor shall provide and maintain methods, equipment, and temporary construction, as necessary to provide controls over environmental conditions at the construction site and adjacent areas. Remove physical evidence of temporary facilities at completion of work.
- B. Contractor shall comply with all laws, rules, regulations, ordinances and requirements of the State of New York, USEPA, NYSDEC, NYSDOT, NYSDEP and other governing authorities pertaining to noise control, dust control, soil erosion and sediment control, pollution control and all other environmental controls, protection and restoration.
- C. All costs incurred in complying with the laws, rules, regulations, ordinances and requirements of the governing authorities pertaining to environmental controls, protection and restoration shall be included in the prices bid for this contract.
- D. Contractor shall conform to the requirements pertaining to environmental protection, restoration and erosion and sediment control as shown on the drawings, specified in this section, and specified in other divisions and sections of these contract documents.

1.02          NOISE CONTROL

- A. Contractor's vehicles and equipment shall be such as to minimize noise to the greatest degree practicable. Noise levels shall conform to the latest OSHA standards, other federal regulations, and state and local regulations, and in no case will noise levels be permitted which interfere with the work of the Owner or others.
- B. All construction equipment powered by an internal combustion engine shall be equipped with a properly maintained muffler.
- C. Air compressors shall be operated in accordance with the manufacturer=s instructions for proper noise abatement.
- D. Air-powered equipment shall be fitted with pneumatic exhaust silencers.
- E. Stationary equipment powered by an internal combustion engine shall not be operated within 150 feet of noise sensitive sites without temporary noise barriers placed between the equipment and the noise sensitive sites. Noise sensitive sites shall include residential buildings, and restaurant. Temporary noise barriers shall be constructed of plywood or tongue and groove boards with a noise absorbent treatment on the interior surface (facing the equipment).

- F. Contractor shall limit his construction operations and activities to Monday through Friday between the hours of 7:30 a.m. and 5:30 p.m. unless approval to vary from these times is granted by the Owner in times of emergency or for other reasons pertaining to progress. No driving, pulling or other operations entailing the use of vibratory hammers or compactors shall be permitted other than between the hours of 8:00 a.m. and 5:00 p.m., unless otherwise approved by the Owner.
- G. The number of machines in operation at any one time shall be limited to those actually needed to perform the construction activities.

1.03 DUST CONTROL

- A. Contractor shall be responsible for controlling objectionable dust caused by his operation of vehicles and equipment, clearing or for any reason whatever. Contractor shall apply water and calcium chloride or use other methods subject to the Owner's approval which will keep dust in the air to a minimum. No chemicals will be used as a means of dust control.
- B. Areas under immediate construction (including access roads and other areas affected thereby) shall be swept and wet down with water sufficiently to lay (settle) dust as often as required during each working day and particularly prior to the conclusion of each working day. In addition, these areas under construction shall be wet down during non-working hours (including weekends) as often as required to keep dust under control.
- C. If the Contractor is not maintaining adequate dust control, the Owner will notify the Contractor who shall promptly provide whatever methods and means are necessary to bring the dust under control.
- D. In the event of restricted water use in the municipality at the time of bid, the Contractor shall obtain, pay for, and transport water from his own sources as required.

1.04 PEST AND RODENT CONTROL

- A. Provide rodent and pest control as necessary to prevent infestation of construction or storage areas.
  - 1. Employ methods and use materials which will not adversely affect conditions at the site or on adjoining properties.
- B. Maintain a pest and rodent control program to rid the area of pests and rodents to prevent their migration to other adjacent areas.
- C. Pest and rodent control program shall be carried out by operators experienced in pest and rodent control.

1.05 WATER CONTROL

- A. Provide methods to control surface water and water from excavations and structures to prevent damage to the work, the site, or adjoining properties.
  - 1. Control fill, grading and ditching to direct water away from excavations, pits, tunnels and other construction areas; and to direct drainage to proper runoff courses so as to prevent any erosion, damage or nuisance.
- B. Provide, operate and maintain equipment and facilities of adequate size to control surface water.
- C. Dispose of drainage water in a manner to prevent flooding, erosion, or other damage to any portion of the site or to adjoining areas and in conformance with all environmental requirements.

1.06 POLLUTION CONTROL

- A. Provide methods, means and facilities required to prevent contamination of soil, water or atmosphere by the discharge of noxious substances from construction operations.
- B. Provide equipment and personnel, perform emergency measures required to contain any spillages, and to remove contaminated soils or liquids.
  - 1. Excavate and dispose of any contaminated earth offsite, and replace with suitable compacted fill and topsoil. Contractor shall contact the NYDEC before disposing of any contaminated materials to assure proper placement and method of disposal. Disposal shall be only at NYDEC approved and licensed landfills.
- C. Take special measures to prevent harmful substances from entering public waters.
  - 1. Prevent disposal of wastes, effluents, chemicals, or other such substances adjacent to streams, or in sanitary or storm sewers.
  - 2. Disposal of materials in wetlands or surface waters is prohibited.
- D. Provide systems for control of atmospheric pollutants.
  - 1. Prevent toxic concentrations of chemicals.
  - 2. Prevent harmful dispersal of pollutants into the atmosphere.
- E. All Contractor's equipment used during construction shall conform to all current federal, state and local laws and regulations.

- F. Contractor shall be responsible for all fines, penalties, and judgements resultant from Contractor's action to perform the work of this Contract.

1.07 EROSION CONTROL

- A. Plan and execute construction and earth work by methods to control surface drainage from cuts and fills, and from borrow and waste disposal areas, to prevent erosion and sedimentation.
  - 1. Hold the areas of bare soil exposed at one time to a minimum.
  - 2. Provide temporary control measures such as berms, dikes and drains.
- B. Construct fills and waste areas by selective placement to eliminate surface silts or clays which will erode.
- C. Periodically inspect earthwork to detect any evidence of the start of erosion, apply corrective measures as required to control erosion.
- D. Perform erosion control in conformance with current edition of Westchester County Best Management Practices Manual for Erosion and Sediment Control.
- E. Control erosion of earth resulting from the work. Erosion control measures shall comply with the requirements of permits issued by the applicable regulatory agencies, the details on the drawings.
- F. Erosion as a result of surface drainage from crusts and fills within the construction limits, whether or not completed, and from staging, stockpile, borrow and waste disposal areas, shall, if turbidity producing materials are present, be held in suitable sedimentation basins or shall be graded to control erosion. Temporary erosion and sediment control measures including, but not limited to, berms, dikes, drains, soil stabilization matting, diversion channels, baled hay or straw, silt fences and sedimentation basins, shall be provided and maintained as required to meet the referenced standards.
- G. Along slopes and designated critical erosion or siltation areas, clearing and grubbing operations shall be delayed until absolutely necessary for the continuation of work so that area of exposed, bare soil subject to erosion is minimized. Staked hay bales or silt fencing shall be placed along the base of all slopes.
- H. All temporary erosion control measures shall be in place prior to any grading or excavation operations and shall be left in place until the construction is completed and the area is stabilized.
- I. All excavated material when excavating parallel to streams, wetland habitats and other critical impact areas shall be deposited on the up slope side of the excavation.

- J. Stockpiled material shall not have side slopes in excess of 2:1. Stockpiled material which is to remain undisturbed for a period of more than fourteen days shall be protected from erosion by the use of mulch, jute netting, grass seeding, hay bales or similar materials. The boundary of the stockpile area shall be clearly marked by hay bales, silt fencing or other appropriate methods approved by the Owner.
- K. Select stockpile areas where a minimum of erosion sediment will reach catch basins, streams, lagoons or other receiving systems. Protect stockpile areas from erosion by wind or water. Only environmentally suitable stockpile sites shall be used. Such sites shall be dry, level, devoid of mature stands of natural vegetation and removal from drainage facilities and features, wetlands and stream corridors. Comply with requirements of this section and Section No. 01611, Storage of Materials.
- L. Periodically during construction remove sediment from all receiving systems where material has been deposited as a result of operations in the performance of the work. Upon completion of the work, all affected areas shall be restored.
- M. Submit for Owner's review, three copies of the intended plans and methods for erosion and sediment control at preconstruction conference. Suggested methods of erosion control are shown on the drawings.
- N. Whenever excess excavated material is disposed of on private lands, the Contractor shall obtain a statement from the land owner that the land owner has been apprised by the Contractor of the erosion control requirements and accepts complete responsibility for their implementation. Refer to Section No. 02220, Excavation and Backfill, for additional requirements.

**PART 2 PRODUCTS - Not Applicable**

**PART 3 EXECUTION - Not Applicable**

**END OF SECTION**



MAINTENANCE AND PROTECTION OF TRAFFIC

**PART 1 GENERAL**

**1.01 SUMMARY**

- A. All streets and traffic ways shall be kept open for the passage of traffic and pedestrians during the construction period unless otherwise approved by the Owner or authority having jurisdiction over same.
- B. When required to cross, obstruct or temporarily close a street or traffic way, Contractor shall provide and maintain suitable bridges, cover plates, detours or other approved temporary expedient for the accommodation of traffic. Closings shall be for the shortest time practical, and passage shall be restored immediately after completion of backfill and temporary paving or bridging.
- C. Contractor shall give the required advance notice to the fire, police and public works departments of his proposed operations.
- D. Contractor shall give reasonable notice to owners or tenants of private property who may be affected by his operations.
- E. Contractor shall provide signs, signals, barricades, flares, lights and all other equipment, service and personnel required to regulate and protect all traffic, and warn of hazards. All such work shall conform to requirements of the Owner or authority having jurisdiction. Remove temporary equipment and facilities when no longer required, restore grounds to original, or to specified conditions.

**1.02 EMERGENCY SERVICES ACCESS**

- A. The Contractor, whenever performing work in the Town of Yorktown, New York roadway right-of-way, is hereby notified that at all times they are required to maintain a minimum of twelve (12) foot wide through passageway. Said passageway is to be for Town emergency services vehicles such as, but not limited to Police, Fire Department, Rescue Services, etc.

**1.03 TRAFFIC SIGNALS AND SIGNS**

- A. Provide and operate traffic control and directional signals required to direct and maintain an orderly flow of traffic in all areas under Contractor's control, or affected by Contractor's operations.
- B. Provide traffic control and directional signs, mounted on barricades or standard posts:
  - 1. Construction entrances.

2. At each change of direction of a roadway and at each crossroad.
3. At detours and hazardous areas.
4. At parking areas.

1.04 **FLAGMEN**

- A. Provide qualified and suitably equipped flagmen when construction operations encroach on traffic lanes, as required for regulation of traffic and in accordance with the requirements of the authority having jurisdiction.

1.05 **PARKING CONTROL**

- A. Control all Contractors related vehicular parking within the limits of the work to preclude interference with public traffic or parking, access by emergency vehicles, Owner's operations, or construction operations. Provide temporary parking facilities for the public as may be required because of construction or operations.
- B. Monitor parking of all construction and private vehicles:
  1. Maintain free vehicular access to and through parking areas.
  2. Prohibit parking on or adjacent to access roads, or in non-- designated areas.

1.06 **HAUL ROUTES**

- A. Consult with governing authorities and establish thoroughfares which will be used as haul routes and site access.
- B. Confine construction traffic to designated haul routes.
- C. Provide traffic control at critical areas of haul routes to expedite traffic flow, to minimize interference with normal public traffic.

**PART 2 MATERIALS**

2.01 **GENERAL**

- A. All traffic control devices such as signs, barricades, signals, etc. (as indicated in the Contractor's Traffic Control Plan) used for traffic control during construction within and adjacent to roadways shall be in accordance with the Manual on Uniform Traffic Control Devices, 2009 Edition, published by the State of New York, Department of Transportation, Traffic and Safety Division and as approved by the Town of Yorktown, County of Westchester and New York State Department of Transportation (NYSDOT).



B. Sign Materials:

Structure and Framing: New metal, structurally adequate.

Sign Surfaces: Exterior grade plywood with medium density overlay, minimum 3/4 inch thick, standard large sizes to minimize joints.

Rough Hardware: Galvanized.

Paint and Primers: Exterior quality, two coats; sign background of orange color.

Lettering: Exterior quality paint, black color.

**PART 3 EXECUTION**

**3.01 OPERATIONS**

- A. The Contractor shall provide and maintain in a safe condition temporary approaches or crossings and intersections, access to trails, roads, streets, businesses, parking lots, residences, and garages. The Contractor shall notify the owners of adjoining properties at least 24 hours prior to the time he proposes to begin any work which will interfere with their normal passage. Notices shall be posted stating areas and dates of construction and locations of temporary parking areas. The Contractor shall prepare a Traffic Control Plan for all areas involve and have them available for review at the pre-construction meetings as required by the Village of Ossining.
- B. Equipment or machinery having crawler tracks or other treads that mar or damage pavements shall not move over to operate on newly constructed or existing pavements unless precautions are taken to prevent damage to the pavements and/or curbing.
- C. Any damage to newly constructed or existing pavements within the limits of the project or adjacent thereto, which in the opinion of the owner was caused by the Contractor=s operations shall be repaired by the Contractor as directed by the Engineer, at the Contractor=s expense or the repairs will be made by others and the cost of such repairs will be deducted from monies due the Contractor.
- D. The Contractor shall not occupy with his equipment, material or personnel any roadway or sidewalk area within or adjacent to the project that is open to traffic without appropriate traffic control and explicit approval from the owner. No excavation area made in a roadway or sidewalk is to be left open overnight. No open excavations during actual working hours are to be left unattended by the Contractor.
- E. The Contractor shall provide qualified and suitably equipped flagmen and/or police

Maintenance and Protection of Traffic

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officers, in accordance with the approved Traffic Control Plan, when construction operations encroach on traffic lanes, as required for regulation of traffic and in accordance with the requirements of the authority (Town of Yorktown) having jurisdiction.

- F. All flagmen supplied by the Contractor are to be English speaking with knowledge of the local area the work is taking place in.
- G. The Contractor shall utilize lighting devices during periods of low visibility to clearly delineate traffic lanes, to guide traffic and/or to warn of hazardous areas.

**END OF SECTION**

Section 01610  
TRANSPORTATION AND HANDLING OF  
MATERIALS AND EQUIPMENT

**PART 1      GENERAL**

1.01      SUMMARY

- A. Contractor shall make all arrangements for transportation, delivery and handling of equipment and materials required for prosecution and completion of the work.
- B. Shipments of materials to Contractor or Subcontractors shall be delivered to the site only during regular working hours. Shipments shall be addressed and consigned to the proper party giving name of Project, street number and city. Shipments shall not be delivered to Owner except where otherwise directed.
- C. If necessary to move stored materials and equipment during construction, Contractor shall move or cause to be moved materials and equipment without any additional compensation.

1.02      DELIVERY

- A. Arrange deliveries of products in accord with construction schedules and in ample time to facilitate inspection prior to installation.
- B. Coordinate deliveries to avoid conflict with work and conditions at site and to accommodate the following:
  - 1. Work of other contractors, or Owner.
  - 2. Limitations of storage space.
  - 3. Availability of equipment and personnel for handling products.
  - 4. Owner's use of premises.
- C. Do not have products delivered to project site until related shop drawings have been approved by the Owner.
- D. Do not have products delivered to site until required storage facilities have been provided.
- E. Have products delivered to site in manufacturer's original, unopened, labeled containers. Keep Owner informed of delivery of all equipment to be incorporated in the work.

- F. Partial deliveries of component parts of equipment shall be clearly marked to identify the equipment, to permit easy accumulation of parts and to facilitate assembly.
- G. Immediately on delivery, inspect shipment to assure:
  - 1. Product complies with requirements of Contract Documents and reviewed submittals.
  - 2. Quantities are correct.
  - 3. Containers and packages are intact, labels are legible.
  - 4. Products are properly protected and undamaged.

1.03 PRODUCT HANDLING

- A. Provide equipment and personnel necessary to handle products, including those provided by Owner, by methods to prevent soiling or damage to products or packaging.
- B. Provide additional protection during handling as necessary to prevent scraping, marring or otherwise damaging products or surrounding surfaces.
- C. Handle products by methods to prevent bending or overstressing.
- D. Lift heavy components only at designated lifting points.
- E. Materials and equipment shall at all times be handled in a safe manner and as recommended by manufacturer or supplier so that no damage will occur to them. Do not drop, roll or skid products off delivery vehicles. Hand carry or use suitable materials handling equipment.

**PART 2 PRODUCTS - Not Applicable**

**PART 3 EXECUTION - Not Applicable**

**END OF SECTION**

**PART 1      GENERAL**

1.01    SUMMARY

- A.    Store and protect materials in accordance with manufacturer's recommendations and requirements of Specifications.
  
- B.    Contractor shall make all arrangements and provisions necessary for the storage of materials and equipment. All excavated materials, construction equipment, and materials and equipment to be incorporated into the work shall be placed so as not to injure any part of the work or existing facilities and so that free access can be had at all times to all parts of the work and to all public utility installations in the vicinity of the work. Materials and equipment shall be kept neatly and compactly stored in locations that will cause a minimum of inconvenience to other contractors, public travel, adjoining owners, tenants and occupants. Arrange storage in a manner to provide easy access for inspection.
  
- C.    Materials and equipment which are to become the property of the Owner shall be stored to facilitate their inspection and insure preservation of the quality and fitness of the work, including proper protection against damage by freezing and moisture. They shall be placed in inside storage areas unless otherwise acceptable to Owner.
  
- D.    Lawns, grass plots or other private property shall not be used for storage purposes without written permission of the Owner or other person in possession or control of such premises.
  
- E.    Contractor shall be fully responsible for loss or damage to stored materials and equipment.
  
- F.    Do not open manufacturer's containers until time of installation unless recommended by the manufacturer or otherwise specified.
  
- G.    Do not store products in the structures being constructed unless approved in writing by the Engineer.
  
- H.    Only environmentally suitable stockpile sites may be used for the purposes of staging or storing materials, equipment and suitable trench backfill material. Environmentally suitable sites must be level and devoid of mature stands of natural vegetation. Drainage facilities and features, wetlands and stream corridors are not environmentally suitable sites.
  
- I.    The boundary of the stockpile area shall be clearly marked by hay bales, silt fencing or another appropriate method. Where fill is to be stored in excess of fourteen (14) calendar days, a suitable means of protecting excavated material from wind and water erosion shall be employed. Erosion control methods may include one or more of the following: mulching, sprinkling, silt fencing, hay baling and stone

covering.

#### 1.02 UNCOVERED STORAGE

- A. The following types of materials may be stored out-of-doors without cover:
  - 1. Reinforcing steel, structural steel, piping, precast concrete items & castings.
- B. Store the above materials on wood blocking so there is no contact with the ground.

#### 1.03 COVERED STORAGE

- A. The following types of materials may be stored out-of-doors if covered with material impervious to water:
  - 1. Rough lumber.
- B. Tie down covers with rope and slope to prevent accumulation of water on covers.
- C. Store materials on wood blocking.

#### 1.04 FULLY PROTECTED STORAGE

- A. Store all products not named above in buildings or trailers which have a concrete or wooden floor, a roof, and fully closed walls on all sides.
- B. Protect mechanical and electrical equipment from being contaminated by dust, dirt and moisture.

#### 1.05 MAINTENANCE OF STORAGE

- A. Maintain periodic system of inspection of stored products on scheduled basis to assure that:
  - 1. State of storage facilities is adequate to provide required conditions.
  - 2. Required environmental conditions are maintained on continuing basis.
  - 3. Products exposed to elements are not adversely affected.

**PART 2 PRODUCTS - Not Applicable**

**PART 3 EXECUTION - Not Applicable**

**END OF SECTION**

**PART 1 GENERAL**

1.01 SUMMARY

- A. Execute cleaning, during progress of the work, at completion of the work, and as required by General Conditions.
- B. Requirements of Regulatory Agencies:
  - 1. In addition to the requirements herein, maintain the cleanliness of the work and surrounding premises within the work limits so as to comply with federal, state, and local fire and safety laws, ordinances, codes and regulations.
  - 2. Comply with all federal, state and local anti-pollution laws, ordinances, codes and regulations when disposing of waste materials, debris and rubbish.
- C. Scheduling of Cleaning and Disposal Operations:
  - 1. So that dust, wash water or other contaminants generated during such operations do not damage or mar painted or finished surfaces.
  - 2. To prevent accumulation of dust, dirt, debris, rubbish and waste materials on or within the work or on the premises surrounding the work.
- D. Waste Disposal:
  - 1. Dispose of all waste materials, surplus materials, debris and rubbish off site.
  - 2. Do not burn or bury rubbish and waste materials on the site.
  - 3. Do not dispose of volatile or hazardous wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
  - 4. Do not discharge wastes into streams or waterways.
- E. Cleaning Materials:
  - 1. Use only cleaning materials recommended by manufacturer of surface to be cleaned.
  - 2. Use each type of cleaning material on only those surfaces recommended by the cleaning material manufacturer.

3. Use only materials which will not create hazards to health or property.

F. During Construction:

1. Keep the work and surrounding premises within work limits free of accumulations of dirt, dust, waste materials, debris and rubbish.
2. Keep dust generating areas wetted down.
3. Provide suitable containers for storage of waste materials, debris and rubbish until time of disposal.
4. Dispose of waste, debris and rubbish off site at legal disposal areas.

G. When Project is Completed:

1. Remove and dispose of all excess or waste materials, debris, rubbish from the work site, and remove temporary facilities, structures and signs from the work site.
2. Repair pavement, roads, sod, and all other areas affected by construction operations and restore them to original condition or to minimum condition specified.
3. Repair, patch and touch up chipped, scratched, dented or otherwise marred surfaces to match specified finish.
4. Maintain cleaning until acceptance and occupation by Owner.

**PART 2 PRODUCTS - Not Applicable**

**PART 3 EXECUTION - Not Applicable**

**END OF SECTION**



**DIVISION NO. TWO  
SITE WORK**



**PART 1      GENERAL**

1.01          SUMMARY

- A.      In accordance with pertinent provisions of this Section, carefully disconnect, dismantle, demolish or otherwise handle those items scheduled to be demolished and removed as specified or as shown on the Drawings.

1.02          SECTION INCLUDES

- A.      Remove and dispose existing trees, tree stumps and boulders as shown in contract drawings.

1.03          RELATED WORK

- A.      Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division No. 1 of these Specifications.

- B.      Related Sections

CAST-IN-PLACE CONCRETE

Section 03300

1.04          QUALITY ASSURANCE

- A.      Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

**PART 2      PRODUCTS**

2.01          MATERIALS

- A.      Cast-In-Place Concrete conforming to Section 03300.

**PART 3      EXECUTION**

3.01 EXAMINATION

- A. Examine the areas and conditions under which work of this Section will be performed.

3.02 DEMOLITION

- A. By careful study of the Contract Documents, determine the location and extent of selective demolition to be performed.
- B. Accompany the Owner, visit the site and verify the extent and location of selective demolition required.
- C. Perform demolition, removal, delivery and disposal.
- D. Demolished material shall be considered to be property of the Contractor and shall be completely removed from the job site.

**END OF SECTION**

**PART 1 GENERAL**

1.01 SUMMARY

A. Scope:

1. Contractor shall furnish all labor, materials, equipment and incidentals required to perform all clearing and grubbing as shown and specified.

B. Section Includes:

1. Remove Surface debris.
2. Clear Site of plant life and grass.
3. Remove trees and shrubs as needed for work.
4. Remove designated trees.
5. Remove root system of trees and shrubs.
6. Topsoil excavation.

C. Related Sections:

EXCAVATION AND BACKFILL

Section 02220

SOIL EROSION AND SEDIMENT CONTROL

Section 02270

1.02 QUALITY ASSURANCE

- A. Codes and Standards: State and local laws and code requirements shall govern the hauling and disposal of trees, shrubs, stumps, roots, rubbish, debris and other matter.

1.03 JOB CONDITIONS

A. Protection:

1. Streets, roads, adjacent property and other works and structures shall be protected throughout the entire project. Contractor shall return to original condition, satisfactory to the Owner, damaged facilities caused by the Contractor's operations.

2. Trees, shrubs and grassed areas which are to remain shall be protected by fences, barricades, wrapping or other methods as shown, specified or approved by the Owner. Equipment, stockpiles, etc. shall not be permitted within tree branch spread. Trees shall not be removed without approval of the Owner unless shown or specified.

1.04 GUARANTEE

- A. Contractor shall guarantee that work performed under this Section will not permanently damage trees, shrubs, turf or plants designated to remain, or other adjacent work or facilities. If damage resulting from Contractor's operations appears during the period up to 18 months after completion of the project, he shall replace damaged items at no expense to Owner.

**PART 2 PRODUCTS - Not Applicable**

**PART 3 EXECUTION**

3.01 CLEARING AND GRUBBING

- A. Limits of clearing shall be all areas within the Contract limit lines except as otherwise shown. Damage outside these limits caused by the Contractor's operations shall be corrected at the Contractor's expense.
- B. Verify that the existing plant life designated to remain is tagged or identified.
- C. Verify that the trees larger than 1" in diameter, designated to be removed are tagged or identified.
- D. Identify and flag the limits of clearing with the owner.
- E. Clean out roots 1" in diameter and larger to a depth of at least 12" below the existing ground surface or subgrade of new graded surface, whichever is lower.
- F. Except as noted below, Contractor shall remove from the site and satisfactorily dispose of all trees, shrubs, stumps, roots, brush, masonry, rubbish, scrap, debris, pavement, curbs, fences and miscellaneous other structures not covered under other Sections as shown, specified or otherwise required to permit construction of the new work.
- G. Trees, stumps and other cleared and grubbed material may be disposed on site, where shown or approved by the Owner. No cleared or grubbed material may be used in backfills or structural embankments.
- H. Burning on site shall not be done unless approved by authorities having jurisdiction.

- I. All burning, on or off the site, shall be in complete accordance with rules and regulations of local authorities having jurisdiction.
- J. Trees and shrubs shall be trimmed when doing so will avoid removal or damage. Trimmed or damaged trees shall be treated and repaired by persons with experience in this specialty who are approved by Owner. Trees and shrubs intended to remain which are damaged beyond repair or removed, shall be replaced by the Contractor.
- K. Control air pollution caused by dust and dirt, and comply with governing regulations.

3.02 TOPSOIL REMOVAL

- A. Topsoil is defined as friable clay loam surface soil found in a depth of not less than 4 inches. Topsoil shall be substantially free of subsoil, clay lumps, stones, and other objects over 2 inches in diameter, and without weeds, roots, and other objectionable material.
- B. Strip topsoil which is satisfactory to whatever depths are encountered, and in such manner as to prevent intermingling with the underlying subsoil or other objectionable material. Remove heavy growths of grass from areas before stripping.
  - 1. Where trees are shown or directed to be left standing, stop topsoil stripping a sufficient distance from such trees to prevent damage to the main root system.
- C. Stockpile topsoil in storage piles in areas shown, or where otherwise approved by Owner. Construct storage piles to freely drain surface water. Cover storage piles if required to prevent windblown dust. Topsoil in excess of quantity required shall remain property of Owner.
- D. Dispose of excess topsoil as waste material off site.

**END OF SECTION**





Section 02201  
**RECONSTRUCTION OF UNCHARTED  
AND MISMARKED UTILITIES**

**PART 1 GENERAL**

1.01 SUMMARY

A. Scope:

1. Provide and furnish all labor, equipment, and materials including piping, joining, excavation and backfill required to reconstruct uncharted (not shown) or incorrectly shown utilities, as ordered.
2. Incorrectly shown utilities are defined as utilities where the actual location is found to be 3 feet or more from the location as indicated by the Utility Companies or as shown on the Contract Drawings.
3. The drawings show approximate locations of all known utilities at the work site. They are not guaranteed and, as shown, may be only approximately correct. The Contractor shall be responsible for checking this information, to satisfy himself/herself as to the existence and locations of all utilities.

B. Related Sections:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1, of these Specifications.

**PART 2 PRODUCTS - Not Applicable**

**PART 3 EXECUTION**

3.01 RELOCATION

- A. Uncharted and mismarked utilities which directly interfere with the proposed work or which are ordered to be reconstructed by the Owner shall be reconstructed in a manner approved by the utility company or governmental agency, owning or controlling the utility. Workmanship, materials, and methods including testing shall conform to the applicable provisions of these specifications and of the owner of the utility.

**END OF SECTION**

Reconstruction of Uncharted  
and Mismarked Utilities  
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**PART 1 GENERAL**

1.01 SECTION INCLUDES

- A. Subsoil and topsoil materials.

1.02 RELATED SECTIONS

EXCAVATION AND BACKFILL

Section 02220

1.03 REFERENCES

- A. ASTM D422 - Particle-Size Analysis of Soils.
- B. ANSI/ASTM D1556 - Test Method for Density of Soil in Place by the Sand-Cone Method.
- C. ANSI/ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures using 10 lb. Rammer and 18 inch Drop.
- D. ASTM D2487 - Classification of Soils for Engineering Purposes.

1.04 DEFINITIONS

- A. Borrow: Borrow is defined as material required for earthwork construction in excess of the quantity of suitable material available from the required grading, cuts and excavations.
- B. Imported: Imported is defined as material obtained from an off-site location.

1.05 SUBMITTALS

- A. Submit under provisions of Section No. 01300, Submittals.
- B. Samples: Submit, in air-tight containers, 5 lb. sample of each type of fill to testing laboratory.
- C. Materials Source: Submit names of all imported materials suppliers. Provide materials from same source throughout the work. Change of source requires Engineer approval.

## **PART 2 PRODUCTS**

### **2.01 SOIL MATERIALS**

- A. Subsoil Type S1: Excavated and re-used material, free from organic matter, well graded, free of lumps larger than 3 inches, rocks larger than 3 inches and debris; conforming to ASTM D 2487 Group Symbol GW, SW, GM or SM.
- B. Subsoil Type S2: Imported material, free from organic matter, well graded, free of lumps larger than 3 inches, rocks larger than 3 inches and debris; with Plasticity Indice less than 5; with less than twelve (12) percent passing No. 200 sieve conforming to NYSDOT Section gradation 203-2.02B Select Borrow.
- C. Topsoil Type S3: Excavated and reused material, graded, free of roots, rocks larger than 2 inch, subsoil, debris, large weeds and foreign matter; conforming to ASTM D 2487 Group Symbol OH or PT.
- D. Topsoil Type S4: Imported friable loam; reasonably free of roots, rocks larger than 2 inch, subsoil, debris, large weeds, and foreign matter; acidity range (pH) of 5.5 to 7.5 containing a minimum of 10 percent and a maximum of 25 percent inorganic matter conforming to ASTM D 2487 Group Symbol OH or PT. Limit decaying matter to 10 percent of total content by volume.

### **2.02 SOURCE QUALITY CONTROL**

- A. Inspection and testing may be performed by the Owner.
- B. Tests and analysis of soil material may be performed in accordance with ANSI/ASTM D 1557.
- C. If tests indicate materials do not meet specified requirements, change material and retest at no cost to Owner.

## **PART 3 EXECUTION**

### **3.01 STOCKPILING**

- A. Stockpile materials on site at locations designated by Engineer.
- B. Stockpile in sufficient quantities to meet project schedule and requirements.
- C. Separate differing materials with dividers or stockpile apart to prevent mixing.
- D. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.

3.02 STOCKPILE CLEANUP

- A. Remove stockpile, leave area in a clean and neat condition. Grade site surface to prevent free standing surface water.
- B. If a borrow area is indicated, leave area in a clean and neat condition. Grade site surface to prevent free standing surface water.

**END OF SECTION**



**PART 1      GENERAL**

1.01      SUMMARY

A.      Scope:

1. Contractor shall provide all labor, materials, supervision, equipment and incidentals required to perform all excavating, backfilling, filling and grading, and disposing of earth materials as shown, specified, and required for construction of structures, manholes, vaults, pipelines, pump stations, and roads, required to complete the Work in every respect.
2. All necessary preparation of subgrade for slabs and pavements is included.
3. All temporary means needed to prevent discharge of sediment to water courses from dewatering systems or erosion are included.
4. No classification of excavated materials will be made. Excavation includes all materials regardless of type, character, composition, moisture, or condition thereof.

B.      Related Sections:

TEMPORARY VEGETATIVE COVER	Section 02900
PERMANENT VEGETATIVE COVER	Section 02950

1.02      QUALITY ASSURANCE

A.      Permits and Regulations:

1. The Contractor shall prepare all applications and supporting documentation and the Owner shall obtain and pay for all necessary permits for work in roads and right-of-ways, etc.
2. Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction.

C.      Reference Standards: Comply with applicable provisions and recommendations of the following except as otherwise shown or specified.

1. ASTM A 36, Specification for Structural Steel.
2. ASTM A 328, Specification for Steel Sheet Piling.
3. ASTM D 422, Method for Particle-Size Analysis of Soils.

4. ASTM D 1556, Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
5. ASTM D 1557, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft. 16/cu ft.) (2,700 KN-m/cum).
6. AISC Specifications for the Design, Fabrication, and Erection of Structural Steel for Buildings.
7. OSHA Standard, Title 29, Code of Federal Regulations, Part 1926, Section .650 (Subpart P - Excavations).

1.03 SUBMITTALS

- A. Excavation Plan: Prior to start of excavation operations, submit written plan to demonstrate compliance with OSHA Standard 29 CFR Part 1926.650, when requested by the Town of Yorktown and/or the Engineer. As a minimum, excavation plan shall include:
1. Name of competent person. The designated person shall be onsite during all excavation activities.
  2. Excavation method(s) or protective system(s) to be used.
  3. Copies of "manufacturer's data" or other tabulated data if protective system(s) are designed on the basis of such data.
- B. Contractor shall prepare and submit drawings for the following items, should their use be necessary during the Contract:
1. Sheeting and bracing, or other protective system(s).
  2. Dewatering system.
  3. Cofferdams.
  4. Underpinning.
  5. Drawings shall be prepared by a Professional Engineer recognized as expert in the specialty involved and licensed in the State of New York. Drawings shall be submitted to Owner for record purposes only. Drawing submittals will not be checked and will not imply approval by Owner of the work involved. Contractor shall be solely responsible for designing, installing, operating and maintaining whatever system is necessary to satisfactorily accomplish all necessary sheeting, bracing, protection, underpinning and dewatering.



## JOB CONDITIONS

- A. Existing Structures: The Drawings show certain surface and underground structures adjacent to the Work. This information has been obtained from existing records. It is not guaranteed to be correct or complete and is shown for the convenience of Contractor. Contractor shall explore ahead of the required excavation to determine the exact location of all structures. They shall be supported and protected from damage by Contractor. If they are broken or damaged, they shall be restored immediately by Contractor at his expense.
- B. Existing Utilities: Locate existing underground utilities in the areas of Work. If utilities are to remain in place, provide adequate means of protection during all operations.
1. Should uncharted or incorrectly charted piping or other utilities be encountered during excavation, consult piping or utility Owner and Engineer immediately for directions as to procedure. Cooperate with Owner and utility Owner in keeping services and facilities in operation. Repair damaged utilities to satisfaction of utility Owner.
  2. In general, service lines to individual houses and businesses are not shown; however, Contractor shall assume that a service exists for each utility to each house or business.
  3. Do not interrupt existing utilities serving facilities occupied and used by Owner or others, except when permitted in writing by Owner and then only after acceptable temporary utility services have been provided.
- C. Use of Explosives:
1. The use of explosives will not be permitted.
- D. Protection of Persons and Property: Barricade open excavations occurring as part of the Work and post with warning lights. Operate warning lights during hours from dusk to dawn each day and as otherwise required.
1. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.
- E. Dust Control: Conduct all operations and maintain areas of activity, including sweeping and sprinkling of roadways, to minimize creation and dispersion of dust.

**PART 2 PRODUCTS**

2.01 SOIL MATERIALS

A. Select Fill:

1. Place select fill where shown or specified.

B. Select Backfill/Quarry Processed Stone/NYS DOT Item 4:

1. Use well graded granular material or bank run gravel, free from organic matter. Not more than 70 percent by weight shall pass through a No. 40 sieve; not more than 10 percent by weight shall pass through a No. 200 sieve; and 100 percent shall pass a 6-inch square sieve.

C. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, crushed slag, or natural or crushed sand, approved by Owner.

D. Foundation Material/Crushed Stone or Gravel: Gravel and crushed stone shall consist of hard, sharp, clean material, shall be free from fines, shells, clay, limestone, shale or other deleterious matter, material shall be supplied as a mixture of sizes with 5 percent to 10 percent of the material passing a No. 40 sieve and the remainder ranging in size from 3/8 inch to 1 inch.

E. Approved Granular Backfill: Approved granular backfill shall consist of bank run sand and gravel. Bank run sand and gravel shall consist of hard, sharp, clean granular material, free of organic matter. The material shall be free of any considerable amount of flat, laminated or elongated particles and shells, silt, clay, limestone, shale or other deleterious matter. The material shall be capable of compaction of the densities specified or required. The material shall contain no stones larger than three (3) inches in their largest dimension, and no more than 15 percent the material by weight shall pass a No. 200 sieve.

F. Sand: The sand or stone dust shall consist of hard, clean granular material free of organic matter.

Aggregate for the stone dust material shall be composed in such proportions that the resulting blend meets the following:

<u>Sieve Size</u>	<u>Percentage Passing By Weight</u>
1/4"	100
1/8"	80-90
No. 20	25-40
No. 80	5-15
No. 200	0-10

The sand shall contain no particles that can be retained on a No. 4 sieve, and no more than 10 percent of the material by weight shall pass a No. 200 sieve.

## **PART 3 EXECUTION**

### **3.01 INSPECTION**

- A. Provide the Town of Yorktown with sufficient notice and with means to examine the areas and conditions under which excavating, filling, and grading are to be performed. The Town of Yorktown will notify Contractor if conditions are found that may be detrimental to the proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions have been corrected in an acceptable manner.

### **3.02 EXCAVATION**

- A. Perform all excavation required to complete the Work as shown, specified and required. Excavations shall include earth, sand, clay, gravel, hardpan, boulders not requiring drilling and blasting for removal, decomposed rock, pavements, rubbish and all other materials within the excavation limits, except rock.
- B. Excavations for structures and pipelines shall be open excavations. Provide excavation protection system(s) required by ordinances, codes, law and regulations to prevent injury to workmen and to prevent damage to new and existing structures or pipelines. Unless shown or specified otherwise, protection system(s) shall be utilized under the following conditions.
  - 1. Excavation Less Than 5 Feet Deep: Excavations in stable rock or in soil conditions where there is no potential for a cave-in may be made with vertical sides. Under all other conditions, excavations shall be sloped and benched, shielded, or shored and braced.
  - 2. Excavations More Than 5 Feet Deep: Excavations in stable rock may be made with vertical sides. Under all other conditions, excavations shall be sloped and benched, shielded or shored and braced.
  - 3. Excavation protection system(s) shall be installed and maintained in accordance with drawings submitted under Article 1.03 above.
- C. Where the structure or pipeline is to be placed below the ground water table, well points, cofferdams or other acceptable methods shall be used to permit construction of said structure or pipeline under dry conditions. Dry conditions shall prevail until concrete has reached sufficient strength to withstand earth and hydrostatic loads and until the pipelines are properly jointed, tested and backfilled. In addition, protect excavation from flooding until all walls and floor framing up to and including grade level floors are in place and backfilling has begun. Water level shall be maintained below top of backfill at all times.
- D. Pumping of water from excavations shall be done in such a manner to prevent the carrying away of unsolidified concrete materials, and to prevent damage to the existing subgrade.

- E. The elevation of the bottom of footings shown shall be considered as approximate only and the Town of Yorktown may order such changes in dimensions and elevations as may be required to secure a satisfactory footing. All structure excavations shall be hand-trimmed to permit the placing of full widths, and lengths of footings on horizontal beds. Rounded and undercut edges will not be permitted.
- F. When excavations are made below the required grades, without the written order of Owner, they shall be backfilled with compacted gravel or concrete, as directed by Owner, at the expense of Contractor.
- G. Excavations shall be extended sufficiently on each side of structures, footings, etc., to permit setting of forms, installation of shoring or bracing or the safe sloping of banks.
- H. Subgrades for roadways, structures, pump stations, and trench bottoms shall be firm, dense, and thoroughly compacted and consolidated; shall be free from mud, muck, and other soft or unsuitable materials; and shall remain firm and intact under all construction operations. Subgrades which are otherwise solid, but which become soft or mucky on top due to construction operations, shall be reinforced with crushed stone or gravel. The finished elevation of stabilized subgrades shall not be above subgrade elevations shown.
- I. Pipe Trench Preparation:
  - 1. No more than 100 linear feet of trench may be opened in advance of pipe laying.
  - 2. Trench width shall be minimized to greatest extent practical but shall conform to the following:
    - a. Sufficient to provide room for installing, jointing and inspecting piping, but in no case wider at top of pipe than pipe barrel OD plus 1 foot each side.
    - b. Enlargements at pipe joints may be made if required and approved by Owner.
    - c. Sufficient for shoring and bracing, or shielding and dewatering.
    - d. Sufficient to allow thorough compaction of backfill adjacent to bottom half of pipe.
    - e. Do not use excavating equipment which requires the trench to be excavated to excessive width.
  - 3. Depth of trench shall be as shown. If required and approved by Owner, depths may be revised.

- J. Where Owner considers the existing material beneath the bedding material unsuitable, Contractor shall remove same and replace it with select backfill.

### 3.03 UNAUTHORIZED EXCAVATION

- A. All excavation outside the lines and grades shown, and which is not approved by Owner, together with the removal and disposal of the associated material shall be at Contractor=s expense. Unauthorized excavations shall be filled and compacted with select backfill by Contractor at his expense.

### 3.04 DRAINAGE AND DEWATERING

- A. General:

1. Prevent surface and subsurface water from flowing into excavations and from flooding adjacent areas.
2. Remove water from excavation as fast as it collects, at a rate so as not to cause erosion of material from the excavation.
3. Maintain the ground water level below the bottom of the excavation to provide a stable surface for construction operations, a stable subgrade for the permanent work, and to prevent damage to the Work during all stages of construction.
4. Provide and maintain pumps, sumps, suction and discharge lines and other dewatering system components necessary to convey water away from excavations.
5. When dewatering will occur in the vicinity of structures or potable wells, the Contractor must monitor for adverse effects to structures or wells due to dewatering and will be responsible to remedy same. Discharges from dewatering activities will be allowed to be discharged into the local stream system, provided that the flow does not contain any sediment or fines.
6. Obtain Town of Yorktown approval before shutting down dewatering system for any reason.

- B. Standby Requirements for Dewatering: Provide standby equipment to insure continuity of dewatering operations.

- C. Disposal of Water Removed by Dewatering System:

1. Dispose of all water removed from the excavation in such a manner as not to endanger public health, property, or any portion of the Work under construction or completed.
2. Dispose of water in such a manner as to cause no inconvenience to Owner, Engineer, or others involved in work about the site.

3. Convey water from the construction site in a closed conduit. Do not use trench excavations as temporary drainage ditches.

### 3.05 SHEETING, SHORING AND BRACING

#### A. General:

1. Used material shall be in good condition, not damaged or excessively pitted. All steel or wood sheeting designated to remain in place shall be new. New or used sheeting may be used for temporary work.
2. All timber used for breast boards (lagging) shall be new or used, meeting the requirements for Douglas Fir Dense Construction grade with a bending strength not less than 1500 psi or Southern Pine No. 2 Dense.
3. All steel work for sheeting, shoring, bracing, cofferdams etc., shall be designed in accordance with the provisions of the "Specifications for the Design, Fabrication and Erection of Structural Steel for Buildings", of the AISC except that field welding will be permitted.
4. Steel sheet piling shall be manufactured from steel conforming to ASTM A 328. Steel for soldier piles, wales and braces shall be new or used and shall conform to ASTM A 36.
5. Maintain shoring and bracing in excavations regardless of time period excavations will be open. Carry down shoring and bracing as excavation progresses.
6. Unless otherwise shown, specified, or ordered, all materials used for temporary construction shall be removed when work is completed. Such removal shall be made in a manner not injurious to the structure or its appearance or to adjacent Work.
7. Provide permanent steel sheet piling or pressure creosoted timber sheet piling wherever subsequent removal of sheet piling might permit lateral movement of soil under adjacent structures. Cutoff tops as required and leave permanently in place.
8. The clearances and types of the temporary structures, insofar as they affect the character of the finished Work, and the design of sheeting to be left in place, will be subject to the approval of Owner; but Contractor shall be responsible for the adequacy of all sheeting, shoring, bracing, coffer-damming, etc.
9. Safe and satisfactory sheeting, shoring and bracing shall be the entire responsibility of Contractor.

B. Sheeting Left in Place:

1. Steel sheet piling shown to be left in place shall consist of rolled sections of the continuous interlocking type unless otherwise approved. The type and design of the sheeting and bracing shall conform to the above specifications for all steel work for sheeting and bracing. Steel sheeting designated to be left in place shall be new.
2. Steel sheet piling to be left in place shall be driven straight to the lines and grades as shown or directed. The piles shall penetrate into firm materials with secure interlocking throughout the entire length of the pile. Damaged piling having faulty alignment shall be pulled and replaced by new piling.
3. The type of guide structure used and method of driving for steel sheet piling to be left in place shall be subject to the approval of Owner. Jetting will not be permitted.
4. Cut off piling left in place to the grades shown or ordered by Owner and remove the cut offs from the site.
5. Clean wales, braces and all other items to be embedded in the permanent structure, and ensure that the concrete surrounding the embedded element is sound and free from air pockets or harmful inclusions. Provisions shall include the cutting of holes in the webs and flanges of wale and bracing members, and the welding of steel diaphragm water-stops perpendicular to the centerline of brace ends which are to be embedded.
6. Subsequent to removal of the inside face forms, and when removal of bracing is permitted, cut back steel at least 2 inches inside the wall face and patch opening with cement mortar. Concrete shall be thoroughly worked beneath wales and braces, around stiffeners and in any other place where voids may be formed.
7. Portions of sheeting or soldier piles and breast boards which are in contact with the foundation concrete shall be left in place, together with wales and bracing members which are cast into foundation or superstructure concrete.

C. Removal of Sheeting and Bracing:

1. Remove sheeting and bracing from excavations unless otherwise ordered in writing by Owner. Removal shall be done so as to not cause injury to the Work. Removal shall be equal on both sides of excavation to ensure no unequal loads on pipe or structure.
2. Defer removal of sheeting and bracing, where removal may cause soil to come into contact with concrete, until the following conditions are satisfied:
  - a. Concrete has cured a minimum of 7 days.

### 3.06 TRENCH SHIELDS

- A. Excavation of earth material below the bottom of a shield shall not exceed the limits established by ordinances, codes, laws and regulations.
- B. When using a shield for pipe installation:
  - 1. Any portion of the shield that extends below the mid-diameter of an installed rigid pipe (i.e. RCCP) shall be raised above this point prior to moving the shield ahead for the installation of the next length of pipe.
  - 2. The bottom of the shield shall not extend below the mid-diameter of installed flexible pipe (i.e. Steel, DI, PVC, etc.) at any time.
- C. When using a shield for the installation of structures, the bottom of the shield shall not extend below the top of the bedding for the structures.
- D. When a shield is removed or moved ahead, extreme care shall be taken to prevent the movement of pipe or structures or the disturbance of the bedding for pipe or structures. Pipe or structures that are disturbed shall be removed and reinstalled as specified.

### 3.07 GENERAL REQUIREMENTS FOR BACKFILL, FILL AND COMPACTION

- A. Furnish, place and compact all backfill required for structures, trenches and to provide the finished grades shown and specified. Unless otherwise specified fill may be obtained from on-site sources. Additional materials, if required, shall be furnished from off-site sources at no additional cost to Owner.
- B. Backfill excavations as promptly as Work permits, but not until completion of the following:
  - 1. Acceptance by the Town of Yorktown of construction below finish grade including damp proofing, waterproofing, and perimeter insulation.
  - 2. Inspection, testing, approval, and recording of locations of underground utilities.
  - 3. Removal of concrete formwork.
  - 4. Removal of shoring and bracing.
  - 5. Removal of trash and debris.
  - 6. Permanent or temporary horizontal bracing is in place on horizontally supported walls.
- C. Keep excavations dry during backfilling operations. Bring backfill around structures and piping up evenly on all sides.



- D. Do not allow levels of backfill against concrete walls to differ by more than 2 feet on either side of walls unless walls are adequately braced or all floor framing is in place up to and including grade level slabs.
- E. Place all backfilling in pipe trenches which are below structures, other pipes, or paved areas, in horizontal layers not exceeding 6 inches in depth and thoroughly compact each before the next layer is placed. In other pipe trenches, compacted layers shall be 6 inches up to the pipe center line and 12 inches thereafter.
- F. Where pipe is laid in rock excavation, of crushed stone or gravel fill shall be carefully placed and tamped over the rock before the pipe is laid. Depth of crushed stone or gravel shall be at least 6 inches for pipe 24-in. and smaller and 9 inches for pipe 30-in. and larger. After laying pipe, the balance of the backfill shall be placed as described herein.
- G. Prior to the installation of pipes which are to be installed in fill sections, place the fill as described herein, until a minimum height of 2 feet above the pipe is reached, unless otherwise required in other Sections. The fill for the trench width shall then be excavated and the pipe installed and backfilled. The remainder of the fill shall then be placed.
- H. Unless otherwise specified or directed by the Town of Yorktown fill shall be placed in horizontal loose lifts not exceeding 12 inches in thickness and shall be mixed and spread in a manner assuring uniform lift thickness after placing.
- I. Control the water content of fill material during placement within the range necessary to obtain the compaction specified. In general, the moisture content of the fill shall be within 3 percent of the optimum moisture content for compaction as determined by laboratory tests. Perform all necessary work to adjust the water content of the material to within the range necessary to permit the compaction specified. Do not place fill material when free water is standing on the surface of the area where the fill is to be placed. No compaction of fill will be permitted with free water on any portion of the fill to be compacted.
- J. Do not place or compact fill in a frozen condition or on top of frozen material. Remove fill containing organic materials or other unacceptable material and replace with approved fill material.
- K. Perform Compaction of fill with equipment suitable for the type of material placed and which is capable of providing the densities required. Contractor shall select compaction equipment and submit it and his proposed procedure to Owner for approval.
- L. Compact fill shall be compacted by at least two coverages of all portions of the surface of each lift by compaction equipment. One coverage is defined as the condition obtained when all portions of the surface of the fill material have been subjected to the direct contact of the compactor.

- M. Test the effectiveness of the equipment selected by Contractor at the commencement of compaction by construction of a small section of fill within the area where fill is to be placed. If tests on this section of fill show that the specified compaction is not obtained, Contractor shall increase the number of coverages, decrease the lift thicknesses or obtain a different type of compactor. No additional cost to Owner shall be incurred.
- N. Perform backfill around structures using the specified procedures, except that within 10 feet of foundations and underground structures, light compaction equipment shall be used, with the gross weight of the equipment not exceeding 7,000 pounds. Provide equipment that is capable of the required compaction within restricted areas next to structures and around piping.
- O. The minimum density for backfill under structures shall be 95 percent of maximum density obtained in the laboratory in accordance with ASTM D 1557 Method C including Note 2. This percentage is of Modified Proctor density. Fill that supports piping, roadways, parking areas, and walks shall be 90 percent of maximum density.
- P. If the specified densities are not obtained because of improper control of placement or compaction procedures, or because of inadequate or improperly functioning compaction equipment, the Contractor shall perform whatever work is required to provide the required densities. This work shall include complete removal of unacceptable fill areas, and replacement and recompaction until acceptable fill is provided.
- Q. Contractor shall repair, at his own expense, any after settlement that occurs. He shall make all repairs and replacements necessary within 30 days after notice from Owner.

3.08 SELECT FILL

- A. Provide select fill in the following locations:
  - 1. Where shown or directed by the Town of Yorktown.
- B. Subgrade surface shall be level, dry, firm and subject to the Town of Yorktown approval. Do not place fill if any water is on the surface of area to receive fill. Do not place or compact fill in a frozen condition or on top of frozen material.
- C. Place fill in horizontal loose lifts of 12 inches maximum thickness. It shall be mixed and spread in a manner to assure uniform lift thickness after placing.
- D. Compact each layer of fill before placement of the next lift.
- E. Do not use fill containing lumps, pockets or concentrations of silt or clay, rubble, debris, wood or other organic matter. Fill containing unacceptable material shall be removed and disposed of.

- F. The water content of the fill being compacted shall be above the bulking water content for the material. Contractor shall wet the fill materials during placement to achieve water contents needed for effective compaction.
- G. Perform compaction of fill with equipment suitable for the type of fill material being placed. Select equipment which is capable of providing the densities required and submit selection of the equipment to the Engineer for approval.
- H. Compact each layer of fill material by at least two complete coverages of all portions of the surface of each lift using approved compaction equipment. One coverage is defined as the condition reached when all portions of the fill lift have been subjected to the direct contact of the compacting surface of the compactor.
- I. The minimum density to be obtained in compacting the select fill shall be 95 percent of maximum density obtained in the laboratory in accordance with ASTM D 1557 Method C including Note 2. This percentage is of Modified Proctor density. If the field and laboratory tests indicate unsatisfactory compaction, Contractor shall provide the additional compaction necessary to obtain the specified degree of compaction. All additional compaction work shall be performed by Contractor at no additional cost to the Town of Yorktown until the specified compaction is obtained.
- J. Select fill necessary to replace subgrade materials disturbed and softened as a result of Contractor's operations or to backfill unauthorized excavation shall be provided, placed and compacted at Contractor's expense.

3.09 UNCOMPACTED BACKFILL

- A. Compaction of trench backfill above top of pipe in locations other than those specified will not be required except to the extent necessary to prevent future settlement.
- B. Place material above embedment's so that no excessive or unbalanced load, shock or impact occurs on the pipe or results in displacement of the pipe.

3.10 GRADING

- A. General: Uniformly grade areas within limits of grading under this Section, including adjacent transition areas. Smooth subgrade surfaces within specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades.
- B. Grading Outside Building Lines: Grade areas adjacent to building lines to drain away from structures and to prevent ponding. Finish surfaces free from irregular surface changes, and as follows:
  - 1. Turfed Areas or Areas Covered with Gravel, Stone, Wood Chips, or Other Special Cover: Finish areas to receive topsoil or special cover to within not more than 1 inch above or below the required subgrade elevations.

2. Walks: Shape surface of areas under walks to line, grade and cross-section, with finish surface not more than 1 inch above or below the required subgrade elevation.
  3. Pavements: Shape surface of areas under pavement to line, grade and cross-section, with finish surface not more than 2 inch above or below the required subgrade elevation.
- C. Grading Surface of Fill Under Pump Station Slabs: Grade smooth and even, free of voids, compacted as specified, and to required elevation. Provide final grades within a tolerance of 2 inch when tested with a 10 foot straightedge.
- D. Compaction:
1. After grading, compact subgrade surfaces to the depth and percentage of maximum density for each area classification.

### 3.11 PAVEMENT SUBBASE COURSE

- A. General: Place subbase material, in layers of specified thickness, over ground surface to support pavement base course.
- B. Grade Control: During construction, maintain lines and grades including crown and cross-slope of subbase course.
- C. Shoulders: Place shoulders along edges of subbase course to prevent lateral movement. Construct shoulders of acceptable soil materials, placed in such quantity to compact to thickness of each subbase course layer. Compact and roll at least a 12 inch width of shoulder simultaneously with compacting and rolling of each layer of subbase course.
- D. Placing: Place subbase course material on prepared subgrade in layers of uniform thickness, conforming to indicated cross-section and thickness. Maintain optimum moisture content for compacting subbase material during placement operations.
1. When a compacted subbase course is shown to be 6 inches thick or less, place material in a single layer. When shown to be more than 6 inches thick, place material in equal layers, except no single layer more than 6 inches or less than 3 inches in thickness when compacted.

### 3.12 DISPOSAL OF EXCAVATED MATERIALS

- A. Material removed from the excavations which does not conform to the requirements for fill or is in excess of that required for backfill shall be hauled away from the project site by the Contractor and disposed of in compliance with ordinances, codes, laws and regulations at no additional cost to the Town of Yorktown.

- B. Excess excavated material which is not considered to be solid waste pursuant to Westchester County regulations, shall be graded on-site only to the extent needed to achieve pre-construction grade, unless otherwise specifically approved by the Town of Yorktown.

The disposal of excess excavated material in wetlands, stream corridors and floodplains is strictly prohibited, even if the permission of the property owner is obtained. The contractor shall be responsible to remove any fill improperly placed by the contractor at the contractor's expense and restore the area impacted.

If excess excavated material is placed on private property, a hold harmless release in favor of the Town of Yorktown shall be obtained from the property owner and presented to the Town.

3.13 RESTORING AND RESURFACING EXISTING ROADWAYS AND FACILITIES

- A. Place 2 inches of temporary bituminous pavement immediately after backfilling trenches in paved roadways which are to be retained for permanent use. Maintain the surface of the paved area over the trench in good and safe condition during progress of the entire Work, and promptly fill all depressions over and adjacent to the trench caused by settlement of backfilling. The permanent replacement pavement shall be equal to that of the existing roadways unless otherwise specified.
- B. Pavement, gutters, curbs, sidewalks or roadways disturbed or damaged by the Contractor's operations, except areas designated "New Pavement" or "Permanent Pavement", shall be restored by him at his own expense to as good condition as they were previous to the commencement of the Work and in accordance with applicable local and state highway specifications.

**END OF SECTION**



**PART 1 GENERAL**

1.01 SUMMARY

A. Scope: Contractor shall furnish all labor, materials, equipment, and incidentals as shown, specified or required to do rock excavation for construction of structures and pipelines. Disposal of excess and unsuitable excavated rock material is included.

B. Related Sections:

EXCAVATION AND BACKFILL

Section 02220

C. Definition of Rock:

1. Rock is defined as solid ledge rock or boulders which requires drilling and blasting or jack-hammering for its removal.
2. The following material will not be measured nor allowed for payment as rock excavation:
  - a. Soft, weathered or disintegrated rock which can be removed by normal excavation equipment.
  - b. Loose or previously blasted rock.
  - c. Broken stone in rock fills.
  - d. Any rock which may fall into the excavated trench from outside the limits of excavation specified.
  - e. Boulders which can be removed without drilling and blasting.
  - f. Concrete, asphalt or masonry pavements, walks and gutters.

**PART 2 PRODUCTS - Not Applicable**

**PART 3 EXECUTION**

3.01 ROCK UNCOVERED FOR MEASUREMENT

- A. Rock shall be uncovered prior to removal in sections acceptable to the Owner so that it may be measured. Rock shall not be excavated before measurement is made by the Owner and his approval given.

3.02 LIMITS OF ROCK EXCAVATION

- A. Limits of rock excavation shall be as follows:
  - 1. Structures: The limit for all structures shall be bounded by:
    - a. The bottom of the footing, drainage course material, or compacted backfill.
    - b. The original surface of the rock.
    - c. Vertical planes located 12-inches outside the footing.
  - 2. Pipe Trenches: The width of trenches shall be established as the outside diameter of the pipe plus 2 feet-0 inches, exclusive of bells, branches, hubs, spurs or cradles. The sides of the trench shall be considered as vertical.
    - a. The depth of the trench shall be established as a point 6 inches below the outside of the pipe.
    - b. The length shall be equal to the laid length of pipe, measured horizontally.
    - c. Additional width in pipe trenches at field joints or beyond the lines described above will be considered outside the limits described.

3.03 BLASTING

- A. Blasting shall not be permitted.

3.04 HAND REMOVAL

- A. Where hazardous conditions exist, or clearances with existing piping or structure are very small or strong possibility of damage to persons or property exists, contractor shall remove rock in these areas by hand methods.



3.05 DISPOSAL OF EXCAVATED ROCK

- A. Excavated rock shall not be used as backfill.
- B. Rock shall be removed and disposed of off the site, at Contractor's expense, and in compliance with all applicable federal, state and local regulations.

3.06 UNAUTHORIZED ROCK EXCAVATION

- A. All rock excavation outside the limits described and which is not approved by Owner, together with its removal, disposal and refill will be at Contractor's expense.
- B. Unauthorized excavation below pipe or foundation shall be refilled with compacted select fill or concrete, as directed by Owner. Other unauthorized excavation shall be backfilled with material as specified in Section No. 02220.

**END OF SECTION**



**PART 1 GENERAL**

1.01 SUMMARY

A. Scope:

1. Contractor shall furnish and place crushed stone and gravel of the types specified at locations shown and as ordered by the Owner.

B. Related Sections:

EXCAVATION AND BACKFILL

Section 02220

1.02 SUBMITTALS

- A. Contractor shall furnish representative samples of the crushed stone or gravel to the Owner and shall advise of the source location.

**PART 2 PRODUCTS**

2.01 MATERIALS

A. Pea Gravel:

1. Pea gravel shall consist of well graded hard, sound, tough, durable particles of uncrushed gravel free from soft, thin, elongated or laminated pieces, organic matter and other deleterious substance. The percentage by weight passing a 2 inch square mesh sieve shall not be less than 95 percent, not less than 95 percent retained on No. 4 sieve and maximum 5 percent passing No. 10 sieve.

B. Crushed Stone/Gravel and Sand:

1. Contractor shall furnish and place crushed stone or screened gravel fill under pipe or structures in addition to that required under other Sections. This material shall be placed at such locations as the Owner shall specifically order in writing to replace material unsuitable for the foundations of the pipe or structure or to increase the load carrying capacity of the pipe. It shall also be used to refill over excavations by the Contractor.

2. The material shall be well-graded, clean gravel/ crushed stone and sand obtained from an approved source.

Crushed Stone/Gravel

<u>Sieve Size</u>	<u>Percent Passing</u>
1-1/2-inch	90 to 100%
1 inch	35 to 70%
3/4-inch	0 to 15%
3/8-inch	0 to 5%

Sand

<u>Sieve Size</u>	<u>Percent Passing</u>
3/8-inch	100%
No. 8	75 to 80%
No. 60	10 to 20%
No. 100	less than 5%

3. All sand shall consist of clean, hard, durable particles free from organic or other deleterious matter. Crushed stone, crushed or uncrushed gravel shall be clean, hard, durable material of acceptable quality.
4. Material used on slopes shall be crushed gravel or crushed stone. Screened river gravel is not acceptable.
5. Samples of all material shall be submitted to the Owner for approval.

**PART 3 EXECUTION**

3.01 PLACING

- A. Gravel shall be spread in layers of uniform thickness not exceeding 8 inches and shall be thoroughly compacted with suitable power driven tampers or other power driven equipment. The placing of crushed stone or gravel shall conform to applicable requirements of Section No. 02220, Excavation and Backfill, except as noted above.

**END OF SECTION**

**PART 1      GENERAL**

1.01      SUMMARY

- A.      Work Included: The Contractor shall install and maintain all erosion and sediment control devices and measures in accordance with the Westchester County Best Management Practices Manual for Erosion and Sediment Control, dated December 1991 and including any and all subsequent updates.

Said measures and control devices shall include but not be limited to:

1.      Instituting and maintaining Soil Erosion and Sediment Control measures to prevent silt and fines from migrating from the area of construction;
2.      Catch basin inlet sediment protection;
3.      Approved sediment traps for all dewatering operations;

1.02      COMPLIANCE

- A.      The Contractor shall hold the Owner and Engineer harmless as to any violations of Federal, State, County and Local environmental regulations or codes due to untimely or faulty installation or maintenance of soil erosion and sediment control measures.

1.03      REFERENCES

- |    |              |  |
|----|--------------|--|
| A. | ASTM D4355 - | Test Method for Grab Breaking Load and Elongation of Geotextiles.  |
| B. | ASTM D4491 - | Test Method for Water Permeability of Geotextiles by Permittivity. |
| C. | ASTM D4533 - | Test Method for Trapezoid Tearing Strength of Geotextiles.         |
| D. | ASTM D4632 - | Test Method for Grab Breaking Load and Elongation of Geotextiles.  |
| E. | ASTM D4751 - | Apparent Opening Size (U.S. sieve).                                |
| F. | ASTM D4833 - | Test Method for Puncture Strength of Geotextiles.                  |

1.04 SUBMITTALS

- A. Submit under provisions of Section No. 01300.
- B. Submit product literature and specifications.
- C. Submit samples of geotextiles.
- D. Submit manufacturer's certificate that products meet or exceed specified requirements.

1.05 SEQUENCING AND SCHEDULING

- A. Implement soil erosion and sediment control measures, prior to disturbance of pavement and soil, within the drainage basin of the construction site.
  - 1. Trench excavation along roads may be divided into subdrainage basins for practical phasing of implementation.
- B. Remove temporary soil erosion and sediment control measures, except permanent vegetation measures, upon completion of all restoration work.

**PART 2 PRODUCTS**

2.01 MANUFACTURERS

- A. Silt Fence:
  - 1. Erosion Control Technologies, Inc., Branchburg, NJ, 800-437-6746; MISF 180.
  - 2. Amoco Fabrics & Fibers Co., Atlanta, GA., 800-445-7732; No. 2130.
  - 3. Webtec, Inc., Charlotte, NC., 800-438-0027; TerraTex SC.
  - 4. Or Equal.
- B. Inlet Sediment Protection:
  - 1. ACF Environmental, Inc., Richmond, VA., 800-644-9223; regular flow Siltsack; represented by Erosion Control Technologies.
  - 2. Or equal.

## 2.02

### MATERIALS

- A. All materials used for Soil Erosion and Sediment Control shall be in accordance with the standards of the Westchester County Best Management Practices Manual for Erosion and Sediment Control.
- B. Silt Fence:
1. Provide woven polypropylene geotextile with ASTM D 4751 apparent opening size range of 30 to 40 US sieve, ASTM D 4491 permittivity range of 10 to 15 gallons per minute per square foot, minimum ASTM D 4833 puncture strength of 60 pounds, minimum ASTM D 4533 trapezoid tear strength of 80 pounds, and minimum ASTM D 4632 grab breaking load and tensile elongation of 120 pounds and 15 percent, respectively.
  2. Provide minimum 36-inch width.
  3. Provide steel posts, minimum 0.75 lb./ft., minimum five (5) foot long, “T” shaped with studs.
  4. Provide minimum steel clip fasteners, 5 clips per post.
- C. Inlet Sediment Protection:
1. Provide Silt sack manufactured from a woven polypropylene and sewn by a double needle machine using a high strength nylon thread.
  2. The slack seams shall have a certified average wide strength per ASTM D 4884 of 165 lbs./in.
  3. The Siltsack will be manufactured to fit the opening of the catch basin or drop inlet. The Siltsack will have the following features: two dump straps attached at the bottom to facilitate the emptying of the Siltsack; the Siltsack shall have lifting loops as an integral part of the system to be used to lift the Siltsack from the basin; the Siltsack shall have a restraint cord approximately halfway up the sack to keep the sides away from the catch basin walls, this yellow cord is also a visual means of indicating when the sack should be emptied. Once the strap is covered with sediment, the Siltsack should be emptied, cleaned and placed back into the basin.

4. The Siltsack geotextile fabric shall have the following properties:

Property	Test Method	Test Result
Grab Tensile	ASTM D-4632	300 lbs.
Grab Elongation	ASTM D-4632	20%
Puncture	ASTM D-4833	120 lbs.
Mullen Burst	ASTM D-3786	800 P.S.I.
Trapezoid Tear	ASTM D-4533	120 lbs.
UV Resistance	ASTM D-4355	80%
Apparent Opening	ASTM D-4751	40 US Sieve
Flow Rate	ASTM D-4491	40 Gal/Min/Ft <sup>2</sup> .
Permittivity	ASTM D-4491	0.55 sec-1

### **PART 3 EXECUTION**

#### **3.01 SILT FENCE INSTALLATION**

- A. Install silt fence in accordance with this Section and as shown on the Contract Drawings or as directed by the Owner. Silt fence construction shall be adequate to handle the stress due to sediment loading. Posts shall be installed at least 18 in. deep into the ground. When an 18 in. depth is impossible to achieve, the posts should be adequately secured to prevent overturning of the fence due to sediment loading.
- B. Saw geotextile splice joints. Splice joints with a minimum overlap of 18 in. The bottom geotextile edge of the silt fence shall be buried to a minimum depth of 6 in. tangent under turn such that no water flow can pass beneath the silt fence.
- C. Provide wire support fence, when needed with the wire buried a minimum of 2 in. and extending a maximum of 32 in. above the original ground surface.
- D. The silt fence shall remain in place until the Owner directs that it be removed. The Contractor shall maintain the silt fence until it is removed, and shall remove and dispose of soil accumulations at the silt fence when so directed by the Owner.
- E. It is the Contractor's responsibility to maintain the integrity of silt fences as long as necessary to contain sediment runoff. The Contractor shall inspect all silt fences immediately after each rainfall and at least daily during prolonged rainfall. Any deficiencies shall be immediately corrected by the contractor. In addition, the Contractor shall make a daily review of the location of silt fences or posts in areas where construction activities have changed the natural contour and drainage



runoff to ensure that the silt fences are properly located for effectiveness. Where deficiencies exist, additional silt fences or posts shall be installed as directed by the Owner. The silt fence should be promptly repaired or replaced should it become damaged or otherwise ineffective.

- F. Sediment deposits shall either be removed when the deposit reaches approximately one-half of the height of the silt fence or a second silt fence shall be installed as directed by the Owner. Silt fence that has been removed shall become the property of the Contractor. Upon removal of the silt fence, the Contractor shall remove and dispose of excess soil accumulations, restore the area and vegetate all bare areas in accordance with the Contract Documents.

### 3.02 INLET SEDIMENT PROTECTION

- A. Install the inlet sediment protection Siltsack in accordance with this Section and as shown on the Contract Drawings.
- B. To install the Siltsack in the catch basin, remove the grate and place the sack in the opening. Hold out approximately six inches of the sack outside the frame. This is the area of the lifting straps. Replace the grate to hold the sack in place.
- C. The Siltsack is full and shall be emptied when the restraint cord is no longer visible.
- D. To remove the Siltsack, take two pieces of 1" diameter rebar and place through the lifting loops on each side of the sack to facilitate the lifting of the Siltsack.
- E. To empty the Siltsack, place it in a container, empty the contents and dispose of the accumulate soil. Place the rebar through the lift straps (connected to the bottom of the sack) and lift. This will turn the Siltsack inside out and empty the contents. Clean out and rinse. Return the Siltsack to its original shape and place back in the basin.
- F. The Siltsack is reusable. Once completion of site construction, remove the Siltsack from the basin and clean. The Siltsack shall be stored out of the sunlight until reused.
- G. Install the alternate inlet sediment protection in accordance with this Section as shown on the Contract Drawings.
- H. Inlet protection to remain in place until directed by the Owner to be removed.
- I. Inspect and maintain Inlet Protection.
- J. Remove and dispose of soil accumulations when deposit reaches approximately one-half of height of aggregate mount and the expansion restraint in the Siltsack.
- K. Removed barrier material shall become the property of the Contractor.

3.03 GENERAL REQUIREMENTS

- A. Institute and maintain Soil Erosion and Sediment Control measures to prevent silt and fines from migrating from the area of construction.
- B. Install silt fencing, inlet sediment protection and check dams in the locations shown on the Contract Documents.
- C. Clean and maintain silt fences, inlet protection and check dams after each and every rainfall.
- D. Repair of any soil erosion and sediment control measured damaged during the lift of the project.
- E. Stockpile topsoil.
- F. Provide temporary vegetative cover and mulch within 48 hours of construction or disturbance.
- G. Provide permanent vegetative cover, mulch and mulch netting on the disturbed areas.
- H. Removal of soil erosion and sediment control measures (i.e. silt fence).

3.04 REMOVAL

- A. Upon the establishment of permanent vegetative cover and landscaping, the Contractor shall carefully, without injury to new established growths of vegetation, remove all Soil Erosion and Sediment Control structures, measures and devices. This shall mean to also include all silt and mulch netting.

**END OF SECTION**

**PART 1      GENERAL**

1.01      SUMMARY

- A.      Provide and install riprap stone and bedding material and fabric complete and in place, and as shown on the Contract Drawings, specified herein, and approved by the Owner.

1.02      SECTION INCLUDES

- A.      Dumped Riprap Stone.
- B.      Filter Blanket

1.03      RELATED WORK

- A.      Documents affecting work of this Section include, but are not necessarily limited to, General Conditions and Supplementary Conditions, and Sections in Division No. 1 of these Supplements.
- B.      Related Sections:

1.04      RELATED SECTIONS

SUBMITTALS	Section 01300
SITE CLEANING	Section 02110
EXCAVATION AND BACKFILL	Section 02220
ROCK EXCAVATION	Section 02222

1.05      REFERENCES

- A.      New York State Department of Transportation – Section 620.
- B.      Standard for Soil Erosion and Sediment Control in New York.
- C.      U.S. Army Corp of Engineers Guide Specifications.
- D.      ASTM D 4355 - Test Method for Grab Breaking Load and Elongation of Geotextiles.
- E.      ASTM D 4491 - Test Method for Water Permeability of Geotextiles by Permittivity.

- F. ASTM D 4533 - Test Method for Trapezoid Tearing Strength of Geotextiles.
- G. ASTM D 4632 - Test Method for Grab Breaking Load and Elongation of Geotextiles.
- H. ASTM D 4751 - Apparent Opening Size (U.S. sieve).
- I. ASTM D 4833 - Test Method for Puncture Strength of Geotextiles.

#### 1.06 DEFINITIONS

- A. RIPRAP: is a layer facing or protective mound of stones randomly place to prevent erosion, scour or sloughing of a structure or embankment. Highway Bridge Engineers have broadened the definition of riprap to include mortared and grouted riprap, concrete riprap in bags, concrete slab riprap and riprap for foundation protection. Materials such as broken concrete is classified as dumped riprap.
- B. DUMPED RIPRAP: is graded stone dumped on a prepared slope in such a manner that the segregation will not take place. Dumped stone riprap is the most flexible of all the types and will adjust itself to uneven bank settlement. In most areas dumped stone is the least costly type.

Stone used for dumped riprap should be hard, durable, angular in shape, resistant to weathering, free from overburden, spoil, shale, and organic material; and should meet the gradation requirements for the class specified. Neither breadth nor thickness of a single stone should be less than one-third its length. Round stone or boulders are not acceptable. Shale and stone with shale seams are also not acceptable.

- C. GROUTED RIPRAP: is riprap with interstices filled with portland cement mortar. The stones for grouted riprap should in general meet the requirements for dumped riprap except for size and gradation of stone. Stone should be clean and free of fines which prevent penetration of grout.
- D. FILTER BLANKET: the filter blanket material shall consist of one or more layer of gravel, crush rock, or sand of the thickness shown on the contract drawings. The gradation of the material in which layer of the filter blanket shall meet the requirement of the special provisions. All materials comprising the filter blanket shall be composed of tough, durable particles, reasonably free from thin, flat, and elongation pieces nor soft, friable particles in quantities in excess of those approved by the engineer.

#### 1.07 SUBMITTALS

- A. Submit shop drawings in accordance with Section No. 01300, Submittals

- B. Submit product literature and manufacturers specifications for fabric materials.
- C. Submit product samples.
- D. Submit sieve analysis for riprap and bedding material.
- E. Submit manufacturer's certificate that products meet or exceed specified requirements.

1.08 **QUALITY ASSURANCE**

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.09 **DELIVERY, STORAGE AND HANDLING**

- A. Comply with pertinent provisions of Section No. 01610, Transportation and Handling of Materials and Equipment and Section No. 01611, Storage of Materials.
- B. Deliver the work of this Section of the job site in such quantities and at such times as to assure the continuity of construction.

**PART 2 PRODUCTS**

2.01 **MATERIALS** - Stone used for dumped riprap shall be hard, durable, angular in shape; resistant to weathering and to water action; the gradation requirements for the class specified. Neither breadth nor thickness of a single stone should be less than one-third its length. Grounded stone or boulders will not be accepted unless authorized by special provisions. Broken concrete may be substituted for stone when authorized by special provisions. Shale and stone with shale seams are not acceptable. The minimum weight of the stone shall be 155 pounds per cubic foot as computed by multiplying the specific gravity (bulk-saturated-surface-dry basis, ASH O Test T 85) times 62.3 pounds per cubic foot.

The sources from which the stone will be obtained shall be selected well in advance of the time when the stone will be required in the work. The acceptability of the stone will be determined by service records and/or by suitable tests. If testing is required, suitable samples of stone shall be taken in the presence of the engineer at least 25 days in advance of the time when the placing of riprap is expected to begin. The approval of some rock fragments from a particular quarry site shall not be construed as constituting the approval of all rock fragments taken from that quarry.

In the absence of service records, resistance to disintegration from the type of exposure to which the stone will be subjected will be determined by any or all of the following tests as stated in the special provisions:

2. When the riprap must withstand abrasive action from material transported by the stream, the abrasion test in the Los Angeles machine shall also be used. When the abrasion test in the Los Angeles machine (AASHTO Test T 96) is used, the stone shall have a percentage loss of not more than 40 after 500 revolutions.
3. In locations not subject to freezing or where the stone is exposed to salt water, the sulfate soundness test (AASHTO Test T 104 for ledge rock using sodium sulphate) shall be used. Stones shall have a loss not exceeding 10 percent with the sulfate test after five cycles.
4. When the freezing and thawing test (AASHTO Test 103 for ledge rock procedure A) is used as a guide to resistance to weathering, the stone should have a loss not exceeding 10 percent after 12 cycles of freezing and thawing.

Stone shall be free from overburden, spoil, shale, and organic material and shall meet the following gradation requirements for the Class specified:

<u>Size of Stone</u>		<u>Percent of total weight Smaller than the given size</u>
	<u>Class I</u>	
100 lb.		100
60 lb.		80
25 lb.		50
2 lb.	Not to exceed	10
	<u>Class II</u>	
700 lb.		100
500 lb.		80
200 lb.		50
20 lb.	Not to exceed	10
	<u>Class III</u>	
2,000 lb.		100
1,400 lb.		80
700 lb.		50
40 lb.	Not to exceed	10

Each load of riprap shall be reasonably well graded from the smallest to the maximum size specified. Stones smaller than the specified ten (10%) percent by weight of each load.

Control of gradation will be by visual inspection. The contractor shall provide two samples of rock of at least five (5) tons, meeting the gradation for the class specified. The other sample shall be provided at the quarry. These samples shall be used as a frequent reference for judging the gradation of the riprap supplied. Any difference of opinion between the engineer and the contractor shall be resolved by dumping and checking the gradation of two random truck loads of stone. Mechanical equipment, a sorting site, and labor needed to assist in checking gradation shall be provided by the contractor at no additional cost to the State.

### **PART 3 EXECUTION**

#### **3.01 CONSTRUCTION DETAILS**

- A. Slopes to be protected by riprap shall be free of brush, trees, stumps, and other objectionable material and be dressed to a smooth surface. All soft or spongy material shall be removed to the depth shown on the plans or as directed by the Engineer and replace with approved material.

Protection for structure foundations shall be provided as early as the foundation construction permits. The area to be protected shall be cleaned of waste materials and the surfaces to be protected prepared as shown on the plans. The type of riprap specified will be placed in accordance with these specifications as modified by the special provisions.

When shown on the plans, a filter blanket shall be placed on the prepared slope or area to be provided with foundation protection as specified in this section before the stone is placed.

- B. Dumped Riprap: Stone for riprap shall be placed on the prepared slope or area in a manner which will produce a reasonably well-graded mass of stone with the minimum practicable percentage of voids. The entire mass of stone shall be placed so as to be in conformance with the lines, grades, and thicknesses shown on the plans. Riprap shall be placed to its full course thickness at one operation and in such a manner as to avoid displacing the underlying material. Placing of riprap in layers, or by dumping into shutes, or by similar methods likely to cause segregation will not be permitted.

Riprap stone shall be placed to a minimum thickness of 16" as shown on the

contract drawings.

The stones shall be placed so that the weight of the stone is carried by the underlying material and not by the adjacent stones. On slopes, the largest of stones shall be at the bottom. Riprap shall be of proper size to form a compact solid blanket to protect the slopes.

Riprap may be placed in location by equipment, however, care shall be taken in placing to obtain a good gradation of materials so that the riprap will be firm and solid. Surfaces shall be leveled to the required alignment and slopes by hand placing the stone so as to fill large voids and to make the surface even.

The larger stones shall be well distributed and the entire mass of stone shall conform to the gradation specified in this section. All material going into riprap protection shall be so placed and distributed that there will be no large accumulations of either the larger or smaller sizes of stone.

It is the intent of these specifications to produce a fairly compact riprap protection in which all sizes of material are placed in their proper proportions. Hand placing or rearranging of individual stones by mechanical equipment may be required to the extent necessary to secure the results specified.

- C. Filter Blanket: When required, a filter blanket shall be placed on the prepared slope or area to the full specified thickness of each layer in one operation, using methods which will not cause segregation of particle sizes within the bedding. The surface of the finished layer should be reasonably even and free from mounds or windrows. Additional layers of filter material, when required, shall be placed in the same manner, using methods which will not cause mixture of the material in the different layers.

**END OF SECTION**

Riprap and Rock Lining

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**PART 1 GENERAL**

1.01 SUMMARY

- A. Work Included: Under this Section, the Contractor shall provide all labor, equipment, supervision and material necessary to furnish and install paving system, complete in place, and as shown on the Contract Drawings, specified herein, and approved by the Owner.

1.02 SECTIONS INCLUDES

1. Bituminous Dense Binder Course Type 3.
2. Bituminous Dense Surface Course Type 6.
3. Install temporary pavement.
4. Install permanent pavement.
5. Pavement Subgrade Stabilization.
6. Cold Milling.
7. Tack and Prime Coat.
8. Joint Sealer.
9. Striping and Paving Marking.

1.03 RELATED WORK

- A. Documents affecting work of this section include, but are not necessarily limited to, General Conditions and Supplementary Conditions, and Sections in Division No. One of these Specifications.
- B. Related Sections:

EXCAVATION AND BACKFILL

Section 02220

1.04 QUALITY ASSURANCE

- A. Standards: Paving shall be in accordance with the requirements of the New York State Department of Transportation NYSDOT - Standard Specifications, New York State Department of Transportation, Ed. May 1, 2008 or latest. These shall include all requirements for equipment, placement, spreading, tolerances, temperature, protection, testing, weather conditions, and all related incidental construction requirements for each component of the pavement structure.

- B. Qualifications of Manufacturers: Products used in the work of this Section shall be produced by manufacturers regularly engaged in the manufacture of similar items and with a history of successful production acceptable to the Owner.

The manufacturer supplying asphalt mixes for this project shall have New York State Department of Transportation, Director, Materials Bureau approval.

#### 1.05 SUBMITTALS

- A. General: Submit shop drawings in accordance with Section No. 01300, Submittals.
- B. Product Data:
1. Manufacturer's plant design mixes shall bear the approval of NYSDOT's Director, Materials Bureau. The written approvals shall not be older than one year from the date of proposed asphalt work of the Contract Documents.
  2. A completed materials list showing all items to be furnished and installed under this Section.

#### 1.06 PRODUCT HANDLING

- A. Protection: Use all means necessary to protect the equipment and materials of this Section before, during and after installation and to protect the installed equipment and materials of all other trades. Adhere to asphalt handling requirements of NYSDOT "Standard Specifications, Construction and Materials".
- B. Replacements: In the event of damage, the Contractor shall immediately make all repairs and/or replacements necessary, to the approval of the Owner and at no additional cost to the Owner.

### **PART 2 PRODUCTS**

#### 2.01 MANUFACTURERS BITUMINOUS PRODUCTS

- A. County Asphalt, Inc., Tarrytown, NY, 914-631-4300; Products-Bituminous Materials.
- B. Peckham Materials Corp., White Plains, NY, 914-949-2000; Products Bituminous Materials.
- C. Or equal.

#### 2.02 MATERIALS

- A. Subgrade: Subgrade for all pavements shall be compacted materials placed to the lines and grades shown on the drawings and installed in strict accordance to

Bituminous Concrete Pavement

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the requirements of Section No. 02220 – Excavation and Backfill.

- B. Subbase: Approved imported granular backfill or Type 4, subbase material as specified in Section No. 02220.
- C. Control Backfill Material: As specified in Section No. 02220 shall be the subbase for pavements within Westchester County's R.O.W.'s. Placement limits of Control Backfill Material are specified in Section No. 02220. The Contractor may elect to substitute, Type 4 for Control Backfill Material in the twelve (12) inches of backfill/subbase immediately below the bottom of pavement within County's R.O.W.'s.
- D. Bituminous Dense Binder Course Type 3:
  - 1. Subsequent to the final shaping and compacting of the subbase there shall be placed the bituminous dense binder course at the locations and to the extent shown for paving of roads, trenches, driveways, parking areas and all other areas designated for paving within the project streets. Bituminous dense binder course shall be hot plant mix placed in one compacted layer of not more than three (3) inches utilizing paving machinery approved by the Owner.
  - 2. Aggregate for Bituminous Dense Binder Course Type 3 shall be composed in such proportions that the resulting composite blend meets the following as per the NYSDOT Table 403-1.

<u>Sieve Designation (Square Opening)</u>	<u>Percent Passing By Weight</u>
1-1/2"	100
1"	95-100
1/2"	70-90 +/- 6%
1/4"	48-74 +/- 7%
1/8"	32-62 +/- 7%
No. 20	15-39 +/- 7%
No. 40	8-27 +/- 7%
No. 80	4-16 +/- 4%
No. 200	2-8 +/- 2%
PGB Content %	4.5-6.5 +/- 0.4%
Mixing & Placing Temp. Range, °F	250-325

- E. Bituminous Dense Surface Course Type 6:
  - 1. Prior to placement of the compacted layer of bituminous dense surface course Type 6, the area of the binder course placement and 24 inches to each side shall be removed by use of a grinding or milling process. The surface course shall be installed in a single lift.
  - 2. Aggregates for Bituminous Dense Surface Course Type 6 shall be composed in such proportions that the resulting composite blend meets the

following as per the NYSDOT Table 403-1:

<u>Sieve Designation (Square Opening)</u>	<u>Percent Passing By Weight</u>
1"	100
1/2"	95-100
1/4"	65-85 +/- 7%
1/8"	36-65 +/- 7%
No. 20	15-39 +/- 7%
No. 40	8-27 +/- 7%
No. 80	4-16 +/- 4%
No. 200	2-6 +/- 2%
PGB Content %	5.7-8.0 +/- N/A%
Mixing & Placing Temp. Range, °F	250-325

3. Type 6 shall meet the high friction requirements of NYSDOT Standard Specification Section 403-2.03.
4. The surface course shall be installed at the locations and to the extent shown for paving of roads, driveways, parking areas and all other areas designated for paving as shown on the plans. Installation of the surface course shall not be undertaken without approval of the Owner.

F. Tack and Prime Coat

1. A prime coat shall be applied to any and all layers aggregate subbase prior to the placement of asphalt courses. The prime coat shall be allowed to cure properly prior to asphalt placement. No traffic will be permitted on aggregate subbases after prime coat has been placed.
2. Prime coat shall be NYSDOT Standard Specification designation 702-2000 medium curing liquid asphalt grade MC-30.
3. A tack coat shall be applied to all asphalt layers prior to the placement of additional asphalt lifts if the in-place asphalt lift is older than 6 hours or if traffic has been permitted to travel on the in place asphalt lift. No traffic shall be permitted to travel on tacked asphalt surfaces.
4. All edges of previously placed asphalt receiving additional asphalt, shall be tack coated prior to the placement of the asphalt. All vertical edges receiving asphalt shall be tack coated prior to asphalt placement.
5. Tack coats shall be prepared and applied as specified within Section 407 of the "Standard Specifications", NYSDOT 2008 or latest.

G. Joint Sealer:

1. Hot poured rubber asphalt Joint Sealer conforming to ASTM D-1190.

- H. Source of Paving Materials: All paving materials for the subbase, base course, binder course and surface course shall be derived from a single source, batch or continuous mix plant, capable of quality control to the limits set in the "Standard Specifications," NYSDOT. The Contractor shall employ only such plant as has been previously certified as an acceptable source of paving materials by the N.Y. State Department of Transportation.

## 2.03 PAVEMENTS WITH CONCRETE SUBBASES OR CONCRETE SURFACES

- A. Pavements with Concrete Subbase: If a pavement is overlain with asphalt but has a concrete subbase, restoration of this type of pavement shall consist of the placement of 8 inches compacted thickness of bituminous concrete dense base course Type 1. The wearing surface shall be a minimum compacted thickness of 2 inches of bituminous concrete Type 6 top course.

Prior to placement of the base course asphalt, the existing concrete is to have it's edges saw cut full depth if that has not already been done so.

Concrete for use as pavement subbase shall be 4,000 psi @ 28 days strength mix.

- B. Concrete Paved Roadways: For the areas of this project that the work necessitates excavation through concrete surfaced roadways, the following procedures are to be followed for the restoration of the roadway:

1. The permanent replacement pavement is to be full depth concrete.
2. The concrete is to have No. 4 Grade 60 reinforcing steel bars placed 12 inches on center each way.
3. Where R-bar cannot be lapped satisfactorily (6 inch bar lap splice, minimum) to existing reinforcing steel bars in the existing concrete pavement, the No. 4 R-bars are to be doweled 6 inches into the full depth saw cut edge of the existing concrete pavement.
4. Concrete for replacement concrete paved roadways shall be 4,000 psi @ 28 day strength mix.

## 2.04 COOPERATION WITH UTILITIES

- A. The Contractor shall permit the owners of the utilities, or their agents, access to the site of the work at all times, in order to construct, relocate, reset or protect their facilities, and he shall cooperate with them in performing this work.

The Contractor shall cooperate with the utility owners concerned and shall notify them not less than 10 days in advance of the time he proposes to perform any work that will endanger or affect their facilities or construction schedule. He assumes the primary obligation of coordinating his activities with those of the utilities. The notification shall be in writing, with a copy being submitted to the Owner.

Separate payment will not be made for protection and preservation of utilities and cooperation and coordination with their owners. The bidder shall include all such costs in the price bid for this Contract.

2.05 TRAFFIC AND PARKING MARKING MATERIALS

- A. Pavement Markings: Pavement markings shall be installed at locations shown on the drawings. Pavement markings shall be white, thermoplastic reflectorized type conforming to Section 727-01 of the New York State Department of Transportation, Design and Construction Division, Standard Specifications, Construction and Materials, latest revision.

**PART 3 EXECUTION**

3.01 INSPECTION

- A. The Contractor shall examine the areas and conditions under which work of this Section will be installed and shall correct conditions detrimental to proper and timely completion of the work. The Contractor shall not proceed until unsatisfactory conditions have been corrected to the satisfaction of the Owner.

3.02 COOPERATION WITH UTILITIES

- A. The Contractor shall permit the owners of the utilities, or their agents, access to the site of the work at all times, in order to construct, relocate, reset or protect their facilities and he shall cooperate with them in performing this work.
- B. The Contractor shall cooperate with utility owners concerned and shall notify them not less than ten (10) calendar days in advance of the time he proposes to perform any work that will endanger or affect their facilities or construction schedule. He assumes the primary obligation of coordinating his activities with those of the utilities. The notification shall be in writing, with a copy being submitted to the Owner.
- C. Separate payment will not be made for protection and preservation of utilities and cooperation and coordination with their owners. The bidder shall include all such costs in the price bid for this Contract.

3.03 PLACEMENT REQUIREMENTS

- A. Lift thickness and material requirements for pavements shall be in accordance with the NYSDOT Standard Specifications for Construction and Materials.
- B. Do not place bituminous concrete mixes on wet surfaces or surfaces with temperatures less than 45°F.
- C. Place bituminous concrete top course mixes only during period of April 1<sup>st</sup> up to and including the third Saturday of November.

- D. Weather Limitations: Use weather limitations in the State Standards for the following:
  - 1. Application of bituminous prime coats.
  - 2. Construction of base and surface courses.
- E. Grade Control: Establish and maintain the required lines and grades, including crown and cross-slope for each course during construction operations.

#### 3.04 CASTINGS ADJUSTMENT

- A. Set castings (frames) and valve boxes to final grade in an approved manner. Include existing castings and boxes, and castings and frames furnished under other Sections of these Specifications.

#### 3.05 SUBGRADE PREPARATION

- A. Prior to the placing of any subbase, the subgrade shall be shaped and compacted to grade and contour in accordance with Section 02200 and shall be free from water pockets.
- B. Subbase material shall not be placed on soft, muddy, or frozen areas, or until all irregularities in the prepared areas, including soft areas in the foundation, have been corrected.
- C. Excavate soil to subgrade.
- D. Hand excavate, shape and compact subgrade around utility poles and along curbs and retain walls and along pavement edges.
- E. Excavate soft areas below subgrade, fill with NYSDOT type 1 subbase material and cover with geotextile fabric.

#### 3.06 PAVEMENT STRUCTURE

- A. Temporary Pavement - Place and compact 6" NYSDOT type 1 subbase material. Prime coat subbase. Place and compact 6" NYSDOT type 3 bituminous concrete binder course.
  - 1. Construct temporary pavement over backfilled trench as shown on plans.
- B. Permanent Pavement - Cold mill temporary pavement plus offset, to a depth of 2". Tack coat milled surface, 2" curb face and castings. Place and compact 2" of NYSDOT Type 6 bituminous top course within limits of pavement restoration.

### 3.07 PAVEMENT INSTALLATION

- A. Provide and place size designation subbase aggregate on prepared subgrade in accordance with NYSDOT subsections 304-1, 304-2.02, 304-2.03 and 304-3.
- B. Provide and apply prime coat at a rate of 0.15 gallon to 0.35 gallon per square yard. Application shall be made not less than 12 hours prior to placing bituminous concrete and shall not be made when the base course is wet or frozen. In areas where the distributor spray bar cannot reach, the use of hand spraying equipment will be permitted for prime coat.
- C. Provide and place type 3 bituminous concrete binder course in accordance with NYSDOT subsections 403-1, 403-2 and 403-3.
- D. Cold mill existing and temporary pavement to a depth of 2 inches in accordance with NYSDOT subsections 490-1, 490-2 and 490-3.
- E. Provide and apply tack coat material to concrete surfaces, castings and existing pavement edges in accordance with NYSDOT subsections 407-1, 407-2, and 407-3. Contact surfaces of curbing, gutters, manholes and other similar structures shall be painted with a thin uniform coating of tack coat material just prior to the placing of the bituminous concrete mixture against them. All bituminous materials shall be cleaned from exposed surfaces of curbs, gutters, manholes and other similar structures.
- F. Provide and place type 6 bituminous concrete top course on prepared concrete surface in accordance with NYSDOT subsections 403-1, 403-2 and 403-3.

### 3.09 JOINT SEALER

- A. Provide and apply joint sealer along joints between old and new pavement, along construction joints, and along curbing at interface.
- B. Joints shall be sealed with hot-poured rubber asphalt before any traffic is permitted. The joint opening shall be cleaned of all extraneous matter. The contact faces of the joint shall be dry at the time of sealing. Compressed-air jets, power-driven wire brushes and any such additional equipment necessary to clean the joint and dry the contact faces shall be provided. The compound shall not be placed when the air temperature in the shade is less than 50 degrees F. The heating kettle in which the compound is prepared for pouring shall be of a type with indirect heating, the double boiler type, with built-in agitator and equipped with a thermometer to measure the temperature of the sealer. Direct heat will not be permitted.
- C. Pouring of this compound for sealing the joints shall be done by the use of hand pots, mechanical methods or any other method which will give satisfactory results. Pouring shall be done in such a manner that the compound is not spilled on the exposed surface. Any excess compound on the surface shall be removed immediately.



- D. Cover the sealer with fine sand or cement dust to prevent removal of the material by traffic.

### 3.11 FIELD QUALITY CONTROL

- A. Each delivery vehicle supplying bituminous mixtures shall be accompanied by a delivery ticket indicating the tons of mixture being delivered to the work site. The tonnage on the ticket shall be determined either by recorded batch weights, theoretical weights or truck scale weights. Other information such as tare weights, plant and mix identification, project identification, and time and date, shall be provided on the delivery tickets. The Owner shall be provided with the ticket prior to the spreading and finishing of the mixture.
- B. All materials shall be derived from a single source, batch or continuous mix plant, capable of quality control to the specifications set in the NYSDOT. The Contractor shall employ only such plant as has been previously certified as an acceptable source of materials by the N.Y. State Department of Transportation.
- C. Surface Smoothness:
  - 1. The pavement surface shall be constructed to a 1/4 inch tolerance.
  - 2. If, in the opinion of the Owner, the pavement surface is not being constructed or has not been constructed to this tolerance, based upon visual observation or upon riding quality, may test the surface with a 16 foot straight edge of string line placed parallel to the centerline of the pavement and with a 10 foot straight edge or string line placed transversely to the centerline of the pavement on any portion of the pavement.
  - 3. Variations exceeding 1/4 inch shall be satisfactorily corrected or the pavement re-laid at no additional cost to the Owner as ordered by the Owner.

### 3.12 REPAIR

- A. As directed by the Owner, repair all defective areas, by infrared asphalt heating and reclaiming method.
- B. Provide additional bituminous concrete material as needed.
- C. Rake, level, and compact repair area.

### 3.13 PAVEMENT MARKINGS

- A. Provide and apply pavement paint to restore pavement striping and markings disturbed or destroyed in the performance of the Work.
- B. The application shall conform to NYSDOT subsection 640-1, 640-2, and 640-3.
- C. Provide paint from NYSDOT approved list.

3.14 CLEANING AND PROTECTION

- A. Cleaning: After completion of paving operations, clean surfaces of excess or spilled bituminous materials and all foreign matter.
- B. Protect newly finished pavement until it has become properly hardened by cooling.
- C. Provide paint from NYSDOT approved list.

**END OF SECTION**

**PART 1 GENERAL**

1.01 SUMMARY

A. Work Included: Contractor shall provide all labor, equipment and material necessary to furnish, install and maintain all temporary vegetative cover complete in place, as specified herein, as ordered and as approved by the Owner.

B. Related Work:

EXCAVATION AND BACKFILL	Section 02220
SOIL EROSION AND SEDIMENT CONTROL	Section 02270

**PART 2 PRODUCTS**

2.01 MATERIALS - See Table 1 at end of Section.

**PART 3 EXECUTION**

3.01 SITE PREPARATION

A. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application and mulch anchoring. All grading should be done in accordance with the Westchester County Best Management Practices Manual for Erosion and Sediment Control.

B. Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, silt screens, sediment basins and waterways as necessary.

3.02 SEEDBED PREPARATION

A. Apply limestone and fertilizer according to soil test recommendations. If soil testing is not feasible on small or variable sites, or where timing is critical, fertilizer may be applied at the rate of 500 pounds per acre or 11 pounds per 1,000 square feet of 10-20-10 or equivalent. If seed is drilled over banded fertilizer, the rate of fertilizer is reduced fifty (50%) percent. Apply pulverized dolomitic limestone at a rate of 2 tons per acre.

B. Work lime and fertilizer into the soil as nearly as practical to a depth of 4 inches with a disc, springtooth harrow, or other suitable equipment. The final harrowing or disking operation should be on the general contour. Continue tillage until a reasonably uniform seedbed is prepared.

- C. Inspect seedbed just before seeding. If traffic has left the soil compacted, the area must be retilled as above.
- D. Soils high on sulfides or having a Ph of 4 or less should be mulched only, following the Westchester County Best Management Practices Manual.

### 3.03 SEED INSTALLATION

- A. Apply seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill cultipacker seeder, or hydroseeder. The letter may be justifiable for large, steep areas where conventional vehicles cannot travel. Mulch shall not be included in the tank with the seed. Except for drilled, hydroseeded or cultipacked seedings, seed shall be incorporated into the soil, to a depth of ¼ to ½ inch, by raking or dragging. Depth of seed placement may be ¼ inch deeper on coarse textured soil.
- B. After seeding, firming the soil with a corrugated roller to assure good seed-to-soil contact, restore capillarity, and improve seedling emergence. When performing on the contour, sheet erosion will be minimized and water conservation on site will be maximized.

### 3.04 MULCHING

- A. Mulching is required on all seeding. Mulch will ensure against erosion before grass is established and will promote faster and earlier establishment. (The existence of vegetation sufficient to control soil erosion shall be deemed compliance with this mulching requirement).
- B. Mulch materials should be unrotted small grain straw, hay free of seeds, or salt hay to be applied at the rate of 2 tons per acre (90 pounds per 1,000 square feet). Mulch chopper-blowers must not grind the material.
- C. Spread uniformly by hand or mechanically so that approximately seventy-five (75%) percent to ninety-five (95%) percent of the soil surface will be covered. For uniform distribution of hand-spread mulch, divide area into approximately 1,000 square feet sections and distribute 90 pounds within each section.
- D. Mulch anchoring should be accomplished immediately after placement to minimize loss by wind or water. This is done by one of the following methods, depending upon the size of the area, steepness of slope, and costs.
  - 1. Peg and Twine - Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a criss-cross and a square pattern. Secure twine around each peg with two or more round turns.
  - 2. Mulch Nettings - Staple paper, jute, cotton, or plastic nettings to the soil surface. Use a degradable netting in areas to be mowed.

3. Crimper (mulch anchoring tool) - a tractor-drawn implement, somewhat like a disc-harrow, especially designed to push or cut some of the broadcast long fiber mulch 3 to 4 inches into the soil so as to anchor it and leave part standing upright. This technique is limited to areas traversable by a tractor, which must operate on the contour of slopes. Straw mulch rate must be 3 tons per acre. No tackifying or adhesive agent is required.
- E. Wood-fiber or paper-fiber mulch at the rate of 2,000 pounds per acre may be applied by a hydroseeder. Use is limited during optimum seeding periods in spring and fall.

<b>TABLE 1 - SECTION 02900 TEMPORARY SOIL AND WATER CONSERVATION SEEDING MIXTURES</b>		
<b>SEED</b>	<b>LbsBS/ACRE</b>	<b>LBS/1000 Sq. Ft.</b>
<b>For Spring Seedings:</b>		
a) Annual Ryegrass	30	.7
b) Spring Oats	80 (2½ bu)	2.00
c) Annual Ryegrass and Spring Oats	15	.35
d) Perennial Ryegrass	64 (2 bu)	1.50
	30	.7
<b>For Late Spring and Summer Seedings:</b>		
a) Sundangrass	40 (1.0 bu)	.90
b) Annual Ryegrass	30	.7
c) Perennial Ryegrass	30	.7
<b>For Late Summer and Fall Seedings:</b>		
a) Annual Ryegrass (common)	30	.7
b) Winter Rye	112 (2 bu)	2.50
c) Winter Wheat	120 (2 bu)	2.75
d) Perennial Ryegrass (pennefine)	30	.7

**END OF SECTION**

**PART 1 GENERAL**

1.01 SUMMARY

- A. Work Included: Under this Section, the Contractor shall provide all labor, equipment and material necessary to furnish, install and maintain all permanent vegetative cover as shown on the Contract Drawings, as specified herein, as ordered, as approved by the Owner, and as part of site restoration.
- B. In general, the locations that may require permanent vegetative cover are all exposed soils where perennial vegetation is needed for long term protection, and on all exposed soils that have a potential for causing on-site and off-site environmental damage.
1. Disturbed natural areas.
  2. Disturbed turf.
  3. Disturbed lawn.

C. Related Work Described Elsewhere:

EXCAVATION AND BACKFILL	Section 02220
SOIL EROSION AND SEDIMENT CONTROL	Section 02270
TEMPORARY VEGETATIVE COVER	Section 02900

1.02 SUBMITTALS

- A. General: Submit samples in accordance with Section No. 01300, Submittals.

**PART 2 PRODUCTS**

2.01 TOPSOIL

- A. Where topsoil on the areas to be excavated is of acceptable quality for use in the work, it shall be stripped therefrom to a depth directed, cleared of stumps and roots, and stored at approved locations separate from other storage until required to be placed on top of the backfill, fill, or other areas, as shown, specified or directed.
1. Provide Type S3 as specified in Section 02205.
- B. New topsoil shall consist of natural loam obtained from an area that has never been stripped, and shall be free from hard clods, stiff clay, partially disintegrated stone, cement, ashes, roots, or other undesirable material.
2. Provide Type S4 as specified in Section 02205.

Seeds should be selected and planted in accordance with the following Table:

<b>TABLE 1 - SECTION 02950            PERMANENT SEEDING MIXTURE RECOMMENDATIONS            BY RATE AND SITE ADAPTION</b>					
Seed as early as possible in the spring and not later than June 1. Late summer/ early fall seedings can also be done between August 15 - September 15.					
Seed Mixture	Variety	Rate in lbs/1000 ft <sup>2</sup>	Excessively Drained Soil	Well to Mod Well Drained Soil	Poorly To Very Poorly Drained Soil
P. ryegrass	Pennant	0.6-0.8			
Creeping red fescue	Ensylva	0.4-0.6			
KY bluegrass	Eclipse	2.0-2.6			
<i>Total</i>		3.0-4.0	NG	X	X

### PART 3 EXECUTION

#### 3.01 SITE PREPARATION

- A. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and mulch anchoring and maintenance. All grading should be done in accordance with the Westchester County Best Management Practices Manual for Erosion and Sediment Control.
- B. Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, silt screens, sediment basins, and waterways according to practices of Westchester County.

#### 3.02 SEEDBED PREPARATION

- A. Apply limestone and fertilizer according to soil test recommendations. If soil testing is not feasible on small or variable sites, or where timing is critical, fertilizer may be applied at the rate of 500 pounds per acre or 11 pound per 1,000 square feet of 10-20-10 or equivalent. In addition, 300 pounds 38-0-0 per acre or equivalent of slow release nitrogen may be used in lieu of topdressing. Apply pulverized dolomitic limestone at a rate of 3 tons per acre.

- B. Work lime and fertilizer into the soil as nearly as practical to a depth of 4 inches with a disc, springtooth harrow, or other suitable equipment. The final harrowing or discing operation should be on the general contour. Continue tillage until a reasonably uniform seedbed is prepared.
- C. Remove from the surface all stones 2 inches and larger in any dimension. Remove all other debris, such as wire, cable, tree roots, pieces of concrete, clods, lumps, or other unsuitable material.
- D. Inspect seedbed just before seeding. If traffic has left the soil compacted, the area must be retilled and firmed as above.
- E. 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 seedbed preparation. The added soil shall be limed as above.

### 3.03 SEED INSTALLATION

- A. Apply seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill cultipacker seeder, or hydroseeder. The latter may be justifiable for large, steep areas where conventional vehicles cannot travel. Mulch shall not be included in the tank with the seed. Except for drilled, hydroseeded or cultipacked seedings, seed shall be incorporated into the soil, to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse textured soil.
- B. After seeding, firming the soil with a corrugated roller to assure good seed-to-soil contact, restore capillarity, and improve seedling emergence. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.

### 3.04 MULCHING

- A. Mulching is required on all seeding. Mulch will ensure against erosion before grass is established and will promote faster and earlier establishment. (The existence of vegetation sufficient to control soil erosion shall be deemed compliance with this mulching requirement.
- B. Mulch materials shall be unrotted small grain straw, haw free of seeds, or salt hay to be applied at the rate of 2 tons per acre (90 pounds per 1,000 square feet). Mulch chopper-blowers must not grind the material.
- C. Spread uniformly by hand or mechanically so that approximately seventy-five (75%) percent to ninety-five (95%) percent of the soil surface will be covered. For uniform distribution of hand-spread mulch, divide area into approximately 1,000 square feet sections and distribute 90 pounds within each section.



- D. Mulch anchoring shall be accomplished immediately after placement to minimize less by wind or water. This is done by one of the following methods, depending upon the size of the area, steepness of slope, and costs.
1. Peg and Twine - Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a criss-cross and a square pattern. Secure twine around each peg with two or more round turns.
  2. Mulch Nettings - Staple paper, jute, cotton, or plastic nettings to the soil surface. Use a degradable netting in areas to be mowed.
  3. Crimper (mulch anchoring tool) - A tractordrawn implement, somewhat like a disc-harrow, especially designed to push or cut some of the broadcast long fiber mulch 3 to 4 inches into the soil so as to anchor it and leave part standing upright. This technique is limited to areas traversable by a tractor, which must operate on the contour of slopes. Straw mulch rate must be 3 tons per acre. No tackifying or adhesive agent is required.
- E. Wood-fiber or paper-fiber mulch at the rate of 1,500 pounds per acre may be applied by a hydroseeder. Use is limited to flatter slopes and during optimum seeding periods in spring and fall.

### 3.05 MAINTENANCE

- A. Maintain all planting starting with the planting operations and continuing for three hundred and sixty-five (365) calendar days after planting is complete and approved by the Owner.
- B. Include all watering, weeding, cultivating, spraying and pruning necessary to keep the plant materials in a healthy growing condition and to keep planted areas neat and attractive during the maintenance period.
1. Provide all equipment and means for proper installation of water to planted areas.
  2. Protect all planted areas against damage, including erosion and trespassing, by providing and maintaining property safety guards.
- C. The Contractor shall be responsible for all lawn areas during the period when the grass is becoming established. Grass must have a minimum of three (3) mowings before a request for acceptance can be requested.
1. All areas shall be watered and maintained until a thick stand of grass is established. After four (4) weeks of favorable growing weather, all bare spots shall be recultivated, raked and rolled as in original work. If at any time before completion, any portion of the surface becomes gullied or

otherwise damaged following permanent stabilization, the affected portion shall be reestablished.

- D. At the end of the maintenance periods, all plant material shall be in a healthy growing condition.
  - 1. During the maintenance period, should the appearance of any lawn area indicate weakness and probability of dying, immediately replace that area at no additional cost to the Owner.

**END OF SECTION**

**DIVISION NO. THREE  
CONCRETE**



**PART 1 GENERAL**

1.01 SUMMARY

- A. Provide and install formwork for cast-in-place concrete where shown on the drawings, as specified herein, and as needed for a complete and proper installation.
- B. Section Includes
  - 1. Shoring, bracing and anchorage.
  - 2. Openings for other work.
  - 3. Form accessories
  - 4. Form stripping
- C. Related Work
  - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division No.

1.02 RELATED SECTIONS

CONCRETE REINFORCEMENT	Section 03200
CAST-IN-PLACE CONCRETE	Section 03300

1.03 REFERENCES

- A. ACI 301 - Specifications for Structural Concrete for Buildings.
- B. ACI 318 - Building Code Requirements for Reinforced Concrete.
- C. ACI 347 - Recommended Practice for Concrete Formwork.
- D. PS-1 - Construction and Industrial Plywood.
- E. PS-58 – Hardwood

1.04 DESIGN REQUIREMENTS

- A. Design, engineer and construct formwork, shoring and bracing to conform to the ACI 301, ACI 318 and ACI 347.
- B. Allowable Tolerances - ACI 301, Section 4.3
- C. Resultant concrete to conform to required shape, line and dimension.

1.05 SUBMITTALS

- A. Submit in accordance with Section No. 01300.
- B. Shop Drawings
  - 1. Details of form types, methods of form construction and erection and location of form joints, form ties and embedded items.
  - 2. Drawings showing location of isolation, control, expansion and construction joints.
- C. Certificates from manufacturers stating that materials meet specified requirements.
- D. Certified laboratory test reports when concrete tests are required for form removal.
- E. Early form removal calculations if required, two (2) weeks in advance of form removal.

**PART 2 PRODUCTS**

2.01 GENERAL

- A. Conform to ACI 301, PS-1 and PS-58 unless otherwise shown or specified.
- B. Construct formwork for exposed (painted or unpainted) concrete surfaces with smooth faced undamaged plywood or other panel type materials to provide continuous, straight, smooth as-cast surfaces.
- C. Furnish in largest practical sizes to minimize number of joints.
- D. Construct formwork for concrete concealed from view or covered with cement plaster with rough surface to provide a mechanical bond for subsequent application of plaster.
- E. Provide form material with sufficient thickness to withstand pressure of newly placed concrete without excessive and objectionable bow or deflection.

## 2.02 FORMS

### A. Wood Forms:

1. Framing Lumber: Stress-graded
2. Lumber in Direct Contact with Concrete: Dressed on at least the contact side with dressed or tongue-and-groove edges.
3. Other Lumber: Dressed or rough.

### B. Plywood Forms:

1. Grade marked
2. B-B Plyform, Exterior Class 1 and 2 and HDO High Density Concrete form Plywood, Class 1 and 2 conforming to Product Standard PS 1, minimum thickness  $\frac{3}{4}$  inch.

### C. Hardwood Forms: Tempered smooth-one-side (SIS), not less than 3/16 inches thick, conforming to Product Standard PS 58.

### D. Fiberglass-reinforced Plastic Forms: Sizes and cross sections as required with thickness, reinforcement and surface finish to form concrete surfaces that are smooth and free of irregularity.

### E. Steel Forms: Sizes and cross-sections as shown or required with metal gauges, reinforcement, stiffeners and surface finish to form concrete surfaces that are smooth, free of irregularity and concrete stains.

### F. Form Coatings: Provide commercial formulation form coating compounds that will not bond with, stain nor adversely affect concrete surfaces requiring bond or adhesion nor impede the wetting of surfaces to be cured with water or curing compounds.

## 2.03 DESIGN OF FORMWORK

### A. Design, erect, support, brace and maintain formwork so that it will safely support vertical and lateral loads that might be applied until such loads can be supported by the concrete structure.

### B. Carry vertical and lateral loads to ground by formwork system and in-place construction that has attained adequate strength for that purpose.

### C. Construct formwork so that concrete members and structures are of correct size, shape, alignment, elevation and position.

- D. Design forms and falsework to include assumed values of live load, dead load, and weight of moving equipment operated on formwork, concrete mix, and height of concrete drop, vibrator frequency, ambient temperature, foundation pressures, stresses, lateral stability and other factors pertinent to safety of structure during construction.
- E. Provide shores and struts with positive means of adjustment capable of taking up formwork settlement during concrete placing operations using wedges or jacks or a combination thereof.
- F. Provide trussed supports when adequate foundations for shores and struts cannot be secured.
- G. Support form facing materials by structural members spaced sufficiently close to prevent objectionable deflection.
- H. Fit forms placed in successive units for continuous surfaces to accurate alignment, free from irregularities, and within allowable tolerances.
- I. Provide camber in formwork as required for anticipated deflections due to weight and pressures of fresh concrete and construction loads.
- J. Provide formwork sufficiently tight to prevent leakage of cement paste during concrete placement. Solidly butt joints and provide backup material at joints as required to prevent leakage and fins.

### **PART 3 EXECUTION**

#### **3.01 GENERAL**

- A. Unless otherwise shown or specified, install and remove formwork in accordance with ACI 301, Chapters 4, 10, 11, 13, 15 and ACI 302, Chapter 3.

#### **3.02 SURFACE CONDITIONS**

- A. Examine the substrate and conditions under which work of this section is to be performed and correct unsatisfactory conditions which would prevent proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.

#### **3.03 FORM CONSTRUCTION**

- A. General
  - 1. Construct forms complying with ACI 347 to the exact sizes, shapes, lines and dimensions shown and as required to obtain accurate alignment,



location, grades, level and plumb work in finish structures.

2. Provide for openings, offsets, sinkages, keyways, recesses, moldings, reglets, chamfers, blocking, screeds, bulkheads, anchorages, inserts and other features required.
3. Use selected materials to obtain required finishes.
4. Forms for openings and construction which accommodates installation by other trades whose materials and products must be fabricated before the opportunity exists to verify the measurements of adjacent construction which affects such installations shall be accurately sized and located as dimensioned on the drawings. In the event that deviation from the drawing dimensions results in problems in the field, the Contractor shall be responsible for resolution of the conditions as approved by the Owner with additional expense to the Owner.

#### B. Fabrication

1. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where the slope is too steep to place concrete with bottom forms only.
2. Keep groove, notch wood inserts for forming keyways, reglets, recesses and the like to prevent swelling and assure ease of removal.
3. Provide temporary openings where interior area of formwork is inaccessible for cleanout for inspection before concrete placement and for placement of concrete.
4. Brace temporary closures and set tightly to temporary openings on forms in as inconspicuous locations as possibly consistent with design requirements.
5. Form intersection planes to provide true, clean-cut corner.

#### C. Framework

1. Erect framework and support, brace and maintain it to safely support vertical, lateral and asymmetrical loads applied until such loads can be supported by in-place construction.
2. Construct framework so that adjustments can be made for take-up and settlement.

3. Provide wedges, jacks or camber strips to facilitate vertical adjustments.
4. Carefully inspect framework and formwork during and after concrete placement operations to determine abnormal deflection or signs of failure.
5. Make necessary adjustments to produce work of required dimensions.

D. Forms for Exposed Concrete

1. Drill forms to suit ties used to prevent leakage of concrete mortar around the tie holes.
2. Do not splinter forms by driving ties through improperly prepared holes.
3. Provide sharp, clean corners at intersecting planes without visible edges or offsets.
4. Back joints with extra studs or girts to maintain true, square intersections.
5. Use extra studs, walers and bracing to prevent objectionable bowing of forms between studs and to avoid bowed appearance in concrete.
6. Do not use narrow strips of form material which will produce bow.
7. Assemble forms so that they may be readily removed without damage to exposed concrete surfaces.

E. Corner Treatment

1. Unless shown otherwise, form chamfers with strips on external corners of columns, walls, girders, beams, foundation walls projecting beyond overlying masonry and other external corners that will be exposed.
2. Extend terminal edges to required limit and miter chamfer strips at changes in direction.

F. Control Joints

1. Locate as indicated.

G. Provision for Other Trades

1. Provide openings in concrete formwork to accommodate work of other trades.
2. Verify size and location of openings, recesses and chases with the trade

requiring such items.

3. Accurately place and securely support items to be built into forms.

#### H. Cleaning and Tightening

1. Thoroughly clean forms and adjacent surfaces to receive concrete.
2. Remove chips, wood, sawdust, dirt and other debris just before concrete is placed.
3. Retighten forms immediately after concrete placement as required to eliminate mortar leaks.

### 3.04 FORM COATINGS

- A. Coat form contact surfaces with form-coating compound before reinforcement is placed.
- B. Do not allow excess form-coating material to accumulate in the forms or to come into contact with surfaces which will be bonded to fresh concrete.
- C. Apply in compliance with manufacturers' instructions.

### 3.05 INSTALLATION OF EMBEDDED ITEMS

#### A. General

1. Set and build into the work anchorage devices and other embedded items required for other work that is attached to or supported by cast-in-place concrete.
2. Use setting drawings, diagrams, instructions and directions provided by suppliers of the items to be attached thereto.

#### B. Edge Forms and Screed Strips for Slabs

1. Set edge forms or bulkheads and intermediate screed strips for slabs to obtain required elevations and contours in the finished slab surface.
2. Provide and secure units to support types of screeds required.

- C. Those trades whose work is related to the concrete or must be supported by it shall be given ample notice and opportunity to install embedded items before the concrete is placed.

- D. Electrical conduits, safety treads, anchorage devices, junction boxes, pipes, sleeves, inserts and similar items shall be placed in the concrete in accordance with all of the requirements of the Building Code and protected to the extent that they are not displaced or damaged during the placing of concrete.

3.06 ANCHORAGE ITEMS

- A. Anchorage items shall be of sufficient number, size and location to ensure sufficient anchorage for the purpose intended.

3.07 JOINTS

- A. Provide isolation, control, contraction, expansion and construction joints as per approved shop drawings.
- B. Continue reinforcing steel and wire fabric across construction joints where not indicated as being free to move.
- C. Install premolded joint filler at locations shown. Extend fill from bottom of concrete up flush to finish concrete surface or hold down below finish surface as detailed.
- D. Make splices in premolded joint filler at locations shown. Extend fill from bottom of concrete up flush to finish concrete surface or hold down below finish surface as detailed.
- E. If construction joints necessary for the progress of the work are not shown on the drawings, show them in complete detail on the shop drawings.
- F. Provide keyways at least 1½ inches deep in all construction joints in walls, slabs and between footings and walls.
- G. Isolation Joints in Slab on Grade.
  - 1. Provide isolation joints in slabs on grade at points of contact between slabs on grade and vertical surfaces where indicated.
- H. Sealant Slots
  - 1. Where premolded joint filler is held down below finish concrete face, install in the form a water-soaked wood strip of dimensions shown to form, after removal, a proper size slot to receive sealant.
- I. Control Joints in Slab on Grade
  - 1. Provide control joints in slabs on grade to form panels or patterns as shown.

2. Form control joints by inserting prefabricated strip into the fresh concrete until the top surface of strip is flush with the slab surface.
3. After the concrete has cured for at least seven (7) days, remove inserts and clean loose debris from the grooves.

3.08 SHORES AND SUPPORTS

- A. Comply with ACI 347 for shoring and reshoring in multi-story construction and as herein specified.
- B. Submit a shore removal and reshoring schedule and drawings for the Engineer's review before proceeding with this work.
- C. Do not proceed until schedule and drawings have been reviewed.

3.09 REMOVAL OF FORMS

- A. Forms shall not be removed without the permission of the Owner.
- B. In general, forms shall not be removed until the concrete has hardened sufficiently to support its own load safely plus any superimposed loads that might be placed thereon.
- C. In any event, forms shall be left in place at least the minimum required length of time specified below after the date of placing concrete:
  1. Footings ..... 12 hours
  2. Columns ..... 2 days
  3. Side forms for girders and beams ..... 1 day
  4. Bottom forms of slabs ..... 6 days
  5. Bottom forms of beams and girders ..... 7 days
  6. Walls ..... 1 day
  7. Piers ..... 1 day
- D. Care shall be taken in removing forms, wales; shoring's, supports and form ties to avoid spalling or marring the concrete.
- E. The required rubbed finish and such patching as may be necessary shall be started immediately after removal of the forms.
- F. Removal of Form Ties
  1. The removable portion of form ties shall be withdrawn from the concrete immediately after taking down the forms.

2. The holes left by such ties shall be filled with grout from a grout gun and the surface shall be finished with a steel spatula or rubbed with sack cloth.

### 3.10 REUSE OF FORMS

- A. Clean and repair surfaces of forms to be reused in the work.
- B. Split, frayed, delaminated or otherwise damaged form facing material will not be acceptable.
- C. Apply new form coating compound material to concrete contact surfaces as specified for new formwork.
- D. When forms are reused for successive concrete placement, thoroughly clean surfaces remove fins and laitance and tighten forms to close all joints.
- E. Align and secure joints to avoid offsets.

**END OF SECTION**

**PART 1      GENERAL**

1.01      DESCRIPTION

A.      Work Included: Under this Section, the Contractor shall provide all labor, equipment and material necessary to furnish and install all steel required for the concrete work placed and as shown on the Contract Drawings, specified herein and approved by the Town of Yorktown.

B.      Related Work Described Elsewhere:

CONCRETE FORMWORK

Section 03100

1.02      QUALITY ASSURANCE

A.      Standards:

1.      ACI 301: Specifications for Structural Concrete for Buildings.
2.      ACI 302: Guide for Concrete Floor and Slab Construction.
3.      ACI 315: Details and Detailing of Concrete Reinforcement.
4.      ACI 315R: Manual of Engineering and Placing Drawings for Reinforced Concrete Structures.
5.      ACI 318: Building Code Requirements for Reinforced Concrete.
6.      AWS D1.1-92: Structural Welding Code - Reinforcing Steel.
7.      CRSI: Manual of Standard Practice.

B.      Allowable Tolerances: Conform to ACI 301, Section 5.4.

1.03      SUBMITTALS

A.      General: Submit shop drawings and samples in accordance with Section No. 01300, Submittals.

- B. Shop Drawings: The Contractor shall submit complete shop drawings of all material proposed to be furnished and installed under this Section.
1. Show detail layouts of jointing and reinforcement, including dimensions, openings and spacings; embedded items; bending details; bar schedules; welds; and similar items required for the proper construction of this work.
  2. Detail the reinforcement in accordance with ACI 315, ACI 315R and CRSI Manual.
  3. Include the bar schedules, the individual weight of each bar, the total weight of each bar size and the total weight of bars on each schedule list. Base the calculated weights on the theoretical unit weights shown in Table 1, ASTM A615.
  4. Include in the minimum concrete cover for reinforcement.
- C. Samples: Accompanying the above submittal, submit samples of exposed-to-view bolsters and supports.
- D. Mill Certificates: Accompanying the shop drawings, submit steel producer=s certificates of mill analysis, tensile and bend tests for reinforcing steel.

#### 1.04 PRODUCT HANDLING

- A. Delivery: Deliver reinforcement to the job site bundled, tagged and marked. Use metal tags indicating bar size, lengths and other information corresponding to markings shown on placement diagrams.
- B. Storage: Store reinforcement at the job site in a manner to prevent damage and accumulation of dirt and excessive rust.

## **PART 2 PRODUCTS**

### 2.01 GENERAL

- A. Conform to ACI 301, ACI 315 and ACI 315R unless otherwise shown or specified.

### 2.02 MATERIALS

- A. Reinforcing Bars: ASTM A 615, Grade 60, deformed, epoxy coated.
- B. Steel Wire: ASTM A 82, plane, cold drawn steel.



- C. Welded Wire Fabric (WWF): Welded Wire Fabric shall be welded steel wire fabric and shall conform to ASTM A 185. All fabric shall be hot-dipped galvanized after fabrication to produce a Class 2 coating equal to that specified in ASTM A 641, Table 1.
- D. Supports for Reinforcement: Bolster, chairs, spacers and other devices for spacing, supporting and fastening reinforcement in place:
  - 1. Use wire bar type supports complying with CRSI recommendations unless otherwise indicated. Do not use wood, brick and other unacceptable materials.
  - 2. For slabs on grade, use supports with sand plates or horizontal runners where base material will not support chair legs.
  - 3. For exposed-to-view concrete surfaces where legs of supports are in contact with forms, provide supports with either plastic protected legs or stainless steel legs.

## 2.03 FABRICATION

- A. General: Fabricate reinforcing bars to conform to required shapes and dimensions with fabrication tolerances complying with CRSI Manual. In case of fabricating errors, do not rebend or straighten reinforcement in a manner that will injure or weaken the material.
- B. Unacceptable Materials: Reinforcement with any of the following defects will not be permitted in the work:
  - 1. Bar lengths, depths and bends exceeding specified fabrication tolerances.
  - 2. Bend or kinks not indicated on drawings or final shop drawings.
  - 3. Bars with reduced cross-section due to excessive rusting or other cause.

## PART 3 EXECUTION

### 3.01 INSPECTION

- A. Examine the sub-grade conditions, form work and the conditions under which concrete reinforcement is to be placed and correct conditions which would prevent proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected.

## INSTALLATION

A. General:

1. Comply with the specified standards for details and methods of reinforcement placement and supports and as herein specified.
2. Clean reinforcement to remove loose rust and mill scale, earth and other materials which reduce or destroy bond with concrete.
3. Position, support and secure reinforcement against displacement of form work, construction or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers and hangers as required.
4. Place reinforcement to obtain the minimum coverages for concrete protection. Arrange, space and securely tie bars and bar supports together with sixteen (16) gauge wire to hold reinforcement accurately in position during concrete placement operations. Set wire ties so that twisted ends are directed away from exposed concrete surfaces.
5. Install welded wire fabric in as long lengths as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset end laps in adjacent widths to prevent continuous laps in either direction.
6. Provide sufficient numbers of supports and of strength to carry reinforcement. Do not place reinforcing bars more than two (2) inches beyond the last leg of any continuous bar support. Do not use supports as bases for runways for concrete conveying equipment and similar construction loads.

B. Splices: Provide standard reinforcement splices by lapping ends, placing bars in contact and tightly tying wire. Where welded splices are approved, conform to AWS D1.1-92.

C. Encase Steel Members: Unless otherwise shown wrap structural steel members to be encased in concrete with 6 inch x 6 inch mesh of ten (10) gauge galvanized steel wire applied around the steel over spacers to provide 3/4 inch clearance from the metal. Lap and tie the edges of the mesh and make all loose ends fast with not lighter than sixteen (16) gauge wire.

D. Application of Standards: For all items presented in these specifications, wherever a conflict arises regarding which standards are to apply, the more rigorous standard or code shall be deemed to apply.

**END OF SECTION**

**PART 1      GENERAL**

1.01      SUMMARY

- A.      Under this Section, the Contractor shall provide all labor, equipment and materials necessary to furnish, install and test all cast-in-place concrete complete in place and as shown on the Contract Drawings, specified herein and approved by the Owner.

1.02      RELATED WORK

- A.      Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division No. One of these Specifications.
  
- B.      Related Sections

SELECTIVE SITE DEMOLITION	Section 02070
EXCAVATION AND BACKFILL	Section 02220
CONCRETE FORMWORK	Section 03100

1.03      QUALITY ASSURANCE

- B.      Standards:
  - 1.      ACI 211.1: Standard Practice for Selecting Proportions for Normal, Heavyweight and Mass Concrete.
  - 2.      ACI 214: Recommended Practice for Evaluation of Strength Test Results of Concrete.
  - 3.      ACI 301: Specifications for Structural Concrete for Buildings.
  - 4.      ACI 302: Guide for Concrete Floor and Slab Construction.
  - 5.      ACI 304R: Guide for Measuring, Mixing, Transporting and Placing Concrete.
  - 6.      ACI 304, 2R: Placing Concrete by Pumping Methods.
  - 7.      ACI 305R: Hot Weather Concreting.

8. ACI 306R: Cold Weather Concreting.
9. ACI 308: Standard Practice for Curing Concrete.
10. ACI 309: Standard Practice for Consolidation of Concrete.
11. ACI 318: Building Code Requirements for Reinforced Concrete.
12. ACI SP-2: ACI Manual of Concrete Inspection.
13. National Ready-Mixed Concrete Association (NRMCA): Certification of Ready-Mixed Concrete Production Facilities.
14. Truck Mixer Manufacturer's Bureau (TMMB): Truck Mixer and Agitator Standards.
15. Concrete Plant Manufacturer's Bureau (CPMB): Concrete Plant Mixer Manufacturer's Division.
16. In case of conflict between the referenced standards, the more stringent requirements shall govern.

B. Qualifications of Installers:

1. Throughout the progress of installation of the work of this Section, provide at least one (1) person who shall be thoroughly familiar with the specified requirements, completely trained and experienced in the necessary skills and who shall be present at the site and direct all the work performed under this Section.
2. In actual installation of the work of this Section, use adequate numbers of skilled workmen to ensure installation in strict accordance with the approved design.
3. In acceptance or rejection of work performed under this Section, the Owner will make no allowance for lack of skill on the part of the workmen.

C. Quality Control:

1. Prior to all work under this Section, make all necessary arrangements with the testing laboratory. The testing laboratory shall:

- a. Test and furnish certified reports on:
  - i. Proposed aggregates
  - ii. Proposed cements, unless such testing is waived by the Owner.
  - iii. Mixing water.
- b. Prepare design mixes for each type of concrete. Conform to ACI 301, Section 3.8. These mix designs shall be prepared under the supervision of a Professional Engineer experienced in the special considerations of materials and mixes.
- c. Proportion mixes by laboratory trial batch using materials to be employed on the work for each class of concrete required. Conform to ACI 211.1 and report the following to the Owner.
  - i. Complete identification of aggregate source of supply.
  - ii. Results of tests of aggregates for compliance with specified requirements.
  - iii. Scale weight of each aggregate.
  - iv. Absorbed water in each aggregate.
  - v. Brand, type, chemistry and physical test for each cement.
  - vi. Brand, type and amount of each admixture.
  - vii. Amounts of water used in trial mixes.
  - viii. Proportions of each material per cubic yard.
  - ix. Gross weight and yield per cubic yard of trial mixes.
  - x. Measured slump.
  - xi. Water-cement ratio.
  - xii. Measured air content.

- xiii. Compressive strength developed at one (1) calendar day, three (3) calendar days, seven (7) calendar days and twenty-eight (28) calendar days, from not less than three (3) test cylinders cast for each one (1), three (3), seven (7) and twenty-eight (28) calendar day test and for each design mix.
      - d. Furnish certified reports of each proposed mix for each type of concrete at least thirty (30) calendar days prior to start of installation of the work of this Section.
  2. Do not begin concrete production until all mixes have been reviewed by the Owner.
  3. Also see other requirements for testing as stated in Part 3 Execution of this Section.

#### 1.04 SUBMITTALS

- A. General: Submit shop drawings and product data in accordance with Section No. 01300, Submittals.
- B. Product Data:
  1. Complete materials list of items to be furnished and installed under this Section.
  2. Sufficient data to demonstrate compliance with the specified requirements, including catalog cuts of the following:
    - a. Admixtures
    - b. Curing compound
    - c. Grout
    - d. Bonding agent
    - e. Abrasive
    - f. Floor sealer
  3. Complete information on cement source of supply, physical and chemical characteristics, transportation and intermediate terminaling procedures for mill-to-site handling and site storage procedures.
  4. Complete information on aggregate procurement, processing and storage.

5. Complete information on proposed batching and mixing equipment and procedures including water chilling or other devices or systems to reduce mix temperatures.
  6. Complete information on concrete handling equipment proposed to be used including capacities for chutes, pumps, tremies, buckets and all other equipment.
  7. Complete information on proposed consolidation equipment.
  8. Complete description of proposed curing methods.
  9. Complete mix designs, prepared in accordance with provisions of subparagraph 1.2.C above.
- C. Temperature Control Methods: Prior to placing concrete during hot or cold weather, submit proposed methods of controlling concrete temperatures.
- D. Batch Tickets: With each batch delivered and before unloading at the site, submit to the Owner certification or delivery ticket from concrete supplier setting forth the following information:
1. Name of supplier.
  2. Name of batching plant and location.
  3. Serial number of ticket.
  4. Date.
  5. Truck number.
  6. Specific job designation (contract number and location).
  7. Volume of concrete (cubic yards).
  8. Specific class and type of concrete (in conformance with specification requirements).
  9. Time loaded.
  10. Type and brand of cement.

11. Weight of cement.
12. Maximum size of aggregates.
13. Weights of coarse and fine aggregates, respectively.
14. Maximum amount of water to be added and amount of water added at the site, if any.
15. Kind and amount of admixtures.
16. Computer tape from plant with definitions of symbols.

1.05      **PRODUCT HANDLING**

- A. General: Conform to ACI 301 and ACI 304.
- B. Protection: Use all means necessary to protect the materials of this Section before, during and after installation and to protect the work and materials of all other trades.
- C. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Owner and at no additional cost to the Owner.

1.06      **JOB CONDITIONS**

- A. Environmental Requirements:
  1. Cold Weather Concreting: Conform to ACI 301 and ACI 306R.
  2. Hot Weather Concreting: Conform to ACI 301 and ACI 305R.
- B. Protection: Conform to ACI 301, Chapter 12 and ACI 302, Chapter 8.

**PART 2      PRODUCTS**

2.01      **GENERAL**

- A. Conform to ACI 301 and ACI 302 unless otherwise shown or specified.



2.02 CEMENT

A. General:

1. Portland, conforming to ASTM C150, except that twenty-eight (28) calendar day cube strength shall be a minimum of 5,500 pounds per square inch.
2. Cement shall be Type I or Type II. All concrete in contact with sewage shall employ Type II cement. Elsewhere, Type I cement may be used.
3. Do not use cement having a temperature greater than 140 degrees F.
4. Do not use air-entraining cement.

B. Sequence of Use: Use only one brand of cement for the entire work and use in the same sequence as received at the site.

C. Mill Tests: Furnish mill tests for all cement. The twenty-eight (28) calendar day cube strength results may be submitted in a separate report but shall be related to the specific batch tested.

2.03 AGGREGATES

A. General: Conform to ASTM C33, except as modified below.

B. Coarse Aggregate:

1. Crushed stone, ASTM C33.
2. Quarried or washed in fresh water.
3. Limits for deleterious substances and physical property requirements in accordance with ASTM C33, Table 3, Classes 1S through 5S.

C. Fine Aggregate:

1. Natural sand or stone sand, ASTM C33.
2. Washed in fresh water.

D. Aggregate Sources: Provide aggregate from one source of supply only.

- E. Aggregate Sizes: Maximum aggregate size shall be not larger than one-fifth of the narrowest dimension between sides of forms, one-third of the depth of slabs nor three-fourths of the minimum clearing space between individual reinforcing bars or bundles of bars.

2.04 WATER

- A. Water for use in concrete shall be free from objectionable quantities of oil, acid, alkali, organic matter, salt or other impurities and shall be similar in quality to drinking water fit for human consumption.
- B. Water for curing shall not contain any substance injurious to concrete or which might cause staining.
- C. Water from doubtful sources, as determined by the Owner, shall not be used until tested and approved.

2.05 ADMIXTURE

- A. General: The use of admixtures shall not be construed as permitting a reduction in cement content.
- B. Air-entraining Admixture: ASTM C260.
- C. Water Reducing and Retarding Admixture: ASTM C494, Type A.
- D. Pumping Aid Admixture: Euclid Chemical "Pump-Ez", W.R. Grace "Darex Pumping Aid", Sika "Pump Aid" or approved equal.
- E. Accelerating Admixture: Not permitted.
- F. Calcium Chloride: Not permitted.
- G. Fly Ash: Not permitted.
- H. Acceptable Substitutes: The Owner will consider only those proposed admixture substitutions which have been completely tested and reported upon by the testing laboratory in accordance with the provisions of subparagraph 1.2.C (1) above.

2.06 CURING MATERIALS

- A. Liquid Curing Compounds: ASTM C309, Type 1.

- B. Sheet Materials: ASTM C171.
- C. Burlap Cloth: Jute or kenaf, weighing approximately nine (9) ounces per square yard, AASHTO M 182, two (2) layers.

2.07 BATCHING, MIXING AND DELIVERY EQUIPMENT

- A. Use transit-mixed concrete from approved batching and mixing plant. Batch, mix and transport concrete to site in accordance with provisions of ASTM C94.

2.08 PROPORTIONING OF CEMENT

A. General:

1. Classes of concrete are designated by numerals corresponding to their twenty-eight (28) calendar day compressive strength in pounds per square inch.
2. Concrete classes are indicated on the drawings and are specified in various sections of these specifications. When class is not indicated or specified, Class 4000 shall be provided.

B. Water-cement Ratio: 0.45 maximum, by weight.

C. Slump:

1. Minimum Slump: One (1) inch.
2. Maximum Slump:
  - a. Footings, foundations walls: 3 inches
  - b. Walls, columns, beams: 4 inches
  - c. Floors, exterior slabs, other building components: 3 inches
  - d. Massive concrete: 2 inches
3. If pumping of concrete is permitted by the Owner, the maximum slump may be increased by one (1) inch.

D. Air Content: In accordance with ACI 301 and ACI 302.

E. Admixtures:

1. Use air-entraining admixture in all concrete. Add air-entraining admixture

of manufacturer's prescribed rate to result in concrete at point of placement having air content within limits specified.

2. Use admixtures for water-reducing and retarding in compliance with manufacturer's directions.
3. Use type of admixture appropriate to climatic conditions prevailing at time of placing. Adjust quantities and types of specified admixtures as required to maintain quality.

F. Pumped Concrete:

1. General:

- a. If pumped concrete is proposed for use, design and submit mixes specifically for pumping and obtain the Owner's written permission to use the pumping method.
  - b. Conform to ACI 304, 2R.
2. Use admixtures that will aid in pumping as follows:
- a. Air-entrainment sufficient for 5 to 7 percent air.
  - b. Water reducer.
  - c. Pumping aid.
3. To facilitate pumping, adjust the standard mix proportion to product a slight reduction in the volume of coarse aggregate with a corresponding increase in the volume of fine aggregate.
4. Cement content shall be sufficient to accommodate the specified slump.
5. Use fine aggregates with the fineness modulus between 2.2 and 2.8. Use gradations indicated in ACI 304, 2R, paragraphs 4.2.2, 4.2.3, 4.3.4 and 4.3.5.
6. Use a properly combined coarse and fine aggregate gradation by volume that will prevent the paste from being squeezed through the voids between aggregate particles.

**PART 3 EXECUTION**

3.01 MIXING, CONVEYING AND PLACING CONCRETE

- A. General: Mix, transport and place concrete in accordance with ACI 301, Chapters 7, 8 and 11; ACI 301, Chapters 6 and 7; and ACI 304, unless otherwise specified.
- B. Hot Weather Concreting: Perform concreting in accordance with ACI 305R and as follows:
1. Concrete placed during hot weather shall have the lowest temperature practicable to produce under the conditions. The temperature of concrete as placed shall not exceed 85 degrees F except where an approved retarder is used. The mixing water and/or aggregates will be cooled, if necessary, to maintain a satisfactory placing temperature.
  2. In no case shall the placing temperature exceed 95 degrees F.
- C. Cold Weather Concreting:
1. Perform concreting in accordance with ACI 306R and as follows:
  2. The ambient temperature of the space adjacent to the concrete placement and surface to receive concrete shall be maintained at not less than 40 degrees F. The temperature of the concrete when placed shall be not less than 50 degrees F nor more than 75 degrees F. Mixing water or aggregates shall be heated as required to regulate the concrete placing temperature. Materials entering the mixer shall be free from ice, snow or frozen lumps.
  3. Salt, chemicals or other materials shall not be incorporated in the concrete to prevent freezing.
- D. Preparation for Placing Concrete:
1. Conform to ACI 301, ACI 302 and as follows.
  2. Polyethylene sheeting shall be laid over dry or previous surfaces to receive concrete as shown on the drawings. Concrete footings and exterior slabs may be laid directly on impervious surfaces which are thoroughly moistened but not muddy at the time of concrete placement.
  3. Vapor Barrier For Slabs on Grade: Immediately before placing concrete, the porous fill or subgrade under slabs in buildings shall be covered with a vapor barrier unless membrane waterproofing is indicated. Punctures and tears during subsequent operations shall be patched. Edges shall be lapped not less than four (4) inches and ends not less than six (6) inches. Patches

and lapped joints shall be sealed with a pressure-sensitive adhesive or pressure-sensitive tape not less than two (2) inches wide and compatible with the vapor barrier.

4. Rock Foundations:

- a. The rock surface shall be prepared by roughening, where necessary, and thorough cleaning. Loose rock, dried grout, flaky and scaly coatings, organic deposits and foreign material shall be removed. Open fissures shall be cleaned to a suitable depth and to firm rock on the sides.
- b. Cleaning shall be done by use of stiff brooms, picks, jets of water and air applied at high velocity, waterblasting or any other effective means, followed by thorough washing. Accumulations of wash water in depressions shall be removed prior to placing the concrete.
- c. The rock surface shall be completely surface dried by air jets. The presence of any free surface water, which may be indicated by shininess, will not be permitted.

E. Batching, Mixing and Transporting Equipment: Ready-mixed concrete shall be batched, mixed and transported in accordance with ASTM C94, except as otherwise specified. Truck mixers, agitators and non-agitating units shall comply with TMMB "Truck Mixer and Agitator Standards". Plant equipment facilities shall conform to NRMCA "Certification of Ready Mixed Concrete Production Facilities".

F. Pumped Concrete:

1. Concrete may be conveyed by pumps only when approved by the Owner.
2. Pumping equipment shall be of a type designed to handle the types, classes and volumes of concrete to be conveyed without segregation. The pumping distance shall be within the limits recommended by the pump manufacturer. Pipeline shall be steel or flexible hose.
3. The pump equipment shall be so operated that a continuous stream of concrete without air pockets is produced.
4. The discharge end of the line shall be positioned as near the final position of the concrete as possible but in no case more than five (5) feet away.

5. When pumping is completed, the concrete remaining in the pipeline shall be ejected without contaminating the concrete in place. After each operation, the equipment shall be thoroughly cleaned and the flushing water shall be wasted outside the forms.

3.02 FINISHES

- A. Repair of Surface Defects: Immediately after form removal, repair defects in accordance with ACI 301, Chapter 9.
- B. Formed Surfaces:
  1. General: Finish formed surfaces in accordance with ACI 301, Chapter 10 and as specified below.
  2. Exposed Interior and Exterior Surfaces: Smooth form finish, ACI 301, Section 10.2.2.
  3. Exposed Interior and Exterior Surfaces: Grout cleaned finish, ACI 301, Section 10.3.2.
- C. Slabs:
  1. Types of Finish: Conform to ACI 301, Section 11.8.
  2. Finishing Tolerances: Conform to ACI 301, Section 11.9.2.
  3. Finishing Procedures:
    - a. Conform to ACI 302, Chapters 7, Section 7.1 through 7.2.10, Section 7.8 and Section 7.11.
    - b. Troweling: Provide a second troweling only in areas where slab is to remain exposed.
    - c. Do not use any finishing or troweling machine or other apparatus which has a water attachment for wetting the concrete during finishing.
- D. Preparation of Base Slabs:
  1. The surface of the structural slab shall be struck off true at the grade indicated on the Contract Drawings or approved as the concrete is being

placed.

2. As soon thereafter as the condition of the concrete permits and before it has hardened appreciably (normally within two (2) to four (4) hours after being deposited), all water, scum, laitance and loose aggregate shall be removed from the surface by means of wire or bristle broom in such a manner as to leave the coarse aggregate slightly exposed and the surface clean. Raking or other methods which cause weak serrations shall not be employed. Avoid "muddying" the surface by brooming too soon. The formation of depressions and general unevenness shall be avoided. Thereafter the Contractor shall take all necessary precautions to ensure that the surface thus prepared is adequately cured and protected from drippings, staining, storage of materials or accumulation of substances which would adversely affect the concrete or the bond between the concrete and the topping.
3. If the surface has hardened to a degree that will not permit adequate cleaning of the surface by brooming, the base slab shall be prepared by chipping, wet sand blasting or scabbling after it has hardened. Such preparation shall thoroughly clean and prepare the surface as specified above. Where chipping or scabbling is required, at least ninety (90) percent of every two (2) square inch area on the surface shall be newly exposed. The depth of chipping or scabbling shall be within the tolerances given above. Particular attention shall be given to all extremities of placement, such as at columns, openings, walls, construction joints, etc. In these locations 100 percent of new concrete shall be exposed for a band at least four (4) inches wide.

### 3.03 CURING AND PROTECTION

- A. Cure and protect concrete in accordance with ACI 301, Chapter 12, ACI 302, Chapter 8 and ACI 308.
- B. Provide appropriate measures for the prevention of plastic shrinkage cracking in accordance with ACI 302, Section 8.4.
- C. Curing Compound:
  1. Do not use curing compound on surfaces to receive cementitious setting beds or toppings; terrazzo; paint; insulation, roofing or waterproofing; resilient tile; carpeting; thin-set ceramic tile or on any other surfaces that are to receive any subsequent treatment depending on adhesion or bonding to the concrete.



2. Concrete surfaces which have been subjected to rainfall within three (3) hours after during compound has been applied shall be resprayed at the coverage herein specified.

D. Correction of Defective Appearance:

1. If the use of any curing method results in stained, discolored, streaked or blotchy appearance, the use of that method shall be stopped and another acceptable curing method shall be substituted until the cause of the defective appearance is corrected.
2. All such defective surfaces shall be remedied to the satisfaction of the Owner.

3.04 MISCELLANEOUS CONCRETE WORK

A. Filling-in: Fill in holes and openings left in concrete structures for passage of work by other trades, unless otherwise shown, after work of other trades is in place. Mix, place and cure concrete as herein specified to blend with in-place construction. Provide other miscellaneous concrete filling shown or required to complete work including wheel guards, pipe stanchions and similar items.

B. Installation of Grouts:

1. Base plates, bearing plates and similar items of structural steel shall be grouted immediately after their erection.
2. Plates shall be set and anchored to the proper lines and elevation. Concrete and metal surfaces in contact with grout shall be clean and free of laitance and shall be dampened.
3. Conform to the manufacturer's recommendations for mixing, placing and curing of grout. Use chains, rods or vibrator to compact grout and remove voids.

C. Installation of Concrete Floor Fill:

1. Any equipment shall be accurately adjusted by a representative of the manufacturer prior to placement of the concrete fill, trowel-grade mortar.
2. Just prior to placement of the concrete fill, all debris and loose and foreign material shall be removed from the base slab. The base shall then be cleaned by brooming and/or air jet and flushing with a strong jet of water.

Care shall be taken to clean thoroughly every square inch of the base, including all depressions, so that it will be in the same clean condition as specified above for preliminary preparation.

3. The base slab shall be left thoroughly wet at least twelve (12) hours to absorb water and thus prevent ultimate flash hardening and provide a source of water for curing of floor fill.
4. Immediately before the fill is placed, all pools of water left on the base by cleaning or prewetting operations shall be removed by air jet and a premixed thin (1/16 inch to 1/8 inch thick) coat of thick neat-cement paste or slurry having the consistency of thick lead paint shall be broomed and scrubbed into the still damp (but not glistening wet) surface for a short distance ahead of the placing operations. The area slurried at one time should not be over 100 square feet so that the paste will not achieve its initial set before the finish is placed. Dusting dry cement will not be permitted.
5. Apply and broom in the slurry in small areas not exceeding five (5) feet square to avoid segregation and dilution of the paste. All extremities of placements such as at walls, openings, construction joints, etc. shall be given special attention. Excess, diluted and dead slurry shall be constantly removed from the base.

### 3.05 REPAIR OF DAMAGED WORK

- A. Before final acceptance of work, neatly repair damaged surfaces, corners of concrete and concrete finish whether such damage resulted from action of elements or from any cause whatsoever.
- B. Finish damaged concrete where surface repairs are permitted to a smooth, dense, watertight condition.

### 3.06 CORRECTIVE WORK

- A. If the Owner gives permission for defects to be corrected, remove defective concrete, then roughen, key and soak surface with water before patching with concrete or mortar of color to match surrounding concrete. White cement shall be added as required material to produce same color as original concrete.
- B. Prepare mortar used in pointing not more than thirty (30) minutes prior to use.
- C. Correct high areas in slab surface by grinding, after concrete has cured at least

fourteen (14) days.

### 3.07 FIELD QUALITY CONTROL

#### A. Testing and Inspection Services:

1. During the entire period when concrete is being placed, testing and inspection services shall be provided by an independent testing laboratory retained and paid for by the Owner.
2. The Contractor, however, shall supply whatever assistance, including labor and equipment that the test service may require. This shall include obtaining sample and the filling of cylinders.

B. Reports: The laboratory shall prepare and submit all reports required in the various standards and specifications referenced herein to the Owner and the Contractor.

C. Scope of Testing and Inspection Services: The laboratory shall provide testing and inspection services in accordance with the below-referenced section of ACI 301 and in accordance with the Building Code.

1. Strength Tests: Conform to ACI 301, Section 16.3.4 except as follows:

- a. Make one strength test (four (4) cylinders) for each thirty (30) cubic yards or fraction therefore each mix design of concrete placed in any one day.
- b. Test one (1) specimen at seven (7) calendar days and three (3) specimens at twenty-eight (28) calendar days.
- c. The twenty-eight (28) calendar day test results shall be the average of the strengths of the three (3) specimens, except that if one (1) specimen in a test manifests evidence of improper sampling, molding or testing, it shall be discarded and the remaining two (2) strengths averaged.
- d. Should more than one (1) specimen in a test show any of the above defects, the entire test shall be discarded.
- e. Whenever the seven (7) calendar days test results are below sixty-five (65%) percent of the specified strength and/or whenever the twenty-eight (28) calendar days test results are below the

specified strength, the specimens shall be stored and kept intact for thirty (30) days or until inspected by both the Owner and the Contractor, which-ever is sooner.

2. Slump, Air Content, Unit Weight and Temperature: Conform to ACI 301, Sections 16.3.5, 16.3.6, 16.3.7 and 16.3.8.

D. In-place Tests:

1. Additional tests shall be performed by the laboratory if twenty-eight (28) calendar days test cylinders show strengths less than that which is required. The cost of these additional tests shall be borne by the Contractor and may include core tests and load tests and also the use of mechanical, electrical and electronic testing devices.
2. Additional testing may also be required if there is evidence of faulty workmanship or a violation of project requirements. The cost of these tests shall be borne by the Contractor.
3. In the event of placed concrete failing the cylinder tests or any additional tests as above, the entire concrete shall be replaced and all the costs shall be borne by the Contractor.

3.08 SCHEDULE - CONCRETE CLASS USE

- A. Class A - 4,000 psi 28 calendar days air-entrained concrete for all foundation slabs, walls, abutments, footings, piers, steps, pile caps, manholes and all structural concrete for superstructures.

Class B - 3,500 psi 28 calendar days air-entrained concrete for slabs on grade, curbs and gutters, thrust blocks, and platforms on grade.

Class C - 2,500 psi 28 calendar days concrete for structural fill pipe encasement, and backfill to bring improperly cut excavation up to the required proper grade.

**END OF SECTION**

PRECAST MODULAR BLOCK RETAINING WALL**PART 1 GENERAL**

## 1.01 SUMMARY

- A. This Section includes furnishing all materials and labor required for the design and construction of a precast concrete modular block (PMB) retaining wall with or without geosynthetic reinforcement. Precast modular block retaining wall blocks under this section shall be cast utilizing a wet-cast concrete mix and exhibit a final handling weight in excess of 1,000 pounds (450 kg) per unit.
- B. Scope of Work: The work shall consist of furnishing materials, labor, equipment and supervision for the construction of a precast modular block (PMB) retaining wall structure in accordance with the requirements of this section and in acceptable conformity with the lines, grades, design and dimensions shown in the project site plans.
- C. Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 31, Division 32 and Division 33 also apply to this Section.

## 1.02 REFERENCES

- A. Where the specification and reference documents conflict, the Owner's designated representative will make the final determination of the applicable document.
- B. Definitions:
  - 1. Precast Modular Block (PMB) Unit – machine-placed, “wet cast” concrete modular block retaining wall facing unit.
  - 2. Geotextile – a geosynthetic fabric manufactured for use as a separation and filtration medium between dissimilar soil materials.
  - 3. Geogrid – a geosynthetic material comprised of a regular network of tensile elements manufactured in a mesh-like configuration of consistent aperture openings. When connected to the PMB facing units and placed in horizontal layers in compacted fill, the geogrid prevents lateral deformation of the retaining wall face and provides effective tensile reinforcement to the contiguous reinforced fill material.
  - 4. Precast Modular Block (PMB) Unit – machine-placed, “wet cast” concrete modular block retaining wall facing unit.
  - 4. Drainage Aggregate – clean, crushed stone placed within and immediately behind the precast modular block units to facilitate drainage and reduce compaction requirements immediately adjacent to and behind

the precast modular block units.

5. Unit Core Fill – clean, crushed stone placed within the hollow vertical core of a precast modular block unit. Typically, the same material used for drainage aggregate as defined above.
6. Foundation Zone – soil zone immediately beneath the leveling pad and the reinforced zone.
7. Retained Zone – soil zone immediately behind the drainage aggregate and wall infill for wall sections designed as modular gravity structures. Alternatively, in the case of wall sections designed with geosynthetic soil reinforcement, the retained zone is the soil zone immediately behind the reinforced zone.
8. Reinforced Zone – structural fill zone within which successive horizontal layers of geogrid soil reinforcement have been placed to provide stability for the retaining wall face. The reinforced zone exists only for retaining wall sections that utilize geosynthetic soil reinforcement for stability.
9. Reinforced Fill – structural fill placed within the reinforced zone.
10. Leveling Pad – hard, flat surface upon which the bottom course of precast modular blocks are placed. The leveling pad may be constructed with crushed stone or cast-in-place concrete. A leveling pad is not a structural footing.
11. Wall Infill – the fill material placed and compacted between the drainage aggregate and the excavated soil face in retaining wall sections designed as modular gravity structures.

#### C. Reference Standards

1. Design
  - a. AASHTO LRFD Bridge Design Specifications, 7th Edition, 2014.
  - b. Minimum Design Loads for Buildings and Other Structures – ASCE/SEI 7-10.
  - c. International Building Code, 2012 Edition.
  - d. FHWA-NHI-10-024 Volume I and GEC 11 Design of Mechanically Stabilized Earth Walls and Reinforced Soil Slopes.
  - e. FHWA-NHI-10-025 Volume II and GEC 11 Design of Mechanically Stabilized Earth Walls and Reinforced Soil Slopes.

2. Precast Modular Block Units
  - a. ASTM C94 – Standard Specification for Ready-Mixed Concrete.
  - b. ASTM C136 – Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
  - c. ASTM C143 – Standard Test Method for Slump of Hydraulic - Cement Concrete.
  - d. ASTM C260 – Standard Specification for Air-Entraining Admixtures for Concrete.
  - e. ASTM C494 – Standard Specification for Chemical Admixtures for Concrete.
  - f. ASTM C666 – Standard Test Method for Concrete Resistance to Rapid Freezing and Thawing.
  - g. ASTM C920 – Standard Specification for Elastomeric Joint Sealants.
  - h. ASTM C1116 – Standard Specification for Fiber-Reinforced Concrete.
  - i. ASTM C1611 – Standard Test Method for Slump Flow of Self-Consolidating Concrete.
  - j. ASTM D6638 – Standard Test Method for Determining Connection Strength Between Geosynthetic Reinforcement and Segmental Concrete Units (Modular Concrete Blocks).
  - k. ASTM D6916 – Standard Test Method for Determining Shear Strength Between Segmental Concrete Units (Modular Concrete Blocks).
  
3. Geosynthetics
  - a. AASHTO M 288 – Geotextile Specification for Highway Applications.
  - b. ASTM D3786 – Standard Test Method for Bursting Strength of Textile Fabrics Diaphragm Bursting Strength Tester Method.
  - c. ASTM D4354 – Standard Practice for Sampling of Geosynthetics for Testing.
  - d. ASTM D4355 – Standard Test Method for Deterioration of Geotextiles
  - e. ASTM D4491 – Standard Test Methods for Water Permeability of Geotextiles by Permittivity.
  - f. ASTM D4533 – Standard Test Method for Trapezoid Tearing Strength of Geotextiles.

- g. ASTM D4595 – Standard Test Method for Tensile Properties of Geotextiles by the Wide- Width Strip Method.
- h. ASTM D4632 – Standard Test Method for Grab Breaking Load and Elongation of Geotextiles.
- i. ASTM D4751 – Standard Test Method for Determining Apparent Opening Size of a Geotextile.
- j. ASTM D4759 – Standard Practice for Determining Specification Conformance of Geosynthetics.
- k. ASTM D4833 – Standard Test Method for Index Puncture Resistance of Geomembranes and Related Products.
- l. ASTM D4873 – Standard Guide for Identification, Storage, and Handling of Geosynthetic Rolls and Samples.
- m. ASTM D5262 – Standard Test Method for Evaluating the Unconfined Tension Creep and Creep Rupture Behavior of Geosynthetics.
- n. ASTM D5321 – Standard Test Method for Determining the Coefficient of Soil and Geosynthetic or Geosynthetic and Geosynthetic Friction by the Direct Shear Method.
- o. ASTM D5818 – Standard Practice for Exposure and Retrieval of Samples to Evaluate Installation Damage of Geosynthetics.
- p. ASTM D6241 – Standard Test Method for the Static Puncture Strength of Geotextiles and Geotextile-Related Products Using a 50-mm Probe.
- q. ASTM D6637 – Standard Test Method for Determining Tensile Properties of Geogrids by the Single or Multi-Rib Tensile Method.
- r. ASTM D6706 – Standard Test Method for Measuring Geosynthetic Pullout Resistance in Soil.
- s. ASTM D6992 – Standard Test Method for Accelerated Tensile Creep and Creep-Rupture of Geosynthetic Materials Based on Time-Temperature Superposition Using the Stepped Isothermal Method.

4. Soils

- a. AASHTO M 145 – AASHTO Soil Classification System.
- b. AASHTO T 104 – Standard Method of Test for Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate.
- c. AASHTO T 267 – Standard Method of Test for Determination of Organic Content in Soils by Loss of Ignition.
- d. ASTM C33 – Standard Specification for Concrete Aggregates.
- e. ASTM D422 – Standard Test Method for Particle-Size Analysis of Soils.
- f. ASTM D448 – Standard Classification for Sizes of Aggregates for Road and Bridge Construction.



- g. ASTM D698 – Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort. (12,400 ft-lbf/ft (2,700 kN-m/m)).
- h. ASTM D1241 – Standard Specification for Materials for Soil-Aggregate Subbase, Base and Surface Courses.
- i. ASTM D1556 – Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method.
- j. ASTM D1557 – Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort. (56,000 ft-lbf/ft (2,700 kN-m/m)).
- k. ASTM D2487 – Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).
- l. ASTM D2488 – Standard Practice for Description and Identification of Soils (Visual-Manual Procedure).
- m. ASTM D3080 – Standard Test Method for Direct Shear Test of Soils Under Consolidated Drained Conditions.
- n. ASTM D4254 – Standard Test Method for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density.
- o. ASTM D4318 – Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
- p. ASTM D4767- Test Method for Consolidated-Undrained Triaxial Compression Test for Cohesive Soils.
- q. ASTM D4972 – Standard Test Method for pH of Soils.
- r. ASTM D6938 – Standard Test Method for In-Place Density and Water Content of Soil and Aggregate by Nuclear Methods (Shallow Depth).
- s. ASTM G51 – Standard Test Method for Measuring pH of Soil for Use in Corrosion Testing.
- t. ASTM G57 – Standard Test Method for Field Measurement of Soil Resistivity Using the Wenner Four-Electrode Method.

5. Drainage Pipe

- a. ASTM D3034 – Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
- b. ASTM F2648 – Standard Specification for 2 to 60 inch [50 to 1500 mm] Annular Corrugated Profile Wall Polyethylene (PE) Pipe and Fittings for Land Drainage Applications.

## 1.04 ADMINISTRATIVE REQUIREMENTS

A. Preconstruction Meeting. As directed by the Owner, the General Contractor shall schedule a preconstruction meeting at the project site prior to commencement of retaining wall construction. Participation in the preconstruction meeting shall be required of the General Contractor, Retaining Wall Design Engineer, Retaining Wall Installation Contractor, Grading Contractor and Inspection Engineer. The General Contractor shall provide notification to all parties at least 10 calendar days prior to the meeting.

1. Preconstruction Meeting Agenda:

- a. The Retaining Wall Design Engineer shall explain all aspects of the retaining wall construction drawings.
- b. The Retaining Wall Design Engineer shall explain the required bearing capacity of soil below the retaining wall structure and the shear strength of in-situ soils assumed in the retaining wall design to the Inspection Engineer.
- c. The Retaining Wall Design Engineer shall explain the required shear strength of fill soil in the reinforced, retained and foundation zones of the retaining wall to the Inspection Engineer.
- d. The Retaining Wall Design Engineer shall explain any measures required for coordination of the installation of utilities or other obstructions in the reinforced or retained fill zones of the retaining wall.
- e. The Retaining Wall Installation Contractor shall explain all excavation needs, site access and material staging area requirements to the General Contractor and Grading Contractor.

## 1.05 SUBMITTALS

A. Product Data. At least 14 days prior to construction, the General Contractor shall submit a minimum of six (6) copies of the retaining wall product submittal package to the Owner's Representative for review and approval. The submittal package shall include technical specifications and product data from the manufacturer for the following:

1. Precast Modular Block System brochure.
2. Precast Modular Block concrete test results specified in paragraph 2.01, subparagraph B of this section as follows:
  - a. 28-day compressive strength
  - b. Air content
  - c. Slump or Slump Flow (as applicable)
3. Drainage Pipe

4. Geotextile
  5. Geosynthetic Soil Reinforcement (if required by the retaining wall design). The contractor shall provide certified manufacturer test reports for the geosynthetic soil reinforcement material in the manufactured roll width specified. The test report shall list the individual roll numbers for which the certified material properties are valid.
- B. Installer Qualification Data. At least 14 days prior to construction, the General Contractor shall submit the qualifications of the business entity responsible for installation of the retaining wall, the Retaining Wall Installation Contractor, per paragraph 1.07, subparagraph A of this section.
- C. Retaining Wall Design Calculations and Construction Shop Drawings. At least 14 days prior to construction, the General Contractor shall furnish six (6) sets of construction shop drawings and six (6) copies of the supporting structural calculations report to the Owner for review and approval.

This submittal shall include the following:

1. Signed, sealed and dated drawings and engineering calculations prepared in accordance with these specifications.
2. Qualifications Statement of Experience of the Retaining Wall Design Engineer as specified in paragraph 1.07, subparagraph B of this section.
3. Certificate of Insurance of the Retaining Wall Design Engineer as specified in paragraph 1.06, subparagraph B of this section.

#### 1.06 CONSTRUCTION SHOP DRAWING PREPARATION

- A. The Retaining Wall Design Engineer shall coordinate the retaining wall construction shop drawing preparation with the project Civil Engineer, project Geotechnical Engineer and Owner's Representatives. The General Contractor shall furnish the Retaining Wall Design Engineer the following project information required to prepare the construction shop drawings. This information shall include, but is not limited to, the following:
1. Current versions of the site, grading, drainage, utility, erosion control, landscape, and irrigation plans;
  2. Electronic CAD file of the civil site plans listed in (1);

3. Report of geotechnical investigation and all addenda and supplemental reports;
  4. Recommendations of the project Geotechnical Engineer regarding effective stress shear strength and total stress shear strength (when applicable) parameters for in-situ soils in the vicinity of the proposed retaining wall(s) and for any fill soil that may potentially be used as backfill in retained and/or foundation zones of the retaining wall.
- B. The Retaining Wall Design Engineer shall provide the Owner with a certificate of professional liability insurance verifying the minimum coverage limits of \$1 million per claim and \$1 million aggregate.
  - C. Design of the precast modular block retaining wall shall satisfy the requirements of this section. Where local design or building code requirements exceed these specifications, the local requirements shall also be satisfied.
  - D. The Retaining Wall Design Engineer shall note any exceptions to the requirements of this section by listing them at the bottom right corner of the first page of the construction shop drawings.
  - E. Approval or rejection of the exceptions taken by the Retaining Wall Engineer will be made in writing as directed by the Owner.
  - F. The precast modular block design, except as noted herein, shall be based upon AASHTO Load and Resistance Factor Design (LRFD) methodology as referenced in paragraph 1.03, subparagraph C.1.
  - G. In the event that a conflict is discovered between these specifications and a reasonable interpretation of the design specifications and methods referenced in paragraph F above, these specifications shall prevail. If a reasonable interpretation is not possible, the conflict shall be resolved per the requirements in paragraph 1.03, subparagraph A of this section.
  - H. Soil Shear Parameters. The Retaining Wall Design Engineer shall prepare the construction shop drawings based upon soil shear strength parameters from the available project data and the recommendations of the project Geotechnical Engineer. If insufficient data exists to develop the retaining wall design, the Retaining Wall Design Engineer shall communicate the specific deficiency of the project information or data to the Owner in writing.
  - I. Allowable bearing pressure requirements for each retaining wall shall be clearly

shown on the construction drawings.

- J. Global Stability. Overall (global) stability shall be evaluated in accordance with the principals of limit equilibrium analysis as set forth in FHWA-NHI-10-024 Volume I and FHWA-NHI-10-025 Volume II GEC 11 Design of Mechanically Stabilized Earth Walls and Reinforced Soil Slopes as referenced in paragraph 1.03, subparagraph C.1. The minimum factors of safety shall be as follows:

Normal Service (Static)	1.4
Seismic	1.1
Rapid Drawdown (if applicable)	1.2

- K. Seismic Stability. Seismic loading shall be evaluated in accordance with AASHTO Load and Resistance Factor Design (LRFD) methodology as referenced in paragraph 1.03, subparagraph C.1.

## 1.07 QUALITY ASSURANCE

- A. Retaining Wall Installation Contractor Qualifications. In order to demonstrate basic competence in the construction of precast modular block walls, the Retaining Wall Installation Contractor shall document compliance with the following:
1. Experience.
    - a. Construction experience with a minimum of 30,000 square feet (2,800 square meters) of the proposed precast modular block retaining wall system.
    - b. Construction of at least ten (10) precast modular block (large block) retaining wall structures within the past three (3) years.
    - c. Construction of at least 50,000 square feet (4,650 square meters) of precast modular block (large block) retaining walls within the past three (3) years.
  2. Retaining Wall Installation Contractor experience documentation for each qualifying project shall include:
    - a. Project name and location
    - b. Date (month and year) of construction completion
    - c. Contact information of Owner or General Contractor
    - d. Type (trade name) of precast modular block system built

- e. Maximum height of the wall constructed
  - f. Face area of the wall constructed
3. In lieu of the requirements set forth in items 1 and 2 above, the Retaining Wall Installation Contractor must be a certified Precast Modular Block Retaining Wall Installation Contractor as demonstrated by satisfactory completion of a certified precast modular block retaining wall installation training program administered by the precast modular block manufacturer.
- B. Retaining Wall Design Engineer Qualifications and Statement of Experience. The Retaining Wall Design Engineer shall submit a written statement affirming that he or she has the following minimum qualifications and experience.
- 1. The Retaining Wall Design Engineer shall be licensed to practice in the jurisdiction of the project location.
  - 2. The Retaining Wall Design Engineer shall be independently capable of performing all internal and external stability analyses, including those for seismic loading, compound stability, rapid draw-down and deep-seated, global modes of failure.
  - 3. The Retaining Wall Design Engineer shall affirm in writing that he or she has personally supervised the design of the retaining walls for the project, that the design considers all the requirements listed in paragraph 1.06 and that he or she accepts responsibility as the design engineer of record for the retaining walls constructed on the project.
  - 4. The Retaining Wall Design Engineer shall affirm in writing that he or she has personally designed in excess of 100,000 face square feet (9,000 face square meters) of modular block earth retaining walls within the previous three (3) years.
  - 5. In lieu of these specific requirements, the engineer may submit alternate documentation demonstrating competency in Precast Modular Block retaining wall design.
- C. The Owner reserves the right to reject the design services of any engineer or engineering firm who, in the sole opinion of the Owner, does not possess the requisite experience or qualifications.

## 1.08 QUALITY CONTROL

- A. The Owner's Representative shall review all submittals for materials, design, Retaining Wall Design Engineer qualifications and the Retaining Wall Installation Contractor qualifications.
- B. The General Contractor shall retain the services of an Inspection Engineer who is experienced with the construction of precast modular block retaining wall structures to perform inspection and testing. The cost of inspection shall be the responsibility of the General Contractor. Inspection shall be continuous throughout the construction of the retaining walls.
- C. The Inspection Engineer shall perform the following duties:
  - 1. Inspect the construction of the precast modular block structure for conformance with construction shop drawings and the requirements of this specification.
  - 2. Verify that soil or aggregate fill placed and compacted in the reinforced, retained and foundation zones of the retaining wall conforms with paragraphs 2.04 and 2.05 of this section and exhibits the shear strength parameters specified by the Retaining Wall Design Engineer.
  - 3. Verify that the shear strength of the in-situ soil assumed by the Retaining Wall Design Engineer is appropriate.
  - 4. Inspect and document soil compaction in accordance with these specifications:
    - a. Required dry unit weight
    - b. Actual dry unit weight
    - c. Allowable moisture content
    - d. Actual moisture content
    - e. Pass/fail assessment
    - f. Test location – wall station number
    - g. Test elevation
    - h. Distance of test location behind the wall face
  - 5. Verify that all excavated slopes in the vicinity of the retaining wall are bench-cut as directed by the project Geotechnical Engineer.
  - 6. Notify the Retaining Wall Installation Contractor of any deficiencies in the retaining wall construction and provide the Retaining Wall Installation Contractor a reasonable opportunity to correct the deficiency.
  - 7. Notify the General Contractor, Owner and Retaining Wall Design Engineer

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of any construction deficiencies that have not been corrected timely.

8. Document all inspection results.
9. Test compacted density and moisture content of the retained backfill with the following frequency:
  - a. At least once every 1,000 square feet (90 square meters) (in plan) per 9-inch (230 mm) vertical lift, and
  - b. At least once per every 18 inches (460 mm) of vertical wall construction.
- D. The General Contractor's engagement of the Inspection Engineer does not relieve the Retaining Wall Installation Contractor of responsibility to construct the proposed retaining wall in accordance with the approved construction shop drawings and these specifications.
- E. The Retaining Wall Installation Contractor shall inspect the on-site grades and excavations prior to construction and notify the Retaining Wall Design Engineer and General Contractor if on-site conditions differ from the elevations and grading conditions depicted in the retaining wall construction shop drawings.

#### 1.09 DELIVERY, STORAGE AND HANDLING

- A. The Retaining Wall Installation Contractor shall inspect the materials upon delivery to ensure that the proper type, grade and color of materials have been delivered.
- B. The Retaining Wall Installation Contractor shall store and handle all materials in accordance with the manufacturer's recommendations as specified herein and in a manner that prevents deterioration or damage due to moisture, temperature changes, contaminants, corrosion, breaking, chipping, UV exposure or other causes. Damaged materials shall not be incorporated into the work.
- C. Geosynthetics
  1. All geosynthetic materials shall be handled in accordance with ASTM D4873. The materials should be stored off the ground and protected from precipitation, sunlight, dirt and physical damage.
- D. Precast Modular Blocks
  1. Precast modular blocks shall be stored in an area with positive drainage away from the blocks. Be careful to protect the block from mud and excessive chipping and breakage. Precast modular blocks shall not be stacked more than three (3) units high in the storage area.



- E. Drainage Aggregate and Backfill Stockpiles
  - 1. Drainage aggregate or backfill material shall not be piled over unstable slopes or areas of the project site with buried utilities.
  - 2. Drainage aggregate and/or reinforced fill material shall not be staged where it may become mixed with or contaminated by poor draining fine-grained soils such as clay or silt.

## **PART 2 – MATERIALS**

### **2.01 PRECAST MODULAR BLOCK RETAINING WALL UNITS**

- A. All units for the project shall be obtained from the same manufacturer. The manufacturer shall be licensed and authorized to produce the retaining wall units by the precast modular block system patent holder/licensor and shall document compliance with the published quality control standards of the proprietary precast modular block system licensor for the previous three (3) years or the total time the manufacturer has been licensed, whichever is less.
- B. Concrete used in the production of the precast modular block units shall be first-purpose, fresh concrete. It shall not consist of returned, reconstituted, surplus or waste concrete. It shall be an original production mix meeting the requirements of ASTM C94 and exhibit the following:
  - 1. Minimum 28-day compressive strength of 4,000 psi (27.6 MPa).
  - 2. Shall be free of water soluble chlorides and chloride based accelerator admixtures.
  - 3. 6% +/- 1½% air-entrainment in conformance ASTM C94.
  - 4. Maximum slump of 5 inches +/- 1½ inches (125 mm +/- 40 mm) per ASTM C143 for conventional concrete mix designs.
  - 5. Slump Flow for Self-Consolidating Concrete (SCC) mix designs shall be between 18 inches and 32 inches (450 mm and 800 mm) as tested in accordance with ASTM C1611.
- C. Each concrete block shall be cast in a single continuous pour without cold joints. With the exception of half-block units, corner units and other special application units, the precast modular block units shall conform to the nominal dimensions listed in the table below and be produced to the dimensional tolerances shown.

<b>Block Type</b>	<b>Dimension</b>	<b>Nominal Value</b>	<b>Tolerance</b>
28" (710 mm) Block	Height	18" (457 mm)	+/- 3/16" (5 mm)
	Length	46-1/8" (1172 mm)	+/- 1/2" (13 mm)
	Width*	28" (710 mm)	+/- 1/2" (13 mm)
41" (1030 mm) Block	Height	18" (457 mm)	+/- 3/16" (5 mm)
	Length	46-1/8" (1172 mm)	+/- 1/2" (13 mm)
	Width*	40-1/2" (1030 mm)	+/- 1/2" (13 mm)
60" (1520 mm) Block	Height	18" (457 mm)	+/- 3/16" (5 mm)
	Length	46-1/8" (1172 mm)	+/- 1/2" (13 mm)
	Width*	60" (1520 mm)	+/- 1/2" (13 mm)

\* Excluding Variable Face Texture

- D. Individual block units shall have a nominal height of 18 inches (457 mm).
- E. With the exception of half-block units, corner units and other special application units, the precast modular block units shall have two (2), circular dome shear knobs that are 10 inches (254 mm), 7.5 inches (190 mm), or 6.75 inches (171 mm) in diameter and 4 inches (102 mm) or 2 inches (51 mm) in height. The shear knobs shall fully index into a continuous semi-cylindrical shear channel in the bottom of the block course above. The Peak interlock shear between any two (2) vertically stacked precast modular block units, with 10 inch (254 mm) diameter shear knobs, measured in accordance with ASTM D6916 shall exceed 6,500 lb/ft (95 kN/m) at a minimum normal load of 500 lb/ft (7kN/m). as well as an ultimate peak interface shear capacity in excess of 11,000 lb/ft (160 kN/m). The peak interlock shear between any two (2) vertically stacked precast modular block units, with 7.5 inch (190 mm) or 6.75 inch (171 mm) diameter shear knobs, measured in accordance with ASTM D6916 shall exceed 1,850 lb/ft (27 kN/m) at a minimum normal load of 500 lb/ft (7kN/m) as well as an ultimate peak interface shear capacity in excess of 10,000 lb/ft (146 kN/m). Test specimen blocks tested under ASTM D6916 shall be actual, full-scale production blocks of known compressive strength. The interface shear capacity reported shall be corrected for a 4,000 psi (27.6 MPa) concrete compressive strength. Regardless of precast modular block configuration, interface shear testing shall be completed without the inclusion of unit core infill aggregate.
- F. The 28" (710 mm) and 41" (1030 mm) precast modular block units shall be cast with a 13" (330 mm) wide, continuous vertical core slot that will permit the insertion of a 12" (305 mm) inch wide strip of geogrid reinforcement to pass completely through the block. When installed in this manner, the geogrid reinforcement shall form a non-normal load dependent, positive connection between the block unit and the reinforcement strip. The use of steel for the purposes of creating the geogrid to block connection is not acceptable.

- G. Without field cutting or special modification, the precast modular block units shall be capable of achieving a minimum radius of 14 ft 6 in (4.42 m).
- H. The precast modular block units shall be manufactured with an integrally cast shear knobs that establishes a standard horizontal set-back for subsequent block courses. The precast modular block system shall be available in the four (4) standard horizontal set-back facing batter options listed below:

Horizontal Set-Back/Blk. Course	Max. Facing Batter
3/8" (10 mm)	1.2°
1-5/8" (41 mm)	5.2°
9-3/8" (238 mm)	27.5°
16-5/8" (422 mm)	42.7°

The precast modular block units shall be furnished with the required shear knobs that provide the facing batter required in the construction shop drawings.

- I. The precast modular block unit face texture shall be selected by the owner from the available range of textures available from the precast modular block manufacturer. Each textured block facing unit shall be a minimum of 5.76 square feet (0.54 square meters) with a unique texture pattern that repeats with a maximum frequency of once in any 15 square feet (1.4 square meters) of wall face.
- J. The block color shall be selected by the owner from the available range of colors available from the precast modular block manufacturer.
- K. All precast modular block units shall be sound and free of cracks or other defects that would interfere with the proper installation of the unit, impair the strength or performance of the constructed wall. PMB units to be used in exposed wall construction shall not exhibit chips or cracks in the exposed face or faces of the unit that are not otherwise permitted. Chips smaller than 1.5" (38 mm) in its largest dimension and cracks not wider than 0.012" (0.3 mm) and not longer than 25% of the nominal height of the PMB unit shall be permitted. PMB units with bug holes in the exposed architectural face smaller than 0.75" (19 mm) in its largest dimension shall be permitted. Bug holes, water marks, and color variation on non-architectural faces are acceptable. PMB units that exhibit cracks that are continuous through any solid element of the PMB unit shall not be incorporated in the work regardless of the width or length of the crack.

L. Preapproved Manufacturers.

1. Manufacturers of Redi-Rock Retaining Wall Systems as licensed by Redi-Rock International, LLC, 05481 US 31 South, Charlevoix, MI 49720 USA; telephone (866) 222-8400; website [www.redi-rock.com](http://www.redi-rock.com).
2. Block texture face: Ledgestone
3. Or equal.

2.02 GEOGRID REINFORCEMENT

- A. Geogrid reinforcement shall be a woven or knitted PVC coated geogrid manufactured from high- tenacity PET polyester fiber with an average molecular weight greater than 25,000 ( $M_n > 25,000$ ) and a carboxyl end group less than 30 ( $CEG < 30$ ). The geogrid shall be furnished in prefabricated roll widths of certified tensile strength by the manufacturer. The prefabricated roll width of the geogrid shall be 12" (300 mm) +/- 1/2" (13 mm). No cutting of geogrid reinforcement down to the 12" (300 mm) roll width from a larger commercial roll width will be allowed under any circumstances.
- B. The ultimate tensile strength ( $T_{ult}$ ) of the geogrid reinforcement shall be measured in accordance with ASTM D6637.
- C. Geogrid – Soil Friction Properties
1. Friction factor,  $F^*$ , shall be equal to  $2/3 \tan \phi$ , where  $\phi$  is the effective angle of internal friction of the reinforced fill soil.
  2. Linear Scale Correction Factor,  $\alpha$ , shall equal 0.8.
- D. Long-Term Tensile Strength ( $T_{al}$ ) of the geogrid reinforcement shall be calculated in accordance with Section 3.5.2 of FHWA-NHI-10-024 and as provided in this specification.
1. The creep reduction factor (RFCR) shall be determined in accordance with Appendix D of FHWA-NHI-10-025 for a minimum 75 year design life.
  2. Minimum installation damage reduction factor (RFID) shall be 1.25. The value of RFID shall be based upon documented full-scale tests in a soil that is comparable to the material proposed for use as reinforced backfill in accordance with ASTM D5818.
  3. Minimum durability reduction factor (RFD) shall be 1.3 for a soil pH range of 3 to 9.

- E. Connection between the PMB retaining wall unit and the geogrid reinforcement shall be determined from short-term testing per the requirements of FHWA NHI-10-025, Appendix B.4 for a minimum 75- year design life.
- F. The minimum value of  $T_{al}$  for geogrid used in design of a reinforced precast modular block retaining wall shall be 2,000 lb/ft (29 kN/m) or greater.
- G. The minimum length of geogrid reinforcement shall be the greater of the following:
  - 1. 0.7 times the wall design height, H.
  - 2. 6 feet (1.83 m).
  - 3. The length required by design to meet internal stability requirements, soil bearing pressure requirements and constructability requirements.
- H. Constructability Requirements. Geogrid design embedment length shall be measured from the back of the precast modular block facing unit and shall be consistent for the entire height of a given retaining wall section.
- I. Geogrid shall be positively connected to every precast modular block unit. Design coverage ratio,  $R_c$ , as calculated in accordance with AASHTO LRFD Bridge Design Specifications Figure 11.10.6.4.1-2 shall not exceed 0.50.
- J. Preapproved Geogrid Reinforcement Products.
  - 1. Miragrid XT Geogrids as manufactured by TenCate Geosynthetics of Pendergrass, Georgia USA and distributed by Manufacturers of the Redi-Rock Retaining Wall System.
- K. Substitutions. No substitutions of geogrid reinforcement products shall be allowed.

## 2.03 GEOTEXTILE

- A. Nonwoven geotextile fabric shall be placed as indicated on the retaining wall construction shop drawings. Additionally, the nonwoven geotextile fabric shall be placed in the v-shaped joint between adjacent block units on the same course. The nonwoven geotextile fabric shall meet the requirements Class 3 construction survivability in accordance with AASHTO M 288.
- B. Preapproved Nonwoven Geotextile Products
  - 1. Mirafi 140N
  - 2. Propex Geotex 451
  - 3. Skaps GT-142
  - 4. Thrace-Linq 140EX
  - 5. Carthage Mills FX-40HS

6. Stratatex ST 142

2.04 DRAINAGE AGGREGATE AND WALL INFILL

- A. Drainage aggregate (and wall infill for retaining walls designed as modular gravity structures) shall be a durable crushed stone conforming to No. 57 size per ASTM C33 with the following particle-size distribution requirements per ASTM D422:

U.S. Standard Sieve Size	% Passing
1-1/2" (38 mm)	100
1" (25 mm)	95-100
1/2" (13 mm)	25-60
No. 4 (4.76 mm)	0-10
No. 8 (2.38 mm)	0-5

2.05 REINFORCED FILL

- A. Material used as reinforced backfill material in the reinforced zone (if applicable) shall be a granular fill material meeting the requirements of USCS soil type GW, GP, SW or SP per ASTM D2487 or alternatively by AASHTO Group Classification A-1-a or A-3 per AASHTO M 145. The backfill shall exhibit a minimum effective internal angle of friction,  $\phi = 34$  degrees at a maximum 2% shear strain and meet the following particle-size distribution requirements per ASTM D422.

U.S. Standard Sieve Size	% Passing
3/4" (19 mm)	100
No. 4 (4.76 mm)	0-100
No. 40 (0.42 mm)	0-60
No. 100 (0.15 mm)	0-10
No. 200 (0.07 mm)	0-15

- B. The reinforced backfill material shall be free of sod, peat, roots or other organic or deleterious matter including, but not limited to, ice, snow or frozen soils. Materials passing the No. 40 (0.42 mm) sieve shall have a liquid limit less than 25 and plasticity index less than 6 per ASTM D4318. Organic content in the backfill material shall be less than 1% per AASHTO T-267 and the pH of the backfill material shall be between 5 and 8.

- C. Soundness. The reinforced backfill material shall exhibit a magnesium sulfate soundness loss of less than 30% after four (4) cycles, or sodium sulfate soundness loss of less than 15% after five (5) cycles as measured in accordance with AASHTO T-104.
- D. Reinforced backfill shall not be comprised of crushed or recycled concrete, recycled asphalt, bottom ash, shale or any other material that may degrade, creep or experience a loss in shear strength or a change in pH over time.

## 2.06 LEVELING PAD

- A. The precast modular block units shall be placed on a leveling pad constructed from crushed stone or unreinforced concrete. The leveling pad shall be constructed to the dimensions and limits shown on the retaining wall design drawings prepared by the Retaining Wall Design Engineer.
- B. Crushed stone used for construction of a granular leveling pad shall meet the requirements of the drainage aggregate and wall infill in section 2.04 or a preapproved alternate material.
- C. Concrete used for construction of an unreinforced concrete leveling pad shall satisfy the criteria for AASHTO Class B. The concrete should be cured a minimum of 12 hours prior to placement of the precast modular block wall retaining units and exhibit a minimum 28-day compressive strength of 2,500 psi (17.2 MPa).

## 2.07 DRAINAGE

- A. Drainage Pipe
  - 1. Drainage collection pipe shall be a 4" (100 mm) diameter, 3-hole perforated, HDPE pipe with a minimum pipe stiffness of 22 psi (152 kPa) per ASTM D2412.
  - 2. The drainage pipe shall be manufactured in accordance with ASTM D1248 for HDPE pipe and fittings.
- B. Preapproved Drainage Pipe Products
  - 1. ADS 3000 Triple Wall pipe as manufactured by Advanced Drainage Systems.
  - 2. Or equal

## **PART 3 – EXECUTION**

### **3.01 GENERAL**

- A. All work shall be performed in accordance with OSHA safety standards, state and local building codes and manufacturer's requirements.
- B. The General Contractor is responsible for the location and protection of all existing underground utilities. Any new utilities proposed for installation in the vicinity of the retaining wall, shall be installed concurrent with retaining wall construction. The General Contractor shall coordinate the work of subcontractors affected by this requirement.
- C. New utilities installed below the retaining wall shall be backfilled and compacted to a minimum of 98% maximum dry density per ASTM D698 standard proctor.
- D. The General Contractor is responsible to ensure that safe excavations and embankments are maintained throughout the course of the project.
- E. All work shall be inspected by the Inspection Engineer as directed by the Owner.

### **3.02 EXAMINATION**

- A. Prior to construction, the General Contractor, Grading Contractor, Retaining Wall Installation Contractor and Inspection Engineer shall examine the areas in which the retaining wall will be constructed to evaluate compliance with the requirements for installation tolerances, worker safety and any site conditions affecting performance of the completed structure. Installation shall proceed only after unsatisfactory conditions have been corrected.

### **3.03 PREPARATION**

- A. Fill Soil.
  - 1. The Inspection Engineer shall verify that reinforced backfill placed in the reinforced soil zone satisfies the criteria of this section.
  - 2. The Inspection Engineer shall verify that any fill soil installed in the foundation and retained soil zones of the retaining wall satisfies the specification of the Retaining Wall Design Engineer as shown on the construction drawings.



B. Excavation.

1. The Grading Contractor shall excavate to the lines and grades required for construction of the precast modular block retaining wall as shown on the construction drawings. The Grading Contractor shall minimize over-excavation. Excavation support, if required, shall be the responsibility of the Grading Contractor.
2. Over-excavated soil shall be replaced with compacted fill in conformance with the specifications of the Retaining Wall Design Engineer and “Division 31, Section 31 20 00 – Earthmoving” of these project specifications.
3. Embankment excavations shall be bench cut as directed by the project Geotechnical Engineer and inspected by the Inspection Engineer for compliance.

C. Foundation Preparation.

1. Prior to construction of the precast modular block retaining wall, the leveling pad area and undercut zone (if applicable) shall be cleared and grubbed. All topsoil, brush, frozen soil and organic material shall be removed. Additional foundation soils found to be unsatisfactory beyond the specified undercut limits shall be undercut and replaced with approved fill as directed by the project Geotechnical Engineer. The Inspection Engineer shall ensure that the undercut limits are consistent with the requirements of the project Geotechnical Engineer and that all soil fill material is properly compacted according project specifications. The Inspection Engineer shall document the volume of undercut and replacement.
2. Following excavation for the leveling pad and undercut zone (if applicable), the Inspection Engineer shall evaluate the in-situ soil in the foundation and retained soil zones.
  - a. The Inspection Engineer shall verify that the shear strength of the in-situ soil assumed by the Retaining Wall Design Engineer is appropriate. The Inspection Engineer shall immediately stop work and notify the Owner if the in-situ shear strength is found to be inconsistent with the retaining wall design assumptions.
  - b. The Inspection Engineer shall verify that the foundation soil exhibits sufficient ultimate bearing capacity to satisfy the requirements indicated on the retaining wall construction shop drawings per paragraph 1.06 I of this section.

D. Leveling Pad.

1. The leveling pad shall be constructed to provide a level, hard surface on which to place the first course of precast modular block units. The leveling pad shall be placed in the dimensions shown on the retaining wall construction drawings and extend to the limits indicated.
2. Crushed Stone Leveling Pad. Crushed stone shall be placed in uniform maximum lifts of 6" (150 mm). The crushed stone shall be compacted by a minimum of 3 passes of a vibratory compactor capable of exerting 2,000 lb (8.9 kN) of centrifugal force and to the satisfaction of the Inspection Engineer.
3. Unreinforced Concrete Leveling Pad. The concrete shall be placed in the same dimensions as those required for the crushed stone leveling pad. The Retaining Wall Installation Contractor shall erect proper forms as required to ensure the accurate placement of the concrete leveling pad according to the retaining wall construction drawings.

3.04 PRECAST MODULAR BLOCK WALL SYSTEM INSTALLATION

- A. The precast modular block structure shall be constructed in accordance with the construction drawings, these specifications and the recommendations of the retaining wall system component manufacturers. Where conflicts exist between the manufacturer's recommendations and these specifications, these specifications shall prevail.
- B. Drainage components. Pipe, geotextile and drainage aggregate shall be installed as shown on the construction shop drawings.
- C. Precast Modular Block Installation.
  1. The first course of block units shall be placed with the front face edges tightly abutted together on the prepared leveling pad at the locations and elevations shown on the construction drawings. The Retaining Wall Installation Contractor shall take special care to ensure that the bottom course of block units are in full contact with the leveling pad, are set level and true and are properly aligned according to the locations shown on the construction drawings.
  2. Backfill shall be placed in front of the bottom course of blocks prior to placement of subsequent block courses. Nonwoven geotextile fabric shall be placed in the V-shaped joints between adjacent blocks. Drainage aggregate shall be placed in the V-shaped joints between adjacent blocks to a minimum distance of 12" (300 mm) behind the block unit.

3. Drainage aggregate shall be placed in 9 inch maximum lifts and compacted by a minimum of three (3) passes of a vibratory plate compactor capable exerting a minimum of 2,000 lb (8.9 kN) of centrifugal force.
4. Unit core fill shall be placed in the precast modular block unit vertical core slot. The core fill shall completely fill the slot to the level of the top of the block unit. The top of the block unit shall be broom-cleaned prior to placement of subsequent block courses. No additional courses of precast modular blocks may be stacked before the unit core fill is installed in the blocks on the course below.
5. Base course blocks for gravity wall designs (without geosynthetic soil reinforcement) may be furnished without vertical core slots. If so, disregard item 4 above, for the base course blocks in this application.
6. Nonwoven geotextile fabric shall be placed between the drainage aggregate and the retained soil (gravity wall design) or between the drainage aggregate and the reinforced fill (reinforced wall design) as required on the retaining wall construction drawings.
7. Subsequent courses of block units shall be installed with a running bond (half block horizontal course-to-course offset). With the exception of 90 degree corner units, the shear channel of the upper block shall be fully engaged with the shear knobs of the block course below. The upper block course shall be pushed forward to fully engage the interface shear key between the blocks and to ensure consistent face batter and wall alignment. Geogrid, drainage aggregate, unit core fill, geotextile and properly compacted backfill shall be complete and in-place for each course of block units before the next course of blocks is stacked.
8. The elevation of retained soil fill shall not be less than 1 block course (18" (457 mm)) below the elevation of the reinforced backfill throughout the construction of the retaining wall.
9. If included as part of the precast modular block wall design, cap units shall be secured with an adhesive in accordance with the precast modular block manufacturer's recommendation.

D. Geogrid Reinforcement Installation (if required)

1. Geogrid reinforcement shall be installed at the locations and elevations shown on the construction drawings on level fill compacted to the requirements of this specification.
2. Continuous 12" (300 mm) wide strips of geogrid reinforcement shall be

passed completely through the vertical core slot of the precast modular block unit and extended to the embedment length shown on the construction plans. The strips shall be staked or anchored as necessary to maintain a taut condition.

3. Reinforcement length (L) of the geogrid reinforcement is measured from the back of the precast modular block unit. The cut length (Lc) is two times the reinforcement length plus additional length through the block facing unit. The cut length is calculated as follows:

$$L_c = 2*L + 3 \text{ ft } (2*L + 0.9 \text{ m}) \text{ (28" (710 mm) block unit)}$$

$$L_c = 2*L + 5 \text{ ft } (2*L + 1.5 \text{ m}) \text{ (41" (1030 mm) block unit)}$$

4. The geogrid strip shall be continuous throughout its entire length and may not be spliced. The geogrid shall be furnished in nominal, prefabricated roll widths of 12" (300 mm) +/- 1/2" (13 mm).  
No field modification of the geogrid roll width shall be permitted.
5. Neither rubber tire nor track vehicles may operate directly on the geogrid. Construction vehicle traffic in the reinforced zone shall be limited to speeds of less than 5 mph (8 km/hr) once a minimum of 9 inches (230 mm) of compacted fill has been placed over the geogrid reinforcement. Sudden braking and turning of construction vehicles in the reinforced zone shall be avoided.

E. Construction Tolerance. Allowable construction tolerance of the retaining wall shall be as follows:

1. Deviation from the design batter and horizontal alignment, when measured along a 10' (3 m) straight wall section, shall not exceed 3/4" (19 mm).
2. Deviation from the overall design batter shall not exceed 1/2" (13 mm) per 10' (3 m) of wall height.
3. The maximum allowable offset (horizontal bulge) of the face in any precast modular block joint shall be 1/2" (13 mm).
4. The base of the precast modular block wall excavation shall be within 2" (50 mm) of the staked elevations, unless otherwise approved by the Inspection Engineer.
5. Differential vertical settlement of the face shall not exceed 1' (300 mm) along any 200' (61 m) of wall length.
6. The maximum allowable vertical displacement of the face in any precast modular block joint shall be 1/2" (13 mm).

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7. The wall face shall be placed within 2" (50 mm) of the horizontal location staked.

### 3.05 WALL INFILL AND REINFORCED BACKFILL PLACEMENT

- A. Backfill material placed immediately behind the drainage aggregate shall be compacted as follows:
  1. 98% of maximum dry density at  $\pm 2\%$  optimum moisture content per ASTM D698 standard proctor or 85% relative density per ASTM D4254.
- B. Compactive effort within 3' (0.9 m) of the back of the precast modular blocks should be accomplished with walk-behind compactors. Compaction in this zone shall be within 95% of maximum dry density as measured in accordance with ASTM D698 standard proctor or 80% relative density per ASTM D 4254. Heavy equipment should not be operated within 3' (0.9 m) of the back of the precast modular blocks.
- C. Backfill material shall be installed in lifts that do not exceed a compacted thickness of 9" (230 mm).
- D. At the end of each work day, the Retaining Wall Installation Contractor shall grade the surface of the last lift of the granular wall infill to a  $3\% \pm 1\%$  slope away from the precast modular block wall face and compact it.
- E. The General Contractor shall direct the Grading Contractor to protect the precast modular block wall structure against surface water runoff at all times through the use of berms, diversion ditches, silt fence, temporary drains and/or any other necessary measures to prevent soil staining of the wall face, scour of the retaining wall foundation or erosion of the reinforced backfill or wall infill.

### 3.06 OBSTRUCTIONS IN THE INFILL AND REINFORCED FILL ZONE

- A. The Retaining Wall Installation Contractor shall make all required allowances for obstructions behind and through the wall face in accordance with the approved construction shop drawings.
- B. Should unplanned obstructions become apparent for which the approved construction shop drawings do not account, the affected portion of the wall shall not be constructed until the Retaining Wall Design Engineer can appropriately address the required procedures for construction of the wall section in question.

### 3.07 COMPLETION

- A. For walls supporting unpaved areas, a minimum of 12" (300 mm) of compacted, low-permeability fill shall be placed over the granular wall infill zone of the precast modular block retaining wall structure. The adjacent retained soil shall be graded to

prevent ponding of water behind the completed retaining wall.

- B. For retaining walls with crest slopes of 5H:1V or steeper, silt fence shall be installed along the wall crest immediately following construction. The silt fence shall be located 3' to 4' (0.9 m to 1.2 m) behind the uppermost precast modular block unit. The crest slope above the wall shall be immediately seeded to establish vegetation. The General Contractor shall ensure that the seeded slope receives adequate irrigation and erosion protection to support germination and growth.
- C. The General Contractor shall confirm that the as-built precast modular block wall geometries conform to the requirements of this section. The General Contractor shall notify the Owner of any deviations.

**END OF SECTION**

**DIVISION NO. FOUR THROUGH  
FOURTEEN  
NOT APPLICABLE**





**DIVISION NO. FIFTEEN  
MECHANICAL**



HIGH DENSITY POLYETHYLENE (HDPE) PIPE AND FITTINGS**PART 1 GENERAL**

## 1.01 SUMMARY

- A. This specification includes but is not limited to high-density polyethylene (PE 3408) (ductile iron pipe size O.D) pressure pipe primarily intended for the transportation of water and sewage either buried or above grade.

## 1.02 REFERENCES

- A. AWWA C901 Polyethylene (PE) pressure Pipe & Tubing, ½ inch through 3 inch for water
- B. AWWA C906 Polyethylene (PE) pressure Pipe & Fittings, 4 inch through 63 inch for water
- C. ASTM D3035 Standard Spec for PE Pipe (DR-PR) Based on Controlled Outside Diameter
- D. ASTM D3261 Butt Heat Fusion PE Fittings for PE Pipe & Tubing
- E. ASTM D3350 Standard Specification for PE Pipe & Fittings Materials
- F. ASTM D1238 Melt Flow Index
- G. ASTM D1505 Density of Plastics
- H. ASTM D2837 Hydrostatic Design Basis
- I. NSF Std.#14 Plastic Piping Components & Related Materials
- J. TR-33/2005 Generic Butt Fusion Joining Procedure for Field Joining of PE Pipe

## 1.03 GENERAL

- A. High Density Polyethylene (HDPE) pipes/fittings shall be allowed for use as water, wastewater and reclaimed water pressure pipe where compatible with the specific conditions of the project. The use of material other than HDPE pipe may be required by ASPA if it is determined that HDPE pipe is unsuitable for the particular application. All material used in the production of water main piping shall be approved by the National Sanitation Foundation (NSF).

## 1.04 DOCUMENTATION

- A. Documentation from the resin's manufacturer showing results of the following tests for resin identification:
  - 1. Melt Flow Index ASTM D1238
  - 2. Density ASTM D1505

## 1.05 MANUFACTURER

- A. All HDPE pipe and fittings shall be from a single manufacturer, who is fully experienced, reputable and qualified in the manufacture of the HDPE pipe to be

HIGH DENSITY POLYETHYLENE (HDPE) PIPE AND FITTINGS

furnished. The pipe shall be designed, constructed and installed in accordance with the best practices and methods and shall comply with these Specifications. Qualified manufacturers shall be: PLEXCO Division of Chevron Chemical Company, DRISCOPIPE as manufactured by Phillips Products Co., Inc., SCLAIRPIPE as manufactured by DuPont of Canada or equal as approved by the Utilities Engineer.

## 1.06 FINISHED PRODUCT EVALUATION

- A. Production staff shall check each length of pipe produced for the items listed below. The results of all measurements shall be recorded on production sheets, which become part of the manufacturer's permanent records.
1. Pipe in process shall be checked visually, inside and out for cosmetic defects (grooves, pits, hollows, etc.)
  2. Pipe outside diameter shall be measured using a suitable periphery tape to ensure conformance with ASTM F714 or ASTM D3035, whichever is applicable.
  3. Pipe wall thickness shall be measured at 12 equally spaced locations around the circumference at both ends of the pipe to ensure conformance with ASTM F714 or ASTM D3035, whichever is applicable.
  4. Pipe length shall be measured.
  5. Pipe marking shall be examined and checked for accuracy.
  6. Pipe ends shall be checked to ensure they are cut square and clean.
  7. Subject inside surface to a "reverse bend test" to ensure the pipe is free of oxidation (brittleness).

## 1.07 STRESS REGRESSION TESTING

- A. The polyethylene pipe manufacturer shall provide certification that stress regression testing has been performed on the specific polyethylene resin being utilized in the manufacture of this product. This stress regression testing shall have been done in accordance with ASTM D2837 and the manufacturer shall provide a product supplying a minimum Hydrostatic Design Basis (HDB) of 1,600 psi as determined in accordance with ASTM D2837.

## 1.08 COMPATIBILITY

- A. Contractor is responsible for compatibility between pipe materials, fittings and appurtenances.

**HIGH DENSITY POLYETHYLENE (HDPE) PIPE AND FITTINGS****1.09 WARRANTY**

- A. The pipe MANUFACTURER shall provide a warranty against manufacturing defects of material and workmanship for a period of ten years after the final acceptance of the project by the OWNER. The MANUFACTURER shall replace at no expense to the OWNER any defective pipe/fitting material including labor within the warranty period.

**PART 2 PRODUCTS****2.01 MATERIALS FOR PIPE SIZES 4-INCH DIAMETER AND LARGER**

- A. Materials used for the manufacture of polyethylene pipe and fittings shall be made from a PE 3408 high density polyethylene resin compound meeting cell classification 345434C per ASTM D3350; and meeting Type III, Class C, Category 5, Grade P34 per ASTM D1238.
- B. High Density Polyethylene (HDPE) pipe shall comply with AWWA Specifications C906.
- C. If rework compounds are required, only those generated in the Manufacturer's own plant from resin compounds of the same class and type from the same raw material supplier shall be used.
- D. Dimensions and workmanship shall be as specified by ASTM F714. HDPE fittings and transitions shall meet ASTM D3261. HDPE pipe shall have a minimum density of 0.955 grams per cubic centimeter. All HDPE pipe and fittings shall have a Hydrostatic Design Basis (HDB) of 1,600 psi.
- E. HDPE pipe and accessories 4-inch diameter and larger, shall be 160 psi at 73.4°F meeting the requirements of Standard Dimension Ratio (SDR) 17 as MINIMUM STRENGTH.
- F. The pipe Manufacturer must certify compliance with the above requirements.

**2.02 MATERIALS FOR PIPE SIZES 2-INCH DIAMETER AND LESS**

- A. Materials used for the manufacture of polyethylene pipe and fittings shall be made from a PE 3408 high density polyethylene resin compound meeting cell classification 345434C per ASTM D3350; and meeting Type III, Class C, Category 5, Grade P34 per ASTM D1238.
- B. High Density Polyethylene (HDPE) pipes shall comply with AWWA Specifications C901.
- C. If rework compounds are required, only those generated in the Manufacturer's own plant from resin compounds of the same class and type from the same raw material supplier shall be used.

HIGH DENSITY POLYETHYLENE (HDPE) PIPE AND FITTINGS

- D. Dimensions and workmanship shall be as specified by ASTM D3035. HDPE fittings and transitions shall meet ASTM D3261. HDPE pipe shall have a minimum density of 0.955 grams per cubic centimeter. All HDPE pipe and fittings shall have a Hydrostatic Design Basis (HDB) of 1,600 psi. ASG Housing Distribution Lines **Replacement Project 4.**
- E. HDPE pipe and accessories 2" and less in diameter, shall be 160 psi at 73.4°F meeting the requirements of Standard Dimension Ratio (SDR) 9 as MINIMUM STRENGTH.
- F. The pipe Manufacturer must certify compliance with the above requirements.

## 2.03 FITTINGS

- A. All molded fittings and fabricated fittings shall be fully pressure rated to match the pipe SDR pressure rating to which they are made. All fittings shall be molded or fabricated by the manufacturer. No Contractor fabricated fittings shall be used unless approved by the Engineer.
- B. The manufacturer of the HDPE pipe shall supply all HDPE fittings and accessories as well as any adapters and/or specials required to perform the work as shown on the Drawings and specified herein.
- C. All fittings shall be installed using butt-fused fittings, thermo-fused fittings/couplings, or flanged adapters and must be approved by the Engineer. **NO** size on size wet taps shall be permitted.
- D. All transition from HDPE pipe to ductile iron or PVC shall be made per the approval of ASPA Engineer and per the HDPE pipe manufacturer's recommendations and specifications. A molded flange connector adapter within a carbon steel back-up ring assembly shall be used for pipe type transitions. Ductile iron back-up rings shall mate with cast iron flanges per ANSI B16.1. A 316 stainless steel back-up ring shall mate with a 316 stainless steel flange per ANSI B16.1.
  - 1. Transition from HDPE to ductile iron fittings and valves shall be approved by ASPA Engineer before installation.
  - 2. No solid sleeves shall be allowed between such material transitions.
  - 3. Fittings and transitions shall be as manufactured by Phillips DRISCOPIPE, Inc., 1000 Series Pressure Pipe, Chevron Chemical Company Plexco/Spiralite pipe, or equal.
  - 4. The pipe supplier must certify compliance with the above requirements.

**HIGH DENSITY POLYETHYLENE (HDPE) PIPE AND FITTINGS****2.04 PIPE IDENTIFICATION**

- A. The following shall be continuously indent printed on the pipe or spaced at intervals not exceeding 5-feet:
1. Name and/or trademark of the pipe manufacturer.
  2. Nominal pipe size.
  3. Dimension ratio.
  4. The letters PE followed by the polyethylene grade in accordance with ASTM ASG Housing Distribution Lines Replacement Project 52.4.1.5 D1248 followed by the hydrostatic design basis in 160's of psi, e.g., PE 3408.
  6. Manufacturing standard reference, e.g., ASTM F714 or D-3035, as required.
  7. A production code from which the date and place of manufacture can be determined.
  8. Color Identification, either stripped by co-extruding longitudinal identifiable color markings or shall be solid in color and as follows:
    - a. BLUE – Potable Water
    - b. GREEN – Sanitary Sewer
- B. Tracing Wire
1. Open trench installation of HDPE shall be identifiable per ASPA Specification Sec. 02600, Part 2, 2.01 (A).
  2. Directional Drilled HDPE shall have wire conforming to Copperhead Industries Reinforced #1245 Extra-High Strength Tracer Wire and affixed to the drilling head/reamer per Detail M-17.
- C. Marking Tape: Marking tape shall be installed per ASPA Engineer approval.

**PART 3 EXECUTION****3.01 JOINING METHOD**

- A. The pipe shall be joined with butt, heat fusion joints as outlined in ASTM D2657 and conform to the Generic Butt Fusion Joining Procedure for Field Joining of Polyethylene Pipe, Technical Report TR-33/2005, published by the Plastic Pipe Institute (PPI). All joints shall be made in strict compliance with the manufacturer's recommendations. A factory qualified joining technician as designated by pipe manufacturer or experienced, trained technician shall perform all heat fusion joints in the presence of the ASPA inspector.
- B. Lengths of pipe shall be assembled into suitable installation lengths by the buttfusion process. All pipes so joined shall be made from the same class and type of raw material made by the same raw material supplier. Pipe shall be

**HIGH DENSITY POLYETHYLENE (HDPE) PIPE AND FITTINGS**

furnished in standard laying lengths not to exceed 50 feet and no shorter than 20 feet.

- C. On days butt fusions are to be made, the first fusion shall be a trial fusion in the presence of an ASPA Inspector. The following shall apply:
1. Heating plate surfaces shall be inspected for cuts and scrapes and shall be free of dirt and residue. Heater surfaces should be between 400°F (minimum) to 450°F (maximum). Measure the temperature @ 12:00, 3:00, 6:00 and 9:00 o'clock positions using a pyrometer or infrared thermometer at locations where the heating plate will contact the pipe/fitting ends. The maximum temperature difference between any two points on a single heating surface must not exceed 24°F. If this ASG Housing Distribution Lines Replacement Project 6 temperature is exceeded, the heating plate shall be cleaned per the manufacturer's recommendations.
  2. The fusion or test section shall be cut out after cooling completely for inspection.
  3. The test section shall be 12" or 30 times (minimum) the wall thickness in length and 1" or 1.5 times the wall thickness in width (minimum).
  4. The joint shall be visually inspected as to continuity of "beads" from the melted material, and for assurance of "cold joint" prevention (i.e. – joint shall have visible molded material between walls of pipe). Joint spacing between the walls of the two ends shall be a minimum of 1/16" to a maximum 3/16".
- D. The polyethylene flange adapters at pipe material transitions shall be backed up by stainless steel flanges conforming to ANSI B16.1 and shaped as necessary to suit the outside dimensions of the pipe. The flange adapter assemblies shall be connected with corrosion resisting bolts and nuts of Type 316 Stainless Steel as specified in ASTM A726 and ASTM A307. All bolts shall be tightened to the manufacturer's specified torques. Bolts shall be tightened alternatively and evenly. After installation, apply a bitumastic coating to bolts and nuts.

**PART 4 INSTALLATION**

- A. High Density Polyethylene (HDPE) Pipe shall be installed in accordance with the instruction of the manufacturer, as shown on the Drawings and as specified herein. A factory qualified joining technician as designated by the pipe manufacturer shall perform all heat fusion joints.
- B. HDPE shall be installed either by Open Trench Construction or Directional Bore Method.



HIGH DENSITY POLYETHYLENE (HDPE) PIPE AND FITTINGS

- C. Care shall be taken in loading, transporting and unloading to prevent damage to the pipe. Pipe or fitting shall not be dropped. All pipe or fitting shall be examined before installation, and no piece shall be installed which is found to be defective. Any damage to the pipe shall be repaired as directed by the Engineer. If any defective pipe is discovered after it has been installed, it shall be removed and replaced with a sound pipe in a satisfactory manner by the contractor, at his own expense.
- D. Under no circumstances shall the pipe or accessories be dropped into the trench or forced through a directional bore upon “pull-back”.
- E. Care shall be taken during transportation of the pipe such that it will not be cut, kinked or otherwise damaged.
- F. Ropes, fabric or rubber protected slings and straps shall be used when handling pipes. Chains, cables or hooks inserted into the pipe ends shall not be used. Two slings spread apart shall be used for lifting each length of pipe.
- G. Pipes shall be stored on level ground, preferably turf or sand, free of sharp objects, which could damage the pipe. Stacking of the polyethylene pipe shall be limited to a height that will not cause excessive deformation of the bottom layers of pipes under anticipated ASG Housing Distribution Lines Replacement Project 7 temperature conditions. Where necessary due to ground conditions, the pipe shall be stored on wooden sleepers, spaced suitably and of such width as not to allow deformation of the pipe at the point of contact with the sleeper or between supports.
- H. Pipe shall be stored on clean level ground to prevent undue scratching or gouging. The handling of the pipe shall be in such a manner that the pipe is not damaged by dragging it over sharp and cutting objects. The maximum allowable depth of cuts, scratches or gouges on the exterior of the pipe is 5 percent of wall thickness. The interior pipe surface shall be free of cuts, gouges or scratches.
- I. Pipe shall be laid to lines and grade shown on the Drawings with bedding and backfill as shown on the Drawings.
- J. When laying is not in progress, including lunchtime, the open ends of the pipe shall be closed by fabricated plugs, or by other approved means.
- K. Sections of pipe with cuts, scratches or gouges exceeding 5 percent of the pipe wall thickness shall be removed completely and the ends of the pipeline rejoined.
- L. The pipe shall be joined by the method of thermal butt fusion. All joints shall be made in strict compliance with the manufacturer’s recommendations.

HIGH DENSITY POLYETHYLENE (HDPE) PIPE AND FITTINGS

- M. Mechanical connections of the polyethylene pipe to auxiliary equipment such as valves, pumps and tanks shall be through flanged connections which shall consist of the following:
1. A polyethylene flange shall be thermally butt-fused to the stub end of the pipe.
  2. A 316 stainless steel back up ring shall mate with a 316 stainless steel flange.
  3. A 316 stainless steel bolts and nuts shall be used.
- N. Flange connections shall be provided with a full-face neoprene gasket.
- O. All HDPE pipe must be at the temperature of the surrounding soil at the time of backfilling and compaction.
- P. If a defective pipe is discovered after it has been installed, it shall be removed and replaced with a sound pipe in a satisfactory manner at no additional cost to the Owner. All pipe and fittings shall be thoroughly cleaned before installation, shall be kept clean until they are used in the work and when laid, shall conform to the lines and grades required. kinked or otherwise damaged.
- Q. Open Trench Installation:
1. ASPA Standards and Specification, Section 02200 – Utility Excavation, Trenching, and Backfilling shall apply in its entirety.
  2. The centerline of the pipe shall not deviate from a straight line drawn between the centers of the openings at the ends of the pipe by more than 1/16-in per foot of length. If a piece of pipe fails to meet this requirement check for straightness, it shall be rejected and removed from the site. Laying instructions of the manufacturer shall be explicitly followed.
  3. Good alignment shall be preserved during installation. Deflection of the pipe shall occur only at those places on design drawings and as approved by the Engineer. Fittings, in addition to those shown on the Drawings, shall be used only if necessary or required by the Engineer.
  4. Each length of the pipe shall have the assembly mark aligned with the pipe previously laid and held securely until enough backfill has been placed to hold the pipe in place. Joints shall not be “pulled” or “cramped”.
  5. Precautions shall be taken to prevent flotation of the pipe in the trench.

**HIGH DENSITY POLYETHYLENE (HDPE) PIPE AND FITTINGS**

6. When moveable trench bracing such as trench boxes, moveable sheeting, shoring or plates are used to support the sides of the trench, care shall be taken in placing and moving the boxes or supporting bracing to prevent movement of the pipe, or disturbance of the pipe bedding and the backfill. Trench boxes, moveable sheeting, shoring or plates shall not be allowed to extend below top of the pipe. As trench boxes, moveable sheeting, shoring or plates are moved, pipe bedding shall be placed to fill any voids created and the backfill shall be recompacted to provide uniform side support for the pipe.
7. Restrained joints shall be installed where shown on the Drawings or as directed by the Engineer.

R. Directional Bore Installation:

1. Refer to ASPA Specification 02320 - Horizontal Directional Drilling in its entirety.

**Part 5**

**CLEANING**

- A. At the conclusion of the work, thoroughly clean all of the new pipe lines to remove all dirt, stones, pieces of wood or other material which may have entered during the construction period by forcing a cleaning swab through all mains 4" or greater. Flushing velocities shall be a minimum of 2.5 feet per second. All flushing shall be coordinated with ASPA Inspector and Water Resources Department. Debris cleaned from the lines shall be removed from the job site.

**PART 6**

**TESTING**

- A. Pressure testing shall be conducted per Manufacturer's recommendations and as approved by the ASPA Engineer.
- B. All HDPE water mains shall be disinfected prior to pressure testing as per ASPA specification.
- C. All HDPE mains shall be field-tested. Contractor shall supply all labor, equipment, material, gages, pumps, meters and incidentals required for testing. Each main shall be pressure tested upon completion of the pipe laying and backfilling operations, including placement of any required temporary roadway surfacing.
- D. All mains shall be tested at 150 percent of the operating design pressure of the pipe unless otherwise approved by the Engineer.
- E. Pressure testing procedure shall be per Manufacturer's recommendations or as follows:
  1. Fill line slowly with water. Maintain flow velocity less than 2 feet per second.

**HIGH DENSITY POLYETHYLENE (HDPE) PIPE AND FITTINGS**

2. Expel air completely from the line during filling and again before applying test pressure. Air shall be expelled by means of taps at points of highest elevation.
  3. Apply initial test pressure and allow to stand without makeup pressure for two to three hours, to allow for diametric expansion or pipe stretching to stabilize.
  4. After this equilibrium period, apply the specified test pressure and turn the pump off. The final test pressure shall be held for one to three hours.
  5. Upon completion of the test, the pressure shall be bled off from a location other than the point where the pressure is monitored. The pressure drop shall be witnessed by the resident project representative and ASPA representative at the point where the pressure is being monitored and shall show on the recorded pressure read-out submitted to the Engineer of Record.
- F. Allowable amount of makeup water for expansion during the pressure test shall conform to Chart 6, Allowance for Expansion Under Test Pressure, Technical Report TR 31/9-79, published by the Plastic Pipe Institute (PPI). If there are no visual leaks or significant pressure drops during the final test period, the installed pipe passes the test.
- G. If any test of pipe laid disclosed leakage significant pressure drop greater than the manufacturer's recommended loss, the Contractor shall, at his/her own expense, locate and repair the cause of leakage and retest the line. The amount of leakage, which will be permitted, shall be in accordance with AWWA C600 Standards.
- H. All visible leaks are to be repaired regardless of the amount of leakage.
- I. The Contractor must submit his plan for testing to the Engineer for review at least 10 days before starting the test and shall notify ASPA Inspector a minimum of 48 hours prior to test.

**END OF SECTION**

**DIVISION NO. SIXTEEN  
ELECTRICAL  
NOT APPLICABLE**