

Set No:

Project Manual

Contract No.: W-027

**36-Inch Transmission Main
Replacement Project
Between Millersport Highway
and Sheridan Drive
Town of Amherst, NY**

Project No. 201700093

April 2019

Erie County Water Authority

**295 Main Street, Room 350
Buffalo, New York 14203**



**ERIE COUNTY WATER AUTHORITY
BUFFALO, NEW YORK**

**CONTRACT NO: W-027
36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT
BETWEEN MILLERSPORT HIGHWAY AND SHERIDAN DRIVE
TOWN OF AMHERST, NY**

ECWA PROJECT NO: 201700093

APRIL 2019

This Project Manual and Contract Drawings were prepared under the direct supervision of a Professional Engineer by: Wendel WD Architecture, Engineering, Surveying, and Landscape Architecture, P.C. (Wendel)



**ERIE COUNTY WATER AUTHORITY
295 Main Street, Room 350
Buffalo, New York 14203**

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TABLE OF CONTENTS

<u>Document or Section Number</u>	<u>Name or Description</u>	<u>Initial Page</u>
<u>BIDDING REQUIREMENTS</u>		
00100	Notice to Bidders	00100-1
00200	Instructions to Bidders	00200-1
00320	Geotechnical Data	00320-1
00360	Permit Applications	00360-1
00410	Bid Forms	00410-1
00430	Bid Form Supplements	00430-1
00450	Bidder's Qualification Statement	00450-1
<u>CONTRACTING REQUIREMENTS</u>		
00500	Agreement	00500-1
00611	Performance Bond	00611-1
00612	Payment Bond	00612-1
00700	General Conditions	00700-1
00800	Supplementary Conditions	00800-1
<u>DIVISION 1 -GENERAL REQUIREMENTS</u>		
01100	Summary of Work	01100-1
01140	Use of Owner's Facilities	01140-1
01210	Allowances	01210-1
01270	Measurement and Payment	01270-1
01290	Schedule of Values	01290-1
01310	Project Coordination	01310-1
01311	Coordination with Owner's Operations	01311-1
01312	Preconstruction Conference	01312-1
01313	Progress Meetings	01313-1
01321	Construction Schedules	01321-1
01322	Construction Photographs	01322-1
01331	Shop Drawing Procedures	01331-1

01332	Samples.....	01332-1
01410	Operations in Highway Rights-of-Way	01410-1
01421	Reference Standards	01421-1
01422	Abbreviations and Symbols.....	01422-1
01450	Testing Laboratory Services Furnished by Contractor	01450-1
01520	Temporary Construction Facilities	01520-1
01523	Engineer’s Mobile Field Office	01523-1
01525	Emergency Phone Numbers	01525-1
01550	Maintenance and Protection of Traffic	01550-1
01561	Security	01561-1
01562	Protection of the Work and Property	01562-1
01563	Temporary Controls.....	01563-1
01575	Respirable Crystalline Silica	01575-1
01585	Pipeline Protection Submittal	01585-1
01630	Substitutions	01630-1
01640	Transportation and Handling of Materials and Equipment	01640-1
01660	Storage of Material	01660-1
01720	Survey Data	01720-1
01730	Installation Data.....	01730-1
01731	Connections to Existing Facilities	01731-1
01780	Record Documents	01780-1
01781	Operation and Maintenance Data	01781-1

TECHNICAL SPECIFICATIONS

DIVISION 2 - SITE CONSTRUCTION

02080	Fire Hydrants	02080-1
02316	Select Granular Materials	02316-1
02317	Rock Excavation.....	02317-1
02351	Excavation, Backfill and Trenching	02351-1
02900	Restoration.....	02900-1

DIVISION 3 - CONCRETE

03300	Concrete.....	03300-1
03480	Precast Concrete Vaults and Chambers.....	03480-1

DIVISION 15 - MECHANICAL

15051	Buried Piping Installation.....	15051-1
15106	Ductile Iron Pipe, Fittings and Accessories.....	15106-1
15107	Copper Pipe	15107-1
15108	Thermoplastic Pipe	15108-1
15109	Prestressed Concrete Cylinder Pipe.....	15109-1
15110	Valves and Appurtenances	15110-1
15120	Piping Specialties and Accessories.....	15120-1
15121	Casing Pipe	15121-1

15122	Magnesium Anode.....	15122-1
15123	Cathodic Protection Testing Station	15123-1
15140	Testing and Disinfection.....	15140-1
15207	Cleaning New Transmission Watermain	15207-1
15400	Crew Labor and Equipment.....	15400-1
15500	Vacuum Truck and Labor	15500-1
15600	All-Stop Order from National Grid	15600-1
15700	Electrically Qualified Person.....	15700-1

APPENDICES

- A. Women and Minority Business Enterprise Policy
- B. Insurance Requirements
- C. Prevailing Wage Rate Schedule - ECWA
 - C.1 New York State Department of Labor Wage Rates
- D. Highway and Agency Permits
- E. NYS EFC MWBE Requirements
- F. National Grid Requirements

LIST OF DRAWINGS

<u>Drawing No.</u>	<u>Drawing Title</u>
C002	LEGEND, SYMBOLS, AND ABBREVIATIONS
C003	PLAN – PIPELINE CROSSING, MATERIAL STORAGE AND STOCKPILE AREAS
C101	PLAN & PROFILE
C102	PLAN & PROFILE
C103	PLAN & PROFILE
C201	INTERCONNECTION AND ABANDONMENT DETAILS
C202	INTERCONNECTION AND ABANDONMENT DETAILS
C301	STANDARD DETAILS
C302	STANDARD DETAILS
C303	STANDARD DETAILS
C304	STANDARD DETAILS
C305	STANDARD DETAILS
C306	STANDARD DETAILS
C401 – C403	WORK ZONE TRAFFIC CONTROLS

END OF TABLE OF CONTENTS

ERIE COUNTY WATER AUTHORITY
295 MAIN STREET, ROOM 350
BUFFALO, NEW YORK 14203

CONTRACT NO: W-027
36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT
BETWEEN MILLERSPORT HIGHWAY AND SHERIDAN DRIVE
TOWN OF AMHERST, NY

PROJECT NO: 201700093

NOTICE TO BIDDERS

The Erie County Water Authority will receive separate, sealed bids for the furnishing of all labor, plant, tools, equipment and specified materials, etc. for ERIE COUNTY WATER AUTHORITY, 36-Inch Transmission Main Replacement Project, between Millersport Highway and Sheridan Drive, TOWN OF AMHERST. The Work consists of a single contract for the installation of approximately 3,000 linear feet of 36-inch pipe and appurtenances between Millersport Highway and Sheridan Drive, Town of Amherst.

Bids will be received by the Erie County Water Authority until (Time) a.m. prevailing time, on (Day of week, Date) at the Cashier's Office of the Authority, 295 Main Street, Room 350, Buffalo, New York 14203, and then at that time and place will be publicly opened and read.

All bids being mailed (including FedEx, UPS, Priority Mail, etc.) or hand-delivered to the Erie County Water Authority shall be directed to the "CASHIER'S OFFICE" at the address listed above in a sealed envelope and be clearly marked on the outside of the mailing or hand-delivered envelope "BID ENCLOSED-ECWA 36-Inch Transmission Main Replacement Project, between Millersport Highway and Sheridan Drive, Town of Amherst. Failure to follow the above instructions could result in rejection of the bid.

Beginning at (Time) a.m., on (Day of week, Date), the Instruction to Bidders, Form of Bid and form of Contract, Specifications, and Security Bonds may be examined at the above address and may be obtained by writing the Cashier's Office at the above address or calling (716) 849-8484, between the hours of 9:00 a.m. and 5:00 p.m. upon payment of a deposit of Fifty Dollars (\$50.00). Check for documents shall be made payable to Erie County Water Authority.

Contract Documents are also available by mail through the following procedure. The ENGINEER will mail the Contract Documents to those wishing to obtain a set upon receipt of the document deposit described above plus a non-refundable mailing and handling charge of twenty five dollars (\$25.00) per set. The mailing date will be considered the bidder's date of receipt. Partial sets of documents will not be available. The \$50.00 deposit check for mailed documents shall be sent to the ENGINEER with the \$25.00 mailing and handling check. The mailing and handling check (\$25.00) shall be made payable to the ENGINEER. Deposits for deposit checks will be refunded to Bidders who return the documents within seven (7) days after the Bid Opening. Checks for mailing costs will not be refunded.

A pre-bid meeting will be held at (Time), prevailing time, on (Day of week, Date), at (Location). Attendance at the pre-bid meeting is recommended but is not mandatory.

Each bid shall be accompanied by a certified check or bid bond in the amount of five percent (5%) of the amount of the bid.

In accordance with State Finance Law §§139-j and 139-k, all questions about meaning or intent of the bidding documents shall be submitted to the designated contact person in writing. The designated contact is Robert D. Klavoon, PE of Wendel, 375 Essjay Road, Suite 200, Williamsville, New York 14221, telephone (716) 688-0766.

This project is being partially funded by a grant from the Environmental Facilities Corporation (EFC). As such, grant requirements have been included in the Contract Documents including Minority and Women-owned Business Enterprises (MWBE) participation goals, Service Disabled Veteran-owned Business Enterprise (SDVOB) goals, and Equal Employment Opportunity (EEO) requirements.

The Erie County Water Authority reserves the right to reject any and all bids or to accept any bid deemed to be for the best interest of the Water Authority even though the proposal chosen may result in the award of the contract to a bidder whose bid is not mathematically lowest.

ERIE COUNTY WATER AUTHORITY

TERRENCE D. McCracken
Secretary to the Authority

Engineer:

Wendel WD Architecture, Engineering, Surveying, and Landscape Architecture, P.C. (Wendel)
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ERIE COUNTY WATER AUTHORITY
BUFFALO, NEW YORK

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36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT
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SECTION 00200

INSTRUCTIONS TO BIDDERS

TABLE OF ARTICLES

1. Defined Terms
2. Bids Received
3. Location and Scope of Work
4. Copies of Bidding Documents
5. Qualifications of Bidders
6. Examination of Bidding Documents, other Related Data and Site
7. Pre-Bid Conference
8. Site and Other Areas
9. Interpretations and Addenda
10. Bid Security
11. Contract Times
12. Liquidated and Special Damages
13. Substitute and "Or Equal" Items
14. Subcontractors, Suppliers, and Others
15. Preparation of Bid
16. Basis of Bids; Comparison of Bids
17. Submittal of Bid
18. Modification or Withdrawal of Bid
19. Opening of Bids
20. Disqualification of Bidders
21. Bids to Remain Subject to Acceptance
22. Award of Contract
23. Contract Securities
24. Contractor's Insurance
25. Signing of Agreement
26. Notice to Proceed
27. Partnering - Not Used
28. Sales and Use Taxes
29. Additional Requirements

ARTICLE 1 - DEFINED TERMS

- 1.01 Terms used in these Instructions to Bidders will have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof.
- 1.02 Additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof.
- A. Bidder: The individual or entity who submits a Bid directly to OWNER.
 - B. Issuing Office: The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.
 - C. Successful Bidder: The Bidder submitting a responsive Bid to whom OWNER (on the basis of OWNER'S evaluation as hereinafter provided) makes an award. Also known as CONTRACTOR.
 - D. ENGINEER: As defined in the Agreement, Section 00500, under Article 2.

ARTICLE 2 - BIDS RECEIVED

- 2.01 Refer to Notice to Bidders for information on receipt of Bids.

ARTICLE 3 - LOCATION AND SCOPE OF WORK

- 3.01 Refer to Section 01100 of the General Requirements for the location and scope of the Work.

ARTICLE 4 - COPIES OF BIDDING DOCUMENTS

- 4.01 Refer to Notice to Bidders for information on examination and procurement of Bidding Documents.
- 4.02 The Issuing Office is the Cashier Office of the Erie County Water Authority, 295 Main Street, Room 350, Buffalo, New York 14203.
- 4.03 Complete sets of Bidding Documents must be used in preparing Bids; neither OWNER, nor ENGINEER assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

- 4.04 OWNER and ENGINEER in making copies of Bidding Documents available on the above terms do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant permission for any other use.

ARTICLE 5 - QUALIFICATIONS OF BIDDERS

- 5.01 Bidders shall be experienced in the kind of Work to be performed, shall have the necessary equipment therefore, and shall possess sufficient capital to properly execute the Work within the time allowed. Bids received from Bidders who have previously failed to complete work within the time required, or who have previously performed similar work in an unsatisfactory manner, may be rejected. A Bid may be rejected if Bidder cannot show that Bidder has the necessary ability, plant and equipment to commence the Work at the time prescribed and thereafter to prosecute and complete the Work at the rate or within the time specified. A Bid may be rejected if Bidder is already obligated for the performance of other work which would delay the commencement, prosecution or completion of the Work.
- 5.02 To demonstrate qualifications to perform the Work, Bidder shall complete and submit with its Bid the Bidder Qualifications Statement which is bound in the Project Manual. Bidders may be asked to furnish additional data to demonstrate their qualifications.
- 5.03 Bidders shall be qualified to do business in the state where the Project is located or covenant to obtain such qualification prior to signing the Agreement.

ARTICLE 6 - EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

6.01 Subsurface and Physical Conditions

- A. The Supplementary Conditions identify:
1. Those reports of explorations and tests of subsurface conditions at or contiguous to the Site which have been utilized by ENGINEER in preparation of the Bidding Documents.
 2. Those drawings of physical conditions in or relating to existing surface and subsurface structures (except underground facilities) which are at or contiguous to the Site that have been utilized by ENGINEER in preparation of the Bidding Documents.
- B. Copies of the reports and drawings referenced in the Supplementary Conditions will be made available by ENGINEER to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which Bidder is entitled to rely as provided in paragraph 4.02 of the General Conditions has been identified and established in paragraph SC-4.02 of the

Supplementary Conditions. Bidder is responsible for any interpretation or conclusion drawn from any “technical data” or any other data, interpretations, opinions or information contained in such reports or shown or indicated in such drawings.

6.02 Underground Facilities - Physical Conditions

- A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to OWNER and ENGINEER by owners of such Underground Facilities, including OWNER, or others.

6.03 Hazardous Environmental Condition

- A. OWNER has no actual knowledge of a hazardous environmental condition at the Site.

6.04 Provisions concerning responsibilities for the adequacy of data, if any, furnished to prospective Bidders with respect to subsurface conditions, other physical conditions and Underground Facilities, and possible changes in the Bidding Documents due to differing or unforeseen conditions appear in paragraphs 4.02, 4.03 and 4.04 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Bidding Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the Scope of Work appear in paragraph 4.06 of the General Conditions.

6.05 On request, OWNER will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests and studies as each Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former conditions upon completion of such explorations, investigations, tests and studies.

6.06 On request, OWNER will conduct a Site visit during OWNER’S normal business hours.

6.07 Reference is made to the Supplementary Conditions for identification of the general nature of other work that is to be performed at the Site by OWNER or others (such as utilities and other prime contractors) that relates to the Work for which a Bid is to be submitted. On request, and if available, OWNER will provide to Bidder, for examination, access to or copies of the contract documents for such other work.

6.08 It is the responsibility of Bidder, before submitting a Bid to:

- A. Examine and carefully study the Bidding Documents, including any Addenda and the other related data identified in the Bidding Documents;
- B. Visit the Site and become familiar with and satisfy Bidder as to the general, local and Site conditions that may affect cost, progress and performance of the Work;
- C. Become familiar with and satisfy Bidder as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work;
- D. Carefully study all reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions, and to carefully study all reports and drawings of a Hazardous Environmental Condition identified at the Site, if any, which have been identified in the Supplementary Conditions as provided in paragraph 4.06 of the General Conditions;
- E. Obtain and carefully study (or assume responsibility for having done so) all examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by Bidder, including any specific means, methods, techniques, sequences and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto;
- F. Agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for the performance of the Work at the price bid and within the times and in accordance with the other terms and conditions of the Bidding Documents;
- G. Become aware of the general nature of work (if any) to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents;
- H. Correlate the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies and data with the Bidding Documents;

- I. Promptly give ENGINEER written notice of all conflicts, errors, ambiguities or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by ENGINEER is acceptable to Bidder; and
 - J. Determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.
- 6.09 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 6, that without exception the Bid is premised upon performing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences or procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by ENGINEER are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing the Work.

ARTICLE 7 - PRE-BID CONFERENCE

- 7.01 A pre-bid conference will be held if so indicated in the Notice to Bidders, and will be as follows. Representatives of the OWNER and ENGINEER will be present to discuss the Project. Bidders are encouraged to attend and participate at the conference. ENGINEER will transmit to all prospective Bidders of record such Addenda as ENGINEER considers necessary in response to questions raised at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 8 - SITE AND OTHER AREAS

- 8.01 The Site is identified in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment, to be incorporated into the Work are to be obtained and paid for by CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by OWNER unless otherwise provided in the Bidding Documents.

ARTICLE 9 - INTERPRETATIONS AND ADDENDA

- 9.01 All questions about the meaning or intent of the Bidding Documents shall be submitted to ENGINEER in writing. In order to receive consideration, questions must be received by ENGINEER at least ten (10) days prior to the date for the opening of Bids. Interpretations, clarifications, and/or supplemental instructions considered necessary by ENGINEER in response to such questions will be issued by Addenda, mailed either by

Registered or Certified mail, with return receipt requested, to all parties recorded by ENGINEER as having received the Bidding Documents, for receipt not later than three (3) days prior to the date for the opening of Bids. Failure of any Bidder to receive such Addendum or interpretation shall not relieve any bidder from any obligation under his bid submitted. All Addenda so issued shall become part of the Contract Documents. All Addenda must be submitted with the bid proposal and be properly signed by the Bidder as part of the Bid Documents. Only questions answered by Addenda will be binding. The OWNER will not be responsible for any other explanations or interpretation of such documents which anyone presumes to make on behalf of the OWNER before expiration of the time set for the receipt of Bids. No interpretation of the meaning of the plans, specifications or other Contract Documents will be made to any bidder orally. Oral and other interpretations or clarifications will be without legal effect.

- 9.02 Addenda may also be issued to clarify, correct or change the Bidding Documents as deemed advisable by OWNER or ENGINEER. Such Addenda, if any, will be issued in the manner and within the time period stated in paragraph 9.01.

ARTICLE 10 - BID SECURITY

- 10.01 A Bid must be accompanied by Bid security made payable to the OWNER in the amount of five percent of Bidder's maximum Bid price and in the form of certified check or Bid Bond.
- 10.02 Bid Bond shall be on the form bound in the Project Manual. Bid Bond shall be issued by a surety meeting the requirements of paragraphs 5.01 and 5.02 of the General Conditions. The Bid Bond must contain original signatures in ink. Pencil, stamped, thermal faxed, Xeroxed, or any other copies of the signature shall be grounds for voiding the Bid.
- 10.03 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to sign and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, OWNER may annul the Notice of Award and the Bid security of that Bidder will be forfeited to the OWNER as liquidated damages for such failure.
- 10.04 The Bid security of the three lowest bidders may be retained by OWNER until the earlier of the seventh day after the Effective Date of the Agreement or the forty-first day after the Bid opening whereupon the Bid security furnished by such Bidders will be returned. The Bid security of Bidders whom OWNER believes do not have a reasonable chance of receiving an award will be returned within seven days of the Bid opening.

ARTICLE 11 - CONTRACT TIMES

11.01 The number of days within which the Work is to be substantially completed and also completed and ready for final payment (the Contract Times) are set forth in the Agreement.

ARTICLE 12 - LIQUIDATED AND SPECIAL DAMAGES

12.01 Provisions for liquidated and special damages, if any, are set forth in the Agreement.

ARTICLE 13 - SUBSTITUTE AND "OR EQUAL" ITEMS

13.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or "or-equal" items. Whenever it is specified or described in the Bidding Documents that a substitute or "or-equal" item of material or equipment may be furnished or used by CONTRACTOR if acceptable to ENGINEER, application for such acceptance will not be considered by ENGINEER until after the Effective Date of the Agreement. The procedure for submittal of any such application by CONTRACTOR and consideration by ENGINEER is set forth in the General Conditions which may be supplemented in the General Requirements.

13.02 Refer to Section 01630 of the General Requirements for the period of time after the Effective Date of the Agreement during which the ENGINEER will accept applications for substitute or "or-equal" items of material or equipment.

ARTICLE 14 - SUBCONTRACTORS, SUPPLIERS, AND OTHERS

14.01 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, individuals or entities to be submitted to OWNER in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening submit to OWNER a list of all such Subcontractors, Suppliers, other individuals or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualifications for each such Subcontractor, Supplier, individual or entity if requested by OWNER. If OWNER or ENGINEER, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual or entity, OWNER may, before the Notice of Award is given, request the apparent Successful Bidder to submit an acceptable substitute without an increase in Bid price.

- 14.02 If apparent Successful Bidder declines to make any such substitution, OWNER may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers and other individuals or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual or entity so listed and against which OWNER or ENGINEER makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to OWNER and ENGINEER subject to revocation of such acceptance after the Effective Date of the Agreement as provided in paragraph 6.06 of the General Conditions.
- 14.03 CONTRACTOR shall not be required to employ any Subcontractor, Supplier, individual or entity against whom CONTRACTOR has reasonable objection.

ARTICLE 15 - PREPARATION OF BID

- 15.01 A Bid must be made on the Bid form bound in the Project Manual. The Bid form shall not be separated from the Project Manual nor shall it be altered in any way.
- 15.02 All blanks in the Bid Form shall be completed by printing in black ink or by typewriter. A Bid price shall be indicated in both words and numbers for each Bid item listed therein or the words "No Bid", or "Not Applicable" entered. In case of discrepancy between the words and the numerals, the words shall govern. Ditto marks are not considered writing or printing and shall not be used.
- 15.03 A Bid shall be executed as stated below.
- A. A Bid by an individual shall show the Bidder's name and official address.
 - B. A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title shall appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown below the signature.
 - C. A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid form. The official address of the joint venture shall be shown below the signature.
 - D. A Bid by a corporation shall be executed in the corporate name by an officer of the corporation and shall be accompanied by a certified copy of a resolution of the board of directors authorizing the person signing the Bid to do so on behalf of the corporation. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The state of incorporation and the official corporate address shall be shown below the signature.

- E. A Bid by a limited liability company shall be executed in the name of the firm and signed by a member accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown below the signature.
 - F. All names shall be typed or printed in black ink below the signature.
 - G. Evidence of authority to conduct business as an out-of-state corporation in the state where the Work is to be performed shall be provided, if applicable.
- 15.04 The Bid shall contain an acknowledgment of the receipt of all Addenda in the space provided on the Bid form.
- 15.05 The address and telephone number for communications regarding the Bid shall be shown.
- 15.06 In addition to the Bid Form, the following listed documents, which are bound in the Project Manual in Section 00430 - Bid Form Supplements and Section 00450 – Bidder’s Qualification Statement, shall be submitted with the Bid. Each document shall be executed in the manner described in paragraph 15.03 unless another manner is indicated.
- A. Bid Security Form.
 - B. Section 2875 of the Public Authorities Law.
 - C. Section 2876 of the Public Authorities Law.
 - D. Section 2878 of the Public Authorities Law, Non-collusive Bidding Certification.
 - E. State Finance Law Requirements.
 - F. Section 139-L of the State Finance Law, Statement relating to Sexual Harassment Policy.
 - G. Bidder’s Qualification Statement, including Attachments A, B, C and D and Bidder’s “Experience in The Installation of Tapping Sleeves & Valves on Prestressed Concrete Cylinder Pipe”, if applicable.
 - H. All Addenda.

ARTICLE 16 - BASIS OF BIDS; COMPARISON OF BIDS

16.01 Lump Sum and Unit Price

- A. Bidder shall submit its Bid on the basis of each lump sum item and unit price item as set forth in the Bid Form. For each unit price item on the Bid form, Bidder shall enter the unit price Bid, and shall enter the computation of the respective quantity times the Bidder's unit price for that item. Bidder shall compute and enter in the space provided on the Bid form, the total of all lump sum items and the total of the products of quantity and unit price Bid for each unit price item.
- B. For determination of the apparent low Bidder, Bids will be evaluated on the basis of the total of all lump sum items and the total of the products of the estimated quantity of each item and unit price Bid for that item.
- C. The quantities for the unit price items are unpredictable and the ENGINEER has inserted certain quantities in the Bid Form to be used solely for purpose of comparison bids.
- D. Fixed minimum unit prices may have been established for some of the items in the Bid. The prices represent the minimum amounts which will be paid the CONTRACTOR for these items. If in the opinion of the Bidder these prices do not reflect the actual value of the work involved the Bidder may void the given fixed minimum unit price for that specific item and enter a higher unit price in the spaces provided in the Bid Sheets.

16.02 Discrepancies between words and figures will be resolved in favor of words. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

ARTICLE 17 - SUBMITTAL OF BID

- 17.01 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the Notice to Bidders. The entire Project Manual must be submitted with all proper forms completed and signed as required.
- 17.02 Bid shall be enclosed in an opaque sealed envelope plainly marked on the outside with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted) the name and address of the Bidder and its license or registration number, if applicable. Bid shall be accompanied by Bid security and other required documents.

17.03 All bids being mailed (including FedEx, UPS, Priority Mail, etc.) or hand-delivered to the Erie County Water Authority shall follow the procedure as defined in Section 00100, Notice To Bidders.

ARTICLE 18 - MODIFICATION OR WITHDRAWAL OF BID

18.01 Withdrawal Prior to Bid Opening:

- A. A Bid may be withdrawn by an appropriate document duly executed, in the manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time fixed for the opening of Bids. Upon receipt of such written notice, the unopened Bid will be returned to the Bidder.

18.02 Modification Prior to Bid Opening:

- A. If a Bidder wishes to modify its Bid, Bidder must withdraw its initial Bid in the manner specified in paragraph 18.01.A and submit a new Bid.

18.03 No Bids may be withdrawn after the time set for the Bid Opening.

ARTICLE 19 - OPENING OF BIDS

19.01 Bids will be opened at the time and place where Bids are to be submitted and, unless obviously non-responsive, read aloud publicly. An abstract of the Bids will be made available to Bidders after the opening.

19.02 Bids received by mail or otherwise after the date and time specified for the opening of Bids will not be accepted and will be returned to the Bidder unopened.

19.03 Bid results are available on the Erie County Water Authority website, www.ecwa.org (under Doing Business tab, select option Business Opportunities). No bid results will be given over the telephone.

ARTICLE 20 - DISQUALIFICATION OF BIDDERS

20.01 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

ARTICLE 21 - BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 21.01 All Bids shall remain subject to acceptance for forty five days after the day of the Bid opening, but OWNER may, in its sole discretion, release any Bid and return the Bid security prior to that date.
- 21.02 In the event that the OWNER requires more than 45 calendar days after the actual date of the Bid Opening to award the contract, Bidders shall, when requested, provide to ENGINEER a written extension of time for OWNER to award the contract. Bidders shall also provide, to ENGINEER, written Consent of Surety for extension of the bid bond.
- 21.03 In the event that the OWNER requires more than 45 calendar days after the actual date of the Bid Opening to award the contract, and the lowest qualified bidder does not grant an extension of time for the OWNER to award the contract, the OWNER reserves the right to award to the second lowest qualified bidder.

ARTICLE 22 - AWARD OF CONTRACT

- 22.01 OWNER reserves the right to reject any or all Bids, including without limitation the right to reject any or all nonconforming, non-responsive or conditional Bids. Bids may be rejected if they show any omissions, alterations of form, additions not called for, conditional or alternate bids other than are provided for in the Bid Form, bids containing escalation clauses or irregularities of any kind. OWNER further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to be non-responsible. OWNER also reserves the right to waive any informality not involving price, time or changes in the Work, if it is deemed to be in the best interest of the OWNER. The Bidder will not be allowed to take advantage of any error or omission.
- 22.02 OWNER reserves the right to reject any Bid not accompanied by specified documentation and Bid security. In the event that OWNER requires more than 45 calendar days after the actual Bid opening date to award the contract, Bidders shall provide to ENGINEER written Consent of Surety of the Bid Bond.
- 22.03 OWNER reserves the right to reject any Bid that, in its sole discretion, is considered to be unbalanced or unreasonable as to the amount bid for any lump sum or unit price item.
- 22.04 In evaluating Bidders, OWNER will consider their qualifications whether or not their Bids comply with the prescribed requirements, the alternatives, if any, the lump sum and unit prices, and other data as may be requested in the Bid Form or prior to the Notice of Award.
- 22.05 OWNER may consider the qualifications and experience of Subcontractors, Suppliers and other individuals or entities proposed for those portions of the Work for which the

identity of Subcontractors, Suppliers and other individuals or entities must be submitted as provided in the Supplementary Conditions.

- 22.06 OWNER may conduct such investigations as OWNER deems necessary to establish the responsibility, qualifications and financial ability of the Bidders to perform the Work in accordance with the Contract Documents. OWNER reserves the right to reject the Bid of any Bidder who does not pass any such evaluation to OWNER'S satisfaction.
- 22.07 OWNER reserves the right to accept any Bid deemed to be in its best interests even though the Bid chosen may result in the award of the Contract to a Bidder whose Bid is not, on a mathematical basis alone, the low Bid.
- 22.08 The OWNER may elect not to award a contract at this time due to budgetary or other considerations. OWNER reserves the right to reject any or all proposals and to re-bid the contract if the OWNER deems it in the public interest to do so.
- 22.09 Contracts shall be awarded only pursuant to resolution.
- 22.10 OWNER reserves the right to reject any bids from Bidders who are in arrears to, or in litigation with, the Erie County Water Authority or the County of Erie upon any debt or contract, or in default as surety or otherwise upon any obligation of the Erie County Water Authority or the County of Erie.

ARTICLE 23 - CONTRACT SECURITIES

- 23.01 Performance Bond shall be in the form of Engineers Joint Contract Documents Committee (EJCDC) "Construction Performance Bond", 1910-28-A. Payment Bond shall be in the form of EJCDC "Construction Payment Bond", 1910-28-B. The amounts of and other requirements for Performance and Payment Bonds are stated in paragraph 5.01 of the General Conditions. The requirements for delivery of Bonds are stated in paragraph 2.01 of the General Conditions. Additional requirements may be stated in the Supplementary Conditions.
- 23.02 Successful Bidder shall within five days from the date of the Notice of Award deliver to OWNER, for OWNER'S review and approval, the Performance Bond and the Payment Bond CONTRACTOR proposes to furnish at the time of the execution of the Agreement.

ARTICLE 24 – CONTRACTOR'S INSURANCE

- 24.01 The requirements for CONTRACTOR'S insurance and delivery of insurance certificates are stated in Article 5 of the General Conditions and in the Supplementary Conditions.

ARTICLE 25 - SIGNING OF AGREEMENT

25.01 When OWNER gives a Notice of Award to the Successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents, which are identified in the Agreement as attached thereto. Within five days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to OWNER.

ARTICLE 26 - NOTICE TO PROCEED

26.01 Issuance of the Notice to Proceed shall be as stated in Article 2 of the General Conditions.

ARTICLE 27 - PARTNERING (NOT USED)

ARTICLE 28 - SALES AND USE TAXES

28.01 Refer to Supplementary Conditions paragraph SC-6.10 for information on OWNER'S exemption from sales and use taxes on materials and equipment to be incorporated into the Work. Do not include said taxes in Bid.

ARTICLE 29 - ADDITIONAL REQUIREMENTS

29.01 Refer to Supplementary Conditions Paragraph SC-18.03 for information on OWNER'S Women and Minority Business Enterprise requirements.

29.02 Refer to Supplementary Conditions Paragraph SC-18.06 for information on OWNER'S Apprenticeship policy.

END OF SECTION

ERIE COUNTY WATER AUTHORITY
BUFFALO, NEW YORK

CONTRACT NO.: W-027
36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT
BETWEEN MILLERSPORT HIGHWAY AND SHERIDAN DRIVE
TOWN OF AMHERST, NY

PROJECT NO.: 201700093

SECTION 00320

GEOTECHNICAL DATA

ARTICLE 1 - GENERAL

- 1.01 Subsurface soil investigations have been made and the results are available as defined in Section 00800, Supplementary Conditions.
- 1.02 The subsurface investigation report was prepared by SJB Services, Inc. dated March 8, 2018, and is provided as a reference source for CONTRACTORS in the preparation of Bids and in the performance of their work. These investigations are for examination by Bidders but are not a part of the Contract Documents.
- 1.03 Bidder is responsible for any conclusions drawn from soil investigation data. If he prefers not to assume such risk, he is under obligation to employ his own experts to analyze available information. Bidder is responsible for any consequences of acting on conclusions obtained.
- 1.04 OWNER does not guarantee continuity of conditions indicated at soil investigation locations.

END OF SECTION

ERIE COUNTY WATER AUTHORITY
BUFFALO, NEW YORK

CONTRACT NO.: W-027
36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT
BETWEEN MILLERSPORT HIGHWAY AND SHERIDAN DRIVE
TOWN OF AMHERST, NY

PROJECT NO.: 201700093

SECTION 00360

PERMIT APPLICATIONS

ARTICLE 1 - GENERAL

- 1.01 CONTRACTOR shall apply for and is responsible for complying with all requirements of the following permits.
1. NYSDOT Highway Work Permit
 2. Town of Amherst Highway Work Permit
 3. National Grid Work Permit
 4. Any other Utility Permits for crossing existing utilities
- 1.02 CONTRACTOR shall include all permit fees and permit requirements in his unit bid prices for the project and will not receive separate payment for any permit fees, including all associated permit conditions.

ARTICLE 2 - SAMPLE PERMIT APPLICATIONS

- 2.01 Sample permit applications and requirements are bound in this Project Manual in the Appendix.

END OF SECTION

ERIE COUNTY WATER AUTHORITY
BUFFALO, NEW YORK

CONTRACT NO.: W-027
36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT
BETWEEN MILLERSPORT HIGHWAY AND SHERIDAN DRIVE
TOWN OF AMHERST, NY

PROJECT NO.: 201700093

(This Bid Form shall not be detached from the Project Manual. The entire Project Manual shall be returned with the executed Bid.)

SECTION 00410

BID FORMS

BID FOR:

Erie County Water Authority
Contract No: W-027
36-Inch Transmission Main Replacement Project
Between Millersport Highway and Sheridan Drive
Project No. 201700093

BID TO:

Erie County Water Authority
295 Main Street, Room 350
Buffalo, New York 14203

BID FROM: _____

(Print or Type Name of Bidder)

(/A Corporation/A Partnership/A Limited Liability Company/An
Individual/A Joint Venture/[Bidder to strike out inapplicable terms.]

Gentlemen:

1.01 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with OWNER in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the price(s) and within the times indicated in this Bid and in accordance with the Bidding Documents.

ERIE COUNTY WATER AUTHORITY
 CONTRACT NO: W-027
 36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT

2.01 Bidder accepts all of the terms and conditions of the Notice to Bidders and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain open subject to acceptance for the time period set forth in the Instruction to Bidders. Bidder will sign the Agreement and will furnish the required contract security, and other required documents within the time periods set forth in the Bidding Documents.

3.01 In submitting this Bid, Bidder represents, as set forth in the Agreement, that:

A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, if any, and the following Addenda receipt of all of which is hereby acknowledged.

<u>Addendum No.</u>	<u>Date Received</u>	<u>Addendum No.</u>	<u>Date Received</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance for the Work.

C. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions, and (2) reports and drawings of a Hazardous Environmental Condition identified at the Site, if any, which have been identified in the Supplementary Conditions as provided in paragraph 4.06 of the General Conditions.

E. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may effect cost, progress or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques,

ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-027
36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT

sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.

- F. Bidder does not consider that any further examinations, investigations, explorations, tests, studies or data are necessary for the determination of this Bid for performance of the Work at the price(s) and within the times and in accordance with the other terms and conditions of the Bidding Documents.
 - G. Bidder is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents.
 - H. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents and all additional examinations, investigations, explorations, tests, studies and data with the Bidding Documents.
 - I. Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by ENGINEER is acceptable to Bidder.
 - J. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.
 - K. The quantities for the unit price items are unpredictable and the ENGINEER has inserted certain quantities in the proposal to be used solely for purpose of comparison of bids.
 - L. Fixed minimum unit prices may have been established for some of the items in the Bid. The prices represent the minimum amounts, which will be paid the CONTRACTOR for these items. The Bidder shall include a price not less than the stated minimum. If in the opinion of the Bidder these prices do not reflect the actual value of the work involved, the Bidder may void the given fixed minimum unit price for that specific item and enter a higher unit price in the spaces provided in the Bid Form sheets. Bidder's Proposals received which include a unit price less than the stated minimum shall be adjusted to meet the fixed minimum unit price.
- 4.01 Bidder further represents that this Bid is genuine and is not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from bidding; Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER; and that no person or persons acting in any official capacity for

ERIE COUNTY WATER AUTHORITY
 CONTRACT NO: W-027
 36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT

the OWNER are directly or indirectly interested in this Bid, or in any portion of the profit thereof.

5.01 Bidder will complete the Work in accordance with the Contract Documents for:

<u>Description</u>	<u>Estimated Quantities</u>	<u>Computed Totals</u>
Item 1 - Watermain		
Item 1A – Ductile Iron Pipe (DIP)		
Item 1A9- For furnishing and installing 30-inch Ductile Iron Pipe (DIP) Watermain at the Unit Price of _____ Dollars		
and _____ Cents (\$ _____) Per Linear Foot	30 LF	\$ _____
Item 1A10- For furnishing and installing 36-inch Ductile Iron Pipe (DIP) Watermain at the Unit Price of _____ Dollars		
and _____ Cents (\$ _____) Per Linear Foot	50 LF	\$ _____
Item 1B – Polyvinyl Chloride Pipe (PVC)		
Item 1B3- For furnishing and installing 12-inch Polyvinyl Chloride Pipe (PVC) Watermain at the Unit Price of _____ Dollars		
and _____ Cents (\$ _____) Per Linear Foot	80 LF	\$ _____

ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-027
36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT

Item 1C – Prestressed Concrete Cylinder Pipe (PCCP)

Item 1C4- For furnishing and installing
30-inch Prestressed Concrete Cylinder Pipe (PCCP)
Watermain at the Unit Price of

_____ Dollars

and _____ Cents
(\$ _____) Per Linear Foot

20 LF \$ _____

Item 1C5- For furnishing and installing
36-inch Prestressed Concrete Cylinder Pipe (PCCP)
Watermain at the Unit Price of

_____ Dollars

and _____ Cents
(\$ _____) Per Linear Foot

3,140 LF \$ _____

Item 2 - Valves

Item 2B – Butterfly Valve

Item 2B1- For furnishing and installing
12-inch Butterfly Valve at the Unit Price of
_____ Dollars

and _____ Cents
(\$ _____) Per Each

4 Ea \$ _____

Item 2B5- For furnishing and installing
30-inch Butterfly Valve at the Unit Price of
_____ Dollars

and _____ Cents
(\$ _____) Per Each

1 Ea \$ _____

Item 2B6 - For furnishing and installing
36-inch Butterfly Valve at the Unit Price of
_____ Dollars

and _____ Cents
(\$ _____) Per Each

5 Ea \$ _____

ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-027
36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT

Item 2D – Air Release Valve

Item 2D1 - For furnishing and installing
Air Release Valve in Concrete Chamber
at the Unit Price of

_____ Dollars

and _____ Cents
(\$ _____) Per Each

1 Ea \$ _____

Item 3 – Fire Hydrants

Item 3A – For furnishing and installing
New Transmission Main Hydrant Blow-off Assembly
at the Unit Price of

_____ Dollars

and _____ Cents
(\$ _____) Per Each

2 Ea \$ _____

Item 3C – For furnishing and installing
Fire Hydrant Abandonment at the Unit Price of
_____ Dollars

and _____ Cents
(\$ _____) Per Each

1 Ea \$ _____

Item 4 – Test Pit Excavation and Backfill

Item 4A – For furnishing and installing
Test Pit Excavation and Backfill
(Fixed Minimum Unit Price of \$200.00/Ea.)
at the Unit Price of

_____ Dollars

and _____ Cents
(\$ _____) Per Each

15 Ea \$ _____

ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-027
36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT

Item 5 – Rock Excavation

Item 5A – For Rock Excavation
(Fixed Minimum Unit Price of \$150.00/CY)
at the Unit Price of

_____ Dollars

and _____ Cents
(\$ _____) Per Cubic Yard

25 CY \$ _____

Item 6 – Select Backfill

Item 6A – For furnishing and installing
Select Backfill (Fixed Minimum Unit Price of \$20.00/CY)
at the Unit Price of

_____ Dollars

and _____ Cents
(\$ _____) Per Cubic Yard

375 CY \$ _____

Item 7 – Interconnections

Item 7A – For Interconnection No. 1
at 36-inch PCCP Watermain on the
North Side of Millersport Hwy.
at the Lump Sum Price of

_____ Dollars

and _____ Cents
(\$ _____) Lump Sum

1 LS \$ _____

Item 7B – For Interconnection No. 2
at 12-inch PVC Watermain along Millersport Highway
at the Lump Sum Price of

_____ Dollars

and _____ Cents
(\$ _____) Lump Sum

1 LS \$ _____

ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-027
36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT

Item 7C – For Interconnection No. 3
at 30-inch ECWA Watermain to the
North of Sheridan Drive
at the Lump Sum Price of

_____ Dollars

and _____ Cents

(\$ _____) Lump Sum

1 LS \$ _____

Item 9 – Casing Pipe

Item 9H – For furnishing and installing
60-inch Diameter Casing Pipe at the Unit Price of

_____ Dollars

and _____ Cents

(\$ _____) Per Linear Foot

784 LF \$ _____

Item 10 – Abandonments

Item 10A – For Abandonment of Existing
36-inch Watermain at Millersport Highway (North End)
at the Lump Sum Price of

_____ Dollars

and _____ Cents

(\$ _____) Lump Sum

1 LS \$ _____

Item 11 – Restoration

Item 11C – Landscape Restoration

Item 11C1 – For Landscaping
(Fixed Minimum Unit Price of \$3.00/LF)
at the Unit Price of

_____ Dollars

and _____ Cents

(\$ _____) Per Linear Foot

2,500 LF \$ _____

ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-027
36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT

Item 11C2 – For Tree Planting
(Fixed Minimum Unit Price of \$100.00/Ea)
at the Unit Price of _____ Dollars

and _____ Cents
(\$ _____) Per Each 5 Ea \$ _____

Item 11C3 – For Removal of Trees
(Fixed Minimum Unit Price of \$100.00/Ea)
Less than 12-inch Diameter at the Unit Price of _____ Dollars

and _____ Cents
(\$ _____) Per Each 20 Ea \$ _____

Item 11C4 – For Removal of Trees
(Fixed Minimum Unit Price of \$100.00/Ea)
Greater than 12-inch Diameter at the Unit Price of _____ Dollars

and _____ Cents
(\$ _____) Per Each 12 Ea \$ _____

Item 12 – Testing and Disinfection

Item 12A – For Testing and Disinfection,
(Fixed Minimum Unit Price of \$3.00/LF),
at the Unit Price of _____ Dollars

and _____ Cents
(\$ _____) Per Linear Foot 3,320 LF \$ _____

Item 13 – Extra Work Items

Item 13A – For Extra Excavation (8 to 10 feet deep)
(Fixed Minimum Unit Price of \$10.00/LF)
at the Unit Price of _____ Dollars

and _____ Cents
(\$ _____) Per Linear Foot 2,425 LF \$ _____

ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-027
36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT

Item 13B – For Extra Excavation (10 to 12 feet deep)
(Fixed Minimum Unit Price of \$20.00/LF)
at the Unit Price of

_____ Dollars

and _____ Cents
(\$ _____) Per Linear Foot

1,825 LF \$ _____

Item 13C – For Extra Excavation (12 to 14 feet deep)
(Fixed Minimum Unit Price of \$30.00/LF)
at the Unit Price of

_____ Dollars

and _____ Cents
(\$ _____) Per Linear Foot

600 LF \$ _____

Item 13D – For Extra Excavation (14 to 16 feet deep)
(Fixed Minimum Unit Price of \$40.00/LF)
at the Unit Price of

_____ Dollars

and _____ Cents
(\$ _____) Per Linear Foot

350 LF \$ _____

Item 13E – For Extra Excavation (16 to 18 feet deep)
(Fixed Minimum Unit Price of \$50.00/LF)
at the Unit Price of

_____ Dollars

and _____ Cents
(\$ _____) Per Linear Foot

50 LF \$ _____

Item 13F – For furnishing and installing Extra
Concrete (Fixed Minimum Unit Price of \$100.00/CY)
at the Unit Price of

_____ Dollars

and _____ Cents
(\$ _____) Per Cubic Yard

10 CY \$ _____

ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-027
36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT

Item 14 – Repair Crew Labor and Equipment

Item 14A – For Repair Crew Labor and Equipment
(Fixed Minimum Unit Price of \$150.00/LF)
at the Unit Price of

_____ Dollars

and _____ Cents
(\$ _____) Per Hour

8 Hr \$ _____

Item 15 – Vacuum Truck and Labor

Item 15A – For Vacuum Truck and Labor
(Fixed Minimum Unit Price of \$125.00/LF)
at the Unit Price of

_____ Dollars

and _____ Cents
(\$ _____) Per Hour

8 Hr \$ _____

Item 16 – Contingency Allowance

Item 16A – Contingency Allowance
at the Stipulated Amount of
Two Hundred Fifty Thousand Dollars

and 00 Cents
(\$250,000.00) Per Lump Sum

1 LS \$ 250,000.00

Item 17 – All-Stop Work Order

Item 17A – For Work Stoppage due to “ALL STOP” Order
(Fixed Minimum Unit Price of \$100.00/LF)
at the Unit Price of

_____ Dollars

and _____ Cents
(\$ _____) Per Hour

80 Hr \$ _____

ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-027
36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT

Item 18 – Electrically Qualified Person

Item 18A – For Third Party Electrically Qualified Person
on National Grid Property
at the Unit Price of

_____ Dollars

and _____ Cents
(\$ _____) Per Hour

400 Hr \$ _____

TOTAL BID AMOUNT (This total is for convenience in
comparing Bids and is not an official part of this Bid.)

\$ _____
(Figures)

_____ Dollars and _____ Cents
(Written Amount)

ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-027
36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT

Unit prices have been computed in accordance with paragraph 11.03.B of the General Conditions.

Bidder acknowledges that estimated quantities of items of Unit Price Work are not guaranteed and final payment will be based on actual quantities of Unit Price Work performed as provided in the Contract Documents.

6.01 Bidder agrees that the Work will be substantially complete and completed and ready for final payment in accordance with Paragraph 14.07.B of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

6.02 Bidder accepts the provisions of the Agreement as to liquidated and special damages in the event of failure to complete the Work within the times specified above.

7.01 The following documents are attached to and made a condition of this Bid:

- A. Required Bid security in the amount of _____ Dollars (\$_____).
- B. Section 2875 of the Public Authorities Law, Ground for Cancellation of Contract by Public Authority.
- C. Section 2876 of the Public Authorities Law, Disqualification to Contract with Public Authority.
- D. Section 2878 of the Public Authorities Law, Non-Collusive Bidding Certification.
- E. Section 139 of State Finance Law, Lobbying.
- F. Required Bidder Qualifications Statement with supporting data.
- G. All addenda.

8.01 The terms used in this Bid will have the meanings indicated in the Instructions to Bidders and the General Conditions and Supplementary Conditions.

Respectfully submitted on _____, 20__.

ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-027
36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT

If Bidder is:

An Individual

By _____
(Individual's Signature)

(Printed or Typed Name of Individual)

Doing business as _____

License or Registration Number: _____

Business Address: _____

Phone No.: _____ FAX No.: _____

A Partnership

By _____
(Firm Name)

(General Partner's Signature)

(Printed or Typed Name of General Partner)
(Attach evidence of authority to sign.)

License or Registration Number: _____

Business Address: _____

Phone No.: _____ FAX No.: _____

ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-027
36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT

A Corporation

By _____
(Corporation Name)

(State of Incorporation)

By _____
(Signature of Officer Authorized to Sign)

(Printed or Typed Name and Title of Officer Authorized to Sign)
(Attach evidence of authority to sign.)

(CORPORATE
SEAL)

Attest _____
(Secretary)

License or Registration Number: _____

Business Address: _____

Phone No.: _____ FAX No.: _____

ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-027
36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT

Limited Liability Company

By _____
(Firm Name)

(State of Formation)

By _____
(Signature of Member/Authorized to Sign)

(Printed or Typed Name and Title of Member Authorized to Sign)
(Attach evidence of authority to sign.)

License or Registration Number: _____

Business Address: _____

Phone No.: _____ FAX No.: _____

ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-027
36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT

A Joint Venture

Joint Venture Name: _____

By _____
(Signature)

(Printed or Typed Name) (Title)

(Address)

By _____
(Signature)

(Printed or Typed Name) (Title)

(Address)

Phone and FAX number and address for receipt of communications to joint venture:

(Each joint venturer must sign. The manner of signing for each individual, partnership, corporation or limited liability company that is a party to the joint venture shall be in the manner indicated above).

END OF BID FORM

ERIE COUNTY WATER AUTHORITY
BUFFALO, NEW YORK

CONTRACT NO: W-027
WATER SYSTEM IMPROVEMENTS BETWEEN MILLERSPORT HIGHWAY &
SHERIDAN DRIVE
PROJECT NO: 201700093

SECTION 00430
BID FORM SUPPLEMENTS

Bid Security Form

Section 2875 of the Public Authorities Law

Section 2876 of the Public Authorities Law

Section 2878 of the Public Authorities Law

State Finance Law Requirements

Section 139-L of the State Finance Law

BID SECURITY FORM

BIDDER (Name and Address):

SURETY (Name and Address of Principal Place of Business):

OWNER:

Erie County Water Authority
295 Main Street, Room 350
Buffalo, New York 14203

BID

BID DUE DATE: _____

PROJECT:

Contract No: W-027

WATER SYSTEM IMPROVEMENTS BETWEEN MILLERSPORT HIGHWAY &
SHERIDAN DRIVE

Project No: 201700093

BOND

BOND NUMBER: _____

DATE: (Not later than Bid due date): _____

PENAL SUM: _____ (Words) _____ (Figurs)

IN WITNESS WHEREOF, Surety and Bidder, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Bid Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

BIDDER

SURETY

(Seal)
Bidder's Name and Corporate Seal

(Seal)
Surety's Name and Corporate Seal

By: _____
Signature and Title

By: _____
Signature and Title
(Attach Power of Attorney)

Attest: _____
Signature and Title

Attest: _____

1.01 Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to pay to OWNER upon default of Bidder the penal sum set forth on the face of this Bond.

2.01 Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by OWNER) the executed Agreement required by the Bidding Documents and any performance and payment Bonds required by the Bidding Documents.

3.01 This obligation shall be null and void if:

- A. OWNER accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by OWNER) the executed Agreement required by the Bidding Documents and any performance and payment Bonds required by the Bidding Documents, or
- B. All Bids are rejected by OWNER, or
- C. OWNER fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by paragraph 5.01 hereof).

4.01 Payment under this Bond will be due and payable upon default by Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from OWNER, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5.01 Surety waives notice of and any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by OWNER and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.

6.01 No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in paragraph 4.01 above is received by Bidder and Surety and in no case later than one year after Bid due date.

7.01 Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8.01 Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9.01 Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent or representative, who executed this Bond on behalf of Surety to execute, seal and deliver such Bond and bind the Surety thereby.

10.01 This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11.01 The term "Bid" as used herein includes a Bid, offer or proposal as applicable.

END OF BID BOND

SECTION 2875 OF THE PUBLIC AUTHORITIES LAW

§2875. GROUND FOR CANCELLATION OF CONTRACT BY PUBLIC AUTHORITY.

A clause shall be inserted in all specifications or contracts hereafter made or awarded by any public authority or by any official of any public authority created by the state or any political subdivision, for work or services performed or to be performed or goods sold or to be sold, to provide that upon the refusal of a person, when called before a grand jury, head of a state department, temporary state commission, or other state agency, the organized crime task force in the department of law, head of a city department, or other city agency, which is empowered to compel the attendance of witnesses and examine them under oath, to testify in an investigation concerning any transaction or contract had with the state, any political subdivision thereof or of a public authority, to sign a waiver of immunity against subsequent criminal prosecution or to answer any relevant question concerning such transaction or contract.

(a) Such person, and any firm, partnership or corporation of which he is a member, partner, director or officer shall be disqualified from thereafter selling to or submitting bids to or receiving awards from or entering into any contracts with any public authority or official thereof, for goods, work or services, for a period of five years after such refusal, and to provide also that;

(b) any and all contracts made with any public authority or official thereof, since the effective date of this law, by such person and by any firm, partnership or corporation of which he is a member, partner, director or officer may be canceled or terminated by the public authority without incurring any penalty or damages on account of such cancellation or termination, but any monies owing by the public authority for goods delivered or work done prior to the cancellation termination shall be paid.

This is to CERTIFY that neither the undersigned nor any member, partner, director, or officer of the firm has refused to sign a waiver of immunity against subsequent criminal prosecution or to answer any relevant question concerning a transaction or contract with the state, any political subdivision thereof, a public authority or with a public department, agency or official of the state or of any political subdivision thereof or of a public authority, when called before a grand jury, head of a state department, temporary state commission, or other state agency, the organized crime task force in the department of law, head of a city department, or other city agency, which is empowered to compel the attendance of witnesses and examine them under oath.

(Name of Individual, Partnership or Corporation)

By _____
(Person authorized to sign)

(SEAL)

SECTION 2876 OF THE PUBLIC AUTHORITIES LAW

§2876. DISQUALIFICATION TO CONTRACT WITH PUBLIC AUTHORITY

Any person who, when called before a grand jury, head of a state department, temporary state commission or other state agency, the organized crime task force in the department of law, head of a city department or other city agency, which is empowered to compel the attendance of witnesses and examine them under oath to testify in an investigation concerning any transaction or contract had with the state, any political subdivision thereof, a public authority or with a public department, agency or official of the state or of any political subdivision thereof or of a public authority, refuses to sign a waiver of immunity against subsequent criminal prosecution or to answer any relevant questions concerning such transaction or contract, and any firm, partnership or corporation of which he is a member, partner, director or officer shall be disqualified from thereafter selling to or submitting bids to or receiving awards from or entering into any contracts with any public authority or any official of any public authority created by the state or any political subdivision, for goods, work or services, for a period of five years after such refusal or until a disqualification shall be removed pursuant to the provisions of section twenty-six hundred three of this article.

It shall be the duty of the officer conducting the investigation before the grand jury, the head of a state department, the chairman of the temporary state commission or other state agency, the organized crime task force in the department of law, the head of a city department or other city agency before which the refusal occurs to send notice of such refusal, together with the names of any firm, partnership or corporation of which the person so refusing is known to be a member, partner, officer or director, to the commissioner of transportation of the state of New York, or the commissioner of general services as the case may be, and the appropriate departments, agencies and officials of the state, political subdivisions thereof or public authorities with whom the persons so refusing and any firm, partnership or corporation of which he is a member, partner, director or officer, is known to have a contract. However, when such refusal occurs before a body other than a grand jury, notice of refusal shall not be sent for a period of ten days after such refusal occurs. Prior to the expiration of this ten day period, any person, firm, partnership or corporation which has become liable to the cancellation or termination of a contract or disqualification to contract on account of such refusal may commence a special proceeding at a special term of the supreme court, held within the judicial district in which the refusal occurred, for an order determining whether the questions in response to which the refusal occurred were relevant and material to the inquiry. Upon the commencement of such proceeding, the sending of such notice of refusal to answer shall be subject to order of the court in which the proceeding was brought in a manner and on such terms as the court may deem just. If a proceeding is not brought within ten days, notice of refusal shall thereupon be sent as provided herein.

SECTION 2878 OF THE PUBLIC AUTHORITIES LAW

§2878. STATEMENT OF NON-COLLUSION IN BIDS OR PROPOSALS TO PUBLIC AUTHORITY.

(1) Every bid or proposal hereafter made to a public authority or to any official of any public authority created by the state or any political subdivision, where competitive bidding is required by statute, rule, regulation or local law, for work or services performed or to be performed or goods sold or to be sold, shall contain the following statement subscribed by the bidder and affirmed by such bidder as true under the penalties of perjury:

NON-COLLUSIVE BIDDING CERTIFICATION

(a) By submission of this bid, EACH BIDDER AND EACH PERSON SIGNING ON BEHALF OF ANY 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 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 the bidder and will not knowingly be disclosed by the 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.

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

The fact that a bidder (a) has published price lists, rates, or tariffs covering items to be procured, (b) has informed prospective customers of proposed or pending publication of new or revised price lists for such items, or (c) has sold the same items to other customers at the same prices being bid, does not constitute, without more, a disclosure within the meaning of subparagraph one (a).

The undersigned CERTIFIES, under penalty of perjury, that he is authorized to make this bid and execute this statement of non-collusion; that each of the statements contained in (1), (2) and (3) of paragraph (a) are true; that he is familiar with the statements and restrictions contained in paragraph (b) and the paragraph regarding the publication of price lists, etc. and such statements and restrictions are true and have been complied with by the bidder.

(Name of Individual, Partnership, or Corporation)

By _____

(SEAL)

FORMS A, B, and C

STATE FINANCE LAW REQUIREMENTS

The Erie County Water Authority (the “Authority”) is a government entity, as that term is defined in State Finance Law §§ 139-j(1)(a) and 139-k(1)(a). When the Authority seeks to procure goods or services by means of an Invitation or Notice to Bid, or a Request for Proposals, the State Finance Law imposes certain restrictions on anyone who may wish to offer goods or services to the Authority as an Offerer, as that term is defined in §§ 139-j(1)(h) and 139-k(1)(h).

During the Restricted Period, as defined in §§ 139-j(1)(f) and 139-k(1)(f), when bids or proposals are being solicited, the Authority will designate a contact person with whom the Offerer may contact for information and other authorized purposes as set forth in §139-j of the State Finance Law. The designated contact is identified in the Notice to Bidders, or in the Request for Proposal. An Offerer is authorized to contact the Authority’s designated contact for such purposes as set forth in § 139-j(3).

Pursuant to the State Finance Law, the Authority is also required to make certain findings before making any determinations as to the qualifications and eligibility of those seeking a procurement contract, as that term is defined in State Finance Law §§ 39-j(1)(g) and 139-k(1)(g). Certain findings of non-responsibility can result in rejection for contract award and in the event of two findings of non-responsibility occurring within a 4-year period, the Offerer will be debarred from obtaining procurement contracts with the Authority. Further information about these requirements can be found in §§139–j and 139–k of the New York State Finance Law and the Erie County Water Authority’s Procurement Disclosure Policy.

The following forms will be used by the Authority to make such findings:

Form A - Offerer’s Affirmation of Understanding of, and Agreement to Comply with, the Authority’s Permissible Contact Requirements During the Restricted Period.

Form B - Offerer’s Certification of Compliance with State Finance Law.

Form C - Offerer’s Disclosure of Prior Non-Responsibility Determinations.

FORM A

**Offerer's Affirmation of Understanding of, and Agreement to Comply
with, the Permissible Contact Requirements During the Restricted Period**

Instructions:

The Erie County Water Authority (the "Authority") is a government entity, as that term is defined in State Finance Law §§ 139-j(1)(a) and 139-k(1)(a). The Authority must obtain a written affirmation of understanding and agreement to comply with procedures regarding permissible contacts with the Authority in the restricted period for a procurement contract in accordance with State Finance Law §139-j and §139-k. It is required that this affirmation be obtained as early as possible in the procurement process, but no later than when the Offerer submits its proposal.

Offerer affirms that it understands and agrees to comply with the procedures of the Authority relative to permissible contacts as required by State Finance Law §139-j(3) and §139-j(6)(b).

By: _____ Date: _____

Name: _____

Title: _____

Contractor Name: _____

Contractor Address: _____

FORM B

**Offerer's Certification of Compliance
With State Finance Law §139-k(5)**

Instructions:

The Erie County Water Authority (the "Authority") is a government entity, as that term is defined in State Finance Law §§ 139-j(1)(a) and 139-k(1)(a). The Authority must obtain a Certification that the information submitted for a procurement contract is complete, true, and accurate regarding any prior findings of non-responsibility, such as non-responsibility pursuant to State Finance Law §139-j. The Offerer must agree to sign the Certification, under penalty of perjury, and to provide the Certification to the Authority. The Certification should be obtained as early as possible in the process, but no later than when an Offerer submits its proposal.

Offerer Certification:

I certify that all information provided to the Authority relating to the awarding of a procurement contract is complete, true, and accurate.

By: _____ Date: _____

Name: _____

Title: _____

Contractor Name: _____

Contractor Address: _____

FORM C**Offerer's Disclosure of Prior
Non-Responsibility Determinations****Background:**

The Erie County Water Authority (the "Authority") is a government entity, as that term is defined in State Finance Law §§ 139-j(1)(a) and 139-k(1)(a). New York State Finance Law §139-k(2) obligates the Authority to obtain specific information regarding prior non-responsibility determinations with respect to State Finance Law §139-j. In accordance with State Finance Law §139-k, an Offerer must be asked to disclose whether there has been a finding of non-responsibility made within the previous four (4) years by any Governmental Entity due to: (a) a violation of State Finance Law §139-j; or (b) the intentional provision of false or incomplete information to a Government Entity.

The terms "Offerer" and "Governmental Entity" are defined in State Finance Law §§139-j(1) and §139-k(1). These sections also set forth detailed requirements about the restrictions on contacts during the procurement process. A violation of State Finance Law §139-j includes, but is not limited to, an impermissible contact during the restricted period (for example, contacting a person or entity other than the designated contact person, when such contact does not fall within one of the exemptions).

As part of its responsibility determination, State Finance Law §139-k(3) mandates consideration of whether an Offerer fails to timely disclose accurate or complete information regarding the above non-responsibility determination. In accordance with law, no Procurement Contract shall be awarded to any Offerer that fails to timely disclose accurate or complete information under this section, unless a finding is made that the award of the Procurement Contract to the Offerer is necessary to protect public property or public health safety, and the Offerer is the only source capable of supplying the required Article of Procurement, as that term is defined in State Finance Law §§ 139-j(1)(b) and 139-k(1)(b), within the necessary timeframe. See State Finance Law §139-j(10)(b) and §139-k(3).

Instructions:

The Authority must include a disclosure request regarding prior non-responsibility determinations in accordance with State Finance Law §139-k in its solicitation of proposals or bid documents or specifications or contract documents, as applicable, for procurement contracts. The attached form is to be completed and submitted by the individual or entity seeking to enter into a Procurement Contract. It shall be submitted to the Authority conducting the Governmental Procurement no later than when the Offerer submits its proposal.

CONTRACT TERMINATION PROVISION

Instructions:

A Contract Termination Provision will be included in each procurement contract governed by State Finance Law §139-k. New York State Finance Law §139-k(5) provides that every procurement contract award subject to the provisions of State Finance Law §§139-k and 139-j shall contain a provision authorizing the governmental entity to terminate the contract in the event that the certification is found to be intentionally false or intentionally incomplete. This statutory contract language authorizes, but does not mandate, termination. “Government Entity” and “procurement contract” are defined in State Finance Law §§ 139 j(1) and 139-k(l).

This required clause will be included in a covered procurement contract.

A sample of the Termination Provision is included below. If a contract is terminated in accordance with State Finance Law §139-k(5), the Erie County Water Authority, as a governmental entity, is required to include a statement in the procurement record describing the basis for any action taken under the termination provision.

Sample Contract Termination Provision

The Erie County Water Authority, as a governmental entity, reserves the right to terminate this contract in the event it is found that the certification filed by the Offerer in accordance with New York State Finance Law §139-k was intentionally false or intentionally incomplete. Upon such finding, the Authority may exercise its termination right by providing written notification to the Offerer in accordance with the written notification terms of this contract.

SECTION 139-L OF THE STATE FINANCE LAW
STATEMENT RELATING TO SEXUAL HARASSMENT POLICY

1. "Bidder" has the same meaning as the term, "Offerer," as that term is defined in State Finance Law § 139-k(1)(h), and includes anyone who submits a bid or proposal.
2. Every proposal or bid hereafter made and submitted to the Erie County Water Authority, where competitive bidding or a sealed proposal is required by statute, rule or regulation, for work or services performed or to be performed or goods sold or to be sold, shall contain the following statement subscribed by the Bidder and affirmed by such Bidder as true under penalty of perjury:

SEXUAL HARASSMENT BIDDING CERTIFICATION

- (a) "By submission of this bid/proposal, EACH BIDDER AND EACH PERSON SIGNING ON BEHALF OF ANY BIDDER CERTIFIES, AND IN THE CASE OF A JOINT BID EACH PARTY THERETO CERTIFIES AS TO ITS OWN ORGANIZATION, under penalty of perjury, that the Bidder has and has implemented a written policy addressing sexual harassment prevention in the workplace and provides annual sexual harassment prevention training to all its employees. Such policy shall, at a minimum, meet the requirements of Section two hundred one-g of the Labor Law."
3. A bid/proposal shall not be considered for award nor shall any award be made to a Bidder who has not complied with subdivision one of this section; provided, however, that if in any case the Bidder cannot make the foregoing certification, the Bidder shall so state and shall furnish with the bid/proposal a signed statement which sets forth in detail the reasons therefore.

The undersigned CERTIFIES, under penalty of perjury, that he is authorized to make this bid/proposal and execute this statement on sexual harassment; that he is familiar with the statements contained in ¶2(a) of this document, as well as the provisions of State Finance Law §139-L and Labor Law §201-g, and such statements are true and have been complied with by the Bidder.

(Name of Individual, Partnership or Corporation)

By _____
(Person authorized to sign)

(SEAL)

END OF BID FORM SUPPLEMENTS

ERIE COUNTY WATER AUTHORITY
BUFFALO, NEW YORK

CONTRACT NO.: W-027
36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT
BETWEEN MILLERSPORT HIGHWAY AND SHERIDAN DRIVE
TOWN OF AMHERST, NY

PROJECT NO.: 201700093

SECTION 00450

BIDDER'S QUALIFICATION STATEMENT

(Completion of this statement is required in advance of
consideration for award of Contract.)

SUBMITTED TO:

Erie County Water Authority
295 Main Street, Room 350
Buffalo, New York 14203

SUBMITTED FOR:

Erie County Water Authority
Contract No: W-027
36-Inch Transmission Main Replacement Project
Between Millersport Highway and Sheridan Drive
ECWA Project No. 201700093

SUBMITTED BY:

Name of Organization: _____
(Print or Type Name of Bidder)

Name of Individual: _____

Title: _____

Business Address: _____

Telephone No.: _____

Fax No.: _____

Gentlemen:

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

(Note: Attach additional sheets as required.)

1.0 Bidder's General Business Information

1.1 Check if:

- Corporation Partnership Joint Venture Sole Proprietorship

If Corporation:

A. Date and State of Incorporation:

B. List of Executive Officers:

Name	Title
_____	_____
_____	_____
_____	_____

If Partnership:

A. Date and State of Organization:

B. Names of Current General Partners:

C. Type of Partnership

- General Publicly Traded
 Limited Other (described): _____

If Joint Venture:

A. Date and State of Organization:

B. Name, Address and Form of Organization of Joint Venture Partners: (Indicate managing partner by an asterisk *):

If Sole Proprietorship:

A. Date and State of Organization:

B. Name and Address of Owner or Owners:

2.0 How many years has your organization been in business as a general contractor? _____

3.0 If your organizational structure has changed within the past five years, provide data as listed above in Item 1.0 for your previous organization.

4.0 We normally perform _____ percent of the work with our own forces. List work normally subcontracted.

5.0 Has any construction contract to which you have been a party been terminated by the owner; have you ever terminated work 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", furnish details of all such occurrences including name of owner, architect or engineer, and surety, and name and date of project.

- 6.0 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”, furnish details of all such occurrences including name of owner, architect or engineer, and surety, and name and date of project.
- 7.0 In the last five years, has your organization, or any predecessor organization, failed to substantially complete a project in a timely manner? If the answer to this question is “yes”, furnish details of all such occurrences including name of owner, architect or engineer, and surety, and name and date of project.
- 8.0 On Schedule A, attached, list name, location and description of project, owner, architect or engineer, contract price, percent complete and scheduled completion of the major construction projects your organization has in progress on this date. Provide name, address and telephone number of a reference for each project listed.
- 9.0 On Schedule B, attached, list name, location and description of project, owner, architect or engineer, contract price, date of completion and percent of work with your own forces of major projects of the same general nature as this project which your organization has completed in the past five years. Provide name, address and telephone number of a reference for each project listed.
- 10.0 On Schedule C, attached, list name and construction experience of the principal individuals of your organization directly involved in construction operations.
- 10.1 On Schedule D, attached, list OSHA Information requested.
- 11.0 List the states and categories of construction in which your organization is legally qualified to do business.
- 12.0 Provide the following for your surety:
- 12.1 Surety Company: _____
- 12.2 Agent: _____
- A. Address: _____
- B. Telephone No.: _____

12.3 What is your approximate total bonding capacity?

- \$500,000 to \$2,000,000
- \$2,000,000 to \$5,000,000
- \$5,000,000 to \$10,000,000
- \$10,000,000 or more

13.0 Provide the following with respect to an accredited banking institution familiar with your organization.

13.1 Name of Bank: _____

13.2 Address: _____

13.3 Account Manager: _____

13.4 Telephone No.: _____

14.0 Provide the name, address and telephone number of an individual who represents a major equipment/material supplier whom the Owner may contact for a financial reference:

15.0 Attach a financial statement, prepared on an accrual basis, in a form which clearly indicates Bidder's assets, liabilities and net worth.

15.1 Date of financial statement: _____

15.2 Name of firm preparing statement: _____

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

Bidder: _____
(Print or Type Name of Bidder)

By: _____

Title: _____

Attachments A, B, C, and D

(Seal, if corporation)

------(Affidavit for Individual)-----

_____ being duly sworn, deposes and says that:
a) the financial statement, taken from his/her books, is a true and accurate statement of his/her financial condition as of the date thereof; and b) all of the foregoing qualification information is true, complete, and accurate.

------(Affidavit for Partnership)-----

_____ being duly sworn, deposes and says that:
a) he/she is a member of the partnership of _____;
b) he/she is familiar with the books of said partnership showing its financial condition; c) the financial statement, taken from the books of said partnership, is a true and accurate statement of the financial condition of the partnership as of the date thereof; and d) all of the foregoing qualification information is true, complete, and accurate.

------(Affidavit for Corporation)-----

_____ being duly sworn, deposes and says that:
a) he/she is _____ of _____;
(Full name of Corporation)
b) he/she is familiar with the books of said corporation showing its financial condition; c) the financial statement, taken from the books of said corporation, is a true and accurate statement of the financial condition of said corporation as of the date thereof; and d) that all of the foregoing qualification information is true, complete, and accurate.

------(Acknowledgment)-----

_____ being duly sworn, deposes and says
that he/she is _____ of _____;
(Name of Bidder)
that he/she is duly authorized to make the foregoing affidavit and that he/she makes it on behalf
of
() himself/herself; () said partnership; () said corporation.

Sworn to before me this _____ day of _____, 20____, in the
County of _____, State of _____.

(Notary Public)

My commission expires _____

(Seal)

END OF BIDDER QUALIFICATIONS STATEMENT

ATTACHMENT A

**SCHEDULE A
PROJECTS IN PROGRESS**

<u>Name, Location and Description of Project</u>	<u>Owner</u>	<u>Architect or Engineer</u>	<u>Contract Price</u>	<u>Percent Complete</u>	<u>Scheduled Completion</u>	<u>Reference/Contract Include Address and Phone</u>
--	--------------	----------------------------------	-----------------------	-----------------------------	---------------------------------	---

ATTACHMENT B

**SCHEDULE B
PROJECTS COMPLETED**

<u>Name, Location and Description of Project</u>	<u>Owner</u>	<u>Architect or Engineer</u>	<u>Date Completed</u>	<u>Contract Price</u>	<u>Percent with Own Forces</u>	<u>Reference/Contract Include Address and Phone</u>
--	--------------	----------------------------------	---------------------------	-----------------------	------------------------------------	---

ATTACHMENT C

**SCHEDULE C
PERSONNEL**

<u>Name</u>	<u>Position</u>	<u>Date Started With This Organization</u>	<u>Date Started In Construction</u>	<u>Prior Positions and Experience In Construction</u>
-------------	-----------------	--	---	---

ATTACHMENT D
SCHEDULE D
OSHA INFORMATION

List all Occupational Safety and Health Administration Citations for the last three years, including date, subject matter, and penalty.

Attach copies of all determined Citations and Notification of Penalty, Form OSHA 2.

Describe all pending cases, giving pertinent information such as apparent violations, location of project, type of project, and present status. _____

List any additional information on the back or attach a separate sheet if necessary.

EXPERIENCE WORKING ON
PRESTRESSED CONCRETE CYLINDER PIPE

This Contract includes the removal and installation of Prestressed Concrete Cylinder Pipe, fittings and adapters. The Bidder:

- must have knowledge of the manufacture and use of PCCP pipe, fitting and adapters;
- must possess prior experience of the disassembly of restrained PCCP joints on existing PCCP transmission mains;
- must have prior experience with successful installations of new PCCP transmission mains, adapters and fittings.

The Bidder is required to complete one of the following to the satisfaction of the ENGINEER, in addition to the qualifications required by Section 15109:

A. Our firm has PCCP experience* similar to the Work expected in this project within the past 5 years as follows:

1. _____
2. _____
3. _____

Who has the following experience*:

B. The above noted work will be done by a subcontractor

Who has the following experience*:

1. _____
2. _____
3. _____

C. We will have a representative of a manufacturer of prestressed concrete cylinder pipe

_____ perform the above noted work.

(Insert manufacturer's name)

* List size and type (SP-5 or SP-12) of PCCP Transmission Main experience along with location, year and who the work was done for.

EXPERIENCE IN THE INSTALLATION OF
TAPPING SADDLES & VALVES
ON
PRESTRESSED CONCRETE CYLINDER PIPE

When this Contract includes the Installation of Tapping Saddles and Valves on Prestressed Concrete Cylinder Pipe, the Bidder is required to complete one of the following to the satisfaction of the ENGINEER:

A. I have had experience* in the above as follows:

1. _____
2. _____
3. _____

B. The above noted work will be done by a subcontractor

Who has the following experience*:

1. _____
2. _____
3. _____

C. I will have a representative of a manufacturer of prestressed concrete cylinder pipe

_____ do the above noted work.

(Insert manufacturer's name)

* List size and type (SP-5 or SP-12) of main tapped along with location, year and who the work was done for.

ERIE COUNTY WATER AUTHORITY
BUFFALO, NEW YORK

CONTRACT NO.: W-027
36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT
BETWEEN MILLERSPORT HIGHWAY AND SHERIDAN DRIVE
TOWN OF AMHERST, NY

PROJECT NO.: 201700093

SECTION 00500

AGREEMENT

THIS AGREEMENT is dated as of the _____ day of _____ in the year _____, by and between the ERIE COUNTY WATER AUTHORITY (hereinafter called OWNER) and _____ (hereinafter called CONTRACTOR).

WITNESSETH: OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1 - WORK

1.01 CONTRACTOR shall at its own cost and expense furnish all labor, services, tools, materials, equipment and incidentals necessary to complete all Work as specified or indicated in the Contract Documents to perform all specified work required for installation of 36-inch PCCP Pipe and appurtenances in the Town of Amherst. The Work includes all road cuts, valves, hydrants, interconnections, abandonments, transferring existing services, restoration, and all related work as shown on the drawings and described in the specifications. The Work is generally described in Section 01100 of the General Requirements.

ARTICLE 2 - ENGINEER

2.01 The Project has been designed by Wendel WD Architecture, Engineering, Surveying, and Landscape Architecture, P.C. who is hereinafter called the ENGINEER Wendel WD Architecture, Engineering, Surveying, and Landscape Architecture, P.C. will assume all duties and responsibilities and have the rights and authority assigned to ENGINEER in connection with completion of the Work in accordance with the Contract Documents.

ARTICLE 3 - CONTRACT TIMES

3.01 Time of the Essence

- A. All time limits for Milestones, if any, Substantial Completion, Final Completion and readiness for final payment as stated in the Contract Documents are of the essence.

3.02 Days to Achieve Substantial Completion and Final Payment

- A. The Work shall be substantially completed by June 1, 2020 and completed and ready for final payment in accordance with paragraph 14.07 of the General Conditions by July 1, 2020.

ARTICLE 4 - LIQUIDATED AND SPECIAL DAMAGES

4.01 Liquidated Damages

- A. OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and OWNER will suffer financial loss, apart from the costs described in paragraph 4.02.A, if the Work is not substantially completed within the time specified in Article 3 for Substantial Completion, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. OWNER and CONTRACTOR also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by OWNER if the Work is not substantially completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER \$500.00 for each day that expires after the time specified in Article 3 for Substantial Completion (adjusted for any changes thereof made in accordance with Article 12 of the General Conditions) until the Work is substantially complete.

4.02 Special Damages:

- A. In addition to the amount provided for liquidated damages, CONTRACTOR shall pay OWNER the actual costs reasonably incurred by OWNER for engineering and inspection forces employed for the Work for each day that expires after the days specified in Article 3 for Substantial Completion (adjusted for any changes thereof made in accordance with Article 12 of the General Conditions) until the Work is substantially complete.
- B. After Substantial Completion, if CONTRACTOR shall neglect, refuse or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by OWNER, CONTRACTOR shall pay OWNER the actual costs reasonably incurred by OWNER for engineering and inspection forces employed

for the Work for each day that expires after the time specified in Article 3 for Work to be completed and ready for final payment (adjusted for any extensions thereof made in accordance with Article 12 of the General Conditions) until the Work is completed and ready for final payment.

4.03 Liquidated Damages for Deficiencies in Maintenance and Protection of Traffic:

- A. Calendar days during which there are substantial deficiencies in compliance with the requirements of Section 01550 Maintenance and Protection of Traffic and on applicable Contract Drawings will be considered deficient days for Maintenance and Protection of Traffic. The CONTRACTOR shall pay OWNER \$400.00 per day for each calendar day determined to be substantially deficient by ENGINEER. The cost for the proper maintenance and protection of traffic as defined in SECTION 01550 and on the applicable Contract Drawings is to be included under various items of the contract; no separate bid item is included for maintenance and protection of traffic.

4.04 OWNER may deduct liquidated damages and special damages as determined by the provisions of this Article 4 from progress payments due CONTRACTOR under this Agreement.

ARTICLE 5 - CONTRACT PRICE

- 5.01 OWNER shall pay CONTRACTOR, in current funds, for completion of the Work in accordance with the Contract Documents the prices stated in CONTRACTOR'S Bid, which Bid is attached hereto and identified as Exhibit 1 of this Agreement. As provided in paragraph 11.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by ENGINEER as provided in paragraph 9.08 of the General Conditions. Unit prices have been computed as provided in paragraph 11.03 of the General Conditions.

ARTICLE 6 - PAYMENT PROCEDURES

6.01 Submittal and Processing of Payments

- A. CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed as provided in the General Conditions.

6.02 Progress Payments; Retainage

- A. OWNER shall make monthly progress payments on account of the Contract Price on the basis of CONTRACTOR'S Applications for Payment as recommended by ENGINEER. CONTRACTOR'S Applications for Payment will be due on the last

day of the month. All progress payments will be on the basis of the progress of the Work measured by the schedule of values provided for in paragraph 2.07.A of the General Conditions (and in the case of Unit Price Work, based on the number of units completed and accepted) or, in the event there is no schedule of values, as provided in the General Requirements. A progress payment will not be made whenever the value of the Work completed since the last previous progress payment is less than ten thousand dollars (\$10,000).

1. Prior to Substantial Completion
 - a. Progress payments will be made in the amount of 95 percent of the Work completed, (with the balance being retainage), less the aggregate of payments previously made and less such amounts as ENGINEER shall determine, or OWNER may withhold, in accordance with paragraph 14.02 of the General Conditions; and
 - b. 95 percent of the cost of materials and equipment not incorporated in the Work but suitably stored (with the balance being retainage).
2. Upon Substantial Completion, OWNER shall pay an amount sufficient to increase total payments to CONTRACTOR to 100 percent of the Work completed, less such amounts as ENGINEER shall determine in accordance with paragraph 14.02.B.5 of the General Conditions and less 200 percent of ENGINEER'S estimate of the value of Work to be completed or corrected as shown on the tentative list of items to be completed or corrected attached to the certificate of Substantial Completion.

6.03 Final Payment:

- A. Upon final completion and acceptance of the Work in accordance with paragraph 14.07 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in said paragraph 14.07.

ARTICLE 7 - INTEREST

- 7.01 All moneys not paid when due hereunder shall bear interest at the maximum rate allowed by law at the place of the Project.

ARTICLE 8 – CONTRACTOR’S REPRESENTATIONS

- 8.01 As part of the inducement for OWNER to enter into this Agreement CONTRACTOR makes the following representations:

- A. CONTRACTOR has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.
- B. CONTRACTOR has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance for the Work.
- C. CONTRACTOR is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.
- D. CONTRACTOR has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions, and (2) reports and drawings of a Hazardous Environmental Condition identified at the Site, if any, which have been identified in the Supplementary Conditions as provided in paragraph 4.06 of the General Conditions.
- E. CONTRACTOR has obtained and carefully studied (or assumes responsibility for having done so) all examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may effect cost, progress or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents to be employed by CONTRACTOR, and safety precautions and programs incident thereto.
- F. CONTRACTOR does not consider that any further examinations, investigations, explorations, tests, studies or data are necessary for the performance of the Work at the Contract Price, within the Contract Times and in accordance with the other terms and conditions of the Contract Documents.
- G. CONTRACTOR is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Contract Documents.
- H. CONTRACTOR has correlated the information known to CONTRACTOR, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies and data with the Contract Documents.
- I. CONTRACTOR has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that CONTRACTOR has discovered in the Contract

Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.

- J. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

ARTICLE 9 - CONTRACT DOCUMENTS

9.01 The Contract Documents consist of the following:

- A. This Agreement (10 pages).
- B. Performance Bond (2 pages).
- C. Payment Bond (2 pages).
- D. General Conditions (42 pages).
- E. Supplementary Conditions (10 pages).
- F. Specifications, as listed in the table of contents of the Project Manual.
- G. Appendix A - Women and Minority Business Enterprise Policy.
- H. Appendix B - Insurance Requirements.
- I. Appendix C - Prevailing Wage Rate Schedule.
- J. Appendix D - Highway Permits.
- K. Appendix E – EFC Requirements.
- L. Appendix F – National Grid Requirements
- M. The Drawings comprising a set entitled: Contract No: W-027, Water System Improvements, 36-Inch Transmission Main Replacement Project and including:
- N. Addenda consisting of Numbers ____ to ____, inclusive.
- O. Exhibits to the Agreement enumerated as follows:
- P. Exhibit 1, Bid Form (17 pages).
- Q. The following, which may be delivered or issued on or after the Effective Date of the Agreement, and are not attached hereto:
 - 1. Notice to Proceed

2. Written Amendments
3. Work Change Directives
4. Change Order(s)

9.02 The documents listed in paragraph 9.01 above are attached to this Agreement (except as expressly noted otherwise above). Documents not attached are incorporated by reference. There are no Contract Documents other than those listed in this Article 9.

9.03 The Contract Documents may only be amended, modified or supplemented as provided in paragraph 3.04 of the General Conditions.

ARTICLE 10 - MISCELLANEOUS

10.01 Terms

- A. Terms used in this Agreement will have the meanings indicated in the General Conditions.

10.02 Assignment of Contract

- A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 Successors and Assigns

- A. OWNER and CONTRACTOR each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

10.04 Severability

- A. Any provision or part of the Contract Document, held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon OWNER and CONTRACTOR, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 Waiver

- A. The waiver by the OWNER of any breach or violation of any term, covenant, or condition of this Agreement or of any Law or Regulation shall not be deemed to be a waiver of any other term, covenant, condition, or Law or Regulation or of any subsequent breach or violation of the same or of any other term, covenant, condition, or Law or Regulation. The subsequent payment of any monies or fee by the OWNER which may become due hereunder shall not be deemed to be a waiver of any preceding breach or violation by CONTRACTOR of any term, covenant, condition of this Agreement or of any applicable Law or Regulation.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year first written above.

This Agreement will be effective on _____, 20_____.

OWNER: Erie County Water Authority CONTRACTOR: _____

By: _____ By: _____

Title: _____ Title: _____

[CORPORATE SEAL]

[CORPORATE SEAL]

Attest _____

Attest _____

Address for giving notices

Address for giving notices

(If OWNER is a corporation, partnership, or limited liability company, attach evidence of authority to sign) (If OWNER is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of Agreement.)

License No. _____
(where applicable)

Agent for service of process: _____

(If CONTRACTOR is a corporation, partnership, or limited liability company, attach evidence of authority to sign.)

Designated Representative:

Name: _____

Title: _____

Address: _____

Phone No.: _____

Fax No.: _____

Designated Representative:

Name: _____

Title: _____

Address: _____

Phone No.: _____

Fax No.: _____

END OF AGREEMENT

Performance Bond

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

SURETY (Name and Address of Principal Place
of Business):

OWNER (Name and Address):

Erie County Water Authority
295 Main Street, Room 350
Buffalo New York 14203

CONTRACT

Date:

Amount:

Description: ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-027
WATER SYSTEM IMPROVEMENTS,
36-Inch Transmission Main Replacement Project
PROJECT No. 201700093

BOND

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Surety and CONTRACTOR, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent or representative.

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)

Signature: _____
Name and Title:

SURETY

Company: _____ (Corp. Seal)

Signature: _____
Name and Title:
(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)

Signature: _____
Name and Title:

SURETY

Company: _____ (Corp. Seal)

Signature: _____
Name and Title:

EJCDC No. 1910-28-A (1996 Edition)

Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, and the American Institute of Architects.

1. The CONTRACTOR and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the OWNER for the performance of the Contract, which is incorporated herein by reference.
2. If the CONTRACTOR performs the Contract, the Surety and the CONTRACTOR have no obligation under this Bond, except to participate in conferences as provided in paragraph 3.1.
3. If there is no OWNER Default, the Surety's obligation under this Bond shall arise after:
 - 3.1. The OWNER has notified the CONTRACTOR and the Surety at the addresses described in paragraph 10 below, that the OWNER is considering declaring a CONTRACTOR Default and has requested and attempted to arrange a conference with the CONTRACTOR and the Surety to be held not later than fifteen days after receipt of such notice to discuss methods of performing the Contract. If the OWNER, the CONTRACTOR and the Surety agree, the CONTRACTOR shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive the OWNER'S right, if any, subsequently to declare a CONTRACTOR Default; and
 - 3.2. The OWNER has declared a CONTRACTOR Default and formally terminated the CONTRACTOR'S right to complete the Contract. Such CONTRACTOR Default shall not be declared earlier than twenty days after the CONTRACTOR and the Surety have received notice as provided in paragraph 3.1; and
 - 3.3. The OWNER has agreed to pay the Balance of the Contract Price to:
 - 3.3.1. The Surety in accordance with the terms of the Contract; or
 - 3.3.2. Another contractor selected pursuant to paragraph 4.3 to perform the Contract.
4. When the OWNER has satisfied the conditions of paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:
 - 4.1. Arrange for the CONTRACTOR, with consent of the OWNER, to perform and complete the Contract; or
 - 4.2. Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or
 - 4.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the OWNER for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by the OWNER and the contractor selected with the OWNER'S concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the Bonds issued on the Contract, and pay to the OWNER the amount of damages as described in paragraph 6 in excess of the Balance of the Contract Price incurred by the OWNER resulting from the CONTRACTOR Default; or
 - 4.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances;
 - 4.4.1. After investigation, determine the amount for which it may be liable to the OWNER and, as soon as practicable after the amount is determined, tender payment therefor to the OWNER; or
 - 4.4.2. Deny liability in whole or in part and notify the OWNER citing reasons therefor.
5. If the Surety does not proceed as provided in paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen days after receipt of an additional written notice from the OWNER to the Surety demanding that the Surety perform its obligations under this Bond, and the OWNER shall be entitled to enforce any remedy available to the OWNER. If the Surety proceeds as provided in paragraph 4.4, and the OWNER refuses the payment tendered or the Surety has denied pliability, in whole or in part, without

further notice the OWNER shall be entitled to enforce any remedy available to the OWNER.

6. After the OWNER has terminated the CONTRACTOR'S right to complete the Contract, and if the Surety elects to act under paragraph 4.1, 4.2, or 4.3 above, then the responsibilities of the Surety to the OWNER shall not be greater than those of the CONTRACTOR under the Contract, and the responsibilities of the OWNER to the Surety shall not be greater than those of the OWNER under the Contract. To a limit of the amount of this Bond, but subject to commitment by the OWNER of the Balance of the Contract Price to mitigation of costs and damages on the Contract, the Surety is obligated without duplication for:
 - 6.1. The responsibilities of the CONTRACTOR for correction of defective Work and completion of the Contract;
 - 6.2. Additional legal, design professional and delay costs resulting from the CONTRACTOR'S Default, and resulting from the actions or failure to act of the Surety under paragraph 4; and
 - 6.3. Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of the CONTRACTOR.
7. The Surety shall not be liable to the OWNER or others for obligations of the CONTRACTOR that are unrelated to the Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the OWNER or its heirs, executors, administrators, or successors.
8. The Surety hereby waives notice of any change, including changes of time, to the Contract or to related subcontracts, purchase orders and other obligations.
9. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the Work or part of the Work is located and shall be instituted within two years after CONTRACTOR Default or within two years after the CONTRACTOR ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
10. Notice to the Surety, the OWNER or the CONTRACTOR shall be mailed or delivered to the address shown on the signature page.
11. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the Contract was performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted here-from and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
12. Definitions.
 - 12.1. Balance of the Contract Price: The total amount payable by the OWNER to the CONTRACTOR under the Contract after all proper adjustments have been made, including allowance to the CONTRACTOR of any amounts received or to be received by the OWNER in settlement of insurance or other Claims for damages to which the CONTRACTOR is entitled, reduced by all valid and proper payments made to or on behalf of the CONTRACTOR under the Contract.
 - 12.2. Contract: The agreement between the OWNER and the CONTRACTOR identified on the signature page, including all Contract Documents and changes thereto.
 - 12.3. CONTRACTOR Default: Failure of the CONTRACTOR, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.
 - 12.4. OWNER Default: Failure of the OWNER, which has neither been remedied nor waived, to pay the CONTRACTOR as required by the Contract or to perform and complete or comply with the other terms thereof.

(FOR INFORMATION ONLY - Name, Address and Telephone)
 AGENT or BROKER: OWNER'S REPRESENTATIVE (Engineer):

Payment Bond

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

SURETY (Name and Address of Principal Place
of Business):

OWNER (Name and Address):

Erie County Water Authority
295 Main Street, Room 350
Buffalo New York 14203

CONTRACT

Date:

Amount:

Description: ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-027
WATER SYSTEM IMPROVEMENTS,
36-Inch Transmission Main Replacement Project
PROJECT No. 201700093

BOND

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Surety and CONTRACTOR, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent or representative.

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

SURETY

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:
(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

SURETY

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

EJCDC No. 1910-28-B (1996 Edition)

Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, the American Institute of Architects, the American Subcontractors Association, and the Associated Specialty Contractors.

1. The CONTRACTOR and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the OWNER to pay for labor, materials and equipment furnished for use in the performance of the Contract, which is incorporated herein by reference.

2. With respect to the OWNER, this obligation shall be null and void if the CONTRACTOR:

2.1. Promptly makes payment, directly or indirectly, for all sums due Claimants, and

2.2. Defends, indemnifies and holds harmless the OWNER from all claims, demands, liens or suits by any person or entity who furnished labor, materials or equipment for use in the performance of the Contract, provided the OWNER has promptly notified the CONTRACTOR and the Surety (at the addresses described in paragraph 12) of any claims, demands, liens or suits and tendered defense of such claims, demands, liens or suits to the CONTRACTOR and the Surety, and provided there is no OWNER Default

3. With respect to Claimants, this obligation shall be null and void if the CONTRACTOR promptly makes payment, directly or indirectly, for all sums due.

4. The Surety shall have no obligation to Claimants under this Bond until:

4.1. Claimants who are employed by or have a direct contract with the CONTRACTOR have given notice to the Surety (at the addresses described in paragraph 12) and sent a copy, or notice thereof, to the OWNER, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.

4.2. Claimants who do not have a direct contract with the CONTRACTOR:

4.2.1 Have furnished written notice to the CONTRACTOR and sent a copy, or notice thereof, to the OWNER, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed; and

4.2.2 Have either received a rejection in whole or in part from the CONTRACTOR, or not received within 30 days of furnishing the above notice any communication from the CONTRACTOR by which the CONTRACTOR had indicated the claim will be paid directly or indirectly; and

4.2.3 Not having been paid within the above 30 days, have sent a written notice to the Surety and sent a copy, or notice thereof, to the OWNER, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to the CONTRACTOR.

5. If a notice required by paragraph 4 is given by the OWNER to the CONTRACTOR or to the Surety, that is sufficient compliance.

6. When the Claimant has satisfied the conditions of paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:

6.1. Send an answer to the Claimant, with a copy to the OWNER, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.

6.2. Pay or arrange for payment of any undisputed amounts.

7. The Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

8. Amounts owed by the OWNER to the CONTRACTOR under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any Performance Bond. By the CONTRACTOR furnishing and the OWNER accepting this Bond, they agree that all funds earned by the CONTRACTOR in the performance of the Contract are dedicated to satisfy obligations of the CONTRACTOR and the Surety under this Bond, subject to the OWNER'S priority to use the funds for the completion of the Work.

9. The Surety shall not be liable to the OWNER, Claimants or others for obligations of the CONTRACTOR that are unrelated to the Contract. The OWNER shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

10. The Surety hereby waives notice of any change, including changes of time, to the Contract or to related Subcontracts, purchase orders and other obligations.

11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by paragraph 4.1 or paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the OWNER or the CONTRACTOR shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, the OWNER or the CONTRACTOR, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is, that this Bond shall be construed as a statutory Bond and not as a common law bond.

14. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, the CONTRACTOR shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. DEFINITIONS

15.1 Claimant: An individual or entity having a direct contract with the CONTRACTOR or with a Subcontractor of the CONTRACTOR to furnish labor, materials or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of the CONTRACTOR and the CONTRACTOR'S Subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

15.2 Contract: The agreement between the OWNER and the CONTRACTOR identified on the signature page, including all Contract Documents and changes thereto.

15.3 OWNER Default: Failure of the OWNER, which has neither been remedied nor waived, to pay the CONTRACTOR as required by the Contract or to perform and complete or comply with the other terms thereof.

(FOR INFORMATION ONLY - Name, Address and Telephone)
AGENT or BROKER: OWNER'S REPRESENTATIVE (Engineer):

Erie County Water Authority
BUFFALO, NEW YORK

CONTRACT NO.: W-027
36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT
BETWEEN MILLERSPORT HIGHWAY AND SHERIDAN DRIVE
TOWN OF AMHERST, NY

PROJECT No.: 201700093

SECTION 00700

GENERAL CONDITIONS

Adapted with permission from Standard General Conditions of the
Construction Contract, EJCDC No. 1910-8 (1996 Edition).

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TABLE OF CONTENTS

Page

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY	00700 - 7
1.01 <i>Defined Terms</i>	00700 - 7
1.02 <i>Terminology</i>	00700 - 10
ARTICLE 2 - PRELIMINARY MATTERS	00700 - 10
2.01 <i>Delivery of Bonds</i>	00700 - 10
2.02 <i>Copies of Documents</i>	00700 - 10
2.03 <i>Commencement of Contract Times; Notice to Proceed</i>	00700 - 10
2.04 <i>Starting the Work</i>	00700 - 11
2.05 <i>Before Starting Construction</i>	00700 - 11
2.06 <i>Preconstruction Conference</i>	00700 - 11
2.07 <i>Initial Acceptance of Schedules</i>	00700 - 11
ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE	00700 - 12
3.01 <i>Intent</i>	00700 - 12
3.02 <i>Reference Standards</i>	00700 - 12
3.03 <i>Reporting and Resolving Discrepancies</i>	00700 - 12
3.04 <i>Amending and Supplementing Contract Documents</i>	00700 - 12
3.05 <i>Reuse of Documents</i>	00700 - 13
ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS	00700 - 13
4.01 <i>Availability of Lands</i>	00700 - 13
4.02 <i>Subsurface and Physical Conditions</i>	00700 - 13
4.03 <i>Differing Subsurface or Physical Conditions</i>	00700 - 13
4.04 <i>Underground Facilities</i>	00700 - 14
4.05 <i>Reference Points</i>	00700 - 15
4.06 <i>Hazardous Environmental Condition at Site</i>	00700 - 15
ARTICLE 5 - BONDS AND INSURANCE	00700 - 16
5.01 <i>Performance, Payment, and Other Bonds</i>	00700 - 16
5.02 <i>Licensed Sureties and Insurers</i>	00700 - 16
5.03 <i>Certificates of Insurance</i>	00700 - 17
5.04 <i>CONTRACTOR'S Liability Insurance</i>	00700 - 17
5.05 <i>OWNER'S Liability Insurance</i>	00700 - 18
5.06 <i>Property Insurance (See Supplementary Conditions)</i>	00700 - 18
5.07 <i>(Not Used)</i>	00700 - 18
5.08 <i>(Not Used)</i>	00700 - 18
5.09 <i>(Not Used)</i>	00700 - 18
5.10 <i>Acceptance of Bonds and Insurance; Option to Replace</i>	00700 - 18
ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES	00700 - 18
6.01 <i>Supervision and Superintendence</i>	00700 - 18
6.02 <i>Labor; Working Hours</i>	00700 - 18
6.03 <i>Services, Materials, and Equipment</i>	00700 - 18
6.04 <i>Progress Schedule</i>	00700 - 19
6.05 <i>Substitutes and "Or-Equals"</i>	00700 - 19

TABLE OF CONTENTS (CONT=D.)

	<u>Page</u>
6.06 <i>Concerning Subcontractors, Suppliers, and Others</i>	00700 - 20
6.07 <i>Patent Fees and Royalties</i>	00700 - 21
6.08 <i>Permits</i>	00700 - 21
6.09 <i>Laws and Regulations</i>	00700 - 21
6.10 <i>Taxes</i>	00700 - 22
6.11 <i>Use of Site and Other Areas</i>	00700 - 22
6.12 <i>Record Documents</i>	00700 - 22
6.13 <i>Safety and Protection</i>	00700 - 22
6.14 <i>Safety Representative</i>	00700 - 23
6.15 <i>Hazard Communication Programs</i>	00700 - 23
6.16 <i>Emergencies</i>	00700 - 23
6.17 <i>Shop Drawings and Samples</i>	00700 - 23
6.18 <i>Continuing the Work</i>	00700 - 24
6.19 <i>CONTRACTOR'S General Warranty and Guarantee</i>	00700 - 24
6.20 <i>Indemnification</i>	00700 - 25
 ARTICLE 7 - OTHER WORK.....	 00700 - 25
7.01 <i>Related Work at Site</i>	00700 - 25
 ARTICLE 8 - OWNER'S RESPONSIBILITIES.....	 00700 - 26
8.01 <i>Communications to Contractor</i>	00700 - 26
8.02 <i>Furnish Data</i>	00700 - 26
8.03 <i>Pay Promptly When Due</i>	00700 - 26
8.04 <i>Lands and Easements; Reports and Tests</i>	00700 - 26
8.05 <i>Insurance</i>	00700 - 26
8.06 <i>Change Orders</i>	00700 - 26
8.07 <i>Inspections, Tests, and Approvals</i>	00700 - 26
8.08 <i>Limitations on OWNER'S Responsibilities</i>	00700 - 26
8.09 <i>Undisclosed Hazardous Environmental Condition</i>	00700 - 27
8.10 <i>Evidence of Financial Arrangements</i>	00700 - 27
 ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION	 00700 - 27
9.01 <i>OWNER'S Representative</i>	00700 - 27
9.02 <i>Visits to Site</i>	00700 - 27
9.03 <i>Project Representative</i>	00700 - 27
9.04 <i>Clarifications and Interpretations</i>	00700 - 27
9.05 <i>Authorized Variations in Work</i>	00700 - 27
9.06 <i>Rejecting Defective Work</i>	00700 - 28
9.07 <i>Shop Drawings, Change Orders and Payments</i>	00700 - 28
9.08 <i>Determinations for Unit Price Work</i>	00700 - 28
9.09 <i>Decisions on Requirements of Contract Documents and Acceptability of Work</i>	00700 - 28
9.10 <i>Limitations on ENGINEER'S Authority and Responsibilities</i>	00700 - 28
 ARTICLE 10 - CHANGES IN THE WORK; CLAIMS.....	 00700 - 29
10.01 <i>Authorized Changes in the Work</i>	00700 - 29
10.02 <i>Unauthorized Changes in the Work</i>	00700 - 29
10.03 <i>Execution of Change Orders</i>	00700 - 29
10.04 <i>Notification to Surety</i>	00700 - 29
10.05 <i>Claims and Disputes</i>	00700 - 29

TABLE OF CONTENTS (CONT=D.)

	<u>Page</u>
ARTICLE 11 - COST OF THE WORK; CASH ALLOWANCES; UNIT PRICE WORK	00700 - 30
11.01 <i>Cost of the Work</i>	00700 - 30
11.02 <i>Cash Allowances</i>	00700 - 32
11.03 <i>Unit Price Work</i>	00700 - 32
ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES	00700 - 32
12.01 <i>Change of Contract Price</i>	00700 - 32
12.02 <i>Change of Contract Times</i>	00700 - 33
12.03 <i>Delays Beyond CONTRACTOR'S Control</i>	00700 - 33
12.04 <i>Delays Within CONTRACTOR'S Control</i>	00700 - 33
12.05 <i>Delays Beyond OWNER'S and CONTRACTOR'S Control</i>	00700 - 33
12.06 <i>Delay Damages</i>	00700 - 34
ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK	00700 - 34
13.01 <i>Notice of Defects</i>	00700 - 34
13.02 <i>Access to Work</i>	00700 - 34
13.03 <i>Tests and Inspections</i>	00700 - 34
13.04 <i>Uncovering Work</i>	00700 - 34
13.05 <i>OWNER May Stop the Work</i>	00700 - 35
13.06 <i>Correction or Removal of Defective Work</i>	00700 - 35
13.07 <i>Correction Period</i>	00700 - 35
13.08 <i>Acceptance of Defective Work</i>	00700 - 36
13.09 <i>OWNER May Correct Defective Work</i>	00700 - 36
ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION.....	00700 - 36
14.01 <i>Schedule of Values</i>	00700 - 36
14.02 <i>Progress Payments</i>	00700 - 36
14.03 <i>CONTRACTOR'S Warranty of Title</i>	00700 - 38
14.04 <i>Substantial Completion</i>	00700 - 38
14.05 <i>Partial Utilization</i>	00700 - 39
14.06 <i>Final Inspection</i>	00700 - 39
14.07 <i>Final Payment</i>	00700 - 39
14.08 <i>(Not Used)</i>	00700 - 40
14.09 <i>Waiver of Claims</i>	00700 - 40
ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION.....	00700 - 40
15.01 <i>OWNER May Suspend Work</i>	00700 - 40
15.02 <i>OWNER May Terminate for Cause</i>	00700 - 40
15.03 <i>OWNER May Terminate For Convenience</i>	00700 - 41
15.04 <i>CONTRACTOR May Stop Work or Terminate</i>	00700 - 41
ARTICLE 16 - DISPUTE RESOLUTION	00700 - 42
16.01 <i>Methods and Procedures</i>	00700 - 42
ARTICLE 17 - MISCELLANEOUS	00700 - 42
17.01 <i>Giving Notice</i>	00700 - 42
17.02 <i>Computation of Times</i>	00700 - 42
17.03 <i>Cumulative Remedies</i>	00700 - 42
17.04 <i>Survival of Obligations</i>	00700 - 42
17.05 <i>Controlling Law</i>	00700 - 42
17.06 <i>Headings</i>	00700 - 42

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GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Contract Documents and printed with initial or all capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof.

1. *Addenda*--Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the Contract Documents.

2. *Agreement*--The written instrument which is evidence of the agreement between OWNER and CONTRACTOR covering the Work.

3. *Application for Payment*--The form acceptable to ENGINEER which is to be used by CONTRACTOR during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Asbestos*--Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*--The offer or proposal of a bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidding Documents*--The Bidding Requirements and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

7. *Bidding Requirements*--The Advertisement or Invitation to Bid, Instructions to Bidders, Bid security form, if any, and the Bid form with any supplements.

8. *Bonds*--Performance and payment bonds and other instruments of security.

9. *Change Order*--A document recommended by ENGINEER which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion,

or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*--A demand or assertion by OWNER or CONTRACTOR seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*--The entire and integrated written agreement between the OWNER and CONTRACTOR concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*--The Contract Documents establish the rights and obligations of the parties and include the Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR'S Bid (including documentation accompanying the Bid and any post Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Notice to Proceed, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all Written Amendments, Change Orders, Work Change Directives, Field Orders, and ENGINEER'S written interpretations and clarifications issued on or after the Effective Date of the Agreement. Approved Shop Drawings and the reports and drawings of subsurface and physical conditions are not Contract Documents. Only printed or hard copies of the items listed in this paragraph are Contract Documents. Files in electronic media format of text, data, graphics, and the like that may be furnished by OWNER to CONTRACTOR are not Contract Documents.

13. *Contract Price*--The moneys payable by OWNER to CONTRACTOR for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*--The number of days or the dates stated in the Agreement to: (i) achieve Substantial Completion; and (ii) complete the Work so that it is ready for final payment as evidenced by

ENGINEER'S written recommendation of final payment.

15. *CONTRACTOR*--The individual or entity with whom OWNER has entered into the Agreement.

16. *Cost of the Work*--See paragraph 11.01.A for definition.

17. *Drawings*--That part of the Contract Documents prepared or approved by ENGINEER which graphically shows the scope, extent, and character of the Work to be performed by CONTRACTOR. Shop Drawings and other CONTRACTOR submittals are not Drawings as so defined.

18. *Effective Date of the Agreement*--The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. *ENGINEER*--The individual or entity named as such in the Agreement.

20. *ENGINEER'S Consultant*--An individual or entity having a contract with ENGINEER to furnish services as ENGINEER'S independent professional associate or consultant with respect to the Project and who is identified as such in the Supplementary Conditions.

21. *Field Order*--A written order issued by ENGINEER which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

22. *General Requirements*--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

23. *Hazardous Environmental Condition*--The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

24. *Hazardous Waste*--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

25. *Laws and Regulations; Laws or Regulations*--Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

26. *Liens*--Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

27. *Milestone*--A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

28. *Notice of Award*--The written notice by OWNER to the apparent successful bidder stating that upon timely compliance by the apparent successful bidder with the conditions precedent listed therein, OWNER will sign and deliver the Agreement.

29. *Notice to Proceed*--A written notice given by OWNER to CONTRACTOR fixing the date on which the Contract Times will commence to run and on which CONTRACTOR shall start to perform the Work under the Contract Documents.

30. *OWNER*--The individual, entity, public body, or authority with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be performed.

31. *Partial Utilization*--Use by OWNER of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.

32. *PCBs*--Polychlorinated biphenyls.

33. *Petroleum*--Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

34. *Project*--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part as may be indicated elsewhere in the Contract Documents.

35. *Project Manual*--The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project

Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

36. *Radioactive Material*--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

37. *Resident Project Representative*--The authorized representative of ENGINEER who may be assigned to the Site or any part thereof.

38. *Samples*--Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

39. *Shop Drawings*--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for CONTRACTOR and submitted by CONTRACTOR to illustrate some portion of the Work.

40. *Site*--Lands or areas indicated in the Contract Documents as being furnished by OWNER upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by OWNER which are designated for the use of CONTRACTOR.

41. *Specifications*--That part of the Contract Documents consisting of written technical descriptions of materials, equipment, systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto.

42. *Subcontractor*--An individual or entity having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the Site.

43. *Substantial Completion*--The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of ENGINEER, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

44. *Supplementary Conditions*--That part of the Contract Documents which amends or supplements these General Conditions.

45. *Supplier*--A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with CONTRACTOR or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by CONTRACTOR or any Subcontractor.

46. *Underground Facilities*--All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

47. *Unit Price Work*--Work to be paid for on the basis of unit prices.

48. *Work*--The entire completed construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

49. *Work Change Directive*--A written statement to CONTRACTOR issued on or after the Effective Date of the Agreement and signed by OWNER and recommended by ENGINEER ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

50. *Written Amendment*--A written statement modifying the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the nonengineering or nontechnical

rather than strictly construction-related aspects of the Contract Documents.

1.02 Terminology

A. Intent of Certain Terms or Adjectives

1. Whenever in the Contract Documents the terms “as ordered,” “as directed,” “as required,” “as allowed,” “as approved,” or terms of like effect or import are used to authorize an exercise of professional judgment by the ENGINEER, or the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of ENGINEER as to the Work, it is intended that such exercise of professional judgment, action or determination will be solely to evaluate, in general, the completed Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.10 or any other provision of the Contract Documents.

B. Day

1. The word “day” shall constitute a calendar day of 24 hours measured from midnight to the next midnight.

C. Defective

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it 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 ENGINEER’S recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with paragraph 14.04 or 14.05).

D. Furnish, Install, Perform, Provide

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of CONTRACTOR, “provide” is implied.

E. Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 - PRELIMINARY MATTERS

2.01 Delivery of Bonds

A. When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds as CONTRACTOR may be required to furnish.

2.02 Copies of Documents

A. OWNER shall furnish to CONTRACTOR up to ten copies of the Contract Documents. Additional copies will be furnished upon request at the cost of reproduction.

2.03 Commencement of Contract Times; Notice to Proceed

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after

the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

A. CONTRACTOR shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

A. *CONTRACTOR'S Review of Contract Documents:* Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error, ambiguity, or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from ENGINEER before proceeding with any Work affected thereby; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless CONTRACTOR knew or reasonably should have known thereof.

B. *Preliminary Schedules:* Within ten days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), CONTRACTOR shall submit to ENGINEER for its timely review:

1. a preliminary progress schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;
2. a preliminary schedule of Shop Drawing and Sample submittals which will list each required submittal and the times for submitting, reviewing, and processing such submittal; and
3. a preliminary schedule of values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

C. *Evidence of Insurance:* Before any Work at the Site is started, CONTRACTOR and OWNER shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which CONTRACTOR and OWNER respectively are required to purchase and maintain in accordance with Article 5.

2.06 *Preconstruction Conference*

A. Within 20 days after the Contract Times start to run, but before any Work at the Site is started, a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in paragraph 2.05.B, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

2.07 *Initial Acceptance of Schedules*

A. Unless otherwise provided in the Contract Documents, at least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to review for acceptability to ENGINEER, as provided below, the schedules submitted in accordance with paragraph 2.05.B. CONTRACTOR shall have an additional ten days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to CONTRACTOR until acceptable schedules are submitted to ENGINEER.

1. The progress schedule will be acceptable to ENGINEER if it provides an orderly progression of the Work to completion within any specified Milestones and the Contract Times. Such acceptance will not impose on ENGINEER responsibility for the progress schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve CONTRACTOR from CONTRACTOR'S full responsibility therefor.
2. CONTRACTOR'S schedule of Shop Drawing and Sample submittals will be acceptable to ENGINEER if it provides a workable arrangement for reviewing and processing the required submittals.
3. CONTRACTOR'S schedule of values will be acceptable to ENGINEER as to form and

substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

A. The Contract Documents are complementary; what is called for by one is as binding as if called for by all.

B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to OWNER.

C. Clarifications and interpretations of the Contract Documents shall be issued by ENGINEER as provided in Article 9.

3.02 *Reference Standards*

A. *Standards, Specifications, Codes, Laws, and Regulations*

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual or code, or any instruction of a Supplier shall be effective to change the duties or responsibilities of OWNER, CONTRACTOR, or ENGINEER, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall any such provision or instruction be effective to assign to OWNER, ENGINEER, or any of ENGINEER'S Consultants, agents, or employees any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake

responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies*

1. If, during the performance of the Work, CONTRACTOR discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, CONTRACTOR shall report it to ENGINEER in writing at once. CONTRACTOR shall not proceed with the Work affected thereby (except in an emergency as required by paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in paragraph 3.04; provided, however, that CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any such conflict, error, ambiguity, or discrepancy unless CONTRACTOR knew or reasonably should have known thereof.

B. *Resolving Discrepancies*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

a. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways: (i) a Written Amendment; (ii) a Change Order; or (iii) a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways: (i) a Field Order; (ii) ENGINEER'S approval of a Shop Drawing or Sample; or (iii) ENGINEER'S written interpretation or clarification.

3.05 *Reuse of Documents*

A. CONTRACTOR and any Subcontractor or Supplier or other individual or entity performing or furnishing any of the Work under a direct or indirect contract with OWNER: (i) shall not have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER or ENGINEER'S Consultant, including electronic media editions; and (ii) shall not reuse any of such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of OWNER and ENGINEER and specific written verification or adaption by ENGINEER. This prohibition will survive final payment, completion, and acceptance of the Work, or termination or completion of the Contract. Nothing herein shall preclude CONTRACTOR from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

A. OWNER shall furnish the Site. OWNER shall notify CONTRACTOR of any encumbrances or restrictions not of general application but specifically related to use of the Site with which CONTRACTOR must comply in performing the Work. OWNER will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If CONTRACTOR and OWNER are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in OWNER'S furnishing the Site, CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

B. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports of explorations and tests of subsurface conditions at or contiguous to the Site that ENGINEER has used in preparing the Contract Documents; and

2. those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that ENGINEER has used in preparing the Contract Documents.

B. *Limited Reliance by CONTRACTOR on Technical Data Authorized:* CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER, or any of ENGINEER'S Consultants with respect to:

1. the completeness of such reports and drawings for CONTRACTOR'S purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If CONTRACTOR believes that any subsurface or physical condition at or contiguous to the Site that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which CONTRACTOR is entitled to rely as provided in paragraph 4.02 is materially inaccurate; or

2. is of such a nature as to require a change in the Contract Documents; or

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by paragraph 6.16.A), notify OWNER and ENGINEER in writing about such condition. CONTRACTOR shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *ENGINEER'S Review:* After receipt of written notice as required by paragraph 4.03.A, ENGINEER will promptly review the pertinent condition, determine the necessity of OWNER'S obtaining additional exploration or tests with respect thereto, and advise OWNER in writing (with a copy to CONTRACTOR) of ENGINEER'S findings and conclusions.

C. *Possible Price and Times Adjustments*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in CONTRACTOR'S cost of, or time required for, performance of the Work; subject, however, to the following:

a. such condition must meet any one or more of the categories described in paragraph 4.03.A; and

b. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of paragraphs 9.08 and 11.03.

2. CONTRACTOR shall not be entitled to any adjustment in the Contract Price or Contract Times if:

a. CONTRACTOR knew of the existence of such conditions at the time CONTRACTOR made a final commitment to OWNER in respect of Contract Price and Contract Times by the

submission of a Bid or becoming bound under a negotiated contract; or

b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for CONTRACTOR prior to CONTRACTOR'S making such final commitment; or

c. CONTRACTOR failed to give the written notice within the time and as required by paragraph 4.03.A.

3. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in paragraph 10.05. However, OWNER, ENGINEER, and ENGINEER'S Consultants shall not be liable to CONTRACTOR for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by CONTRACTOR on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to OWNER or ENGINEER by the owners of such Underground Facilities, including OWNER, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and

2. the cost of all of the following will be included in the Contract Price, and CONTRACTOR shall have full responsibility for:

a. reviewing and checking all such information and data,

b. locating all Underground Facilities shown or indicated in the Contract Documents,

c. coordination of the Work with the owners of such Underground Facilities, including OWNER, during construction, and

d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents, CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to OWNER and ENGINEER. ENGINEER will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, CONTRACTOR shall be responsible for the safety and protection of the underground facility.

2. If ENGINEER concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown with reasonable accuracy in the Contract Documents and that CONTRACTOR did not know of and could not reasonably have been expected to be aware of or to have anticipated. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, OWNER or CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

4.05 *Reference Points*

A. OWNER shall provide engineering surveys to establish reference points for construction which in ENGINEER'S judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work, shall protect and preserve the established

reference points and property monuments, and shall make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

A. *Reports and Drawings:* Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the ENGINEER in the preparation of the Contract Documents.

B. *Limited Reliance by CONTRACTOR on Technical Data Authorized:* CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data", CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER or any of ENGINEER'S Consultants with respect to:

1. the completeness of such reports and drawings for CONTRACTOR'S purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. CONTRACTOR shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. CONTRACTOR shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by CONTRACTOR, Subcontractors,

Suppliers, or anyone else for whom CONTRACTOR is responsible.

D. If CONTRACTOR encounters a Hazardous Environmental Condition or if CONTRACTOR or anyone for whom CONTRACTOR is responsible creates a Hazardous Environmental Condition, CONTRACTOR shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by paragraph 6.16); and (iii) notify OWNER and ENGINEER (and promptly thereafter confirm such notice in writing). OWNER shall promptly consult with ENGINEER concerning the necessity for OWNER to retain a qualified expert to evaluate such condition or take corrective action, if any.

E. CONTRACTOR shall not be required to resume Work in connection with such condition or in any affected area until after OWNER has obtained any required permits related thereto and delivered to CONTRACTOR written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If OWNER and CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by CONTRACTOR, either party may make a Claim therefor as provided in paragraph 10.05.

F. If, after receipt of such written notice, CONTRACTOR does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then OWNER may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If OWNER and CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in paragraph 10.05. OWNER may have such deleted portion of the Work performed by OWNER'S own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER'S Consultants, and the officers, directors, partners,

employees, agents, other consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by CONTRACTOR or by anyone for whom CONTRACTOR is responsible. Nothing in this paragraph 4.06.G shall obligate CONTRACTOR to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. The provisions of paragraphs 4.02, 4.03, and 4.04 are not intended to apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 - BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

A. CONTRACTOR shall furnish performance and payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACTOR'S obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents. CONTRACTOR shall also furnish such other Bonds as are required by the Contract Documents.

B. All Bonds shall be in the form prescribed by the Contract Documents, except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.

C. If the surety on any Bond furnished by CONTRACTOR is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.01.B, CONTRACTOR shall within 20 days thereafter substitute another Bond and surety, both of which shall

comply with the requirements of paragraphs 5.01.B and 5.02.

5.02. *Licensed Sureties and Insurers*

A. All Bonds and insurance required by the Contract Documents to be purchased and maintained by OWNER or CONTRACTOR shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue Bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

A. CONTRACTOR shall deliver to OWNER, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by OWNER or any other additional insured) which CONTRACTOR is required to purchase and maintain. OWNER shall deliver to CONTRACTOR, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by CONTRACTOR or any other additional insured) which OWNER is required to purchase and maintain.

5.04 *CONTRACTOR'S Liability Insurance*

A. CONTRACTOR shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from CONTRACTOR'S performance of the Work and CONTRACTOR'S other obligations under the Contract Documents, whether it is to be performed by CONTRACTOR, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
2. claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR'S employees;
3. claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR'S employees;

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained: (i) by any person as a result of an offense directly or indirectly related to the employment of such person by CONTRACTOR, or (ii) by any other person for any other reason;

5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance so required by this paragraph 5.04 to be purchased and maintained shall:

1. with respect to insurance required by paragraphs 5.04.A.3 through 5.04.A.6 inclusive, include as additional insureds (subject to any customary exclusion in respect of professional liability) OWNER, ENGINEER, ENGINEER'S Consultants, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include completed operations insurance;

4. include contractual liability insurance covering CONTRACTOR'S indemnity obligations under paragraphs 6.07, 6.11, and 6.20;

5. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty days prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the

CONTRACTOR pursuant to paragraph 5.03 will so provide);

6. remain in effect at least until final payment and at all times thereafter when CONTRACTOR may be correcting, removing, or replacing defective Work in accordance with paragraph 13.07; and

7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment (and CONTRACTOR shall furnish OWNER and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to OWNER and any such additional insured of continuation of such insurance at final payment and one year thereafter).

5.05 *OWNER'S Liability Insurance*

A. In addition to the insurance required to be provided by CONTRACTOR under paragraph 5.04, OWNER, at OWNER'S option, may purchase and maintain at OWNER'S expense OWNER'S own liability insurance as will protect OWNER against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance (See Supplementary Conditions)*

5.07 (Not Used)

5.08 (Not Used)

5.09 (Not Used)

5.10 *Acceptance of Bonds and Insurance; Option to Replace*

A. If either OWNER or CONTRACTOR has any objection to the coverage afforded by or other provisions of the Bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by paragraph 2.05.C. OWNER and CONTRACTOR shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the Bonds and insurance required of such party by the Contract Documents, such party shall notify the other

party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent Bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

ARTICLE 6 – CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

A. CONTRACTOR shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of OWNER or ENGINEER in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents. CONTRACTOR shall be responsible to see that the completed Work complies accurately with the Contract Documents.

B. At all times during the progress of the Work, CONTRACTOR shall assign a competent resident superintendent thereto who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR'S representative at the Site and shall have authority to act on behalf of CONTRACTOR. All communications given to or received from the superintendent shall be binding on CONTRACTOR.

6.02 *Labor; Working Hours*

A. CONTRACTOR shall provide competent, suitably qualified personnel to survey, lay out, and construct the Work as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the

Contract Documents, all Work at the Site shall be performed during regular working hours, and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday, or any legal holiday without OWNER'S written consent (which will not be unreasonably withheld) given after prior written notice to ENGINEER.

6.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the General Requirements, CONTRACTOR shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Specifications shall expressly run to the benefit of OWNER. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

A. CONTRACTOR shall adhere to the progress schedule established in accordance with paragraph 2.07 as it may be adjusted from time to time as provided below.

1. CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.07) proposed adjustments in the progress schedule that will not result in changing the Contract Times (or Milestones). Such adjustments will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the progress schedule that will change the Contract Times (or Milestones) shall be submitted in accordance with the requirements of Article 12. Such adjustments

may only be made by a Change Order or Written Amendment in accordance with Article 12.

6.05 *Substitutes and "Or-Equals"*

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to ENGINEER for review under the circumstances described below.

1. "*Or-Equal*" Items: If, in ENGINEER'S sole discretion, an item of material or equipment proposed by CONTRACTOR is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by ENGINEER as an "or-equal" item, in which case review and approval of the proposed item may, in ENGINEER'S sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. In the exercise of reasonable judgment ENGINEER determines that: (i) it is at least equal in quality, durability, appearance, strength, and design characteristics; (ii) it will reliably perform at least equally well the function imposed by the design concept of the completed Project as a functioning whole; and CONTRACTOR;

b. Certifies that: (i) there is no increase in cost to the OWNER; and (ii) it will conform substantially, even with deviations, to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items*

a. If, in ENGINEER'S sole discretion, an item of material or equipment proposed by CONTRACTOR does not qualify as an "or-equal" item under paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. CONTRACTOR shall submit sufficient information as provided below to allow ENGINEER to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR.

c. The procedure for review by ENGINEER will be as set forth in paragraph 6.05.A.2.d, as supplemented in the General Requirements and as ENGINEER may decide is appropriate under the circumstances.

d. CONTRACTOR shall first make written application to ENGINEER for review of a proposed substitute item of material or equipment that CONTRACTOR seeks to furnish or use. The application shall certify that the proposed substitute item will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified, and be suited to the same use as that specified. The application will state the extent, if any, to which the use of the proposed substitute item will prejudice CONTRACTOR'S achievement of Substantial Completion on time, whether or not use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute item and whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute item from that specified will be identified in the application, and available engineering, sales, maintenance, repair, and replacement services will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change, all of which will be considered by ENGINEER in evaluating the proposed substitute item. ENGINEER may require CONTRACTOR to furnish additional data about the proposed substitute item.

B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is shown or indicated in and expressly required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by ENGINEER. CONTRACTOR shall submit sufficient information to allow ENGINEER, in ENGINEER'S sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The procedure for review by ENGINEER will be similar to that provided in subparagraph 6.05.A.2.

C. *Engineer's Evaluation:* ENGINEER will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to paragraphs 6.05.A and 6.05.B. ENGINEER will be the sole judge of acceptability. No "or-equal" or substitute will be ordered, installed or utilized until ENGINEER'S review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop Drawing for an "or equal." ENGINEER will advise CONTRACTOR in writing of any negative determination.

D. *Special Guarantee:* OWNER may require CONTRACTOR to furnish at CONTRACTOR'S expense a special performance guarantee or other surety with respect to any substitute.

E. *ENGINEER'S Cost Reimbursement:* ENGINEER will record time required by ENGINEER and ENGINEER'S Consultants in evaluating substitute proposed or submitted by CONTRACTOR pursuant to paragraphs 6.05.A.2 and 6.05.B and in making changes in the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) occasioned thereby. Whether or not ENGINEER approves a substitute item so proposed or submitted by CONTRACTOR, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER and ENGINEER'S Consultants for evaluating each such proposed substitute.

F. *CONTRACTOR'S Expense:* CONTRACTOR shall provide all data in support of any proposed substitute or "or-equal" at CONTRACTOR'S expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

A. CONTRACTOR shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to OWNER as indicated in paragraph 6.06.B), whether initially or as a replacement, against whom OWNER may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to OWNER in advance for acceptance by OWNER by a specified date prior to the Effective Date of the Agreement, and if CONTRACTOR has submitted a list thereof in accordance with the Supplementary Conditions, OWNER'S acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. CONTRACTOR shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued or Written Amendment signed. No acceptance by OWNER of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of OWNER or ENGINEER to reject defective Work.

C. CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as CONTRACTOR is responsible for CONTRACTOR'S own acts and omissions. Nothing in the Contract Documents shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between OWNER or ENGINEER and any such Subcontractor, Supplier or other individual or entity, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. CONTRACTOR shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR.

E. CONTRACTOR shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with ENGINEER through CONTRACTOR.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for CONTRACTOR by a Subcontractor or Supplier will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and ENGINEER. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in paragraph 5.06, the agreement between the CONTRACTOR and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against OWNER, CONTRACTOR, ENGINEER, ENGINEER'S Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, CONTRACTOR will obtain the same.

6.07 *Patent Fees and Royalties*

A. CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of OWNER or

ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the Contract Documents. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER'S Consultants, and the officers, directors, partners, employees or agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility owners for capital costs related thereto, such as plant investment fees.

6.09 *Laws and Regulations*

A. CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for monitoring CONTRACTOR'S compliance with any Laws or Regulations.

B. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, CONTRACTOR shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work; however, it shall not be CONTRACTOR'S primary responsibility to make certain that the Specifications and Drawings are in

W-027

accordance with Laws and Regulations, but this shall not relieve CONTRACTOR of CONTRACTOR'S obligations under paragraph 3.03.

6.10 *Taxes*

A. CONTRACTOR shall pay all sales, consumer, use, and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas*

1. CONTRACTOR shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER'S Consultant, and the officers, directors, partners, employees, agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against OWNER, ENGINEER, or any other party indemnified hereunder to the extent caused by or based upon CONTRACTOR'S performance of the Work.

B. *Removal of Debris During Performance of the Work:* During the progress of the Work CONTRACTOR shall keep the Site and other areas free from accumulations of waste materials, rubbish, and

other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning:* Prior to Substantial Completion of the Work, CONTRACTOR shall clean the Site and make it ready for utilization by OWNER. At the completion of the Work CONTRACTOR shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading Structures:* CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

A. CONTRACTOR shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents, together with all approved Samples and a counterpart of all approved Shop Drawings, will be available to ENGINEER for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to ENGINEER for OWNER.

6.13 *Safety and Protection*

A. CONTRACTOR shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;
2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal,

relocation, or replacement in the course of construction.

B. CONTRACTOR shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property. All damage, injury, or loss to any property referred to in paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of OWNER or ENGINEER or ENGINEER'S Consultant, or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of CONTRACTOR or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them). CONTRACTOR'S duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

A. CONTRACTOR shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

A. CONTRACTOR shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, CONTRACTOR is obligated to act to prevent threatened damage, injury, or loss. CONTRACTOR shall give ENGINEER prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If ENGINEER determines that a change in the Contract Documents is required because of the action taken by CONTRACTOR in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

A. CONTRACTOR shall submit Shop Drawings to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. All submittals will be identified as ENGINEER may require and in the number of copies specified in the General Requirements. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show ENGINEER the services, materials, and equipment CONTRACTOR proposes to provide and to enable ENGINEER to review the information for the limited purposes required by paragraph 6.17.E.

B. CONTRACTOR shall also submit Samples to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. Each Sample will be identified clearly as to material, Supplier, pertinent data such as catalog numbers, and the use for which intended and otherwise as ENGINEER may require to enable ENGINEER to review the submittal for the limited purposes required by paragraph 6.17.E. The numbers of each Sample to be submitted will be as specified in the Specifications.

C. Where a Shop Drawing or Sample is required by the Contract Documents or the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER as required by paragraph 2.07, any related Work performed prior to ENGINEER'S review and approval of the pertinent submittal will be at the sole expense and responsibility of CONTRACTOR.

D. *Submittal Procedures*

1. Before submitting each Shop Drawing or Sample, CONTRACTOR shall have determined and verified:

a. all field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

b. all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

c. all information relative to means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto; and

d. CONTRACTOR shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

2. Each submittal shall bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR'S obligations under the Contract Documents with respect to CONTRACTOR'S review and approval of that submittal.

3. At the time of each submittal, CONTRACTOR shall give ENGINEER specific written notice of such variations, if any, that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, such notice to be in a written communication separate from the submittal; and, in addition, shall cause a specific notation to be made on each Shop Drawing and Sample submitted to ENGINEER for review and approval of each such variation.

E. *ENGINEER'S Review*

1. ENGINEER will timely review and approve Shop Drawings and Samples in accordance with the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER. ENGINEER'S review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. ENGINEER'S review and approval will not extend to means, methods, techniques, sequences, or

procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. ENGINEER'S review and approval of Shop Drawings or Samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER'S attention to each such variation at the time of each submittal as required by paragraph 6.17.D.3 and ENGINEER has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for complying with the requirements of paragraph 6.17.D.1.

F. *Resubmittal Procedures:*

1. CONTRACTOR shall make corrections required by ENGINEER and shall return the required number of corrected copies of Shop Drawings and submit as required new Samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals.

6.18 *Continuing the Work*

A. CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 15.04 or as OWNER and CONTRACTOR may otherwise agree in writing.

6.19 *CONTRACTOR'S General Warranty and Guarantee*

A. CONTRACTOR warrants and guarantees to OWNER, ENGINEER, and ENGINEER'S Consultants that all Work will be in accordance with the Contract Documents and will not be defective. CONTRACTOR'S warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than CONTRACTOR, Subcontractors, Suppliers, or any other individual or entity for whom CONTRACTOR is responsible; or

2. normal wear and tear under normal usage.

B. CONTRACTOR'S obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of CONTRACTOR'S obligation to perform the Work in accordance with the Contract Documents:

1. observations by ENGINEER;

2. recommendation by ENGINEER or payment by OWNER of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by ENGINEER or any payment related thereto by OWNER;

4. use or occupancy of the Work or any part thereof by OWNER;

5. any acceptance by OWNER or any failure to do so;

6. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by ENGINEER;

7. any inspection, test, or approval by others;
or

8. any correction of defective Work by OWNER.

6.20 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER'S Consultants, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage:

1. is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of real or personal property (other than the Work itself), including the loss of use resulting therefrom; and

2. is caused in whole or in part by any act or omission of CONTRACTOR, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not caused in part by an individual or entity indemnified hereunder or whether liability is imposed upon such indemnified party by Laws or Regulations.

B. In any and all claims against OWNER or ENGINEER or any of their respective consultants, agents, officers, directors, partners, or employees by any employee (or the survivor or personal representative of such employee) of CONTRACTOR, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for CONTRACTOR or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of CONTRACTOR under paragraph 6.20.A shall not be limited in any way by the amount or types of insurance provided by CONTRACTOR under Article 5 of the General Conditions.

D. The indemnification obligations of CONTRACTOR under paragraph 6.20.A shall not extend to the sole negligence or willful misconduct of OWNER, ENGINEER or ENGINEER'S Consultants or to the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them.

ARTICLE 7 - OTHER WORK

7.01 *Related Work at Site*

A. OWNER may perform other work related to the Project at the Site by OWNER'S employees, or let other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to CONTRACTOR prior to starting any such other work; and

2. if OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in paragraph 10.05.

B. CONTRACTOR shall afford each other contractor who is a party to such a direct contract and each utility owner (and OWNER, if OWNER is performing the other work with OWNER'S employees) proper and safe access to the Site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work and shall properly coordinate the Work with theirs. Unless otherwise provided in the Contract Documents, CONTRACTOR shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility owners and other contractors.

C. If the proper execution or results of any part of CONTRACTOR'S Work depends upon work performed by others under this Article 7, CONTRACTOR shall inspect such other work and promptly report to ENGINEER in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of CONTRACTOR'S Work. CONTRACTOR'S failure to so report will constitute an acceptance of such

other work as fit and proper for integration with CONTRACTOR'S Work except for latent defects and deficiencies in such other work.

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, OWNER shall issue all communications to CONTRACTOR through ENGINEER.

8.02 *Furnish Data*

A. OWNER shall promptly furnish the data required of OWNER under the Contract Documents.

8.03 *Pay Promptly When Due*

A. OWNER shall make payments to CONTRACTOR promptly when they are due as provided in paragraphs 14.02.C and 14.07.C.

8.04 *Lands and Easements; Reports and Tests*

A. OWNER'S duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.01 and 4.05. Paragraph 4.02 refers to OWNER'S identifying and making available to CONTRACTOR copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by ENGINEER in preparing the Contract Documents.

8.05 *Insurance*

A. OWNER'S responsibilities, if any, in respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.06 *Change Orders*

A. OWNER is obligated to execute Change Orders as indicated in paragraph 10.03.

8.07. *Inspections, Tests, and Approvals*

A. OWNER'S responsibility in respect to certain inspections, tests, and approvals is set forth in paragraph 13.03.B.

8.08 *Limitations on OWNER'S Responsibilities*

A. The OWNER shall 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 performance of the Work. OWNER will not be responsible for CONTRACTOR'S failure to perform the Work in accordance with the Contract Documents.

8.09 *Undisclosed Hazardous Environmental Condition*

A. OWNER'S responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in paragraph 4.06.

8.10 *Evidence of Financial Arrangements*

A. If and to the extent OWNER has agreed to furnish CONTRACTOR reasonable evidence that financial arrangements have been made to satisfy OWNER'S obligations under the Contract Documents, OWNER'S responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *OWNER'S Representative*

A. ENGINEER will be OWNER'S representative during the construction period. The duties and responsibilities and the limitations of authority of ENGINEER as OWNER'S representative during construction are set forth in the Contract Documents and will not be changed without written consent of OWNER and ENGINEER.

9.02 *Visits to Site*

A. ENGINEER will make visits to the Site at intervals appropriate to the various stages of construction as ENGINEER deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of CONTRACTOR'S executed Work. Based on information obtained during such visits and observations, ENGINEER, for the benefit of OWNER, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. ENGINEER

will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. ENGINEER'S efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defective Work.

B. ENGINEER'S visits and observations are subject to all the limitations on ENGINEER'S authority and responsibility set forth in paragraph 9.10, and particularly, but without limitation, during or as a result of ENGINEER'S visits or observations of CONTRACTOR'S Work. ENGINEER will not supervise, direct, control, or have authority over or 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 performance of the Work.

9.03 *Project Representative*

A. If OWNER and ENGINEER agree, ENGINEER will furnish a Resident Project Representative to assist ENGINEER in providing more extensive observation of the Work. The responsibilities and authority and limitations thereon of any such Resident Project Representative and assistants will be as provided in paragraph 9.10 and in the Supplementary Conditions. If OWNER designates another representative or agent to represent OWNER at the Site who is not ENGINEER'S Consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Clarifications and Interpretations*

A. ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents as ENGINEER may determine necessary, which shall be consistent with the intent of and reasonably inferable from the Contract Documents. Such written clarifications and interpretations will be binding on OWNER and CONTRACTOR. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a written clarification or interpretation, a Claim may be made therefor as provided in paragraph 10.05.

W-027

9.05 *Authorized Variations in Work*

A. ENGINEER may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on OWNER and also on CONTRACTOR, who shall perform the Work involved promptly. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of a Field Order, a Claim may be made therefor as provided in paragraph 10.05.

9.06 *Rejecting Defective Work*

A. ENGINEER will have authority to disapprove or reject Work which ENGINEER believes to be defective, or that ENGINEER 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. ENGINEER will also have authority to require special inspection or testing of the Work as provided in paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.07 *Shop Drawings, Change Orders and Payments*

A. In connection with ENGINEER'S authority as to Shop Drawings and Samples, see paragraph 6.17.

B. In connection with ENGINEER'S authority as to Change Orders, see Articles 10, 11, and 12.

C. In connection with ENGINEER'S authority as to Applications for Payment, see Article 14.

9.08 *Determinations for Unit Price Work*

A. ENGINEER will determine the actual quantities and classifications of Unit Price Work performed by CONTRACTOR. ENGINEER will review with CONTRACTOR the ENGINEER'S preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). ENGINEER'S written decision thereon will be final and binding (except as modified by ENGINEER to reflect changed factual conditions or more accurate data) upon OWNER

and CONTRACTOR, subject to the provisions of paragraph 10.05.

9.09 Decisions on Requirements of Contract Documents and Acceptability of Work

A. ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work, the quantities and classifications of Unit Price Work, the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, and Claims seeking changes in the Contract Price or Contract Times will be referred initially to ENGINEER in writing, in accordance with the provisions of paragraph 10.05, with a request for a formal decision.

B. When functioning as interpreter and judge under this paragraph 9.09, ENGINEER will not show partiality to OWNER or CONTRACTOR and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity. The rendering of a decision by ENGINEER pursuant to this paragraph 9.09 with respect to any such Claim, dispute, or other matter (except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.07) will be a condition precedent to any exercise by OWNER or CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such Claim, dispute, or other matter.

9.10 Limitations on ENGINEER'S Authority and Responsibilities

A. Neither ENGINEER'S authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by ENGINEER shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by ENGINEER to CONTRACTOR, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. ENGINEER will not supervise, direct, control, or have authority over or 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 performance of the Work.

ENGINEER will not be responsible for CONTRACTOR'S failure to perform the Work in accordance with the Contract Documents.

C. ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. ENGINEER'S review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.

E. The limitations upon authority and responsibility set forth in this paragraph 9.10 shall also apply to ENGINEER'S Consultants, Resident Project Representative, and assistants.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

10.01 Authorized Changes in the Work

A. Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Written Amendment, a Change Order, or a Work Change Directive. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If OWNER and CONTRACTOR are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in paragraph 10.05.

10.02 Unauthorized Changes in the Work

A. CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in paragraph 3.04, except in the case of an emergency as provided in

paragraph 6.16 or in the case of uncovering Work as provided in paragraph 13.04.B.

10.03 Execution of Change Orders

A. OWNER and CONTRACTOR shall execute appropriate Change Orders recommended by ENGINEER (or Written Amendments) covering:

1. changes in the Work which are: (i) ordered by OWNER pursuant to paragraph 10.01.A, (ii) required because of acceptance of defective Work under paragraph 13.08.A or OWNER'S correction of defective Work under paragraph 13.09, or (iii) agreed to by the parties;
2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by ENGINEER pursuant to paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 6.18.A.

10.04 Notification to Surety

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR'S responsibility. The amount of each applicable Bond will be adjusted to reflect the effect of any such change.

10.05 Claims and Disputes

A. *Notice:* Written notice stating the general nature of each Claim, dispute, or other matter shall be delivered by the claimant to ENGINEER and the other party to the Contract promptly (but in no event later than 20 days) after the start of the event giving rise thereto. Notice of the amount or extent of the Claim, dispute, or other matter with supporting data shall be delivered to the ENGINEER and the other party to the Contract within 45 days after the start of such event

(unless ENGINEER allows additional time for claimant to submit additional or more accurate data in support of such Claim, dispute, or other matter). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of paragraph 12.01.B. A Claim for an adjustment in Contract Time shall be prepared in accordance with the provisions of paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to ENGINEER and the claimant within 30 days after receipt of the claimant's last submittal (unless ENGINEER allows additional time).

B. *ENGINEER'S Decision:* ENGINEER will render a formal decision in writing within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any. ENGINEER'S written decision on such Claim, dispute, or other matter will be final and binding upon OWNER and CONTRACTOR unless:

1. an appeal from ENGINEER'S decision is taken within the time limits and in accordance with the dispute resolution procedures set forth in Article 16; or
2. if no such dispute resolution procedures have been set forth in Article 16, a written notice of intention to appeal from ENGINEER'S written decision is delivered by OWNER or CONTRACTOR to the other and to ENGINEER within 30 days after the date of such decision, and a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction within 60 days after the date of such decision or within 60 days after Substantial Completion, whichever is later (unless otherwise agreed in writing by OWNER and CONTRACTOR), to exercise such rights or remedies as the appealing party may have with respect to such Claim, dispute, or other matter in accordance with applicable Laws and Regulations.

C. If ENGINEER does not render a formal decision in writing within the time stated in paragraph 10.05.B, a decision denying the Claim in its entirety shall be deemed to have been issued 31 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any.

D. No Claim for an adjustment in Contract Price or Contract Times (or Milestones) will be valid if not submitted in accordance with this paragraph 10.05.

ARTICLE 11 - COST OF THE WORK; CASH ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to CONTRACTOR will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in paragraph 11.01.B.

1. Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Such employees shall include without limitation superintendents, foremen, and other personnel employed full time at the Site. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by OWNER.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

3. Payments made by CONTRACTOR to Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from subcontractors acceptable to OWNER and CONTRACTOR and shall deliver such bids to OWNER, who will then determine, with the advice of ENGINEER, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as CONTRACTOR'S Cost of the Work and fee as provided in this paragraph 11.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

a. The proportion of necessary transportation, travel, and subsistence expenses of CONTRACTOR'S employees incurred in discharge of duties connected with the Work.

b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of CONTRACTOR.

c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER with the advice of ENGINEER, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

d. Sales, consumer, use, and other similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.

e. Deposits lost for causes other than negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by CONTRACTOR in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR'S fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expressage, and similar petty cash items in connection with the Work.

i. When the Cost of the Work is used to determine the value of a Change Order or of a Claim, the cost of premiums for additional Bonds and insurance required because of the changes in the Work or caused by the event giving rise to the Claim.

j. When all the Work is performed on the basis of cost-plus, the costs of premiums for all Bonds and insurance CONTRACTOR is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of CONTRACTOR'S officers, executives, principals (of partnerships and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks,

and other personnel employed by CONTRACTOR, whether at the Site or in CONTRACTOR'S principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 11.01.A.1 or specifically covered by paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the CONTRACTOR'S fee.

2. Expenses of CONTRACTOR'S principal and branch offices other than CONTRACTOR'S office at the Site.

3. Any part of CONTRACTOR'S capital expenses, including interest on CONTRACTOR'S capital employed for the Work and charges against CONTRACTOR for delinquent payments.

4. Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraphs 11.01.A and 11.01.B.

C. *CONTRACTOR'S Fee:* When all the Work is performed on the basis of cost-plus, CONTRACTOR'S fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, CONTRACTOR'S fee shall be determined as set forth in paragraph 12.01.C.

D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to paragraphs 11.01.A and 11.01.B, CONTRACTOR will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to ENGINEER an itemized cost breakdown together with supporting data.

11.02 *Cash Allowances*

A. It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums as may be

acceptable to OWNER and ENGINEER. CONTRACTOR agrees that:

1. the allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
2. CONTRACTOR'S costs for unloading and handling on the Site, labor, installation costs, overhead, profit, and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

B. Prior to final payment, an appropriate Change Order will be issued as recommended by ENGINEER to reflect actual amounts due CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 Unit Price Work

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by ENGINEER subject to the provisions of paragraph 9.08.

B. Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR'S overhead and profit for each separately identified item.

C. For provisions for an adjustment of a unit price for an increase or decrease in the quantity of Unit Price Work, if any, see General Requirements Section 01270, Measurement and Payment.

ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 Change of Contract Price

A. The Contract Price may only be changed by a Change Order or by a Written Amendment. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the claim to the ENGINEER and the other party to the Contract in accordance with the provisions of paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of paragraph 11.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 12.01.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in paragraph 11.01) plus a CONTRACTOR'S fee for overhead and profit (determined as provided in paragraph 12.01.C).

C. *CONTRACTOR'S Fee:* The CONTRACTOR'S fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

- a. for costs incurred under paragraphs 11.01.A.1 and 11.01.A.2, the CONTRACTOR'S fee shall be 15 percent;

- b. for costs incurred under paragraph 11.01.A.3, the CONTRACTOR'S fee shall be five percent;

- c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of paragraph 12.01.C.2.a is that the Subcontractor who actually performs the Work, at whatever

tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and CONTRACTOR will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

d. no fee shall be payable on the basis of costs itemized under paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

e. the amount of credit to be allowed by CONTRACTOR to OWNER for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in CONTRACTOR'S fee by an amount equal to five percent of such net decrease; and

f. when both additions and credits are involved in any one change, the adjustment in CONTRACTOR'S fee shall be computed on the basis of the net change in accordance with paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

A. The Contract Times (or Milestones) may only be changed by a Change Order or by a Written Amendment. Any Claim for an adjustment in the Contract Times (or Milestones) shall be based on written notice submitted by the party making the claim to the ENGINEER and the other party to the Contract in accordance with the provisions of paragraph 10.05.

B. Any adjustment of the Contract Times (or Milestones) covered by a Change Order or of any Claim for an adjustment in the Contract Times (or Milestones) will be determined in accordance with the provisions of this Article 12.

12.03 *Delays Beyond CONTRACTOR'S Control*

A. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of CONTRACTOR, the Contract Times (or Milestones) will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in paragraph 12.02.A. Delays beyond the control of CONTRACTOR shall include, but not be limited to, acts or neglect by OWNER, acts or neglect of utility owners or other contractors performing other work as

contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

12.04 *Delays Within CONTRACTOR'S Control*

A. The Contract Times (or Milestones) will not be extended due to delays within the control of CONTRACTOR. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of CONTRACTOR.

12.05 *Delays Beyond OWNER'S and CONTRACTOR'S Control*

A. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of both OWNER and CONTRACTOR, an extension of the Contract Times (or Milestones) in an amount equal to the time lost due to such delay shall be CONTRACTOR'S sole and exclusive remedy for such delay.

12.06 *Delay Damages*

A. In no event shall OWNER or ENGINEER be liable to CONTRACTOR, any Subcontractor, any Supplier, or any other person or organization, or to any surety for or employee or agent of any of them, for damages arising out of or resulting from:

1. delays caused by or within the control of CONTRACTOR; or

2. delays beyond the control of both OWNER and CONTRACTOR including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God, or acts or neglect by utility owners or other contractors performing other work as contemplated by Article 7.

B. Nothing in this paragraph 12.06 bars a change in Contract Price pursuant to this Article 12 to compensate CONTRACTOR due to delay, interference, or disruption directly attributable to actions or inactions of OWNER or anyone for whom OWNER is responsible.

ARTICLE 13 - TESTS AND INSPECTIONS;
CORRECTION, REMOVAL OR ACCEPTANCE OF
DEFECTIVE WORK

13.01 *Notice of Defects*

A. Prompt notice of all defective Work of which OWNER or ENGINEER has actual knowledge will be given to CONTRACTOR. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

A. OWNER, ENGINEER, ENGINEER'S Consultants, other representatives and personnel of OWNER, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspecting, and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR'S Site safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

A. CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. OWNER shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. for inspections, tests, or approvals covered by paragraphs 13.03.C and 13.03.D below;
2. that costs incurred in connection with tests or inspections conducted pursuant to paragraph 13.04.B shall be paid as provided in said paragraph 13.04.B; and
3. as otherwise specifically provided in the Contract Documents.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, CONTRACTOR shall assume full responsibility for arranging and obtaining such inspections, tests, or

approvals, pay all costs in connection therewith, and furnish ENGINEER the required certificates of inspection or approval.

D. CONTRACTOR shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for OWNER'S and ENGINEER'S acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to CONTRACTOR'S purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to OWNER and ENGINEER.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by CONTRACTOR without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation.

F. Uncovering Work as provided in paragraph 13.03.E shall be at CONTRACTOR'S expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR'S intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

A. If any Work is covered contrary to the written request of ENGINEER, it must, if requested by ENGINEER, be uncovered for ENGINEER'S observation and replaced at CONTRACTOR'S expense.

B. If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, at ENGINEER'S request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment. If it is found that such Work is defective, CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and OWNER shall be entitled to an appropriate decrease in the Contract Price. If the

parties are unable to agree as to the amount thereof, OWNER may make a Claim therefor as provided in paragraph 10.05. If, however, such Work is not found to be defective, CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Times (or Milestones), or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

13.05 *OWNER May Stop the Work*

A. If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

A. CONTRACTOR shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by ENGINEER, remove it from the Project and replace it with Work that is not defective. CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

13.07 *Correction Period*

A. If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for CONTRACTOR'S use by OWNER or permitted by Laws and Regulations as contemplated in paragraph 6.11.A is found to be defective, CONTRACTOR shall promptly, without cost

to OWNER and in accordance with OWNER'S written instructions: (i) repair such defective land or areas, or (ii) correct such defective Work or, if the defective Work has been rejected by OWNER, remove it from the Project and replace it with Work that is not defective, and (iii) satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or repaired or may have the rejected Work removed and replaced, and all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by CONTRACTOR.

B. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Written Amendment.

C. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

D. CONTRACTOR'S obligations under this paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this paragraph 13.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, OWNER (and, prior to ENGINEER'S recommendation of final payment, ENGINEER) prefers to accept it, OWNER may do so. CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to OWNER'S evaluation of and determination to accept such defective

Work (such costs to be approved by ENGINEER as to reasonableness) and the diminished value of the Work to the extent not otherwise paid by CONTRACTOR pursuant to this sentence. If any such acceptance occurs prior to ENGINEER'S recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and OWNER shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefor as provided in paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to OWNER.

13.09 *OWNER May Correct Defective Work*

A. If CONTRACTOR fails within a reasonable time after written notice from ENGINEER to correct defective Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 13.06.A, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, OWNER may, after seven days written notice to CONTRACTOR, correct and remedy any such deficiency.

B. In exercising the rights and remedies under this paragraph, OWNER shall proceed expeditiously. In connection with such corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the Site, take possession of all or part of the Work and suspend CONTRACTOR'S services related thereto, take possession of CONTRACTOR'S tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER'S representatives, agents and employees, OWNER'S other contractors, and ENGINEER and ENGINEER'S Consultants access to the Site to enable OWNER to exercise the rights and remedies under this paragraph.

C. All Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by OWNER in exercising the rights and remedies under this paragraph 13.09 will be charged against CONTRACTOR, and a Change Order will be issued incorporating the necessary

revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, OWNER may make a Claim therefor as provided in paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of CONTRACTOR'S defective Work.

D. CONTRACTOR shall not be allowed an extension of the Contract Times (or Milestones) because of any delay in the performance of the Work attributable to the exercise by OWNER of OWNER'S rights and remedies under this paragraph 13.09.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

A. The schedule of values established as provided in paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to ENGINEER. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. *Applications for Payments*

1. At least 10 days before the date established for each progress payment (but not more often than once a month), CONTRACTOR shall submit to ENGINEER for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that OWNER has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect OWNER'S interest therein, all of which must be satisfactory to OWNER.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of CONTRACTOR stating that all previous progress payments received on account of the Work have been applied on account to discharge CONTRACTOR'S legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications*

1. ENGINEER will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to OWNER or return the Application to CONTRACTOR indicating in writing ENGINEER'S reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application.

2. ENGINEER'S recommendation of any payment requested in an Application for Payment will constitute a representation by ENGINEER to OWNER, based on ENGINEER'S observations on the Site of the executed Work as an experienced and qualified design professional and on ENGINEER'S review of the Application for Payment and the accompanying data and schedules, that to the best of ENGINEER'S knowledge, information and belief:

- a. the Work has progressed to the point indicated;
- b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under paragraph 9.08, and to any other qualifications stated in the recommendation); and
- c. the conditions precedent to CONTRACTOR'S being entitled to such payment appear to have been fulfilled in so far as it is ENGINEER'S responsibility to observe the Work.

3. By recommending any such payment ENGINEER will not thereby be deemed to have

represented that: (i) inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to ENGINEER in the Contract Documents; or (ii) that there may not be other matters or issues between the parties that might entitle CONTRACTOR to be paid additionally by OWNER or entitle OWNER to withhold payment to CONTRACTOR.

4. Neither ENGINEER'S review of CONTRACTOR'S Work for the purposes of recommending payments nor ENGINEER'S recommendation of any payment, including final payment, will impose responsibility on ENGINEER to supervise, direct, or control the Work or for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for CONTRACTOR'S failure to comply with Laws and Regulations applicable to CONTRACTOR'S performance of the Work. Additionally, said review or recommendation will not impose responsibility on ENGINEER to make any examination to ascertain how or for what purposes CONTRACTOR has used the moneys paid on account of the Contract Price, or to determine that title to any of the Work, materials, or equipment has passed to OWNER free and clear of any Liens.

5. ENGINEER may refuse to recommend the whole or any part of any payment if, in ENGINEER'S opinion, it would be incorrect to make the representations to OWNER referred to in paragraph 14.02.B.2. ENGINEER may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in ENGINEER'S opinion to protect OWNER from loss because:

- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
- b. the Contract Price has been reduced by Written Amendment or Change Orders;
- c. OWNER has been required to correct defective Work or complete Work in accordance with paragraph 13.09; or

d. ENGINEER has actual knowledge of the occurrence of any of the events enumerated in paragraph 15.02.A.

C. *Payment Becomes Due*

1. Sixty days after presentation of the Application for Payment to OWNER with ENGINEER'S recommendation, the amount recommended will (subject to the provisions of paragraph 14.02.D) become due, and when due will be paid by OWNER to CONTRACTOR.

D. *Reduction in Payment*

1. OWNER may refuse to make payment of the full amount recommended by ENGINEER because:

- a. claims have been made against OWNER on account of CONTRACTOR'S performance or furnishing of the Work;
- b. liens have been filed in connection with the Work, except where CONTRACTOR has delivered a specific Bond satisfactory to OWNER to secure the satisfaction and discharge of such Liens;
- c. there are other items entitling OWNER to a set-off against the amount recommended; or
- d. OWNER has actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.02.B.5.a through 14.02.B.5.c or paragraph 15.02.A.

2. If OWNER refuses to make payment of the full amount recommended by ENGINEER, OWNER must give CONTRACTOR immediate written notice (with a copy to ENGINEER) stating the reasons for such action and promptly pay CONTRACTOR any amount remaining after deduction of the amount so withheld. OWNER shall promptly pay CONTRACTOR the amount so withheld, or any adjustment thereto agreed to by OWNER and CONTRACTOR, when CONTRACTOR corrects to OWNER'S satisfaction the reasons for such action.

3. If it is subsequently determined that OWNER'S refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by paragraph 14.02.C.1.

14.03 *CONTRACTOR'S Warranty of Title*

A. CONTRACTOR warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

A. When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify OWNER and ENGINEER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of Substantial Completion. Promptly thereafter, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of the Work to determine the status of completion. If ENGINEER does not consider the Work substantially complete, ENGINEER will notify CONTRACTOR in writing giving the reasons therefor. If ENGINEER considers the Work substantially complete, ENGINEER will prepare and deliver to OWNER a tentative certificate of Substantial Completion which shall fix 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 to make written objection to ENGINEER as to any provisions of the certificate or attached list. If, after considering such objections, ENGINEER concludes that the Work is not substantially complete, ENGINEER will within 14 days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefor. If, after consideration of OWNER'S objections, ENGINEER considers the Work substantially complete, ENGINEER will within said 14 days execute and deliver to OWNER and 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 ENGINEER believes justified after consideration of any objections from OWNER. At the time of delivery of the tentative certificate of Substantial Completion ENGINEER will deliver to OWNER and CONTRACTOR a written recommendation as to division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless OWNER and CONTRACTOR agree otherwise in writing and so inform ENGINEER in writing prior to

ENGINEER'S issuing the definitive certificate of Substantial Completion, ENGINEER'S aforesaid recommendation will be binding on OWNER and CONTRACTOR until final payment.

B. OWNER shall have the right to exclude CONTRACTOR from the Site after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

14.05 *Partial Utilization*

A. Use by OWNER at OWNER'S option of any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which OWNER, ENGINEER, and CONTRACTOR agree constitutes a separately functioning and usable part of the Work that can be used by OWNER for its intended purpose without significant interference with CONTRACTOR'S performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following conditions.

1. OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees that such part of the Work is substantially complete, CONTRACTOR will certify to OWNER and ENGINEER that such part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. CONTRACTOR at any time may notify OWNER and ENGINEER in writing that CONTRACTOR considers any such part of the Work ready for its intended use and substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of that part of the Work to determine its status of completion. If ENGINEER does not consider that part of the Work to be substantially complete, ENGINEER will notify OWNER and CONTRACTOR in writing giving the reasons therefor. If ENGINEER considers that part of the Work to be substantially complete, the provisions of paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

2. No occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of the Supplementary Conditions regarding property insurance.

14.06 *Final Inspection*

A. Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will promptly make a final inspection with OWNER and CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. *Application for Payment*

1. After CONTRACTOR has, in the opinion of ENGINEER, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in paragraph 6.12), and other documents, CONTRACTOR may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by: (i) all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by subparagraph 5.04.B.7; (ii) consent of the surety, if any, to final payment; and (iii) complete and legally effective releases or waivers (satisfactory to OWNER) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in paragraph 14.07.A.2 and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full and an affidavit of CONTRACTOR that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER'S property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or

Supplier fails to furnish such a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

B. Review of Application and Acceptance

1. If, on the basis of ENGINEER'S observation of the Work during construction and final inspection, and ENGINEER'S review of the final Application for Payment and accompanying documentation as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR'S other obligations under the Contract Documents have been fulfilled, ENGINEER will, within 10 days after receipt of the final Application for Payment, indicate in writing ENGINEER'S recommendation of payment and present the Application for Payment to OWNER for payment. At the same time ENGINEER will also give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.09. Otherwise, ENGINEER will return the Application for Payment to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due

1. Sixty days after the presentation to OWNER of the Application for Payment and accompanying documentation, the amount recommended by ENGINEER will become due and, when due, will be paid by OWNER to CONTRACTOR.

D. Final Completion Delayed

1. If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed, and if ENGINEER so confirms, OWNER shall, upon receipt of CONTRACTOR'S final Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 5.01, the written consent of the surety to the payment of the balance due for that

portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.08 *(Not Used)*

14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by OWNER against CONTRACTOR, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from CONTRACTOR'S continuing obligations under the Contract Documents; and

2. a waiver of all Claims by CONTRACTOR against OWNER other than those previously made in writing which are still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 *OWNER May Suspend Work*

A. At any time and without cause, OWNER may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to CONTRACTOR and ENGINEER which will fix the date on which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR shall be allowed an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if CONTRACTOR makes a Claim therefor as provided in paragraph 10.05.

15.02 *OWNER May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. CONTRACTOR'S persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under paragraph 2.07

as adjusted from time to time pursuant to paragraph 6.04);

2. CONTRACTOR'S disregard of Laws or Regulations of any public body having jurisdiction;

3. CONTRACTOR'S disregard of the authority of ENGINEER; or

4. CONTRACTOR'S violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in paragraph 15.02.A occur, OWNER may, after giving CONTRACTOR (and the surety, if any) seven days written notice, terminate the services of CONTRACTOR, exclude CONTRACTOR from the Site, and take possession of the Work and of all CONTRACTOR'S tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the Site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case, CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by OWNER arising out of or relating to completing the Work, such excess will be paid to CONTRACTOR. If such claims, costs, losses, and damages exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such claims, costs, losses, and damages incurred by OWNER will be reviewed by ENGINEER as to their reasonableness and, when so approved by ENGINEER, incorporated in a Change Order. When exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

C. Where CONTRACTOR'S services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

15.03 *OWNER May Terminate For Convenience*

A. Upon seven days written notice to CONTRACTOR and ENGINEER, OWNER may, without cause and without prejudice to any other right or remedy of OWNER, elect to terminate the Contract. In such case, CONTRACTOR shall be paid (without duplication of any items):

1. for completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. for expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. for all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. for reasonable expenses directly attributable to termination.

B. CONTRACTOR shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *CONTRACTOR May Stop Work or Terminate*

A. If, through no act or fault of CONTRACTOR, the Work is suspended for more than 90 consecutive days by OWNER or under an order of court or other public authority, or ENGINEER fails to act on any Application for Payment within 30 days after it is submitted, or OWNER fails for 60 days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven days written notice to OWNER and ENGINEER, and provided OWNER or ENGINEER do not remedy such suspension or failure within that time, terminate the Contract and recover from OWNER payment on the same terms as provided in paragraph 15.03. In lieu of terminating the Contract and without prejudice to any other right or remedy, if ENGINEER has failed to act on an Application for Payment within 30 days after it is submitted, or OWNER has failed for 60 days to pay CONTRACTOR any sum finally determined to be due, CONTRACTOR may, seven days after written notice to

OWNER and ENGINEER, stop the Work until payment is made of all such amounts due CONTRACTOR, including interest thereon. The provisions of this paragraph 15.04 are not intended to preclude CONTRACTOR from making a Claim under paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to CONTRACTOR'S stopping the Work as permitted by this paragraph.

ARTICLE 16 - DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Dispute resolution methods and procedures, if any, shall be as set forth in the Supplementary Conditions. If no method and procedure has been set forth, and subject to the provisions of paragraphs 9.09 and 10.05, OWNER and CONTRACTOR may exercise such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any dispute.

ARTICLE 17 - MISCELLANEOUS

17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

A. When any period of time is referred to in the Contract Documents by days, it will be computed to

exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Agreement.

17.05 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

A. The Article and paragraph headings are inserted for convenience only and do not constitute part of these General Conditions.

END OF GENERAL CONDITIONS

ERIE COUNTY WATER AUTHORITY
BUFFALO, NEW YORK

CONTRACT NO.: W-027
36-INCH TRANSMISSION MAIN REPLACEMENT PROJECT
BETWEEN MILLERSPORT HIGHWAY AND SHERIDAN DRIVE
TOWN OF AMHERST, NY

PROJECT NO.: 201700093

SECTION 00800

SUPPLEMENTARY CONDITIONS

SCOPE

These Supplementary Conditions amend or supplement the General Conditions. All provisions of the General Conditions which are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions which are defined in the General Conditions have the meanings assigned to them in the General Conditions.

SC-1.01.A.7. Modify paragraph 1.01.A.7. by changing the word “Advertisement” in the first sentence to “Notice”.

SC-1.01.A.43 Add the following to Paragraph 1.01.A.43:

Substantial Completion for a watermain shall be achieved at such time as the watermain, or portion thereof, has been installed, tested, disinfected, issuance of Completed Works Approval by the Erie County Water Authority, all of the services transferred, if applicable, all the hydrants installed, all of the interconnections made, and all of the abandonments performed.

SC-4.02 Add new paragraph immediately after paragraph 4.02.B which is to read as follows:

SC-4.02.C In the preparation of the Drawings and Specifications, ENGINEER has relied upon:

The following records of explorations and tests of subsurface conditions at the Site:

- a. Soil Boring investigations were conducted by SJB Services, Inc., Buffalo, NY in February and March 2018. Report with subsurface logs is dated March 8, 2018.

The following drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities) which are at or contiguous to the Site:

- a. Existing underground utilities were located by SoftDig Underground Services, Inc., West Chester, PA in March 2018 using vacuum excavation methods. Reports are dated March 12 thru 14, 2018.
- b. The existing Erie County Water Authority 36-inch PCCP Transmission Main approximate location and depth was determined by ECWA personnel by performing exploratory test pit excavations. A table was created by Wendel to show locations and depths in various locations along the project site.

Copies of the reports and drawings listed are available for review at the office of Wendel WD Architecture, Engineering, Surveying & Landscape Architecture, P.C. at 375 Essjay Road, Suite 200 Williamsville, NY 14221, upon 48 hours' notice.

SC-4.06.A Add a new paragraph immediately after paragraph 4.06.A which is to read as follows:

SC-4.06.A.1 In the preparation of the Drawings and Specifications, ENGINEER did not utilize any report or drawing related to a Hazardous Environmental Condition identified at the Site except as identified in SC-4.02.

SC-5.01.A Modify the first part of the second sentence of paragraph 5.01.A of the General Conditions to read:

The payment Bond shall remain in effect for one year and the performance Bond shall remain in effect for two years after....

SC-5.04 through 5.10. Delete paragraph 5.04 through 5.10, inclusive, in their entirety.

SC-5.03 Add a new paragraph immediately after Paragraph 5.03, which is to read as follows:

“SC-5.04 *Insurance Requirements*

A. CONTRACTOR shall procure and maintain insurance in accordance with Insurance Requirements, as set forth in the attached Appendix B and hereby made a part of these General Conditions.”

SC-6.02.B Add new paragraphs immediately after paragraph 6.02.B which are to read as follows:

“SC-6.02.B.1 Except where otherwise prohibited by Laws or Regulations, regular working hours are defined as up to 8 hours per day, beginning no earlier than 7:00 am and ending no later than 6:00 pm.

SC-6.02.B.2 Maintenance and cleanup activities may be performed during hours other than regular working hours provided that such activities do not require the startup or operation of construction equipment.

SC-6.02.B.3 If it shall become absolutely necessary to perform Work at night or on Saturdays, Sundays or legal holidays, written notice shall be submitted to OWNER and ENGINEER at least two days in advance of the need for such Work. OWNER will only consider the performance of such Work as can be performed satisfactorily under the conditions. Sufficient lighting and all other necessary facilities for carrying out and observing the Work shall be provided and maintained where such Work is being performed at night.”

SC-6.06.G Modify paragraph 6.06.G. by changing paragraph reference 5.06 to SC-5.04.

SC-6.06.H Add the following new paragraph immediately following paragraph 6.06.G, which is to read as follows:

“SC-6.06.H The CONTRACTOR shall perform with the CONTRACTOR’S own organization, contract work amounting to not less than fifty percent of the original total contract price. The term “the 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.”

SC-6.09.B. Add a new paragraph immediately after paragraph 6.09.B which is to read as follows:

“SC-6.09.C Refer to Article SC-18 for Laws and Regulations which, by terms of said Laws and Regulations are to be included in the Contract Documents. The failure to include in Article SC-18 any Law or Regulation applicable to the performance of the Work does not diminish CONTRACTOR’S responsibility to comply with all Laws and Regulations applicable to the performance of the work.”

SC-6.10. Add a new paragraph immediately after paragraph 6.10.A, which is to read as follows:

“SC-6.10.B OWNER is exempt from payment of sales and compensating use taxes of the State of New York and of cities and counties on all materials to be incorporated into the Work.

1. OWNER will furnish the required certificates of tax exemption to CONTRACTOR for use in the purchase of supplies and materials to be incorporated into the Work.

2. OWNER'S exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by CONTRACTOR, or to supplies or materials not incorporated into the Work."

SC-6.15.A. Add a new paragraph immediately after paragraph 6.15.A, which is to read as follows:

"SC-6.15.B CONTRACTOR shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with all Laws and regulations. CONTRACTOR shall provide a centralized location for the maintenance of the material safety data sheets or other hazard communication information required to be made available by any employer on the Site. Location of the material safety data sheets or other hazard communication information shall be readily accessible to the employees of any employer on the Site."

SC-7.01 Add a new paragraph immediately after Paragraph 7.01 which is to read as follows:

"SC-7.02 *Separate Contractor Claims*

- A. Should CONTRACTOR cause damage to the work or property of any other contractor at the Site, or should any claim arising out of CONTRACTOR'S performance of the Work be made by any other contractor against CONTRACTOR, OWNER, or ENGINEER, CONTRACTOR shall promptly settle with such other contractor by agreement, or otherwise resolve the dispute by arbitration or at law.
- B. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, and the officer, directors, partners, employees, agents, and other consultants or subcontractors of each and any of them from and against all claims, costs, losses and damages (including but not limited to, all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising directly, indirectly, or consequentially out of or relating to any claim or action, legal or equitable, brought by any other contractor against OWNER, ENGINEER, to the extent based upon CONTRACTOR'S performance of the Work.
- C. Should another contractor cause damage to the Work or property of CONTRACTOR at the Site or should the performance of work by any other contractor give rise to any other claim, CONTRACTOR shall not institute any action, legal or equitable, against OWNER, ENGINEER, or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any arbiter which seeks to

impose liability on or to recover damages from OWNER, ENGINEER, on account of any such damage or claim.

- D. If CONTRACTOR is delayed at any time in performing or furnishing Work by any act or neglect of another contractor and OWNER and CONTRACTOR are unable to agree as to the extent of any adjustment in Contract Times attributable thereto, CONTRACTOR may make a claim for an extension of time in accordance with paragraph 10.05. Notwithstanding any other provision of the Contract Documents, an extension of the Contract Times shall be CONTRACTOR'S sole and exclusive remedy with respect to OWNER, ENGINEER, for any delay, disruption, interference or hindrance caused by any other contractor."

SC-9.03 Add a new paragraph immediately after paragraph 9.03.A which is to read as follows:

"SC-9.03.B. Resident Project Representative (RPR) will be OWNER'S agent at the Site, will act as directed by and under the supervision of OWNER, and will confer with OWNER AND ENGINEER regarding RPR's actions. RPR's dealings in matters pertaining to the on-site Work shall in general be with OWNER and CONTRACTOR keeping ENGINEER advised as necessary. RPR's dealings with Subcontractors shall only be through or with the full knowledge and approval of CONTRACTOR."

SC-13.07 Modify paragraphs 13.07.A. and C. by changing the words "one year" in the first line to "two years".

SC-14.02,A. Add a new paragraph immediately after paragraph 14.02.A.3. which is to read as follows:

"4. Each Application for Payment shall be accompanied by a copy of the certified payroll record."

SC-14.07,A. Add a new paragraph immediately after paragraph 14.07.A.3. which is to read as follows:

"4. The Final Application for Payment shall be accompanied by a copy of the certified payroll record."

SC-14.07.A.2 Modify paragraph 14.07.A.2 by changing the words "subparagraph 5.04.B.7" to "SC-5.04".

SC-17.06 Add new paragraphs immediately after paragraph 17.06,A. which are to read as follows:

“ARTICLE SC-18 - STATUTORY REQUIREMENTS

SC-18.01 This Article contains portions of certain Laws or Regulations which, by provision of Law or Regulations, are required to be included in the Contract Documents. The material included in this Article may not be complete or current. CONTRACTOR’S obligation to comply with all Laws and Regulations applicable to the Work is set forth in paragraph 6.09 of the General Conditions.

SC-18.02 Non-Discrimination in Employment:

- A. During the performance of this contract, CONTRACTOR agrees as follows:
1. CONTRACTOR will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin, and will take affirmative action to insure 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.
 2. CONTRACTOR will send to each labor union or representative of workers with which he 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 clauses 1. through 8. hereinafter called “non-discrimination clauses”. If the CONTRACTOR was directed to do so by the OWNER as part of the Bid or negotiation of this contract, CONTRACTOR shall request labor union or representative to furnish him with 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 non-discrimination 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 non-discrimination clauses. If such labor union or representative fails or refuses to comply with such a request, that it furnish such a statement, CONTRACTOR shall promptly notify the State Commission for Human Rights of such failure or refusal.
 3. 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 1. through 2. and such provisions of the State’s Laws against discrimination as the State Commission for Human Rights shall determine.
 4. CONTRACTOR will state, in all solicitations or advertisements for employees placed by or on behalf of CONTRACTOR, that all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color or national origin.

5. 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 non-discrimination clauses and such sections of the Executive Law, and will permit access to his 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 non-discrimination clauses of the Executive Law, Human Rights Law, Article 15.
6. This contract may be forthwith canceled, terminated or suspended, in whole or in part, by the OWNER upon the basis of a finding made by the State Commission for Human Rights that CONTRACTOR has not complied with these non-discrimination clauses, and 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 he has satisfied the State Commission for Human Rights after conciliation efforts by the Commission have failed to achieve compliance with these non-discrimination clauses and after a verified complaint has been filed with the Commission, notice thereof has been given to CONTRACTOR and an opportunity has been afforded him 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.
7. If this contract is canceled or terminated under clause 6., in addition to other rights of the OWNER provided in this contract upon its breach by CONTRACTOR, CONTRACTOR will hold the OWNER harmless against any additional expenses or costs incurred by the OWNER in completing the Work or in purchasing the services, materials, equipment or supplies contemplated by this contract, and the OWNER may withhold payments from CONTRACTOR in an amount sufficient for this purpose and recourse may be had against the surety on the Performance Bond if necessary.
8. CONTRACTOR will include the provisions of clauses 1. through 2. 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. CONTRACTOR will take such actions in enforcing such provisions of such subcontract or purchase order as the OWNER may direct, including sanctions or remedies for non-compliance. If 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 him to intervene and to protect the interest of the State of New York.

SC-18.03 Affirmative Action Requirements:

- A. During the performance of this Contract, the CONTRACTOR agrees that it will abide by and will require its subcontractors to abide by the AUTHORITY'S Affirmative Action Requirements and Women and Minority Business Enterprise Policy, as set forth in the attached Appendix A and hereby made a part of these General Conditions.

- B. During the performance of this Contract, the CONTRACTOR agrees that it will abide by and will require its subcontractors to abide by the Environmental Facilities Corporation (EFC) requirements, as set forth in the attached Appendix E and hereby made a part of these General Conditions.

SC-18.04 Prevailing Rate Schedule:

- A. The labor on this contract shall be performed in accordance with the requirements of Article 8 (Sections 220-223) of the New York State Labor Law. The supplements to be provided and wages to be paid to workers, laborers and mechanics employed on this contract, determined pursuant to Section 220 of the Labor Law, are set forth in Appendix C, Prevailing Rate Schedule, attached to and hereby made a part of these General Conditions.
- B. CONTRACTOR shall note that the wage rates and supplemental benefits shown in the attached schedules are subject to change. The wage rates and supplemental benefits to be paid and provided shall be those prevailing at the time the contract is being performed.

SC-18.05 Payments to Subcontractors:

- A. In accordance with N.Y. State General Municipal Law, Section 106-b, CONTRACTOR shall:
 - 1. Within fifteen calendar days of the receipt of any payment from the OWNER, the CONTRACTOR shall pay each of his Subcontractors and materialmen the proceeds from the payment representing the value of the work performed and/or materials furnished by the Subcontractor and/or materialman and reflecting the percentage of the Subcontractor's work completed or the materialman's material supplied in the requisition approved by the OWNER and based upon the actual value of the subcontract or purchase order less an amount necessary to satisfy any claims, liens or judgments against the Subcontractor or materialman which have not been suitably discharged and less any retained amount as hereafter described. The CONTRACTOR shall retain not more than five per centum of each payment to the Subcontractor and/or materialman except that the CONTRACTOR may retain in excess of five per centum but not more than ten per centum of each payment to the Subcontractor provided that prior to entering into a subcontract with the CONTRACTOR, the Subcontractor is unable or unwilling to provide a Performance bond and a Labor and Material bond both in the full amount of the subcontract at the request of the CONTRACTOR. However, the CONTRACTOR shall retain nothing from those payments representing proceeds owed the Subcontractor and/or materialman from OWNER'S payments to the CONTRACTOR for the remaining amounts of the contract balance after the work or portions thereof are substantially complete. Within fifteen calendar days of the receipt of payment from the CONTRACTOR, the Subcontractor and/or materialman shall pay each of his Subcontractors and materialmen in the same manner as the CONTRACTOR has paid the Subcontractor. Nothing provided herein shall create any obligation on the part of the OWNER to pay or to see to the payment of any moneys to any Subcontractor or

materialman from any CONTRACTOR nor shall anything provided herein serve to create any relationship in contract or otherwise, implied or expressed, between the Subcontractor or materialman and the OWNER.

SC-18.06 Erie County Water Authority Apprenticeship Policy

- A. During the performance of this Contract, the CONTRACTOR, its assigns, and designees, agree that it will abide by and will require its Subcontractors to abide by the Erie County Water Authority's Apprenticeship Policy, as stated in paragraph B of this Section.
- B. That pursuant to New York State Labor Law §816-B, the Erie County Water Authority hereby mandates that all contractors and subcontractors entering into any construction contracts with the Erie County Water Authority shall have established apprenticeship agreements appropriate for the type and scope of work to be performed under the contract, that have been approved by the New York State Commissioner of Labor and shall require the employment of apprentices on Erie County Water Authority construction projects.

END OF SUPPLEMENTARY CONDITIONS

SECTION 01100

SUMMARY OF WORK

PART 1 - GENERAL

1.01 LOCATION AND SCOPE OF WORK

- A. The Work consists of the installation of new 36-inch diameter water transmission main and appurtenances, and various other waterline work as shown on the drawings.
- B. The Work is located in the Town of Amherst, in Erie County, New York.
- C. The summary of the Work described in the Section 01100 is an overall summary of the responsibilities of the CONTRACTOR and his relation to the OWNER. It does not supersede the specific requirements of the other Contract Documents.

1.02 CONTRACTS

- A. The Work shall be constructed under one prime contract.

1.03 WORK BY OTHERS

- A. Work by OWNER:
 - 1. The Authority will operate all utility water system valves and hydrants of existing watermains and of newly installed watermains once placed into service.
- B. Coordinate as required with the property owner, National Grid, and other utility owners, which operate and maintain various structures and facilities along the project alignment on a regular basis.

1.04 DESCRIPTION OF WORK (NOT USED)

1.05 PROJECT WORK BREAKDOWN (NOT USED)

1.06 SEQUENCE OF WORK

- A. General
 - 1. The Work generally shall be constructed without disruption to the normal operation of the Authority, the Town of Amherst, National Grid, and other major utility owners along and adjacent to the watermain alignment, except as noted in Section 01311, and 01731, and as otherwise approved by the OWNER.

2. It is hereby understood that Time is of Essence in performing all work, but especially in the time that service is interrupted to the customer.
3. Work performed in the vicinity of existing restaurants, police or fire stations, health care facilities, industries, businesses, day care facilities, municipal buildings, places of worship, schools, senior centers, or other facilities identified as requiring consistent water service shall be performed in the least disruptive time (off hours) and shall be coordinated with the affected establishments and the ENGINEER prior to work being performed. Off hours work shall be performed at no additional cost to the OWNER.
4. Prior to any interconnection or abandonment, the CONTRACTOR shall schedule a water shut-down with the Erie County Water Authority through the ENGINEER.
5. The maximum time allowed for individual shutdowns of existing watermains for interconnections and abandonments is four (4) consecutive hours, unless otherwise determined and approved by the OWNER and the ENGINEER.
6. The CONTRACTOR is advised that shutdowns of the existing watermains scheduled between Memorial Day and Labor Day may not be possible due to water usage demands as determined by the OWNER.

B. Customer Notification

The CONTRACTOR is responsible to notify all customers 48 hours in advance of when work is to take place at their address. The Authority shall also be notified 72 hours in advance in accordance with Sections 01731 and 15051. The CONTRACTOR is required to complete a Customer Notification Form conforming to the requirements of Erie County Water Authority.

C. Construct the Work in the following sequence:

1. The CONTRACTOR is advised that the work shall follow the sequence specified herein. Work in a specific area shall be performed in a manner such that once started, progress shall continue to a point where the testing, disinfection, acceptance by the Erie County Water Authority, and general site cleanup has been completed.
2. Complete and submit shop drawings to ENGINEER.
3. Complete and submit Maintenance and Protection of Traffic plan to ENGINEER, as defined under Section 01550.
4. Install Pipeline Crossing Protection Areas as shown or noted on the plans or as determined in the field.
5. Submit required documentation as per section 01575 - Respirable Crystalline Silica.
6. Obtain all necessary permits and submit copies to the ENGINEER.
7. Construct the new water transmission main in the following sequence:
 - a. Construct temporary construction access roads and entrances.
 - b. The CONTRACTOR shall dig test pits as shown on the plans and as necessary to verify pipe outside diameter, depth, condition and

location of joints. Test pits shall be backfilled, compacted, and temporary restoration (including pavement) shall be installed prior to the applicable work being performed on the various mains.

- c. Supply laying schedule for pipe based on results of test pits. After approval of materials submittals and laying schedule, order pipe and related materials.
- d. Delivered and stored materials will be subject to inspection by the OWNER and ENGINEER prior to installation.
- e. Perform Interconnection #1 (tapping sleeve and valve connection) to the existing 36-inch watermain on the north side of Millersport Highway, along with reduced pressure zone manifold assembly, as the initial water source for filling and flushing of the new watermain. Install concrete anchor collar as shown on details.
- f. Install concrete anchor collar at south end of work limits and as shown on Interconnection #3.
- g. Install casing pipes by boring across Millersport Highway and the electrical duct bank on the south side of Millersport Highway.
- h. Begin installation of new 36-inch PCCP transmission watermain generally from north to south, with pipe bells ahead (facing south). Each pipe section shall be cleaned per specification 15207 and photographed per section 01322.
- i. Continue installing 12-inch and 36-inch watermain, fittings, valves & chambers, air release valves, blow-off hydrants, and casing pipes per Contract drawings and specifications.
- j. Install temporary end flush assembly at south end.
- k. Provide and install all temporary piping and other measures required to dispose of water used for filling, flushing, testing and disinfection.
- l. Fill and flush the new watermain from the temporary connection on the north side of Millersport Highway through the RPZ manifold under the direction of and with the assistance of the OWNER's personnel during the time periods allowed, as determined by the OWNER, and as per the specifications.
- m. Perform pressure and leakage testing of the new watermains during the time periods allowed, as determined by the OWNER, and perform any repairs necessary.
- n. Upon acceptable pressure and leakage testing results, disinfect the new watermain during the time periods allowed, as determined by the OWNER, perform required laboratory testing, and provide results to the ENGINEER.
- o. After approval and acceptance by the Health Department, the OWNER and the ENGINEER:
 - 1) Perform Interconnection No. 2 to the 12-inch watermain at Millersport Highway during the timeframe allowed, as determined by the OWNER.

- 2) Remove the temporary end flush assembly and perform the Interconnection No. 3 to the existing 30-inch watermain at the south end during the timeframe allowed, as determined by the OWNER.
- 3) Disconnect the temporary source connection and RPZ manifold assembly and perform the Abandonment No. 1 to the existing 36-inch watermain at the north end during the timeframe allowed, as determined by the OWNER.
- p. Disconnect, cut, cap, and block abandoned watermains and demolish and/or remove valve, air release and air/vacuum chambers and assemblies as required.
- q. Fill abandoned watermains and casing pipes with flowable fill as noted on the plans, in the specifications, or as required by the agency of jurisdiction.
- r. Remove all excess materials and equipment from the project site.
- s. Restore the project site to pre-construction conditions or as noted or required by the Contract Documents.

1.07 CONTRACTOR'S USE OF PREMISES

- A. CONTRACTOR'S use of the premises shall be confined to the areas shown.
- B. The full use of the premises for storage, the operations of workmen and all other required construction activities will not be available to the CONTRACTOR.
- C. CONTRACTOR must share use of the premises with the property owner, National Grid, the OWNER and other contractors specified in Article 1.03.
- D. National Grid, their subcontractors, and other utility owners maintaining facilities within the National Grid property must be afforded full access to all areas of the project site at all times during construction of the project.
- E. CONTRACTOR shall:
 - 1. Assume full responsibility for protection and safekeeping of products stored on or off premises.
 - 2. Move stored products that interfere with the operations of OWNER or other contractors.
 - 3. Obtain and pay for all additional storage or work areas required for his operations.
 - 4. Obtain and pay for all permits and satisfy all permit requirements.
 - 5. Comply with all requirements defined in other specification sections.
- F. Limits on CONTRACTOR'S use of site are:
 - 1. National Grid and the OWNER will designate areas available for materials and equipment storage and general CONTRACTOR use.

G. See General Conditions for additional requirements.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01140

USE OF OWNER'S FACILITIES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. CONTRACTOR may use existing facilities or equipment in the new Work for construction purposes only if the OWNER'S written permission is obtained.
- B. Restore existing facilities and equipment used for temporary purposes to original condition in a manner satisfactory to OWNER.
- C. CONTRACTOR shall assume full responsibility for any damage that may result to existing or new facilities or equipment used for construction purposes and shall repair or replace any damaged facilities or equipment at CONTRACTOR'S cost.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01210

ALLOWANCES

PART 1 - GENERAL

1.01 SCOPE

- A. This Section includes administrative and procedural requirements governing the following types of allowances:
 - 1. Cash allowances.
 - 2. Contingency allowances.
- B. Authorization of Allowances:
 - 1. Work that will be done and paid under an allowance will be authorized in OWNER'S written instruction to CONTRACTOR.
 - 2. Do not provide Work under an allowance without written authorization of OWNER.

1.02 CASH ALLOWANCES

- A. Cash allowances are stipulated amounts for purchase of products, systems, or services. In addition to this Section, refer to General Conditions, as may be modified by the Supplementary Conditions; and individual Specification Sections for CONTRACTOR'S costs to be covered by allowances, and CONTRACTOR'S costs, including overhead and profit, to be included elsewhere in the Contract Price.
- B. At earliest practical date after Notice to Proceed, advise ENGINEER of date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
- C. Consult with ENGINEER in selecting suppliers and obtain proposals for price and time from selected suppliers. Submit proposals to ENGINEER along with recommendations relevant to furnishing and installing products covered in the allowance.
- D. Purchase products or systems from suppliers selected by ENGINEER.
- E. Submit invoices or delivery slips to show actual cost and quantity of products or systems delivered to Site and used in fulfilling each allowance.
- F. Properly dispose of unused products and systems purchased under cash allowance.
- G. For each allowance, submit to ENGINEER a Change Order proposal to adjust Contract Price for difference between specified allowance amount and actual cost. Prepare Change Order proposal in accordance with General Conditions as may be modified by the Supplementary Conditions, except that payment within limit of a

cash allowance shall exclude cost of bond and insurance premiums. No subcontractor markup is allowed under allowance work.

1.03 CONTINGENCY ALLOWANCE

- A. Contingency allowances are stipulated amounts available as reserve for sole use by OWNER to cover unanticipated costs.
- B. When authorization of Work under contingency allowance is contemplated by OWNER for a defined scope, submit Change Order proposal to ENGINEER. Prepare Change Order proposal in accordance with the General Conditions as may be modified by the Supplementary Conditions, except that payments within limit of contingency allowance shall exclude cost of bond and insurance premiums.
- C. For each allowance, submit to ENGINEER a Change Order proposal to adjust Contract Price for difference between specified allowance amount and actual cost. Prepare Change Order in accordance with General Conditions as may be modified by the Supplementary Conditions, except that payment within limit of a cash allowance shall exclude cost of bond and insurance premiums.

PART 2 – PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 SCHEDULE OF ALLOWANCES

- A. Cash Allowances: NOT USED
- B. Contingency Allowances: Include a stipulated contingency allowance of \$250,000.00 for Bid Item 16A, Contingency Allowance, for use in accordance with the OWNER'S instruction to perform miscellaneous work.

END OF SECTION

SECTION 01270

MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The items listed below beginning with Article 1.05, refer to and are the same pay items listed in the Bid Form. They constitute all of the pay items for the completion of the Work. No direct or separate payment will be made for providing miscellaneous temporary or accessory works, plant, services, ENGINEER'S and/or CONTRACTOR'S field offices, layout surveys, job signs, sanitary requirements, permits, testing, safety devices, shop drawings and samples, approval and record drawings, water supplies, power, maintaining traffic, removal of waste, watchmen, bonds, insurance, test pits 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 unit price pay items listed herein.
- B. The lump sum and unit bid prices will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR'S overhead and profit for each separately identified item.
- C. The CONTRACTOR shall furnish all labor, materials, tools, equipment, services, and all appurtenances necessary to perform all work required, at the unit or lump sum prices for the items listed in the Bidder's Proposal. Each bid item shall include all costs to perform all work to complete each item. Work shall include, but is not necessarily limited to clearing and grubbing, earth excavation, rock excavation, disposal of excess excavated material, handling of all water, dewatering, earth backfill, select backfill, pipe bedding and encasement, concrete cradle, concrete encasement, concrete cover, concrete anchor collars, concrete blocking, piping, service tubing and accessories, saddles, curb stops, curb boxes, bends, reducers, tees, valves, mechanical thrust restraints valve boxes, hydrants, and all other fittings, traffic control, permits, test pits, replacement of sidewalks, driveways, and pavements, curbs, underdrains, drainage, curb receivers, ditches, rip rap, driveway culverts, headwalls, temporary resurfacing, all final restoration, connections to existing watermains, testing, disinfection, all abandonments, and maintaining water service to customers.
- D. Each of the bid items shall also include the cost required in supporting and protecting existing utilities while working under, over, or alongside or near the utility. Also included, is the protection of overhead telephone, cable, electric power or other lines and the supporting of poles, if required.

1. The utilities likely to be encountered include:
 - a. Storm and sanitary sewers.
 - b. Gas, water, electric, telephone, fiber optic, and oil pipelines..
 - c. Overhead and underground telephone, fiber optic, cable TV and electric power lines.
 - d. Other watermains.
 2. The cost of repairing any damage to the various utilities done during the installation of the work shall be included in the various bid items.
- E. Where fixed minimum unit prices are called for under an item heading, the bidder shall include a price not less than the stated minimum. Bidder's Proposals received which include a unit price less than the stated minimum shall be adjusted to meet the minimum unit price.

1.02 ENGINEER'S ESTIMATE OF QUANTITIES

- A. ENGINEER'S estimated quantities for unit price pay 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 or the actual quantities of material encountered or required will correspond therewith and reserves the right to increase or decrease any quantity or to eliminate any quantity as OWNER may deem necessary. Except as provided in Article 1.03, CONTRACTOR or OWNER 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.

1.03 ADJUSTMENT OF UNIT PRICES FOR INCREASE OR DECREASE OF ESTIMATED QUANTITIES

- A. For bid items paid for on a unit price basis, increases or decreases in the quantity of an item of Work will be determined by comparing the total payable quantity of Work with ENGINEER'S estimated quantity as shown in the Bid Form. Increase or decreases will only be considered if the Schedule of Values as required in Section 01290 has been prepared, submitted, and approved.
- B. If the total payable quantity of any unit price item of Work, which has an as-bid computed total value of five percent or more of the sum of the as-bid computed total values of all items bid, varies from ENGINEER'S estimate of quantity therefore by more than 50 percent, the unit price of that item will be a subject of review by ENGINEER. If warranted, an equitable adjustment will be made by means of a Change Order to credit OWNER with any reduction in cost or to compensate CONTRACTOR for any increase in cost resulting from the change in

quantity. This review of the adjustment will be made at a time ENGINEER deems reasonable and proper.

- C. Payment for any unit price item of Work, which has an as-bid computed total value of less than five percent of the sum of the as-bid computed total values of all items bid, will be made at the unit price bid regardless of an increase or decrease in quantity.

1.04 RELATED PROVISIONS

- A. Payments to CONTRACTOR: Refer to General Conditions and Agreement.
- B. Changes in Contract Price: General Conditions.
- C. Schedule of Values: Section 01290.

1.05 BID ITEMS

A. ITEM 1 - WATERMAIN

1. Work Included:

- a. This item includes all labor, materials, equipment, sampling and testing, and incidentals required to furnish and install watermain and fittings of the size, class, depth and materials shown on the drawings and specified herein, except that specifically included under other items of the Contract. Earth excavation, and disposal of excess excavated material required for this project are included in this item.
- b. This item includes pipe harnessing, gaskets, bolts and glands for pipe and fittings, pipe bedding, thrust blocks, temporary and permanent blocking, concrete anchor collars, polyethylene encasement for Prestressed Concrete Cylinder Pipe (PCCP) and ductile iron pipe and fittings, magnetic pipe marking tape, tracer/locate wire, waterline marker posts, cathodic protection test stations, backfilling, compaction, sampling points, clearing and grubbing, topsoil stripping, tree trimming as required for equipment access to perform work adjacent to existing trees, tree removal and disposal, dewatering, shoring, sheeting, tree boring (including casing pipe, annular fill stone, skids and spacers), fencing & gate modifications, removal, and repair or replacement, existing drainage structure & piping modifications, removal, and repair or replacement, and all other materials and requirements not specifically defined in other bid items.
- c. This item includes rock excavation unless a rock excavation item is included in the proposal.

- d. This item includes all fittings, such as tees, elbows, reducer, bevels, and shorts.
 - e. This item does not include select backfill, which is included for payment under Item 6.
 - f. This item includes furnishing and installing temporary blow-off assemblies. Also included is the removal of the temporary assembly after completion of test and replacing the corporation stop with plug.
 - g. This item includes installation of watermain up to 8 foot depth of trench excavation where shown on the Drawings.
 - h. This item includes all excavation required and the furnishing and installing temporary pavement for all disturbed streets, driveways, and sidewalks to complete the watermain installation.
 - i. Permanent restoration of sidewalk, driveways, pavement, and landscaping is included for payment elsewhere.
 - j. This item includes all items and work necessary for the proper maintenance and protection of traffic as defined in Section 01550.
 - k. This item includes the wrapping of all PCCP pipe and ductile iron pipes and fittings with approved polyethylene wrap, including covering and taping at all joints and along the pipes as defined on Contract Drawings. Pipes which are not wrapped properly are considered incomplete and payment shall be withheld.
 - l. This item includes installation, maintenance, and removal & restoration of stabilized construction access entrances and roadways and materials storage areas.
 - m. This item includes installation, maintenance, and removal & restoration of Pipeline Crossing Protection Areas.
 - n. This item includes abandonment, demolition, removal, and filling of existing valve chambers, air release valve chambers, and air/vacuum valve chambers.
 - o. This item includes abandonment, cutting, and capping of existing watermains and casing pipes, and filling with flowable fill as noted on the drawings or as required by the agency having jurisdiction.
2. Measurement:
- a. The quantity of watermain in place paid for under this item shall be the number of linear feet of each size installed within the limits shown, specified, or directed. The lengths shall be measured along the centerline of the pipe without deduction for line valves and or fittings.
3. Payment:
- a. The unit prices bid per linear foot shall be full compensation for furnishing all labor, materials, equipment, and incidentals necessary to furnish, deliver, install, and place into service the watermain as shown, specified, or directed.
 - b. The subdivisions of this item are:

- 1A Ductile Iron Pipe (DIP)
 - 1A9 30-inch
 - 1A10 36-inch
- 1B Polyvinyl Chloride Pipe (PVC)
 - 1B3 12-inch
- 1C Prestressed Concrete Cylinder Pipe (PCCP)
 - 1C4 30-inch
 - 1C5 36-inch

B. ITEM 2 - VALVES

1. Work Included:

- a. This item includes all labor, material, equipment and incidentals required to furnish, install, flush, test, disinfect, and place into service the valves and appurtenances as shown, specified, or directed.
- b. Valves for hydrant assemblies are not included herein, but included for payment under Item 3, Fire Hydrants.
- c. This item includes all excavation required and the furnishing and installing of earth backfill and temporary pavement for all disturbed streets, driveways, and sidewalks to complete the valve or appurtenances installation.
- d. For permanent blow-offs, this item includes all materials and work necessary to install the components as shown on the Drawings.
- e. For mainline valves, air release valves, and air/vacuum valves with concrete chambers, this item includes all materials and work necessary to install the components as shown on the Drawings.
- f. Select backfill and permanent restoration is included for payment elsewhere except for permanent blow-off assemblies, where select backfill is included under this item.

2. Measurement:

- a. The quantity to be paid for under this item shall be the actual number of valves of various types and sizes installed as shown, specified, or directed.

3. Payment:

- a. The unit prices bid for this item shall be full compensation for furnishing all labor, materials, equipment, and incidentals to furnish, install, and place into service the valves of various types and sizes installed as shown, specified, or directed.
- b. The subdivisions of this item are:
 - 2B Butterfly Valve
 - 2B1 12-inch
 - 2B5 30-inch
 - 2B6 36-inch
 - 2D Air Release Valve
 - 2D1 Air Release Valve in Concrete Chamber

C. ITEM 3 - FIRE HYDRANTS

1. Work Included:

- a. The new fire hydrant and blow-off hydrant items include all labor, materials, equipment, and incidentals required to furnish and place into service new fire hydrants and blow-off hydrants and appurtenances as shown, specified, or directed.
- b. The relocate/reconnect existing fire hydrant item includes all labor, materials equipment, and incidentals required to relocate and reconnect existing fire hydrants and appurtenances to the new watermain as shown, specified, or directed.
- c. The fire hydrant abandonment item includes all labor, materials, equipment, and incidentals to remove existing fire hydrants and hydrant valve boxes as shown, specified, or directed.
- d. This item shall include field painting of hydrants after installation, and the furnishing and installation of vertical extensions where required.
- e. All pipe, fittings, valves, restraints, thrust blocks, precast concrete blocks, polyethylene encasement, and all other items necessary for a complete installation are included in this item.
- f. This item includes all excavation required and furnishing and installing temporary pavement for all disturbed streets, driveways, and sidewalks etc., as required.
- g. Landscape restoration is included with this item. Concrete and asphalt restoration are included for payment elsewhere.
- h. This item includes all labor, materials, equipment, and incidentals to furnish and place into service new gate valves for fire hydrants and blow-off hydrants as shown, specified, or directed.
- i. This item includes temporary support of nearby utility poles.
- j. This item includes the removal and return of all abandoned hydrants to the Erie County Water Authority as directed. This includes calling 24 hours in advance to schedule the delivery, careful handling to prevent damage to hydrants, proper trucking to the delivery site, and unloading of hydrants at the designated location at the Erie County Water Authority.
- k. This item includes concrete blocking, washed No. 1 stone for weep hole drainage, and earth backfill as required. Select backfill is not included in this item.
- l. This item includes the removal of hydrant markers from existing hydrants and reinstallation of these markers on new or relocated hydrants.

2. Measurement:

- a. The quantity to be paid for under this item shall be the actual number of fire hydrants installed, removed, or relocated and reconnected as shown, specified, or directed.
- 3. Payment:
 - a. The unit price bid for this item shall be full compensation for all labor, materials, equipment, and incidentals required to furnish, install, disinfect, test, and place into service the fire hydrants including gate valves for fire hydrant and blow-off hydrant shut-offs; to remove, relocate, reconnect, test, and place into service existing fire hydrants; and to abandon existing fire hydrants (including capping and plugging) as shown, specified, or directed.
 - b. The subdivisions of this item are:
 - 3A New Transmission Main Hydrant Blow-off Assembly
 - 3C Fire Hydrant Abandonment

D. ITEM 4 - TEST PIT EXCAVATION AND BACKFILL

- 1. Work Included:
 - a. This work shall include all labor, materials, equipment and incidentals required to perform test pit excavations (and backfill same) at the locations shown, specified, or directed unless specially included for payment elsewhere.
 - b. This item includes furnishing and installing temporary restoration for all disturbed streets, driveways, and sidewalks, including select backfill and temporary pavement to maintain pedestrian and vehicular traffic.
 - c. Permanent restoration is included for payment elsewhere.
 - d. The cost for a test pit for service replacements/installations are not included in this bid item since the costs for any test pits required at those locations shall be included in the service replacement/installation bid item.
- 2. Measurement:
 - a. Test pit excavations which shall be paid for under this item shall be the actual number of test pit excavations performed as shown, specified, or directed.
 - b. The test pit shall be six (6) feet by six (6) feet by ten (10) feet deep.
- 3. Payment:
 - a. The unit price bid for test pit excavation and backfill shall be full compensation for all labor, materials, equipment and incidentals necessary to perform test pit excavations and backfill as shown, specified, or directed.
 - b. The subdivisions of this item are:
 - 4A Test Pit Excavation and Backfill

E. ITEM 5 - ROCK EXCAVATION

1. Work Included:

- a. This work shall consist of furnishing all labor, materials, equipment and incidentals to remove rock by such methods as drilling, jacking, hammering and mechanical excavation to the lines and grades as shown, specified and directed.
- b. This item includes disposal of rock removed from the trench, which is unsuitable for backfill.
- c. Rock that can be removed by normal excavation equipment shall not be measured for rock excavation.

2. Measurement:

- a. The quantity to be paid for under this item shall be the amount of rock in cubic yards removed from within the pay limits as shown, specified or directed.
- b. The rock shall be uncovered prior to removal in sections acceptable to the ENGINEER, so that it may be measured prior to removal.

3. Payment:

- a. The unit price bid per cubic yard shall be full compensation for furnishing all labor, materials, equipment and incidentals required to remove rock as shown, specified or directed.
- b. The subdivisions of this item are:
5A Rock Excavation

F. ITEM 6 - SELECT BACKFILL

1. Work Included:

- a. This item includes all labor, material sampling and testing, plant equipment, and incidentals required to furnish and install the select backfill material as shown, specified, or directed.
- b. This item does not include pipe bedding and encasement, since the cost for pipe bedding and encasement shall be included under the watermain bid items.
- c. This item does not include select backfill at water service reconnections, extensions, replacement/installations, or blow-off assemblies, since the cost for select backfill at those locations shall be included under the water service reconnection, extensions, replacement/installations or blow-off assembly bid item.

2. Measurement:

- a. The quantity to be paid for under this item shall be the number of cubic yards of select backfill placed as shown, specified, or directed to the limits shown on the trench detail.
- b. Measurement shall not be based upon loose or truck-ticket quantities.

3. Payment:

- a. The unit prices bid per cubic yard for this item shall be full compensation for all labor, material, plant, sampling and testing, equipment, compaction, and incidentals necessary to furnish and install the select backfill material within the pay limits shown on the drawing as shown, specified, or directed.
- b. The subdivisions of this item are:
6A Select Backfill.

G. ITEM 7 - INTERCONNECTIONS

1. Work Included:

- a. This item includes all labor, materials, equipment, and incidentals required to furnish, install, disinfect and place into service the interconnections between the proposed system and the existing system as shown, specified, or directed.
- b. Pipe used at the interconnection shall be paid for under the watermain item for the appropriate pipe size and type.
- c. This item includes all cost related to furnishing and installing couplings, concrete blocking, removals, plugging, harnessing, dewatering, etc.
- d. This item includes all costs associated with locating and restraining existing pipe joints as required.
- e. Valves and tapping sleeves and valves, etc., shall be paid for under their respective bid items.
- f. This item also includes abandoning existing main line valves and valve boxes as shown, specified, or directed.
- g. Where valves, etc., are to be removed, they shall be removed and properly stored, protected, and delivered to the Erie County Water Authority, if required and the cost shall be included herein.
- h. This item includes all excavation required and the furnishing and installing temporary pavement for all disturbed streets, driveways, and sidewalks, as required.
- i. Earth backfill is included in this item. Select backfill and permanent restoration is not included in this item.
- j. This item includes all costs for working at night or on off-hours. Included herein is all lighting, traffic protection, etc.
- k. The interconnection items include all costs to comply with permits, regulatory agencies, etc., not included in other bid items.

2. Measurement:

- a. The quantity to be paid for under this item shall be for the completed interconnections as shown, specified, or directed.

3. Payment:

- a. The lump sum price bid for each interconnection shall be full compensation for furnishing all labor, material equipment, and incidentals required to furnish, install, test, disinfect and place into service the interconnection as shown, specified, or directed.

- b. The subdivisions of this item are as follows:
 - 7A Interconnection No. 1 – to 36” PCCP Watermain on North Side of Millersport Hwy.
 - 7B Interconnection No. 2 – to 12” PVC Watermain along South Side of Millersport Hwy.
 - 7C Interconnection No. 3 – to 30” PCCP Watermain North of Sheridan Drive

I. ITEM 9 - CASING PIPE

1. Work Included:

- a. This item includes all labor, material, equipment, and incidentals required to furnish and install casing pipes as shown, specified, or directed. This item also includes all excavation, furnishing and installing select backfill for the receiving and boring pits, annular fill within the casing pipe, bulkheads, anodes and test stations for cathodic protection, boring pits, sheeting (permanent or temporary), dewatering, spacers or raised collars, protection of existing structures and utilities and all other work required for a complete installation.
- b. This item includes making the necessary arrangements to obtain work permits and complying with its requirements of conducting traffic maintenance.
- c. This item includes all labor, material, equipment, and incidentals to furnish and install anode testing stations at locations defined on Contract Drawings. Also included is all work necessary to demonstrate that the testing station is operational and properly functioning.

2. Measurement:

- a. The quantity to be paid for under this item shall be the linear foot of casing pipe installed as shown, specified, or directed.

3. Payment:

- a. The unit price bid per linear foot for this item shall be the full compensation for furnishing all labor, material, equipment, and incidentals required to furnish and install casing pipe.
- b. The subdivisions of this item are:
 - 9H 60-inch Diameter

J. ITEM 10 - ABANDONMENTS

1. Work Included:

- a. This item includes all labor, materials, equipment, and incidentals required to perform the Abandonments as shown, specified, or directed.
- b. This item is for the additional work, materials, coordinating, etc., required to perform the Abandonments. Pipe used at the abandonment shall be paid for under the appropriate watermain item for the same size pipe, if such an item is included in the proposal. If no such item is included, then the pipe costs shall be included in this bid item.
- c. Valves shall be paid for under their respective items.
- d. Removals, concrete blocking, plugging, harnessing, dewatering, disinfection, couplings, etc., shall be included in this bid item.
- e. This item includes abandoning existing main line valves and valve boxes, where required. Removal of valves, etc., which are to be delivered to the OWNER shall be performed with caution to avoid damage.
- f. The abandonment items include all costs to comply with permits, regulatory agencies, etc., not included in other bid items.
- g. This item includes the installation of earth backfill as required. Select backfill is not included in this item.
- h. This item includes all excavation required and the furnishing and installing temporary pavement for all disturbed streets, driveways, and sidewalks, as required.
- i. Permanent restoration is included for payment elsewhere.
- j. This item includes all costs for working at night or on off-hours. Included herein is all lighting, traffic protection, etc.

2. Measurement:

- a. The quantity to be paid for under this item shall be for the completed Abandonments as shown, specified, or directed.

3. Payment:

- a. The lump sum price bid for each abandonment shall be full compensation for furnishing all labor, materials, equipment and incidentals required to perform the abandonments as shown, specified, or directed.
- b. The subdivisions of this item are as follows:
10A Abandonment No. 1 - at Millersport Highway (North Side)

K. ITEM 11 - RESTORATION

1. Work Included:

- a. This item includes all labor, materials, equipment, sampling, testing and incidentals necessary to restore asphalt, concrete, stone or gravel surfaces, landscaping, curbs/gutters, lawn areas, and other features disturbed, damaged or destroyed during the performance of the work.
- b. For asphalt restoration, this item shall include the application of a bituminous tack coat at all sawcut areas and between asphalt pavement layers as shown, specified or directed.
- c. This item shall include any sawcutting of asphalt or concrete as shown, specified, or requested.
- d. This item shall include the proper consolidation of subgrade before installing pavement or sidewalk.
- e. This item shall include the permanent and final repaving of all streets, driveways and similar surfaces, where pavement has been removed, disturbed, settled or damaged by or as a result of performance of this Contract. This item shall also include the application of permanent pavement markings as required by the appropriate highway jurisdiction.
- f. This item shall include the cost to remove, restore, and/or replace traffic signal equipment as necessary for the installation of the water system improvements.
- g. For cold milling, this item shall include cold milling of the existing asphalt pavement to the limits and depths detailed on the Contract Drawings.
- h. For cold milling, this item shall include the application of a bituminous tack coat on all cold milled areas as shown, specified or directed.
- i. This item shall include maintenance of all lawn areas until establishment of a good stand of grass and the first mowing.
- j. Restoration of all areas outside the payment limits is the responsibility of the CONTRACTOR and shall conform to the Contract Requirements which apply.
- k. The tree replacement item includes all costs for tree planting with trees in like and kind with a minimum six foot height and three inch minimum diameter as shown, specified or directed.
- l. The tree removal items include all costs for removal and disposal of the tree trunk and all branches/leaves as shown, specified, or directed. It shall also include grinding of the stump a minimum of 12 inches below finished grade or complete stump removal as requested by ENGINEER.

- m. Tree diameter shall be based on the rounded circumference, measuring around the tree trunk 24 inches above finished grade and dividing by 3.14 to obtain the average diameter.

2. Measurement:

- a. The quantity of concrete restoration (except for curb/gutter restoration) and asphalt restoration for which payment will be made will be computed using the payment dimension on the trench payment limits detail without regard to the actual dimension or quantities required and the number of linear feet of watermain installed as measured along the centerline of the pipe without regard for valves or fittings. The area shall be figured on the basis of square yardage within the trench limits as shown, specified, or directed.
- b. The quantity of cold milling shall be the number of square yards of pavement surface milled to a depth as detailed on the plans or as directed. In no case will a deduction be made for minor unmilled areas due to catch basins, manholes or minor low areas in pavement from the measured surface areas that has been milled. Minor unmilled or low areas are those areas of 3 square yards or less.
- c. The quantity of concrete curb/gutter restoration shall be the number of linear feet of curb/gutter installed within the limits shown, specified, or directed.
- d. The quantity of landscape restoration shall be the number of linear feet of watermain installed within the limits shown, specified, or directed. The length shall be measured along the centerline of the pipe without regard for valves or fittings.
- e. The quantity of tree removals and tree replacements shall be the number of trees removed or installed, as shown, specified, or directed.

3. Payment:

- a. The unit prices bid for restoration items shall be at the fixed minimum unit price established by the OWNER where shown in the Bid Proposal or as modified by the CONTRACTOR, whichever is greater, as stated in the Bidder's Proposal. The prices bid for these items shall be full compensation for all labor, material, equipment, sampling, testing and incidentals necessary for restoration as shown, specified, or directed and within the pay limits shown specified, or directed.
- b. The unit prices bid for restoration items that are not at fixed minimum unit prices shall be full compensation for furnishing all labor, materials, and equipment required to furnish and install restoration items within the pay limits as shown, specified, or directed.

- c. The subdivisions of this item are:
 - 11C Landscape Restoration
 - 11C1 Landscaping
 - 11C2 Tree Planting
 - 11C3 Tree Removal - less than 12-inch Diameter
 - 11C4 Tree Removal - greater than 12-inch Diameter

L. ITEM 12 - TESTING AND DISINFECTION

- 1. Work Included:
 - a. This item includes flushing, sampling and testing, pressure and leakage testing, and disinfection of the watermain and fittings prior to placing the watermain into service. The watermain and valves are not considered pressure or leakage tested until the pipe complies with the specifications. All necessary retesting will be at the CONTRACTOR'S expense. The CONTRACTOR shall adhere to the application procedures outlined in the specification for disinfection and flushing. All sampling and testing shall be at the points specified and in accordance with the latest Health Department requirements.
- 2. Measurement:
 - a. The quantity of disinfection and testing shall be the number of linear feet of watermain installed within the limits shown, specified, or directed. The length shall be measured along the centerline of the pipe without regard for valves, fittings or hydrant assemblies.
- 3. Payment:
 - a. The unit prices bid for testing and disinfection items shall be at the fixed minimum unit price established by the OWNER or as modified by CONTRACTOR, whichever is greater, as stated in the Bidder's Proposal and shall be full compensation for all labor, materials, equipment, sampling, testing, and incidentals necessary to test and place into service new watermain as shown, specified, or directed.
 - b. The subdivisions of this item are:
 - 12A Testing and Disinfection

M. ITEM 13 - EXTRA WORK ITEMS

- 1. 13A thru 13E Extra Excavation (8 feet to 10 feet deep) thru Extra Excavation (16 feet to 18 feet deep).
 - a. Work Included:
 - 1) This item includes all labor, materials, equipment and incidentals required to perform extra trench excavations, as directed. This item also includes dewatering, backfilling, and compaction of the excavation.

- 2) This item includes disposal of excavated material, when directed.
 - b. Measurement:
 - 1) The quantity to be paid for under this item shall be the number of linear feet of trench excavated, as directed.
 - c. Payment:
 - 1) The unit price bid per linear foot shall be at the fixed minimum unit prices established by OWNER or as modified by CONTRACTOR, whichever is greater, as stated in the Bidder's Proposal and shall be full compensation for all labor, material, equipment and incidentals required to perform excavations.
 - 2) The subdivisions of this item are:
 - 13A Extra Excavation (8 to 10 feet deep)
 - 13B Extra Excavation (10 to 12 feet deep)
 - 13C Extra Excavation (12 to 14 feet deep)
 - 13D Extra Excavation (14 to 16 feet deep)
 - 13E Extra Excavation (16 to 18 feet deep)
2. 13F Extra Concrete
- a. Work Included:
 - 1) This item includes all labor, materials, sampling and testing, equipment and incidentals required to furnish and install extra concrete such as encasement at water line and sewer line crossings, as directed.
 - 2) This item includes reinforcing steel, as directed or specified.
 - 3) This item does not include concrete for restoration or thrust blocks or for any other concrete that is shown on the drawings or required by the specifications.
 - b. Measurement:
 - 1) The quantity to be paid for under this item shall be the actual cubic yards furnished, placed and measured.
 - c. Payment:
 - 1) The unit price bid per cubic yard shall be at the fixed minimum unit price established by OWNER or as modified by CONTRACTOR, whichever is greater, as stated in the Bidder's Proposal and shall be full compensation for all labor, materials, sampling and testing, equipment and incidentals required to furnish concrete, as directed.
 - 2) The subdivisions of this item are:
 - 13C Extra Concrete

M. ITEM 14 - REPAIR CREW LABOR AND EQUIPMENT

1. Work included:

- a. This item includes providing a crew consisting of labor and equipment and incidentals as specified and required to make improvements, modifications or repairs to water domestic and fire service lines, distribution mains, transmission mains, and appurtenances.
- b. The use of crew labor and equipment will be ordered by ENGINEER when it is determined that additional work is required to be performed.
- c. Additional payment shall not be made if CONTRACTOR provides additional labor or equipment beyond what is specified herein or ordered.
- d. This item includes disposal of excavated material, when directed.
- e. This item does not include excavation, or any other work associated with other items in the Contract such as watermain, valve, and test pit excavation and backfill.
- f. This item includes all related costs of CONTRACTOR, including, but not limited to, supervision, wages, benefits, operating costs, overhead, profit, fuel, insurance, permits, licenses, etc.
- g. Under these items, Authority personnel shall coordinate the work at the site, but the CONTRACTOR shall be responsible for all county, state, and federal safety codes (OSHA) and any costs involved for this shall be included in this item.

2. Measurement:

- a. The quantity to be paid for under this item shall be the actual number of crew labor and equipment hours performed by CONTRACTOR as ordered by ENGINEER.
- b. Payment for Item 14 shall start when the crew and equipment arrives at the site and ends when the crew and equipment leaves the site when the Work is completed. There shall be no payment for travel time to or from the CONTRACTOR'S place of business. Payment will be made for travel time between two Work sites for the equipment necessary for the second or succeeding work.

3. Payment:

- a. The unit price bid per hour for this item shall be at the fixed minimum unit price established by OWNER or as modified by CONTRACTOR, whichever is greater, as stated in the Bidder's Proposal and shall be full compensation for furnishing all labor, equipment, and incidentals required to perform the work as ordered or necessary.
- b. The subdivisions of this item are:
14A Repair Crew Labor and Equipment

G. ITEM 15 – VACUUM TRUCK AND LABOR

1. Work included:

- a. This item includes providing all labor, equipment, and incidentals as specified and required to perform vacuum excavations, as requested.
- b. The use of vacuum truck and labor will be ordered by ENGINEER when it is determined that vacuum excavation work is required to be performed.
- c. Additional payment shall not be made if CONTRACTOR provides additional labor or equipment beyond what is specified herein or ordered.
- d. This item includes disposal of excavated material, when directed.
- e. This item does not include excavation, or any other work associated with other items in the Contract such as watermain, valves, and test pit excavation and backfill.
- f. This item includes all related costs of CONTRACTOR, including, but not limited to, supervision, wages, benefits, operating costs, overhead, profit, fuel, insurance, permits, licenses, etc.
- g. Under these items, Authority personnel shall coordinate the work at the site, but the CONTRACTOR shall be responsible for all county, state, and federal safety codes (OSHA) and any costs involved for this shall be included in this item.

2. Measurement:

- a. The quantity to be paid for under this item shall be the actual number vacuum truck excavation hours performed by CONTRACTOR as ordered by ENGINEER.
- b. Payment for Item 15 shall start when the labor and equipment arrives at the site and ends when the labor and equipment leaves the site when the Work is completed. There shall be no payment for travel time to or from the CONTRACTOR'S place of business. Payment will be made for travel time between two Work sites for the equipment necessary for the second or succeeding work.

3. Payment:

- a. The unit price bid per hour for this item shall be at the fixed minimum unit price established by OWNER or as modified by CONTRACTOR, whichever is greater, as stated in the Bidder's Proposal and shall be full compensation for furnishing all labor, equipment, and incidentals required to perform the work as ordered or necessary.
- b. The subdivisions of this item are:
15A Vacuum Truck and Labor

H. ITEM 16 - CONTINGENCY ALLOWANCE

1. Work Included:

- a. Section 01210, Allowances, includes a stipulated amount available as reserve for sole use by OWNER to cover unanticipated costs.

2. Measurement:

- a. OWNER shall authorize contingency allowances for required work not covered in other bid items and as specified or directed by ENGINEER.

3. Payment:

- a. Payment for Work authorized under Item 16 will be full compensation for providing all Work authorized under the contingency allowance, complete as specified or directed by ENGINEER. Work authorized under contingency allowance may be included in subsequent Application(s) for Payment, as applicable, following authorization and performance of contingency allowance Work.
- b. The subdivisions of this item are:
16A Contingency Allowance

I. ITEM 17 – WORK STOPPAGE DUE TO AN “ALL STOP” ORDER

1. Work included:

- a. This item includes providing all labor, equipment, and incidentals as specified and required when a work stoppage due to an “ALL STOP” order is identified by National Grid and enforced by OWNER.
- b. The “ALL STOP” item is only to be used when written notification is given to CONTRACTOR by ENGINEER or OWNER, and the CONTRACTOR’s entire crew and equipment are on-site and standing by to resume work.
- c. Payment shall not be made if CONTRACTOR is able to perform other work applicable to this contract within the project limits, if allowed by National Grid.
- d. This item includes all related costs of CONTRACTOR, including, but not limited to, supervision, wages, benefits, operating costs, overhead, profit, fuel, insurance, permits, licenses, etc.
- e. All costs for securing the construction site including, but not limited to signage, erection of safety fencing, placement of steel plates, moving of equipment, personnel and/or materials, and security briefings/training shall be included in this item. All costs for remobilization after the “ALL STOP” order is lifted are also included in this item.

2. Measurement:
 - a. The quantity to be paid for under this item shall be the actual number of “ALL STOP” hours where the CONTRACTOR could not work and remained on stand-by as ordered by ENGINEER.
 - b. Payment for Item 17 shall start when the ENGINEER or OWNER defines the “ALL STOP” order and ends when the ENGINEER or OWNER defines that the “ALL STOP” order has been lifted.
 - c. For an “ALL STOP” issued during normal business hours, payment for this item shall be limited to normal business work hours only, up to a maximum of eight (8) hours. For an “ALL STOP” issued during off-hours, payment under this item shall be measured from the time work was suspended, and at the discretion of the ENGINEER up to a maximum of eight (8) hours.
 - d. The Unit Price bid will be for full compensation of labor and equipment, regardless if work is during normal business hours or not.
3. Payment:
 - a. The unit price bid per hour for Work Stoppage Due To An “ALL STOP” Order shall be at the fixed minimum unit price established by OWNER or as modified by CONTRACTOR, whichever is greater, as stated in the Bidder’s Proposal and shall be full compensation for all labor, materials, equipment and incidentals necessary to provide Work Stoppage Due To An “ALL STOP” Order as shown, specified, or directed.
 - b. The subdivisions of this item are:
 - 17A Work Stoppage due to “ALL STOP” Order

J. ITEM 18 – ELECTRICALLY QUALIFIED PERSON

1. Work included:
 - a. This item includes all costs associated with providing an electrically qualified person (spotter) on site to monitor all construction activities and Work whenever in close proximity to high voltage overhead and/or buried electric lines, cables, conduits, or facilities within National Grid property, or as required by National Grid.
 - b. The qualified person must be approved by National Grid, the OWNER, and the ENGINEER.
 - c. The use of a third party, electrically qualified person will be as ordered by the ENGINEER when it is determined that one is required to be present at the direction of the utility owner/operator, National Grid.
 - d. Additional payment shall not be made if CONTRACTOR provides additional services beyond what is specified herein or ordered.

- e. This item includes all related costs of CONTRACTOR, including, but not limited to, supervision, wages, benefits, operating costs, overhead, profit, fuel, insurance, permits, licenses, etc.
2. Measurement:
- a. The quantity to be paid for under this item shall be the actual number hours that the third party, electrically qualified person is on site as ordered by ENGINEER.
 - b. Payment for Item 18 shall start when the third party electrically qualified person arrives at the site and ends when the third party electrically qualified person leaves the site when the services are no longer needed. There shall be no payment for travel time by the qualified person to or from the project site.
3. Payment:
- a. The unit price bid for this item shall be full compensation for furnishing all labor, equipment, and incidentals required to perform the work as ordered or necessary.
 - b. This item does not include any other Work associated with other items in the Contract.
 - c. The subdivisions of this item are:
 - 18A Electrically Qualified Person for Work on National Grid Property

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01290
SCHEDULE OF VALUES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The Schedule of Values is an itemized list that establishes the value or cost of each part of the Work. It shall be used as the basis for preparing progress payments and may be used as a basis for negotiations concerning additional work or credits, which may arise during the construction. Quantities and unit prices may be included in the schedule when approved by or required by the ENGINEER.

1.02 PREPARATION

- A. Schedule shall show breakdown of labor, materials, equipment, and other costs used in preparation of the Bid.
- B. Costs shall be in sufficient detail to indicate separate amounts for each Section of the Specifications.
- C. CONTRACTOR may include an item for bond, insurance, temporary facilities and job mobilization on lump sum project only. This item will be included for payment at a rate of 25 percent per month for the first four months.
- D. Schedule of Values shall be prepared on 8-½-inch by 11-inch white paper.
- E. 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 ENGINEER.
- F. When requested by ENGINEER, support values with data that will substantiate their correctness.
- G. The sum of the individual values shown on the Schedule of Values must equal the total Contract Price.
- H. Each item shall include a directly proportional amount of the CONTRACTOR'S overhead and profit.
- I. 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.

- J. Included in the detailed breakdown shall be a line item for “record documents”. This amount is for preparing and supplying required information and documentation as described in Section 01720, Survey Data.

1.03 SUBMITTAL

- A. Submit two copies of Schedule to ENGINEER for approval at least 20 days prior to submitting first application for a progress payment but no later than 10 days after date of execution of agreement. After review by ENGINEER, revise and resubmit Schedule as required until it is approved.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01310

PROJECT COORDINATION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. As more fully set forth in Article 6 of the General Conditions, CONTRACTOR shall be solely responsible for coordination of all of the Work. He shall supervise, direct and cooperate fully with all Subcontractors, manufacturers, fabricators, suppliers, distributors, installers, testing agencies and all others whose services, materials or equipment are required to ensure completion of the Work within the Contract Time.
- B. As more fully set forth in Article 7 of the General Conditions, CONTRACTOR shall cooperate with and coordinate his Work with the work of any other contractor, utility service company or OWNER'S employees performing additional work related to the Project at the site.
- C. CONTRACTOR shall not be responsible for damage done by contractors not under his jurisdiction. He will not be liable for any such loss or damage unless it is through the negligence of CONTRACTOR.
- D. CONTRACTOR shall maintain sufficient competent personnel, drafting equipment and supplies at the site for the purpose of preparing layout and coordination drawings. These drawings shall supplement the contract documents, and the Shop Drawings, as necessary to correlate the work of various trades. Where such drawings are to be prepared by the mechanical, electrical, or plumbing Subcontractors, CONTRACTOR will ensure that each Subcontractor maintains the required personnel and facilities at the site.
- E. CONTRACTOR shall also coordinate his Work with the work of others to assure compliance with schedules.
- F. CONTRACTOR shall attend and participate in all project coordination or progress meetings and report on the progress of all Work and compliance with schedules.

PART 2 - PRODUCT (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01311

COORDINATION WITH OWNER'S OPERATIONS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. CONTRACTOR shall carry out all operations to avoid interference with the operations of the existing facilities.
- B. The CONTRACTOR shall not have exclusive possession of the sites of the work to be done under this contract.
- C. In the performance of the work, the CONTRACTOR shall schedule and cooperate fully with the OWNER and other Contractors, affording them facilities for the performance of their work even though it interferes with his own.
- D. Related Work Specified Elsewhere:
 - 1. Section 01731, Connections to Existing Facilities.
 - 2. Divisions 2-15, Technical Specifications.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01312

PRECONSTRUCTION CONFERENCE

PART 1 - GENERAL

1.01 DESCRIPTION

- 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.
- D. CONTRACTOR shall prepare and distribute a preliminary construction schedule.

1.02 REQUIRED ATTENDANCE

- A. CONTRACTOR(S) and major Subcontractors.
- B. OWNER'S representative.
- C. ENGINEER.
- D. Representatives of governmental agencies and fire departments having any degree of control or responsibility, if available.

1.03 AGENDA

- A. Agenda will include, but will not necessarily be limited to, the following:
 - 1. Designation of responsible personnel.
 - 2. Subcontractors.
 - 3. Coordination with other contractors.
 - 4. Construction schedule.
 - 5. Review preliminary construction schedule.
 - 6. Processing of Shop Drawings.
 - 7. Schedule of Shop Drawing submittals.
 - 8. Processing of Field Orders and Change Orders.
 - 9. Requirements for copies of Contract Documents.
 - 10. Insurance in force.
 - 11. Schedule of Values.
 - 12. Processing of progress payments.

13. Cash flow.
14. Use of premises.
15. CONTRACTOR(S) responsibility for safety and first aid procedures.
16. Security.
17. Housekeeping.
18. Field Offices.
19. Record Drawings.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01313
PROGRESS MEETINGS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Date and Time:
 - 1. Regular bi-weekly meetings: As mutually agreed upon by OWNER, ENGINEER, and CONTRACTOR.
 - 2. Other Meetings: On call.
 - 3. Final Inspection on project completion.
- B. Place: ENGINEER'S field office or OWNER'S Conference Room 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.

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. ENGINEER.
- C. OWNER'S representative, if required.
- D. Others as appropriate.
- E. Representatives present for each party shall be authorized to act on their behalf.

1.03 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. Change Orders.

6. Status of Shop Drawings.
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. Other business.

1.04 FINAL INSPECTION

- A. A Final Inspection shall not be scheduled until the ENGINEER is satisfied that all requirements of the contract have been met and the Work is acceptable.
- B. ENGINEER shall schedule final inspection at least 72 hours in advance, and shall notify CONTRACTOR and OWNER.
- C. The ENGINEER, OWNER and CONTRACTOR shall be present during the final inspection.
- D. CONTRACTOR shall provide sufficient manpower during final inspection.
- E. CONTRACTOR shall furnish necessary equipment to demonstrate the new Work; including for new watermain, all new pipeline, hydrants, valves, curb stops, etc., to ENGINEER and OWNER for approval.
- F. ENGINEER shall itemize deficiencies and provide list to OWNER and CONTRACTOR.
- G. CONTRACTOR shall rectify any items identified by ENGINEER prior to final payment.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01321
CONSTRUCTION SCHEDULES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Provide construction schedule, which conforms to the requirements below, unless otherwise approved by ENGINEER.
- B. Update schedules every month and for progress meetings unless otherwise specified or directed by ENGINEER.
- C. Submit cash flow schedule with each updated construction schedule.

1.02 CONTENT

- A. Shop Drawing submittal dates and required approval dates.
- B. Product delivery dates.
- C. Factory and field testing dates.
- D. Dates for beginning and completing each phase of the Work by activity and by trades.
- E. Cash flow schedule shall be based on monthly cash flow.

1.03 FORMAT

- A. Schedule will be created on computer using Microsoft Project, latest version.
- B. Type: Horizontal bar chart.
- C. Sheet Size: 8-1/2" x 11".
- D. Time Scale: Indicate first date in each work week.
- E. Organization:
 - 1. Group Shop Drawing submittals and reviews into a separate subschedule.
 - 2. Group product deliveries into a separate subschedule.
 - 3. Group construction work into a separate subschedule by activity.
 - 4. Group critical activities which dictate the rate of progress into a separate subschedule.
 - 5. Organize each subschedule by Specification Section number.

- F. Activity Designations: Show title and related Specification Section number.
- G. Provide electronic copies of project schedule to ENGINEER on a compact disc (CD) as requested.

1.04 SUBMITTALS

- A. Submit initial schedule at least 20 days prior to submitting first application for a progress payment but no later than 10 days after date of execution of Agreement. Subsequent schedule updates shall be submitted concurrently with monthly payment applications.
- B. Submit updated schedules at progress meetings. If a schedule remains unchanged from one period to the next, submit a written notice to that effect. Updated schedules shall show progress completed to date.
- C. Make submittals to ENGINEER, three copies of all requirements.
- D. Unless otherwise specified, submit four sepia copies of each schedule and one CD. One copy each will be reviewed by the OWNER and ENGINEER and returned. The other copy will be retained by the ENGINEER.
- E. Attach a letter of transmittal to each submittal and include the following information in the letter:
 - 1. A listing of items which have changed since the last submittal.
 - 2. Discussion of problems causing delays, anticipated length of delays, and proposed countermeasures.
- F. Submit updated cash flow schedule based on each updated schedule.
- G. Payment of partial estimates shall not be made unless the CONTRACTOR has, in force, an approved construction schedule.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01322

CONSTRUCTION PHOTOGRAPHS

PART 1 – GENERAL

1.01 DESCRIPTION

- A. CONTRACTOR shall retain a qualified individual to perform the services specified below.
- B. Obtain ENGINEER'S approval of the photographer selected prior to taking first photographs.
- C. Digital photography will be accepted if evidence of quality is provided to ENGINEER.
- D. All photographs taken are to be in color.

1.02 PRECONSTRUCTION PHOTOGRAPHS

- A. CONTRACTOR shall be responsible for taking a sufficient number of preconstruction photographs so as to resolve any disputes which may arise regarding the conditions prior to and subsequent to construction.
- B. If a dispute arises where no preconstruction photographs were taken, the disputed area shall be restored by the CONTRACTOR to the extent directed by the ENGINEER and to the complete satisfaction of the ENGINEER, at no additional cost to the OWNER.
- C. The CONTRACTOR must furnish one set of color prints of the preconstruction photographs to the ENGINEER, and must make others available for review in settling any disputes.
- D. The ENGINEER may, at his option, take additional preconstruction photographs which may be used to settle disputes, but he will not be required to make these photographs available to the CONTRACTOR.
- E. Preconstruction photographs taken by the CONTRACTOR will not be considered as part of the required number of construction photographs required in Paragraph 1.03 below.

1.03 PHOTOGRAPHS

- A. Take a minimum of 25 color, glossy finish photographs during the construction period.

- B. Photographs shall be taken approximately twice each month and when requested by the ENGINEER.
- C. ENGINEER will approve the views to be taken and select the time at which they will be taken.
- D. A minimum of 5 photographs will be taken each time the photographer is at the site.
- E. For outside construction projects, take photographs in good weather with sufficient ambient light. For inside construction projects, use a flash as necessary in low-light conditions.
- F. A minimum of three (3) photographs shall be taken for each interconnection and abandonment (prior to backfilling) showing the pipe connections established.
- G. CONTRACTOR shall take a photograph of every pipe joint on concrete pipe, with station clearly identified on the pipe.

1.04 PRINTS

- A. Furnish three prints and negatives of each photograph to the ENGINEER as soon as they are available from the photographer.
- B. Furnish additional photographs or prints requested by ENGINEER at cost.
- C. Provide high quality 5-inch by 7-inch standard weight prints with a glossy finish.
- D. Place the following information on the back of each print:
 - 1. Date photograph was taken.
 - 2. Title of Project.
 - 3. Description of view shown in photograph.
 - 4. Name and address of photographer.
 - 5. Photographer's numbered identification of exposure.

1.05 DIGITAL PHOTOS (IF ACCEPTED AS ALTERNATE)

- A. If acceptable to OWNER and ENGINEER, CONTRACTOR shall provide digital, color photographs having a minimum resolution of 12 megapixels each.
- B. CONTRACTOR shall furnish a compact disk (CD) with each photograph in JPEG (Joint Photographic Experts Group) format and project title identified.
- C. Filenames of digital photographs will be the project number followed by date and by either a sequential number or description of view.
- D. A log will be included identifying for each photo:
 - 1. Filename.

2. Date photograph was taken.
3. Description of view shown in photograph.
4. Name and address of photographer.

1.06 VIDEO

- A. Provide two video disks, in DVD format, of the construction area both prior to and post construction. Each video must be minimum 15 minutes long with verbal narration while walking the project site to depict the existing or new condition of all areas affected by the construction.
- B. Submit two copies of each video to ENGINEER for review.
- C. CONTRACTOR shall be responsible for taking video, which includes all areas of construction so as to resolve any disputes, which may arise regarding the conditions prior to and subsequent to the construction.
- D. For outside construction projects, take videos in good weather with sufficient ambient light.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01331

SHOP DRAWING PROCEDURES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Shop Drawing procedures shall conform to requirements of General Conditions and as described in this Section.

1.02 PROCEDURE

- A. Submittals of Shop Drawings shall be made to the ENGINEER at the address listed in the Notice to Bidders.
- B. A letter of transmittal shall accompany each submittal. If data for more than one Section of the Specifications is submitted, a separate transmittal letter shall accompany the data submitted for each Section.
- C. Copies of submittals shall be sent to the ERIE COUNTY WATER AUTHORITY at the Service Center Address at 3030 Union Road, Buffalo, New York 14227 at the time CONTRACTOR submits to ENGINEER.
- D. At the beginning of each letter of transmittal provide a reference heading indicating the following:
 - 1. OWNER'S Name _____
 - 2. Project Name _____
 - 3. Contract No. _____
 - 4. Transmittal No. _____
 - 5. Section No. _____
- E. If a Shop Drawing deviates from the requirements of the Contract Documents, CONTRACTOR shall specifically note each variation in his letter of transmittal.
- F. All Shop Drawings submitted for approval shall have a title block with complete identifying information satisfactory to ENGINEER.
- G. All Shop Drawings submitted shall bear the stamp of approval and signature of CONTRACTOR as evidence that they have been reviewed by CONTRACTOR. Submittals without this stamp of approval will not be reviewed by ENGINEER

and will be returned to CONTRACTOR. CONTRACTOR'S stamp shall contain the following minimum information:

Project Name: _____

CONTRACTOR'S Name: _____

Date: _____

-----Reference-----

Item: _____

Specifications:

Section: _____

Page No.: _____

Para. No.: _____

Drawing No.: _____ of _____

Location: _____

Submittal No.: _____

Approved By: _____

- H. A number shall be assigned to each submittal by CONTRACTOR starting with No. 1 and thence numbered consecutively. Resubmittals shall be identified by the original submittal number followed by the suffix "A" for the first resubmittal, the suffix "B" for the second resubmittal, etc.
- I. The CONTRACTOR shall initially submit to ENGINEER a minimum of 4 copies of all submittals that are on 8-1/2-inch by 11-inch or smaller sheets, and one unfolded sepia and 2 prints made from that sepia for all submittals on sheets larger than 8-1/2-inch by 11-inch. The OWNER and ENGINEER shall receive one copy only of each submittals which will be stamped "Preliminary - Not For Construction."
- J. After ENGINEER completes his review, Shop Drawings will be marked with one of the following notations:
 - 1. Approved.
 - 2. Approved as Corrected.
 - 3. Revise and Resubmit.
 - 4. Not Approved.

5. Submitted for Information.
- K. If a submittal is acceptable, it will be marked “Approved” or “Approved as Corrected”. Four prints or copies of the submittal will be returned to CONTRACTOR.
- L. Upon return of a submittal marked “Approved” or “Approved as Corrected”, CONTRACTOR may order, ship or fabricate the materials included on the submittal, provided it is in accordance with the corrections indicated.
- M. If a Shop Drawing marked “Approved as Corrected” has extensive corrections or corrections affecting other drawings or Work, ENGINEER may require that CONTRACTOR make the corrections indicated thereon and resubmit the Shop Drawings for record purposes. Such drawings will have the notation, “Approved as Corrected - Resubmit.”
- N. If a submittal is unacceptable, 2 copies will be returned to CONTRACTOR with one of the following notations:
1. “Revise and Resubmit”
 2. “Not Approved”
- O. Upon return of a submittal marked “Revise and Resubmit”, CONTRACTOR shall make the corrections indicated and repeat the initial approval procedure. The “Not Approved” notation is used to indicate material or equipment that is not acceptable. Upon return of a submittal so marked, CONTRACTOR shall repeat the initial approval procedure utilizing acceptable material or equipment.
- P. Any related Work performed or equipment installed without an “Approved” or “Approved as Corrected” Shop Drawing will be at the sole responsibility of the CONTRACTOR.
- Q. Shop Drawings shall be submitted well in advance of the need for the material or equipment for construction and with ample allowance for the time required to make delivery of material or equipment after data covering such is approved. CONTRACTOR shall assume the risk for all materials or equipment, which are fabricated or delivered prior to the approval of Shop Drawings. Materials or equipment will not be included in periodic progress payments until approval thereof has been obtained in the specified manner.
- R. ENGINEER will review and process all submittals promptly, but a reasonable time should be allowed for this, for the Shop Drawings being revised and resubmitted, and for time required to return the approved Shop Drawings to CONTRACTOR.
- S. It is CONTRACTOR’S responsibility to review submittals made by his suppliers and Subcontractors before transmitting them to ENGINEER to assure proper

coordination of the Work and to determine that each submittal is in accordance with his desires and that there is sufficient information about materials and equipment for ENGINEER to determine compliance with the Contract Documents. Incomplete or inadequate submittals will be returned for revision without review.

- T. CONTRACTOR shall furnish required submittals with complete information and accuracy in order to achieve required approval of an item within three submittals. All costs to ENGINEER involved with subsequent submittals of Shop Drawings, Samples or other items requiring approval, will be backcharged to CONTRACTOR, at the rate of 3.0 times direct technical labor cost, by deducting such costs from payments due CONTRACTOR for Work completed. In the event that CONTRACTOR requests a substitution for a previously approved item, all of ENGINEER'S costs in the reviewing and approval of the substitution will be backcharged to CONTRACTOR unless the need for such substitution is beyond the control of CONTRACTOR.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01332

SAMPLES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The submittal of Samples shall conform to the requirements of the General Conditions and to procedures described in the Section.
- B. Samples and Shop Drawings which are related to the same unit of Work or Specification Section shall be submitted at the same time. If related Shop Drawings and Samples are submitted at different times, they cannot be reviewed until both are furnished to the ENGINEER.

1.02 PROCEDURE

- A. CONTRACTOR shall review, approve and submit all Samples promptly. Samples shall be identified with correct reference to Specification Section, page, article and paragraph number, the Drawing No. when applicable. Samples shall clearly illustrate functional characteristics of the product and all related parts and attachments, and full range of color, texture, pattern and material. Samples shall be furnished so as not to delay fabrication, allowing the ENGINEER reasonable time for the consideration of the Samples submitted.
- B. CONTRACTOR shall submit at least two Samples of each item required for the ENGINEER'S approval. Submission of Samples shall conform to all applicable provisions under Shop Drawing Submittal and Correspondence procedure. One of the Samples shall be delivered to the ENGINEER'S main office unless otherwise authorized by the ENGINEER. One Sample shall be delivered to the ENGINEER'S field office. If the CONTRACTOR requires a Sample for his use he shall notify the ENGINEER in writing.
- C. The CONTRACTOR shall make all corrections required and shall resubmit the required number of new Samples until acceptable to the ENGINEER.

1.03 SAMPLES FOR TESTS

- A. CONTRACTOR shall furnish such Samples of material as may be required for examination and test. All Samples of materials for tests shall be taken according to standard methods and as required by the Contract Documents.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01410

OPERATIONS IN HIGHWAY RIGHTS-OF-WAY

PART 1 - GENERAL

1.01 DESCRIPTION

- A. CONTRACTOR shall obtain all necessary permits, arrange all inspections required by the state and pay all charges. He shall conform with all applicable State, County, City, Town, and Village Highway Department rules and regulations.
- B. Work may be installed by the open cut method where shown or directed, however, traffic flow shall be maintained. A minimum of two lanes of traffic shall be kept flowing at all times.
- C. CONTRACTOR shall comply with all current New York State Department of Transportation requirements for traffic protection and all requirements in Section 01550, Maintenance and Protection of Traffic.
- D. Work shall be located as shown, and CONTRACTOR shall install materials, pipe, fittings, and adapters that are required to implement crossings of existing pipe lines, utilities or other structures. A supply of pipe fittings, adapters and short lengths shall be on hand to expedite the crossings.
- E. Pavement: When backfill is stabilized in accordance with State Highway Department requirements and these Specifications, CONTRACTOR shall replace the street pavement and base with pavement of similar type and equal thickness to the pavement which was removed. This pavement and base shall be constructed in complete accordance with the requirements of the State, County and local municipal jurisdiction.
- F. A copy of the State, County of Erie, and Local Municipal Highway Permit Application is included in the Appendix.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01421

REFERENCE STANDARDS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. When a reference standard is specified, comply with requirements and recommendations stated in that standard, except when they are modified by the Contract Documents, or when applicable laws, ordinances, rules, regulations or codes establish stricter standards. The latest provisions of applicable standards shall apply to the Work, unless otherwise specified. Reference standards include, but are not necessarily limited to, the following:
1. American Association of State Highway and Transportation Officials.
 2. American Concrete Institute.
 3. American Gear Manufacturers Association.
 4. American Institute of Steel Construction.
 5. American Iron and Steel Institute.
 6. American National Standards Institute.
 7. American Society of Heating, Refrigerating and Air Conditioning Engineers.
 8. American Society of Mechanical Engineers.
 9. American Society for Testing and Materials.
 10. American Water Works Association.
 11. American Welding Society.
 12. Concrete Reinforcing Steel Institute.
 13. Factory Mutual Research Corporation.
 14. Institute of Electrical and Electronics Engineers.
 15. National Electrical Manufacturer's Association.
 16. Occupational Safety and Health Administration.
 17. National Fire Protection Association.
 18. Prestressed Concrete Institute.
 19. Underwriters' Laboratories, Inc.
 20. NSF International.
 21. International Organization for Standardization (ISO).
 22. SSPC: The Society for Protective Coatings.
 23. American Petroleum Institute.
 24. NACE International.
 25. All other applicable standards listed in the Specifications, and the standards of utility service companies, where applicable.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01422

ABBREVIATIONS AND SYMBOLS

PART 1 - GENERAL

1.01 ABBREVIATIONS

A. Common abbreviations which may be found in the Specifications are:

alternating current	a-c	foot-pound	ft-lb
ante meridiem	am	gallon	gal
ampere	A	gallons per minute	gpm
average	avg	gallons per second	gps
		gram	g
biochemical oxygen demand	BOD		
brake horsepower	bhp	Hertz	Hz
British thermal unit	Btu	hour	hr
		horsepower	hp
Centigrade	°C		
Company	Co	inch	in.
cubic inch	cu in	inch-pound	in.-lb
cubic foot	cu ft	inside diameter	id
cubic yard	cu yd		
cubic feet per minute	cfm	kilovolt-ampere	kva
cubic feet per second	cfs	kilowatt	kw
		kilowatt-hour	hw hr
decibel	db		
degree Centigrade		linear foot	lin ft
(or Celsius) (say)	20°C	liter	l
degree Fahrenheit (say)	68°F		
diameter	diam	maximum	max
direct current	d-c	mercury	Hg
dollars	\$	milligram	mg
		milligrams per liter	mg/l
each	ea	milliliter	ml
efficiency	eff	millimeter	mm
		million gallon	mil
Fahrenheit	EF	million gallons per day	mgd
feet	ft	minimum	min
feet per hour	fph		
feet per minute	fpm	net positive suction head	npsh
feet per second	fps	number	No.
Figure	Fig	National Pipe Threads	NPT
flange	flg		

ounce	oz	specific gravity	sp gr
outside diameter	od	square	sq
		square foot	sq ft
parts per million	ppm	square inch	sq in
post meridiem	pm	square yard	sq yd
pound	lb	standard	std
pounds per square foot	psf	standard cubic feet	
pounds per square inch		per minute	scfm
absolute	psia		
pounds per square inch		total dynamic head	tdh
gage	psig	totally-enclosed-	
		fan-cooled	tefc
revolutions per minute	rpm		
		volt	v
second	sec		

1.02 ORGANIZATION ABBREVIATIONS

A. Abbreviations of organizations which may be used in these Specifications are:

ACS	American Chemical Society
ACI	American Concrete Institute
AGMA	American Gear Manufacturers Association
AIChE	American Institute of Chemical Engineers
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ANSI	American National Standards Institute
APHA	American Public Health Association
API	American Petroleum Institute
AREA	American Railway Engineering Association
ASTM	American Society for Testing and Materials
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
AWWA	American Water Works Association
AWS	American Welding Society
CRSI	Concrete Reinforcing Steel Institute
ECWA	Erie County Water Authority
EPA	Environmental Protection Agency
FM	Factory Mutual Research Corporation
HEW	Department of Health, Education and Welfare
HUD	Department of Housing and Urban Development
IEEE	Institute of Electrical and Electronic Engineers
IRI	Industrial Risk Insurance
NAAMM	National Association of Architectural Metal Manufacturers

NACE	NACE International
NARUC	National Association of Railroad and Utilities Commissioners
NEC	National Electric Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NSF	National Sanitation Foundation
OSHA	Occupational Safety and Health Administration
PCI	Precast Concrete Institute
SMACNA	Sheet Metal and Air Conditioning National Association
SSPC	Steel Structures Painting Council
UL	Underwriters' Laboratories, Inc.
USGS	United States Geological Survey
USPHS	United States Public Health Service
WWEMA	Water and Wastewater Equipment Manufacturers Association

1.03 MISCELLANEOUS ABBREVIATIONS

ACP	Asbestos Cement Pipe
DIP	Ductile Iron Pipe
mj	mechanical joint
PCCP	Prestressed Concrete Cylinder Pipe
pe	plain end
PVC	Polyvinyl Chloride Pipe
s	spigot
w/	with

1.04 SYMBOLS

- A. Refer to Drawings for symbols used on the Contract Drawings.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01450

TESTING LABORATORY SERVICES FURNISHED BY CONTRACTOR

PART 1 - GENERAL

1.01 DESCRIPTION

- A. CONTRACTOR shall employ and pay for an independent testing laboratory to perform the specified services. Laboratory selected shall be subject to approval by the ENGINEER.
- B. Inspection, sampling and testing shall be as specified in the Technical Sections.

1.02 QUALIFICATIONS OF LABORATORY

- A. Where applicable, meet “Recommended Requirements for Independent Laboratory Qualification”, latest edition, published by American Council of Independent Laboratories and the basic requirements of ASTM E329, Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction
- B. The laboratory shall be certified by New York State for testing potable water. A NYS ELAP number shall be referenced on all test results.
- C. Submit copies of ELAP certificates for all potable water testing.
- D. Submit copy of report of inspection of facilities made by Materials Reference Laboratory of National Bureau of Standards during most recent tour of inspection; with memorandum of remedies of any deficiencies reported by inspection.
- E. Testing Equipment:
 - 1. Calibrated at maximum 12 month intervals by devices of accuracy traceable to either National Bureau of Standards or accepted values of natural physical constants.
 - 2. Submit copy of certificate of calibration, made by accredited calibration agency.

1.03 LABORATORY DUTIES

- A. Cooperate with ENGINEER and provide qualified personnel promptly on notice.
- B. Perform specified inspections, sampling and testing of materials and methods of construction; comply with applicable standards; ascertain compliance with requirements of Contract Documents.

- C. Promptly notify ENGINEER and CONTRACTOR of irregularities or deficiencies of Work, which are observed during performance of services.
- D. Promptly submit 5 copies of reports of inspections and tests to ENGINEER including:
 - 1. Date issued.
 - 2. Project title and number.
 - 3. Testing laboratory name and address.
 - 4. Name and signature of inspector.
 - 5. Date of inspection or sampling.
 - 6. Record of temperature and weather.
 - 7. Date of test.
 - 8. Identification of product and Specification Section.
 - 9. Location in Project.
 - 10. Type of inspection or test.
 - 11. Results of tests and observations regarding compliance with Contract Documents.
- E. Perform additional tests and services as required to assure compliance with the Contract Documents.

1.04 CONTRACTOR'S COORDINATION WITH LABORATORY

- A. Cooperate with laboratory personnel, provide access to Work and to manufacturer's operations.
- B. Provide to laboratory, representative samples of materials to be tested, in required quantities.
- C. Furnish labor and facilities:
 - 1. To provide access to Work to be tested.
 - 2. To obtain and handle samples at the site.
 - 3. To facilitate inspections and tests.
 - 4. For laboratory's exclusive use for storage and curing of test samples.
 - 5. Forms for preparing concrete test beams and cylinders.
- D. Notify laboratory and ENGINEER sufficiently in advance of operations to allow for assignment of personnel and scheduling of tests.
- E. Arrange with laboratory and pay for, additional samples and tests required for CONTRACTOR'S convenience.

1.05 PRODUCT TEST REPORTS

- A. Furnish copies of product test reports where required by the Specifications or requested by ENGINEER.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01520

TEMPORARY CONSTRUCTION FACILITIES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. CONTRACTOR shall be responsible for all temporary construction facilities required for the Work. CONTRACTOR shall make all arrangements with utility service companies for temporary services and shall pay all costs associated therewith.
- B. Temporary construction facilities include:
 - 1. Water.
 - 2. Electricity and Lighting.
 - 3. Telephone.
 - 4. Heat, Weather Protection and Ventilation.
 - 5. Fire Protection.
 - 6. Sanitary and First Aid Facilities.
- C. CONTRACTOR shall abide by all rules and regulations of the utility service company, OWNER or authority having jurisdiction. CONTRACTOR shall coordinate and schedule all utilization and tie-in work of existing electric, lighting and water service and shall provide OWNER and ENGINEER written notice at least 48 hours before utilizing existing electric, lighting and water service. CONTRACTOR shall carry out all operations to avoid interference with operations of the existing facilities.
- D. Sufficient temporary heat and ventilation shall be provided to assure safe working conditions and that no damage will occur to any of the Work.
- E. Provide all materials, equipment and power required for temporary electricity and lighting. Include continuous power for construction site offices. Provide all outlets with circuit breaker protection and comply with ground fault protection requirements of NEC. Provide minimum of one 300 watt lamp each 20 feet in work areas.
- F. Suitably enclosed chemical or self-contained toilets shall be provided for the use of the men employed on the Work. Toilets shall be located near the Work site and secluded from observation insofar as possible. Toilets shall be serviced at regular intervals, kept clean and supplied throughout the course of the Work.
- G. CONTRACTOR shall furnish and maintain a safe drinking water supply readily available to all workers.

- H. CONTRACTOR shall be responsible for all utility service costs if constructing a building or facility until the Work is substantially complete. Included are all fuel, power, light, heat and other utility services necessary for execution, completion, testing, and initial operation of the Work.
- I. CONTRACTOR shall:
1. Comply with applicable requirements specified in the Technical Specifications.
 2. Maintain and operate systems to assure continuous service.
 3. Modify and extend systems as Work progress requires.
 4. Completely remove temporary materials and equipment when their use is no longer required.
 5. Clean and repair damage caused by temporary installations or use of temporary facilities.
 6. Restore existing facilities used for temporary services to specified or to original condition.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01523

ENGINEER'S MOBILE FIELD OFFICE

PART 1 - GENERAL

1.01 DESCRIPTION

- A. An ENGINEER'S field office structure will not be required for this Contract. In lieu of a field office structure, the CONTRACTOR shall provide the following items:
1. CONTRACTOR shall establish a charge account with a printing/fax/reproducing center with at least two (2) branch locations such as Office Depot, FedEx Office, or approved equal. This account shall be for the use of the ENGINEER for project related services during construction. These services shall include reproduction of specifications, letters, and other applicable 8½" x 11", 8½" x 14", or 11" x 17" material, faxing and receiving faxes, and printing of electronic computer files. ENGINEER shall be provided with a personal card to access the account. The account shall be in service until final completion of the project and shall be for a value not to exceed \$500.00.
 2. CONTRACTOR shall furnish one (1) cellular smartphone with two (2) rechargeable batteries, battery charging station, and car adapter for a standard cigarette lighter interface. The smartphone shall have internet access, email, texting, and voicemail capabilities. Smartphone shall be for the exclusive use of the ENGINEER and not listed on any shutdown notices to homeowners/businesses.
 3. CONTRACTOR shall furnish one (1) digital camera and accessories. Camera shall be 10 megapixel minimum resolution, 10x minimum zoom range and be equipped with a flash and carrying case. Camera shall be furnished complete with all necessary cables, software, and have at least 16 gigabytes of storage capacity. Camera shall include two (2) sets of rechargeable batteries and battery charging station. Camera shall be for the exclusive use of the ENGINEER.
 4. CONTRACTOR shall furnish to the ENGINEER a wireless internet connection for the duration of the project. ENGINEER will provide their own laptop computer. CONTRACTOR shall provide Verizon 4G LTE Jetpack or approved equal. A smartphone configured to provide WiFi service may be used for both telephone and internet service as long as all cables are included.
 5. CONTRACTOR shall furnish to the ENGINEER one (1) USB flash drive with minimum capacity of 16 gigabytes.

1.02 PROJECT COMPLETION

- A. Remove charge account and cellular phone service upon final acceptance of the Work or when directed by ENGINEER. Smartphone, camera, wireless internet card, flash drive, and all accessories specified herein shall be returned to CONTRACTOR.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01525

EMERGENCY TELEPHONE NUMBERS

PART 1 - GENERAL

1.01 EMERGENCY TELEPHONE NUMBERS

- A. The CONTRACTOR shall, at the CONTRACTOR'S expense, furnish to the ENGINEER an emergency phone number list for 24-hour contact during the construction period. Include numbers for office phones, pagers, and cellular phones, as applicable.
- B. The list should include, but not be limited to:
1. CONTRACTOR'S office representative,
 2. CONTRACTOR'S field superintendent,
 3. CONTRACTOR'S foreman,
 4. OWNER'S main office,
 5. OWNER'S 24 hour emergency number,
 6. PROJECT ENGINEER,
 7. PROJECT INSPECTOR,
 8. Utility companies such as gas, water, sewer, oil, telephone, cable, TV, etc.,
 9. Highway Departments,
 10. Fire Departments serving the project limits,
 11. Police Emergency number,
 12. New York State Department of Environmental Conservation (NYSDEC) Spill Response Hotline,
 13. Other involved agencies.
- C. CONTRACTOR shall add names and numbers given to him by ENGINEER and resubmit to ENGINEER as requested.
- D. Emergency phone list must be submitted and considered acceptable to ENGINEER and OWNER prior to the start of construction.
- E. Phone list must be neatly typed or word processed and submitted on 8-½ x 11 inch paper.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01550

MAINTENANCE AND PROTECTION OF TRAFFIC

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work Specified
The work specified shall include all labor, material, equipment, services and incidentals necessary to maintain and protect vehicular and pedestrian traffic through all construction areas.
- B. Related Work Specified Elsewhere
 - 1. Division 2-15, Technical Specifications,
 - 2. Section 15051 - Buried Piping Installation

1.02 QUALITY ASSURANCE

- A. Reference Standards
New York State Department of Transportation Standard Specifications, latest revision.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 GENERAL

- A. This work shall consist of maintaining traffic and protecting the public from damage to person and property within the limits of and for the duration of the Contract.
- B. All existing site roads, streets, sidewalks, and traffic ways shall be kept open for the passage of traffic and pedestrians during the construction period unless otherwise approved by the OWNER, ENGINEER or authority having jurisdiction over same.
- C. When required to cross, obstruct or temporarily close a existing site road, street, sidewalk or trafficway, CONTRACTOR shall provide and maintain suitable 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.

- D. CONTRACTOR shall give 48 hours advance notice to the fire and police departments of his proposed operations including temporary shutdowns.
- 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.
- F. Traffic shall be maintained over a reasonably smooth traveled way which shall be so marked by signs, delineators, guiding devices and other methods, that a person who has no knowledge of conditions may safely, and with a minimum of discomfort and inconvenience, ride, drive or walk, day or night, over all or any portion of the street under construction where traffic is to be maintained. All work shall conform to the requirements of the current New York State Manual of Uniform Traffic Control Devices.
- G. CONTRACTOR shall control dust and keep the traveled way free from materials spilled from hauling equipment.
- H. CONTRACTOR shall provide the necessary traffic control equipment and flagmen for adequate traffic control on the traveled way. Flaggers shall be used where opposing traffic is restricted to one (1) lane or where other conditions require, or as required by permit conditions.
- I. CONTRACTOR shall provide ingress and egress to and from intersecting streets, homes, businesses and commercial establishments.
- J. CONTRACTOR shall provide adequate protection for pedestrian traffic during all phases of construction.
- K. CONTRACTOR shall maintain existing bus stops, if any, so passengers are reasonably accommodated.
- L. CONTRACTOR shall make the necessary repairs to existing pavement as required to provide a reasonable smooth traveled way where vehicle operation is maintained.
- M. The CONTRACTOR'S responsibility to the public is to protect the public from damage to person and property, which may result directly or indirectly from any construction operation.
- N. The CONTRACTOR shall provide temporary markings in accordance with provisions of the New York State Manual of Uniform Traffic Control Devices, as

required by the agency having jurisdiction, as shown in the plans and specifications and/or as ordered by the ENGINEER

- O. The CONTRACTOR shall schedule work to keep to a minimum and consistent with the physical requirements of the contract, the amount of existing pavement and/or facilities that are destroyed or substantially torn up at any one time.
- P. The CONTRACTOR shall at all times conduct his operations in a manner to insure the convenience of the motorist, the pedestrians and the abutting property owners and their safety as well as the safety of his own employees.
- Q. The CONTRACTOR shall furnish, install, move, remove and maintain all signs and barricades and lighting for construction barricades as shown on the plans or as ordered by the ENGINEER, and in accordance with the NYS Manual of Uniform Traffic Control Devices.
- R. The CONTRACTOR shall provide and maintain delineation and guiding devices which shall include: delineators, barrels, flashers, railing, temporary curb of any kind, pavement markings, and other similar materials or methods acceptable to the ENGINEER
- S. The CONTRACTOR shall construct, move or remove, as directed, temporary structures, approaches, detours, pavements and necessary appurtenances.
- T. The CONTRACTOR will be responsible to prepare a maintenance and protection of traffic plan and submit the plan to the ENGINEER for information and the Erie County Highway Department and/or NYS DOT (as required) for approval. The maintenance and protection of traffic plan shall be prepared by an engineer licensed to practice in the State of New York.

3.02 PARKING CONTROL

- A. Control all CONTRACTOR 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 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.
 - 3. Parking will not be allowed in areas which limit sight distance of passing motorists.
 - 4. CONTRACTOR is responsible for his vehicles while on-site.

3.03 HAUL ROUTES

- A. Consult with governing authorities and establish thoroughfares which will be used as haul routes and site access.
- B. Provide traffic control of haul routes to expedite traffic flow and to minimize interference with normal traffic.

3.04 ADDITIONAL REQUIREMENTS

- A. The CONTRACTOR shall maintain the traveled way reasonable smooth and hard at all times, and shall be well drained and free of potholes, bumps, irregularities and depressions that hold or retain water. Construction operations shall be conducted to insure a minimum of delay to traffic. Stopping traffic for more than five minutes shall not be permitted unless specifically authorized, in writing, by the ENGINEER. The necessary equipment and personnel to attain and maintain a satisfactory riding surface shall be available and used as needed at all times when work is under way and when work is temporarily suspended for any period of time. Special attention to maintenance of a satisfactory traveled way shall be given during weekends, holidays and the winter season.
- B. The CONTRACTOR shall provide a sufficient number of competent flagmen in areas where traffic exists, particularly where construction equipment is operating. Each flagger shall use an orange safety vest. The vest shall be worn outside all other clothing worn by the flagger.
- C. Traffic shall be maintained in accordance with the details shown in conformance with the New York State Manual of Uniform Traffic Control Devices.
- D. Fencing
 - 1. The CONTRACTOR shall completely enclose all open excavations and all other potentially hazardous location, at the end of each working day by temporary fences. Fencing shall be not less than four feet in height, mounted in steel angles or other satisfactory means of support rigidly driven into the ground and spaced at intervals not to exceed eight feet. A minimum of one flasher per fifteen feet of fencing will be required. In areas where an excavation is to remain open in excess of 14 calendar days, rigid fencing will be required having supports at intervals not to exceed four feet. Snow fence, cyclone fence, or wire fabric with rectangular mesh are considered minimally acceptable fencing materials.
 - 2. The ENGINEER in charge may limit, extend, include or exclude areas to be fenced as conditions warrant.
- E. Where sidewalk has been removed by the CONTRACTOR, he will be responsible for establishing a temporary stabilized walk for pedestrian traffic within 24 hours after removal of the sidewalk. This sidewalk may be located in the location of the

original sidewalk or adjacent to the original sidewalk, providing there is an adequate right-of-way and the new location is safe for pedestrian traffic. The minimum width of the walkway is 4 feet. No additional Payment will be made for installing and/or maintaining this walkway by the CONTRACTOR.

- F. All existing highway signs and supports within the Contract limits are to remain and are to be maintained for the duration of the Contract by the CONTRACTOR.
- G. On postal routes, mailboxes serviced from motor vehicles shall be maintained by the CONTRACTOR in a usable location during construction. The CONTRACTOR should not move any mailbox which contains mail. He will advise the property owner to remove such mail before he moves the box. Before acceptance of the work, any mailbox which has been disturbed or removed shall be replaced in size, kind and type by the CONTRACTOR in a location acceptable to the property owner and the ENGINEER.
- H. CONTRACTOR must provide access to all school buses and emergency vehicles including ambulances, police cars, fire engines, etc., traveling through or stopping at any part of the construction site. At his expense, CONTRACTOR will yield to these vehicles and cease construction activities, as necessary.

END OF SECTION

SECTION 01561

SECURITY

PART 1 - GENERAL

1.01 DESCRIPTION

- A. CONTRACTOR shall safely guard all Work, materials, equipment and property from loss, theft, damage and vandalism. CONTRACTOR'S duty to safely guard property shall include the OWNER'S property and other private property from injury or loss in connection with the performance of the Contract.
- B. He shall employ watchmen as needed to provide the required security and prevent unauthorized entry.
- C. CONTRACTOR may make no claim against the OWNER for damage resulting from trespass.
- D. Party responsible for security shall make good all damage to property of OWNER and others arising from failure to provide adequate security.
- E. If existing fencing or barriers are breached or removed for purposes of construction, CONTRACTOR shall provide and maintain temporary security fencing equal to the existing in a manner satisfactory to the ENGINEER and OWNER.
- F. Security measures taken by the CONTRACTOR shall be at least equal to those usually provided by OWNER to protect his existing facilities during normal operation.
- G. Maintain security program throughout construction until OWNER'S acceptance and occupancy precludes need for CONTRACTOR'S security program.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01562

PROTECTION OF THE WORK AND PROPERTY

PART 1 - GENERAL

1.01 DESCRIPTION

- 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, 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. 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 that are shown or designated to remain in place against unnecessary cutting, breaking or skinning of trunk, branches, bark or roots.
- 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. Fires shall not be permitted under or adjacent to trees and plants.
- E. Within the limits of the work, water trees and plants that are to remain, in order to maintain their health during construction operations.
- F. Cover all exposed roots with burlap that shall be kept continuously wet. Cover all exposed roots with earth as soon as possible. Protect root systems from mechanical damage and damage by erosion, flooding, run-off or noxious materials in solution.
- G. If branches or trunks are damaged, prune branches immediately and protect the cut or damaged areas with a nursery product specifically for horticultural use in a manner approved by the ENGINEER.
- H. 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.
- I. Coordinate work in this section with requirements of Division 2 Technical Specifications.

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 except water, sewer, electric, and telephone service connections are shown. This information is shown for the assistance of CONTRACTOR in accordance with the best information available, but is 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 FLOORS, ROOFS, AND CEILINGS

- A. CONTRACTOR shall protect floors, roofs and ceilings during the entire construction period.
- B. Proper protective covering shall be used when moving heavy equipment, handling materials or other loads, when painting, handling mortar and grout and when cleaning walls and ceilings.
- C. Use metal pans to collect all oil and cuttings from pipe, conduit, or rod threading machines and under all metal cutting machines.
- D. Roofs and ceilings shall not be loaded without written permission of the ENGINEER.

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.
 - 1. Cover projections, wall corners, and jambs, sills and soffits of openings, in areas used for traffic and for passage of products in subsequent work.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01563

TEMPORARY CONTROLS

PART1 - GENERAL

1.01 DESCRIPTION

- A. 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.

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 and in no case will noise levels be permitted which interfere with the work of the OWNER or others.

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 or use other methods subject to the ENGINEER'S approval which will keep dust in the air to a minimum.

1.04 PEST AND RODENT CONTROL

- A. Provide rodent and pest control as necessary to prevent infestation of construction or storage area.
 - 1. Employ methods and use materials which will not adversely affect conditions at the site or on adjoining properties.

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.
- 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.
- 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. The CONTRACTOR is responsible to abide by the Storm Water Pollution Prevention Plan (SWPPP) and Notice of Intent (NOI) prepared by ENGINEER to the New York State Department of Environmental Conservation (NYSDEC) prior to the start of construction of this project. Certifications are to be signed by the CONTRACTOR and all subcontractors. The SWPPP and a copy of the NOI shall be submitted to the Highway Department of jurisdiction along with a Highway Permit Application for approval.

1.07 EROSION CONTROL

- A. Plan and execute construction and earthwork 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.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01575

RESPIRABLE CRYSTALLINE SILICA

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work Specified.
The work specified shall include all labor, materials, tools, equipment, services, and incidentals necessary to work around respirable crystalline silica (RCS).
- B. Related Work Specified Elsewhere.
 - 1. Section 03300 – Concrete
 - 2. Section 03480 – Precast Concrete Vault
 - 3. Section 15051 – Buried Piping Installation
 - 4. Section 15106 – Ductile Iron Pipe
 - 5. Section 15109 – Prestressed Concrete Cylinder Pipe
 - 6. Section 15140 – Testing and Disinfection

1.02 QUALITY ASSURANCE

- A. Reference Standards.
 - 1. Code of Federal Regulations U.S. Department of Labor, Occupational Safety and Health Administration (OSHA), 29 CFR 1926.1153, Respirable Crystalline Silica.
 - 2. New York State Department of Labor, Public Employee Safety and Health Bureau, PESH Act.
 - 3. AWWA Manual M28, Rehabilitation of Water Mains.
 - 4. AWWA Manual M9, Concrete Pressure Pipe.
 - 5. NSF/ANSI Standard 61.
 - 6. Underwriter's Laboratories (UL).
 - 7. International Organization for Standardization (ISO).
 - 8. Factory Mutual Research Corporation.
 - 9. Clean Air Act (CAA).
 - 10. Safe Drinking Water Act (SDWA).
 - 11. ANSI Z88.2-80, Practices for Respiratory Protection.
 - 12. 29 CFR 1910.1200, "Hazard Communication" (OSHA).
 - 13. 29 CFR 1910.134, "Respiratory Protection" (OSHA).
 - 14. 29 CFR 1926, "Construction Industry" (OSHA).
 - 15. Occupational Safety and Health Administration.
 - 16. United States Department of Transportation (USDOT).
 - 17. New York State Department of Environmental Conservation (NYSDEC).
 - 18. New York State Department of Health (NYSDOH).
 - 19. New York State Department of Labor (NYSDOL).
 - 20. New York State Department of Transportation (NYSDOT).

1.03 SUBMITTALS

- A. CONTRACTOR shall submit the following prior to the start of work:
 - 1. A letter from the CONTRACTOR, on company letterhead, stating that they are knowledgeable of all current local, state, and federal requirements regarding respirable crystalline silica, that all work will meet those requirements, and that all workers shall be protected against exposure as defined by OSHA. Letter shall have an original signature, signed by an officer of the company.
 - 2. Written exposure control plan, as defined in 29 CFR 1926.1153(g) which includes at minimum the following items:
 - a. A description of the tasks in the workplace that involve exposure to respirable crystalline silica.
 - b. A description of the engineering controls, work practices, and respiratory protection used to limit employee exposure to respirable crystalline silica for each task.
 - c. A description of the housekeeping measures used to limit employee exposure to respirable crystalline silica.
 - d. A description of the procedures used to restrict access to work areas, when necessary, to minimize the number of employees exposed to respirable crystalline silica and their level of exposure, including exposures generated by other employees or sole proprietors.

1.04 COMPETENT PERSON

- A. Prior to the start of work on any given day, CONTRACTOR shall designate one individual on site as the Competent Person.
- B. *Competent Person* means, in addition to the definition in 29 CFR 1926.1153(b), one who is capable of identifying existing and foreseeable respirable crystalline silica hazards in the workplace who has the authorization to take prompt corrective measures to eliminate or minimize them.
- C. The Competent Person shall have the knowledge and ability necessary to fulfill the responsibilities set forth under 29 CFR 1926.1153(g).
- D. The Competent Person shall be responsible for worker and job site safety as required by all relevant respirable crystalline silica regulations and OSHA requirements.
- E. The name(s) and contact phone number of the competent person shall be given to the ENGINEER and OWNER before the work is to begin.

1.05 PERMITS AND COMPLIANCE

- A. The CONTRACTOR shall assume full responsibility and liability for compliance with all applicable federal, state, and local laws, rules, and regulations pertaining

to work practices, protection of workers, authorized visitors to the site, and persons and property adjacent to the work areas.

1.06 PERSONAL PROTECTIVE EQUIPMENT

- A. All use of Personal Protective Equipment (PPE) shall be in compliance with applicable OSHA regulations and procedures.

1.07 SIGNS AND LABELS

- A. Provide warning signs and barrier tapes at all approaches to the Work area. Locate signs at such distance that personnel may read the sign and take the necessary protective steps required before entering the area.

1.08 OTHER PRODUCTS OR MATERIALS

- A. Other products or materials that are required for use during work activities shall comply with local, state, and federal codes and regulations, if applicable. The CONTRACTOR is expected to furnish and utilize industry standard equipment and materials. The CONTRACTOR shall not furnish equipment or materials that have been altered in such a manner that violates local, state, and/or federal codes and regulations, or presents unnecessary health and safety risk.

PART 2 – MATERIALS – NOT USED

PART 3 - EXECUTION

3.01 WORK PROCEDURES

- A. The Competent Person shall be on site at all times Work is progressing.
- B. All Work shall be performed in such a manner as to minimize the risk of exposure to personnel and to minimize the risk of release of respirable crystalline silica or respirable crystalline silica-containing debris to the environment.
- C. All Work shall be performed in strict accordance with the Project Documents and all governing codes, rules, and regulations. The information contained within this specification section will be considered part of the Project Documents. Where conflicts occur between the Project Documents and applicable codes, rules, and regulations, the more stringent procedure(s) shall apply.
- D. The CONTRACTOR shall take notice, and make employees aware, of occupational safety hazards associated with the work being performed on-site.

3.02 PROHIBITED WORK PRACTICES AND ENGINEERING CONTROLS

- A. CONTRACTOR shall not use procedures that subject silica sources to forces that will crumble, pulverize, or reduce to powder the silica sources.
- B. The following work practices and engineering controls shall **not** be used on silica sources during construction:
 - 1. High-speed abrasive disc saws and sanders not equipped with point of cut ventilator or enclosures with HEPA filtered exhaust air.
 - 2. Carbide-tipped cutting blades.
 - 3. Electrical drills, chisels, and rasps used to make field connections in concrete pipe.
 - 4. Shell cutters used to cut entry holes in concrete pipe.
 - 5. A hammer and chisel without using wet techniques to remove pipe connections.
 - 6. Compressed air used to remove dust or other debris containing respirable crystalline silica.
 - 7. Dry sweeping, dry shoveling, or other dry clean-up of dust.
 - 8. Employee rotation as a means of reducing employee exposure to respirable crystalline silica.
 - 9. Fans or other air handling techniques used to deliberately move the respirable crystalline silica to other locations or away from the work site.

3.03 PAYMENT

- A. All costs for work involving respirable crystalline silica are included in the various bid items of the Contract.

END OF SECTION

SECTION 01585

PIPELINE PROTECTION SUBMITTAL

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The project work is in close proximity to existing utilities of a critical nature. As such, CONTRACTOR shall provide a Pipeline Protection Submittal identifying the steps necessary to provide proper protection for these utilities. Utilities include, but are not limited to, existing large diameter waterline (16-inch diameter and greater), electrical duct banks, pressurized gas or petroleum pipelines, sanitary trunk sewers, storm trunk sewers, underground electrical facilities, and any other facility which requires protection from truck traffic and/or construction equipment.
- B. CONTRACTOR shall provide a Pipeline Protection Submittal which conforms to the requirements herein for review by the ENGINEER and OWNER.
- C. Critical utilities are identified on the drawings which require inclusion in the Pipeline Protection Submittal.
- D. CONTRACTOR shall include all utilities in his submittal which might be affected by his operations. This includes all utilities that he intends to either cross over or work in close proximity to.
- E. The Pipeline Protection Submittal is to be prepared by a licensed engineer in the State of New York and shall contain the seal and signature of the engineer. The licensed engineer shall be qualified to perform the calculations and provide recommendations.
- F. Site mobilization cannot start until this submittal is reviewed and approved by ENGINEER and OWNER.

1.02 CONTENT

- A. Signed cover letter from firm/individual summarizing the scope of work and results.
- B. Plan and details showing the requirements to provide proper pipeline protection during construction.
- C. Calculations identifying all assumptions, field data, and results of computations.
- D. Profiles, graphs, charts, reference information, or any other needed information to provide a complete calculation set.

- E. Required maintenance for protection systems, operational data, special conditions, and site restoration requirements shall be included in the submittal.

1.03 FORMAT

- A. Pipeline Protection Submittal shall be either a letter format or bound report.
- B. Engineer's seal and signature shall be included in the submittal.

1.04 SUBMITTALS

- A. Provide three copies of all requirements with original seal and signature to ENGINEER for review.
- B. ENGINEER will review the submittal for compliance with the contract documents only. Calculations presented in the report will not be verified by the ENGINEER or OWNER.
- C. Submit updates to the submittal as requested by the ENGINEER or OWNER.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01630

SUBSTITUTIONS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Requests for review of a substitution shall conform to the requirements of the General Conditions and shall contain complete data substantiating compliance of proposed substitution with Contract Documents.

1.02 CONTRACTOR'S OPTIONS

- A. For materials or equipment (hereinafter products) specified only by reference standard, select product meeting that standard, by any manufacturer, fabricator, supplier or distributor (hereinafter manufacturer). To the maximum extent possible, provide products of the same generic kind from a single source.
- B. For products specified by naming several products or manufacturers, select any one of the products or manufacturers named which complies with Specifications.
- C. For products specified by naming one or more products or manufacturers and stating "or equal", submit a request for a substitution for any product or manufacturer which is not specifically named.
- D. For products specified by naming only one product or manufacturer and followed by words indicating that no substitution is permitted, there is no option and no substitution will be allowed.
- E. Where more than one choice is available as a CONTRACTOR'S option, select product which is compatible with other products already selected or specified.

1.03 SUBSTITUTIONS

- A. During a period of 30 days after date of commencement of Contract Time, ENGINEER will consider written requests from CONTRACTOR for substitution of products or manufacturers, and construction methods (if specified).
 - 1. After end of specified period, requests will be considered only in case of unavailability of product or other conditions beyond control of CONTRACTOR.
- B. Submit 5 copies of request for substitution. Submit separate request for each substitution. In addition to requirements set forth in Article 6.05 of General Conditions, include in request the following:

1. For products or manufacturers:
 - a. Product identification, including manufacturer's name and address.
 - b. Manufacturer's literature with product description, performance and test data, and reference standards.
 - c. Samples, if appropriate.
 - d. Name and address of similar projects on which product was used, and date of installation.
 2. For construction methods (if specified):
 - a. Detailed description of proposed method.
 - b. Drawings illustrating method.
 3. Such other data as the ENGINEER may require to establish that the proposed substitution is equal to the product, manufacturer or method specified.
- C. In making request for substitution, CONTRACTOR represents that:
1. CONTRACTOR has investigated proposed substitution, and determined that it is equal to or superior in all respects to the product, manufacturer or method specified.
 2. CONTRACTOR will provide the same or better guarantees or warranties for proposed substitution as for product, manufacturer or method specified.
 3. CONTRACTOR waives all claims for additional costs or extension of time related to proposed substitution that subsequently may become apparent.
- D. A proposed substitution will not be accepted if:
1. Acceptance will require changes in the design concept or a substantial revision of the Contract Documents.
 2. It will delay completion of the Work, or the work of other contractors.
 3. It is indicated or implied on a Shop Drawing and is not accompanied by a formal request for substitution from CONTRACTOR.
- E. If the ENGINEER determines that a proposed substitute is not equal to that specified, CONTRACTOR shall furnish the product, manufacturer or method specified at no additional cost to OWNER.
- F. Approval of a substitution will not relieve CONTRACTOR from the requirement for submission of Shop Drawings as set forth in the Contract Documents.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01640

TRANSPORTATION AND HANDLING OF MATERIALS AND EQUIPMENT

PART 1 - GENERAL

1.01 DESCRIPTION

- A. CONTRACTOR shall make all arrangements for transportation, delivery and handling of equipment and materials required for prosecution and completion of the Work. Included in CONTRACTOR'S work shall be acceptance of consignment and coordination of equipment deliveries for equipment purchased by OWNER.
- 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 CONTRACTOR 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 accordance 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.
 - 5. Work under other construction projects on OWNER'S site.
- C. Do not have products delivered to project site until related Shop Drawings have been approved by the ENGINEER.
- 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 ENGINEER 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 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 USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01660

STORAGE OF MATERIAL

PART 1 - GENERAL

1.01 DESCRIPTION

- 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. CONTRACTOR shall be consigned responsibility for scheduling, coordination of delivery and manufacturer's representatives' services, on-site storage, and handling of equipment items purchased directly by OWNER for this project. CONTRACTOR shall make provisions for temporary storage, if required, and all handling of said equipment items.
- D. Areas available on the construction site for storage of material and equipment shall be as shown or approved by the ENGINEER.
- E. 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 inside storage areas unless otherwise acceptable to OWNER.
- F. Lawns, grass plots or other private property shall not be used for storage purposes without written permission of the property owner or other person in possession or control of such premises.
- G. CONTRACTOR shall be fully responsible for loss or damage to stored materials and equipment.
- H. Do not open manufacturer's containers until time of installation unless recommended by the manufacturer or otherwise specified.

- I. Do not store products in the structures being constructed unless approved in writing by the ENGINEER.

1.02 UNCOVERED STORAGE

- A. The following types of materials may be stored out-of-doors without cover:
 - 1. Reinforcing steel.
 - 2. Precast concrete items.
 - 3. Masonry block and brick.
 - 4. Castings.
 - 5. Manholes and exterior buried pipe.
- 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.
 - 2. Piping.
- 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. Provide heated storage space for materials which would be damaged by freezing.
- C. Protect mechanical and electrical equipment from being contaminated by dust, dirt and moisture.
- D. Maintain humidity at levels recommended by manufacturers for electrical and electronic equipment.

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 USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01720

SURVEY DATA

PART 1 - GENERAL

1.01 DESCRIPTION

- A. CONTRACTOR shall keep neat legible notes of all measurements and calculations made by him while surveying and laying out the Work. Furnish copies of notes to ENGINEER every two weeks or as requested.
- B. When any survey monument or property marker, whether of stone, concrete, wood, or metal, or a mark on the pavement, designating the lines of private property, is in the line of any trench or other construction work and may have to be removed, the CONTRACTOR shall notify the ENGINEER in writing at least 24-hours in advance of removal. Under no circumstances shall such monument or marker be removed or disturbed by the CONTRACTOR or by any of his subcontractors, employees, or agents, without a written order from the ENGINEER. The CONTRACTOR shall furnish the necessary labor and materials required in resetting any monument or property marker under the direct supervision of the ENGINEER. Should any monument be destroyed through accident, neglect or other cause, the CONTRACTOR will be required at his own expense to employ a licensed surveyor acceptable to the ENGINEER to reestablish the monument or marker.

1.02 PIPELINE ELEVATIONS

- A. CONTRACTOR shall take survey elevation of the top of the newly installed pipeline at all tees; changes in vertical alignment; and, at 100 foot intervals.
- B. Survey elevations shall be performed to NAVD88 datum.

1.03 SUBMITTALS

- A. One copy of all notes shall be furnished to the ENGINEER and one copy furnished to the OWNER with Record Drawings.

PART 2 - MATERIALS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01730
INSTALLATION DATA

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Installation data is defined as written instruction; drawings; illustrative, wiring and schematic diagrams; diagrams identifying external connections, terminal block numbers and internal wiring; and all other such information pertaining to the location of materials and equipment that is not furnished with Shop Drawings. Included are all printed manufacturers installation instructions, including those that may be attached to equipment and for which review by the ENGINEER is not required.

1.02 SUBMITTAL

- A. CONTRACTOR shall submit two copies of all such data to the ENGINEER for each piece of equipment, which he furnished and for all other construction products for which such information is available from the manufacturer. Data shall be acceptably identified and accompanied with a letter of transmittal.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01731

CONNECTIONS TO EXISTING FACILITIES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Perform all construction necessary to complete connections and tie-ins to existing facilities.
- B. Keep existing facilities in operation unless otherwise specifically permitted in these Specifications or approved by OWNER.
- C. CONTRACTOR shall perform all construction activities so as to avoid interference with operations of the facility and the work of others, and the safety and quality of the finished water.
- D. Related work specified elsewhere:
 - 1. Section 01311, Coordination with OWNER'S Operations.
 - 2. Divisions 2-15, Technical Specifications.

1.02 GENERAL INFORMATION

- A. Construction of interconnections is subject to CONTRACTOR'S submittal of materials, detailed procedures, schedules, etc. required by the contract. The following is for information only and the CONTRACTOR is responsible for all interconnections and abandonments.
- B. The CONTRACTOR shall not operate existing valves. Once a new watermain is placed into service, CONTRACTOR shall not operate those valves.
- C. The OWNER only shall operate existing valves. The CONTRACTOR is advised that watertight conditions may not exist when existing valves are closed. The CONTRACTOR shall consider this in his bid.
- D. The CONTRACTOR shall perform test pits at existing pipes, valves, etc. as shown on the drawings or directed. Watermain installation and the pipe laying schedule should reflect the field information obtained by the test pits. The stationing of tees, fittings and valves should be coordinated with the test pit information in order to facilitate construction of the new watermains and construction of the interconnections.
- E. The CONTRACTOR shall submit to the ENGINEER his proposed interconnection details, procedures and schedules.

- F. The CONTRACTOR shall notify all affected customers of any shut-down at least 48 hours in advance.
- G. The CONTRACTOR shall notify appropriate fire stations 48 hours in advance prior to taking any fire hydrants out of service. Any hydrant not in service shall be bagged in burlap.
- H. Any shut-down shall be limited to 4 consecutive hours.
- I. The CONTRACTOR shall have all equipment, manpower, and materials required for the construction on site and ready for use and/or prior to commencing any shut-down or removing any existing facilities.
- J. The CONTRACTOR shall schedule and coordinate his work with others in accordance with the specifications and shall coordinate all proposed shut-downs with the ENGINEER and OWNER. The work shall be scheduled through the ENGINEER so that the OWNER has a minimum of five (5) working days advance notice.
- K. Only one interconnection will be allowed until the proposed watermain and end of line valves (if applicable) have been installed, tested and disinfected and the ENGINEER authorizes the interconnections.
- L. Caps (or plugs) on iron pipe shall be mechanically restrained watertight caps (or plugs) compatible with the pipe being capped and suitable to resist thrusts due to operating pressures.
- M. Temporary caps shall be watertight and shall remain in place until the actual interconnections are made.
- N. In unpaved areas, all interconnection joints shall remain exposed and tested under operating pressure for a 24-hour period.
- O. If no leaks occur, the exposed interconnection piping can, upon ENGINEER'S authorization, be backfilled.
- P. The CONTRACTOR shall dewater trenches, existing mains, etc. as required to perform the interconnections.
- Q. The CONTRACTOR shall submit his detailed procedures for his interconnection sequence to the ENGINEER.
- R. If the CONTRACTOR wishes to propose construction of several interconnections at one time, he shall submit a written, detailed proposal to the ENGINEER.

- S. No work shall begin on the interconnections until the ENGINEER authorizes the work.
- T. Firms performing taps on existing waterlines shall be acceptable to the OWNER.
- U. All joints at interconnections shall be mechanically restrained.
- V. New hydrants shall remain bagged in burlap (except for flushing and/or testing) until placed into service.
- W. The interconnections and abandonment items include all costs to comply with permits, regulatory agencies, etc., not included under other bid items.
- X. Removals shall be made with caution to prevent damage to hydrants, valves, etc., being removed.
- Y. At all valves being abandoned: locate the valve, close the valve, remove the valve box, backfill and restore as required.
- Z. CONTRACTOR will provide a temporary bypass for water service for all businesses, schools, and other establishments as defined by ENGINEER. No disruption in water service for these establishments will be permitted at any time during construction.

1.03 SCHEMATIC DRAWINGS

- A. The schematic drawings included on the plans are not to scale and only indicate the general arrangement of the interconnections and abandonments.
- B. In general, heavy lines indicate proposed improvements, pipe, fittings, etc. and light lines indicate existing facilities.
- C. The schematic drawings do not show other features (such as other underground utilities, etc.) which could affect the work.
- D. The CONTRACTOR shall, at his expense, verify all field conditions.
- E. Restrained mechanical joint solid sleeves or restrained flexible sleeve type couplings will be required to connect the proposed pipe to existing pipe, where applicable.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01780
RECORD DOCUMENTS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. CONTRACTOR shall assist the ENGINEER in generating record documents as specified below, except where otherwise specified or modified in Divisions 2-15.
- B. Maintenance of Documents:
1. Maintain in CONTRACTOR'S field office in clean, dry, legible condition complete sets of the following: Drawings, Specifications, Addenda, approved Shop Drawings, Samples, photographs, Change Orders, other modifications of Contract Documents, test records, survey data, Field Orders, and all other documents pertinent to CONTRACTOR'S Work.
 2. Provide files and racks for proper storage and easy access. File in accordance with filing format of Construction Specification Institute (CSI), unless otherwise approved by ENGINEER.
 3. Make documents available at all times for inspection by ENGINEER and OWNER.
 4. Record documents shall not be used for any other purpose and shall not be removed from the CONTRACTOR'S office without ENGINEER'S approval.
 5. Record Drawings may be reviewed anytime by the ENGINEER and processing of Application may be withheld if documents are not current.
- C. Marking System: Provide colored pencils or felt tipped pens for marking changes, revisions, additions and deletions, to the record set of Drawings. Use following color code unless otherwise approved by the ENGINEER:
1. Process and Mechanical: Red
 2. Architectural: Blue
 3. Structural: Purple
 4. Plumbing: Brown
 5. HVAC: Green
 6. Other Printed Notations: Black
- D. Recording:
1. Label each document "PROJECT RECORD" in 2-inch high printed letters.
 2. Keep record documents current.
 3. Do not permanently conceal any Work until required information has been recorded.

4. Drawings: Legibly mark to record actual construction including:
 - a. Depths of various elements of foundation in relation to datum.
 - b. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.
 - c. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
 - d. Field changes of dimensions and details.
 - e. Changes made by Change Order or Field Order.
 - f. Details not on original Drawings.
 5. Specifications and Addenda: Legibly mark up each Section to record:
 - a. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
 - b. Changes made by Change Order or Field Order.
 - c. Other matters not originally specified.
- E. Submittal:
1. Upon Substantial Completion of the Work, CONTRACTOR will deliver record documents to ENGINEER. Final payment to the CONTRACTOR will not be made until satisfactory record documents are received and approved by the ENGINEER.
 2. CONTRACTOR shall submit to ENGINEER, accompanied with a transmittal letter, the following:
 - a. Date.
 - b. Project title and number.
 - c. CONTRACTOR'S name and address.
 - d. Title and number of each record document.
 - e. Certification that each document as submitted is complete and accurate.
 - f. Signature of CONTRACTOR, or his authorized representative.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01781

OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Provide operation and maintenance data in the form of instructional manuals for use by the OWNER'S personnel for:
1. All equipment and systems furnished under this Contract.
 2. All valves, gates and related accessories furnished under this Contract.
 3. All instruments and control devices furnished under this Contract.
 4. All electrical gear.
- B. Definitions:
1. Operation and Maintenance Data:
 - a. The term "operation and maintenance data" includes all product related information and documents which are required for preparation of the plant operation and maintenance manual. It also includes all data which must accompany said manual as directed by current regulations of any participating government agency.
 - b. Required operation and maintenance data includes, but is not limited to, the following:
 - 1) Complete, detailed written operating instruction for each product or piece of equipment including: equipment function; operating characteristics; limiting conditions; operating instructions for startup, normal and emergency conditions; regulation and control; and shutdown.
 - 2) Complete, detailed written preventive maintenance instructions as defined below.
 - 3) Recommended spare parts lists and local sources of supply for parts.
 - 4) Written explanations of all safety considerations relating to operation and maintenance procedures.
 - 5) Name, address and phone number of manufacturer, manufacturer's local service representative, and Subcontractor or installer.
 - 6) Copy of all approved Shop Drawings, and copy of warranty bond and service contract as applicable.
 2. Preventive Maintenance Instructions:
 - a. The term "preventive maintenance instructions" includes all information and instructions required to keep a product or piece of equipment properly lubricated, adjusted and maintained so that the item functions economically throughout its full design life.

- b. Preventive maintenance instructions include, but are not limited to, the following:
 - 1) A written explanation with illustrations for each preventive maintenance task.
 - 2) Recommended schedule for execution of preventive maintenance tasks.
 - 3) Lubrication charts.
 - 4) Table of alternative lubricants.
 - 5) Trouble shooting instructions.
 - 6) List of required maintenance tools and equipment.

C. Submittals:

- 1. General: Submit operations and maintenance data to the ENGINEER within 30 days prior to either start up or substantial completion.
- 2. Number of copies: Six of each item.
- 3. Letter of Transmittal: Provide a letter of transmittal with each submittal and include the following in the letter:
 - a. Date of submittal.
 - b. Contract title and number.
 - c. CONTRACTOR'S name and address.
 - d. A list of the attachments and the Specification Sections to which they relate.
 - e. Reference to or explanation of related submittals already made or to be made at a future date
- 4. Format Requirements:
 - a. Use 8-1/2 inch by 11 inch paper of high rag content and quality. Larger drawings or illustrations are acceptable if neatly folded to the specified size in a manner which will permit easy unfolding without removal from the finder. Provide reinforced punched binder tab. Or provide fly-leaf for each product.
 - b. All text must be legible typewritten or machine printed originals or high quality copies of same.
 - c. Each page shall have a binding margin of approximately 1-1/2 inches and be punched for placement in a three ring loose-leaf or triple post binder. Provide binders. Identify each binder with the following:
 - 1) Title "OPERATING AND MAINTENANCE INSTRUCTIONS".
 - 2) Title of project.
 - 3) Identity of building or structure as applicable.
 - 4) Identity of general subject matter covered.
 - d. Use dividers and indexed tabs between major categories of information such as operating instructions, preventive maintenance instructions, or other. When necessary, place each major category in a separate binder.

- e. Provide a table of contents for each binder.
- f. Identify products by their functional names in the table of contents and at least once in each chapter or section. Thereafter, abbreviations and acronyms may be used if their meaning is explained in a table in the back of each binder. Use of model or catalog numbers or letters for identification is not acceptable.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 02080

FIRE HYDRANTS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Specified

The work specified shall include all labor, material, equipment, tools, services and incidentals necessary to furnish and install hydrants and valve assemblies as shown, specified and required.

B. Related Work Specified Elsewhere

1. Section 02316 - Select Granular Materials
2. Section 02351 - Excavation, Backfill and Trenching
3. Section 15051 - Buried Piping Installation
4. Section 15106 - Ductile Iron Pipe, Fittings and Accessories
5. Section 15110 - Valves and Appurtenances
6. Section 15140 - Testing and Disinfection

1.02 QUALITY ASSURANCE

A. Manufacturer's Qualifications

1. Manufacturer shall have a minimum of 5 years' experience producing fire hydrants and shall show evidence of at least 5 installations in satisfactory operation.

B. Parts Interchangeability

1. Hydrants and appurtenances provided under this Section shall be the standard product in regular production by manufacturers whose products have proven reliable in similar service for at least five years.
2. Parts Interchangeability: It is the intent of these specifications that all materials furnished herein shall be compatible with similar materials of other manufacturers.

C. Reference Standards

1. ASTM A307, Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength
2. ASTM A354, Specification for Quenched and Tapered Alloy Steel Bolts, Studs, and Externally Threaded Fasteners
3. AWWA C502, Standard for Dry-Barrel Fire Hydrants
4. NSF/ANSI Standard 61
5. Underwriter's Laboratories (UL)
6. International Organization for Standardization (ISO)
7. Factory Mutual Research Corporation

1.03 SUBMITTALS

- A. Shop Drawings: Submit for approval the following:
 - 1. Manufacturer's literature, illustrations, specifications, detailed drawings, data and descriptive literature on all fire hydrant materials.
 - 2. Engineering data including dimensions, materials, size and weight.
- B. Operation and Maintenance Data: Submit complete manuals including:
 - 1. Copies of all Shop Drawings, test reports, maintenance data and schedules, description of operation, and spare parts information.
- C. Certificates:
 - 1. Where specified or otherwise required by ENGINEER, submit test certificates.
 - 2. The CONTRACTOR shall submit certificates of compliance with the applicable referenced standards.
 - 3. Submit certificate of compliance with NSF/ANSI Standard 61 for all products under this Section, including interior coatings, by an independent, authorized laboratory.
- D. Delivery Tickets:
 - 1. Furnish delivery tickets indicating the manufacturer, identifying that the fire hydrant was new and from a manufacturer that has been submitted and approved.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. During delivery and handling, all materials shall be braced and protected from any distortion or damage; any such distortion or damage shall be basis for rejection of the materials.
- B. Equipment used for unloading shall be covered with wood or rubber to avoid damage to the exterior of the materials. Do not drop or roll materials off trucks. All hydrants and valves shall be handled with padded slings or other appropriate equipment. The use of cables, hooks or chains will not be permitted.
- C. The materials shall be inspected before and after unloading. Materials that are found to be cracked, gouged, chipped, dented or otherwise damaged will not be accepted.
- D. Interiors of hydrants and valves shall be kept free from dirt and foreign matter.
- E. Store all hydrants, valves and appurtenances on heavy wood blocking or platforms so they are not in contact with the ground.
- F. Hydrants shall be unloaded opposite to or as close to the place where they are to be laid as is practical to avoid unnecessary handling.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General

1. All products, including interior coatings, shall be suitable for use in a potable water system.
2. Interior coating shall be certified to meet NSF/ANSI Standard 61.
3. All materials shall be suitable for use in potable water systems.
4. All hydrants shall have manufacturer's name cast in raised letters on hydrant body.
5. All bolts required to connect buried valves shall be Type 304 stainless steel or fluorocarbon coated, high strength corrosion resistant low alloy steel.
6. All other bolts, nuts and studs shall, unless otherwise specified, conform to ASTM A307, Grade B; or ASTM A354.
7. Bolts and nuts shall have hexagon heads and nuts.
8. Gasket material and installation shall conform to manufacturer's recommendations.
9. Hydrant shut-off gate valve (auxiliary valve) shall be resilient seat as specified in Section 15110, Valves and Appurtenances.
10. All hydrants, valves, and appurtenances must be new materials in first-class condition. Used or recycled materials will not be allowed, regardless of condition.

B. Hydrants

1. Hydrant shall be cast iron body, break-away type barrel, "O" ring operating stem seal and a 300 psi test pressure with a minimum 150 psi working pressure, in accordance with AWWA Standard C-502, latest revision.
2. All operating parts, including brass valve seat, shall be removable through the barrel without excavation.
3. Hydrant shall be compression type, with valve opening not less than 5-¹/₄ inches, with readily removable brass seats and non-rising stems. Valve shall open against pressure and shall close with pressure. Valve opening limit stops shall be in the shoe of the hydrant.
4. Hydrant shall have two 2-¹/₂-inch hose nozzles and one 4-¹/₂-inch steamer connection with National Standard threads and operating nuts.
5. Hydrants shall be designed to allow 5 feet of cover on the branch and allow 15-inches to 18-inches between the centerline of the lowest nozzle and the surface of the ground.
6. Operating nuts and caps shall be 1-³/₈ inch square and shall turn right (clockwise) to close. Nozzle caps shall be chained to the barrel.
7. Hydrant piping shall be 6-inch restrained ductile iron pipe mechanical joint or anchor pipe unless otherwise specified.

8. Weep holes shall be provided for drainage and remain unplugged. If required by the OWNER, weep holes are to be plugged and the hydrant pumped dry after all flushing, testing, and other filling operations.

C. Acceptable Manufacturers

1. Kennedy - Guardian,
2. Mueller - Centurion,
3. Clow-Medallion,
4. American AVK Model 2780.

2.02 PAINT

- A. All interior wetted surfaces of fire hydrants except finished or bearing surfaces shall be shop painted in accordance with NSF/ANSI Standard 61 specifications for potable water and applied in accordance with the manufacturer's recommendations. Exterior surfaces shall be factory painted with touch-up paint applied in field, as necessary, meeting the following criteria:

1. OSHA safety yellow.
2. Conforming to Federal lead standards.
3. Polyurethane modified alkyd.
4. Solids by weight 67.5%.
5. Solids by volume 46%.
6. Paint shall not be supplied in spray-can container.
7. Manufacturers: Dutch Standard DEF1-Rust Enamel #448, Rust-Oleum #944, Pennsbury Hydrant-Hide #9032, Con-Lux Steel Guard #8504 Caution Yellow and Bruning Silathane #52035 Yellow, or approved equal.

PART 3 - EXECUTION

3.01 INSTALLATION

A. General

1. Install all hydrants and components in accordance with manufacturer's instructions.
2. The hydrant shall be set plumb with the center of the lowest nozzle between 15 inches and 18 inches above the finished grade or as specified by the ENGINEER. The pumper nozzle shall be oriented normal to the near edge of pavement.
3. The auxiliary valve shall be located as close to the main line as possible and at no time shall the center of the hydrant to the center of the auxiliary valve be less than 36 inches. The valve shall not be placed in pavement.
4. No part of the hydrant shall be closer than 2 feet to the face of the curb or 5 feet to the edge of the pavement where no curb exists or as per governing municipalities' requirements.
5. All pipe connecting the main to the hydrant stem shall be 6 inch ductile iron pipe, fully restrained by use of anchor pipe or mechanical restraints as

specified. Use of tie-rods shall be restricted to restraining existing conditions.

6. A drain pocket of clean No. 1 stone shall be provided as shown on the Drawings.
 - a. The granular material shall be extended above the hydrant drain.
7. Grease all hydrant nozzle threads after installation. The upper stem shall be lubricated with oil or grease. If grease is used, provide alemite fittings. Lubricate areas to be sealed from wet areas with "O" rings. Grease used shall be a food grade compound specially formulated for fire hydrants.
8. Install concrete block during hydrant installation for thrust restraint.

B. Inspection

1. All hydrants and valves will be inspected by the ENGINEER prior to installation. Damaged or defective materials will be rejected whether previously incorporated into the work or not.
2. Prior to the work in this section, the CONTRACTOR shall inspect the installation area to determine if the work of other trades has progressed to the point where the installation may properly commence.
3. The CONTRACTOR shall verify that the installation can proceed in accordance with all pertinent codes and regulations, the original design and the referenced standards.

C. Discrepancies

1. If the above referenced inspection reveals discrepancies, the CONTRACTOR shall notify the ENGINEER immediately.
2. The CONTRACTOR shall not proceed with the installation in areas of discrepancy until said discrepancy is resolved.

3.02 PAINTING

- A. All interior wetted surfaces of fire hydrants except finished or bearing surfaces shall be shop painted in accordance with NSF/ANSI Standard 61 for potable water and applied in accordance with the manufacturers' recommendations. Exterior surfaces shall be factory painted yellow and shall be repainted yellow in the field after installation with paint meeting the requirements of this specification.

3.03 TESTING

- A. All parts and components shall be adjusted as required to provide correct operation.
- B. The CONTRACTOR shall demonstrate to the ENGINEER'S satisfaction that all system components operate correctly, both individually and as a system. All testing equipment required shall be provided by the CONTRACTOR.

- C. CONTRACTOR will replace fire hydrant assemblies, which are leaking or are considered suspect by the ENGINEER.

END OF SECTION

SECTION 02316

SELECT GRANULAR MATERIALS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work Specified
Select granular materials shall be used in bedding, pipe encasement, or backfill and as specified or as directed by the ENGINEER.
- B. Related Work Specified Elsewhere
 - 1. Section 02351 - Excavation, Backfill and Trenching
 - 2. Section 15051 - Buried Piping Installation

1.02 QUALITY ASSURANCE

- A. Reference Standards
 - 1. NYSDOT Standards, latest revision

1.03 SUBMITTALS

- A. The CONTRACTOR shall furnish representative samples, sieve analysis and certification of specification compliance for the select granular materials to the ENGINEER and advise on the location of the source.
- B. The CONTRACTOR shall submit copies of proposed materials, methods and operations of backfilling and compaction to the ENGINEER for review prior to the start of work. A list of equipment to be used in CONTRACTOR'S Methods and Operations must be included.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Bedding and Pipe Encasement
 - 1. NYSDOT No. 1 Crushed Stone or Crushed Gravel – bedding for PVC, DIP, and PCCP watermain.
Thoroughly washed, clean, sound, tough, hard, crushed limestone conforming to the requirements of NYSDOT Item No. 703.0201 or crushed gravel conforming to the requirements of NYSDOT Item No. 703.0202, having the following gradation by weight:

<u>% Passing</u>	<u>Sieve</u>
100	1-inch
90 - 100	1/2-inch
0 - 15	1/4-inch

2. NYSDOT No. 2A Crushed Stone or Crushed Gravel – bedding for DIP and PCCP watermain.
 Shall be a No. 1 and No. 2 blend, thoroughly washed, clean, sound, tough, hard, crushed limestone conforming to the requirements of NYSDOT Item No. 703.0201 or crushed gravel conforming to the requirements of NYSDOT Item No. 703.0202, having the following gradation by weight:

<u>% Passing</u>	<u>Sieve</u>
100	1-1/2-inch
93-100	1-inch
27-58	1/2-inch
0-8	1/4-inch

3. NYSDOT Concrete Sand – bedding for copper and polyethylene tubing.
 Washed, fine aggregate sand shall conform to the requirements of NYSDOT Item No. 703.07, having the following gradation by weight:

<u>% Passing</u>	<u>Sieve</u>
100	3/8-inch
90 - 100	No. 4
75 - 100	No. 8
50 - 85	No. 16
25 - 60	No. 30
10 - 30	No. 50
1 - 10	No. 100
0 - 3	No. 200

B. Select Backfill

1. NYSDOT Subbase Type 2 Crusher Run Stone or Crusher Run Gravel.
 Material shall conform to the requirements of NYSDOT Item No. 304.12, having the following gradation by weight:

<u>% Passing</u>	<u>Sieve</u>
100	2-inch
25 - 60	1/4-inch
5 - 40	No. 40
0 - 10	No. 200

- C. Peagravel
1. NYSDOT Type 1A Screened Gravel for the annular space between the carrier pipe and the casing pipe.
Screened gravel shall conform to the requirements of NYSDOT Item No. 703.0203 and have the following gradation by weight:
- | <u>% Passing</u> | <u>Sieve</u> |
|------------------|--------------|
| 100 | 1/2-inch |
| 90 - 100 | 1/4-inch |
| 0 - 15 | 1/8-inch |
- D. Flowable Fill
1. For filling abandoned watermain pipe and/or casing pipe only.
Material shall conform to the requirements of NYSDOT specification section 733.01, Item No. 204.01 for Controlled Low Strength Material (CLSM) and may contain fly ash.
- E. Follow NYSDOT Standard Specifications if gradation data varies from those listed above.
- F. Recycled concrete or asphalt pavement shall not be allowed.
- G. Slag of any type shall not be allowed.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. General
1. Select granular material as specified or directed for watermain bedding or encasement shall be placed in accordance with Section 02351 - Excavation, Backfill and Trenching and Section 15051 - Buried Piping Installation.
 2. Select backfill where specified or directed shall be placed in accordance with the backfilling provisions of Section 02351 - Excavation, Backfill & Trenching.

3.02 DISPOSAL OF DISPLACED MATERIALS

- A. Materials displaced through the use of the above materials shall be wasted or disposed of by the CONTRACTOR and the cost of such disposal shall be included in the appropriate bid item.

END OF SECTION

SECTION 02317

ROCK EXCAVATION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work Specified
 - 1. The CONTRACTOR shall furnish all labor, materials, equipment, and incidentals necessary for rock excavation for construction of structures and pipelines as shown and specified. Disposal of excess and unsuitable excavated rock material is included in this item.
 - 2. This item includes backfill of rock excavations with acceptable materials as defined in other Related Work.
- B. Related Work Specified Elsewhere
 - 1. Section 02316 - Select Granular Materials
 - 2. Section 02351 - Excavation, Backfill and Trenching
 - 3. Section 15051 - Buried Piping Installation

1.02 SUBMITTALS

- A. Before any rock removal begins, the CONTRACTOR shall obtain all permits and licenses required by governing authorities having jurisdiction and supply certified copies to the ENGINEER.
- B. Submit procedures and list equipment to be used.

PART 2 - PRODUCTS

2.01 DEFINITIONS

- A. Rock shall be defined as hard cap rock or boulders exceeding one (1) cubic yard in volume and solid ledge rock which, in the opinion of the ENGINEER, requires drilling and blasting or jackhammering for its removal.
- B. The following materials will not be measured nor allowed for payment as rock excavation:
 - 1. Soft, weathered or disintegrated rock which can be removed by normal excavation equipment.
 - 2. Loose or previously blasted rock.
 - 3. Broken stone in rock fills.
 - 4. Any rock which may fall into the excavation trench from outside the limits of excavation specified.

PART 3 - EXECUTION

3.01 GENERAL

A. Limits of Rock Excavation

1. Structures:

- a. The lowest elevation of the structure, manhole, pump station, plus bedding etc. at each location or as directed by the ENGINEER.
- b. Vertical planes located 12 inches outside the footing or as shown on the Contract Drawings.
- c. As ordered by ENGINEER.

2. Pipe Trenches: The width of trenches shall be the outside diameter of the pipe plus 2 feet, exclusive of bells, branches, hubs, spurs or cradles. The sides of the trench shall be vertical.

- a. The depth of the trench shall be the depth on the bottom of the pipe exclusive of bells and branches plus bedding.
- 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.
- d. As ordered by the ENGINEER.

B. When there is a separate pay bid item for rock excavation, the rock shall be uncovered prior to removal in sections acceptable to the ENGINEER so that it may be measured.

C. When there is not a separate pay bid item for rock excavation, the rock shall be uncovered prior to removal in sections acceptable to the ENGINEER for observation and for record.

3.02 METHODS OF REMOVAL

A. Hand removal

1. The CONTRACTOR shall remove rock by hand methods such as drilling, jack-hammering and mechanical excavation.
2. Under no circumstances will blasting be allowed. Explosive materials used primarily for blasting operations are not allowed on site.

3.03 DISPOSAL

A. Backfill

1. Pieces of rock larger than 4 inches shall not be used in backfilling pipe trenches.
2. Rock backfill shall not be placed within two feet of the outside diameter of pipes.

3. The quantity of rock used in any backfill location shall not be so great as to result in voids, as determined by the ENGINEER.
 4. Rock backfill shall not be placed within 18 inches of the surface of finish grade.
 5. Excess or unacceptable rock may be disposed of on the site only where shown or specified by the ENGINEER. Rock which cannot be disposed of on the site shall be removed and disposed of off the site at the CONTRACTOR'S expense and in compliance with all applicable federal, state and local regulations.
- B. The rock excavated, which cannot be incorporated into the backfill material, as specified, shall be disposed of as spoil and shall be replaced with the quantity of acceptable material for backfilling.

END OF SECTION

SECTION 02351

EXCAVATION, BACKFILL, AND TRENCHING

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Specified

1. The CONTRACTOR shall furnish all labor, materials, equipment, and incidentals necessary for excavation, trenching, backfill, and compaction as shown and specified. Disposal of excess and unsuitable excavated material is included.
2. Backfill of excavations with acceptable materials as specified in other Sections.

B. Related Work Specified Elsewhere

1. Section 02316 - Select Granular Materials
2. Section 02317 - Rock Excavation
3. Section 02900 - Restoration
4. Section 15051 - Buried Piping Installation

1.02 QUALITY ASSURANCE

A. Reference Standards

1. ASTM A36, Structural Steel
2. ASTM A328, Steel Sheet Piling
3. ASTM D422, Particle-Size Analysis of Soils
4. ASTM D698, Moisture-Density Relations of Soils, using 5.5 lb. Rammer and 12-inch Drop
5. ASTM D1556, Density of Soil in Place by the Sand-Cone Method
6. ASTM D1557, Moisture-Density Relations of Soils, using 10 lb. Rammer and 18-inch Drop
7. ASTM D2321, Recommended Practices for Underground Installation of Pipe for Sewers and Other Gravity Flow Applications
8. ASTM D2922, Density of Soil and Soil-Aggregate in Place by Nuclear Method (Shallow Depth)
9. AISC Specifications for the Design, Fabrication and Erection of Structural Steel for Buildings
10. Occupational Safety and Health Administration (OSHA) Regulations
11. Industrial Code Rule 23

1.03 SUBMITTALS

- A. Before any excavation begins, the CONTRACTOR shall obtain all permits and licenses required by governing authorities having jurisdiction and submit certified copies to ENGINEER prior to work being performed.
- B. The CONTRACTOR shall submit drawings submitted with a PE stamp, for information only, for the following items as required:
 - 1. Sheeting, shoring and bracing
 - 2. Dewatering systems
 - 3. Cofferdams
 - 4. Additional protection systems required
 - 5. Underpinning
 - 6. Underdraining
 - 7. Sediment and Erosion control
 - 8. Boring and Receiving Pits.
- C. The CONTRACTOR shall submit proposed materials, methods and operations of backfilling and compaction to the ENGINEER for review prior to the start of work. A list of equipment to be used in CONTRACTOR'S methods and operations must be included.
- D. All drawings shall be prepared and sealed by an independent professional engineer recognized as an expert in the specialty involved and licensed to practice in the State of New York. The drawings shall be submitted to the ENGINEER to establish compliance with the terms of the Contract Documents. Calculations shall not be submitted. Drawing submissions will not be checked and will not imply approval by the ENGINEER of the work involved. CONTRACTOR shall be wholly responsible for designing, installing, and operating whatever system is necessary to accomplish satisfactory sheeting, bracing, protection, underpinning, and dewatering.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Bedding and Select Backfill
 - 1. Bedding and select backfill material shall be in accordance with Section 02316 - Select Granular Materials.
- B. Backfill and Fill Materials
 - 1. Excavated materials may be used for backfill provided:
 - a. Material is sandy, loamy or similar to bank run gravel.
 - b. Material is free of debris, hazardous materials, frozen materials, organic or other deleterious materials. Material greater than 4-inches

- in any direction is unacceptable. Material greater than 2-inches in any direction is unacceptable for backfill directly against the watermain.
- c. Maximum dry density and optimum moisture content are determined in accordance with the above.
 - d. Material is reviewed and deemed acceptable by the ENGINEER.
2. Use select granular backfill within 5 feet or within a 1 on 1 slope from the trench to the edge of pavement of all roadways.
- C. Topsoil
1. Topsoil shall be furnished and installed and coordinated with Section 02900, Restoration.
- D. Explosives
1. Explosives are not allowed to be used nor allowed on site.
- E. Sheeting, Shoring & Bracing
1. Used material shall be in good condition, not damaged or excessively pitted. Unless otherwise specified, all sheeting 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 or Southern Pine No. 2 Dense S3. Where close or tight sheeting is required, wood sheeting shall be tongued and grooved.
 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 A328. Steel soldier piles, wales and braces shall be new or used and shall conform to ASTM A36.
 5. Steel sheeting shall have a minimum thickness of $\frac{3}{8}$ -inch in web, unless otherwise specified.

PART 3 - EXECUTION

3.01 INSPECTION

- A. The CONTRACTOR shall provide the ENGINEER with sufficient time and means to examine the areas and conditions under which excavating, filling and grading are to be performed. The CONTRACTOR shall notify the ENGINEER of conditions detrimental to the proper and timely completion of work. The CONTRACTOR shall not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to the ENGINEER.

3.02 TEST PITS

- A. Where shown or ordered by the ENGINEER, the CONTRACTOR shall excavate and backfill test pits in advance of construction to determine conditions or location of existing facilities. The CONTRACTOR shall perform all work required in connection with excavating, stockpiling, maintaining, sheeting, shoring, backfilling and restoring the surface for the test pits.
- B. Test pits which the CONTRACTOR excavates that are not shown on the Drawings or specified or ordered shall be at the CONTRACTOR'S expense.
- C. No test pits will be dug prior to utility company stakeout.
- D. Cold patch for temporary repair shall be placed as directed by the ENGINEER.

3.03 EROSION CONTROL

- A. All necessary precautions shall be taken to preclude the contamination of any wetland or waterway by suspended solids, sediment, fuels, solvents, lubricants, epoxy coatings, paints, concrete leachate or any other environmentally deleterious substance associated with the project.
- B. All necessary precautions shall be taken to prevent the entry of raw concrete or concrete liquors into the waters and/or wetlands of the State of New York. Equipment washwater from this project shall not be allowed to enter any waterway or wetland.
- C. All sediments are to be retained on the project site through the use of hay bales, silt fences or other barriers, as specified or approved by the local authority having jurisdiction, to prevent erosion.
- D. All areas of soil disturbance resulting from this project shall be seeded with an appropriate perennial grass seed and mulched with hay or straw within one week of final grading. Mulch shall be maintained until a suitable vegetative cover has been established.
- E. Pumped groundwater collected from excavations shall not be allowed to be discharged directly to any wetland, waterway, or other water body.
- F. Contamination of any wetland, waterway, or other water body shall be cleaned and/or restored to the satisfaction of the ENGINEER and governing authorities at the expense of the CONTRACTOR.

3.04 EXCAVATION

- A. The CONTRACTOR shall perform all excavation required to complete the work as shown and specified. Excavations shall include earth, sand, clay, gravel, hardpan, boulders and ledge rock, decomposed rock, pavements, rubbish and all other materials within the excavation limits, except rock. Where the excavation is in rock meeting the definition in Section 02317 - Rock Excavation (requiring drilling, jack-hammering and hand removal), the rock shall be removed as specified in Section 02317.
- B. Excavations for pipelines, utilities and structures shall be open excavations, shored and braced where necessary, according to OSHA standards, to prevent possible injury to workmen and to new and existing structures or pipelines.
- C. Where the pipeline, utility or structure is to be placed below the ground water table, well-points, cofferdams or other acceptable methods shall be used to permit construction 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.
- D. Pumping in excavations shall be done in such a manner so as to prevent damage to the existing subgrade, and to prevent the carrying away of unsolidified concrete materials.
- E. Excavations for pipelines shall be made sufficiently wide to permit proper laying and jointing of the pipe. The trench width at the top of the pipe should not be greater than the outside diameter of the pipe barrel plus 2 feet, but shall be sufficient to allow thorough compacting of earth refill adjacent to the bottom half of the pipe. The depth of trench shall be sufficient to allow a minimum cover over the top of the pipe as shown on the drawings. The use of excavating equipment which requires the trench to be excavated to an excessive width will not be allowed. All trenches for buried piping shall be excavated at least 6 inches below the bottom of the pipe and backfilled with pipe bedding material as specified in Section 02316 – Select Granular Materials.
- F. Acceptable excavated materials shall be stockpiled in specified areas until required for backfill or fill. Place, grade and shape stockpiles for proper drainage.
 - 1. Locate and retain soil materials away from edge of excavations.
 - 2. Unsuitable backfill material shall be kept separate from all other material and shall be disposed of as specified hereinafter. Disposal of unsuitable and excess excavated material shall be accomplished immediately upon removal from the excavation.
 - 3. Stockpiles shall not be located such that they interfere with traffic or access to public or private property. If necessary, the CONTRACTOR shall maintain additional stockpile areas located elsewhere on the site, and shall transport

the suitable backfill material to and from such stockpile areas as required for the work.

4. In built-up districts and in streets where traffic conditions render it necessary, the material excavated from the initial opening shall be removed by the CONTRACTOR as soon as excavated, and the material subsequently excavated, if suitable for the purpose, shall be used to backfill the trenches in which pipe has been laid or structures have been built, and neither the excavated material nor materials of construction shall be stored on the streets or sidewalks.
- G. If the material at the design grade is unsuitable as determined by the ENGINEER, the CONTRACTOR, when ordered in writing, shall excavate additional material to the depth necessary and shall backfill to the proposed grade with select granular material.
- H. Unless otherwise directed or permitted, not more than 100 feet of trench in advance of the end of the completed pipe or structure therein shall be opened at any time. Every trench in rock shall be fully opened at least 30 feet in advance of any place where masonry or pipe is being laid. Any time when the CONTRACTOR'S crews are not on the job working, a trench length equal to or less than one-half of the last length of pipe installed may be left open, but properly covered or barricaded to protect the public.
- I. At such locations where two pipes may be installed in parallel in a common trench, and where specified, the CONTRACTOR shall install the pipes a minimum of 2 feet apart as measured horizontally from the outside diameter of pipe.

3.05 UNAUTHORIZED EXCAVATION

- A. All excavation outside the lines and grades shown and not specified, together with the removal and disposal of the associated material shall be at the CONTRACTOR'S expense. The unauthorized excavation shall be filled as directed by the ENGINEER with select compacted backfill at the CONTRACTOR'S expense. Claims and damages resulting from the CONTRACTOR'S unauthorized excavation will be his sole responsibility.

3.06 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.
 3. Maintain the ground water level at least 2 feet below the bottom of the excavation to provide a stable surface for construction operations 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. Provide sediment traps when water is conveyed into water courses.
6. Notify the ENGINEER before shutting down dewatering systems for any reason.
7. Standing water shall not be permitted in the excavation at any time. If the material at the design grade becomes unsuitable or contaminated due to the actions of the CONTRACTOR, the CONTRACTOR shall excavate additional material to the depth necessary and shall backfill to the proposed grade with select fill or crushed stone.
8. 100% stand-by pumps (gasoline powered) shall be maintained at the site at all times.
9. Any hardships created by the temporary dewatering for this Contract which adversely affects the water supply to local property owners, shall be satisfactorily resolved by the CONTRACTOR, including the provision of temporary water service, if required, at no additional cost to the OWNER.
10. Obtain required permits from agencies of jurisdiction, NYSDEC, and USACOE, for any water being discharged into rivers, streams, or water courses.

B. Disposal of Water Removed by Dewatering Systems

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 the owner or others on or adjacent to the site.
3. Convey water from the excavation in a closed conduit. Do not use trench excavations as temporary drainage ditches.
4. Disposal of water shall be by specified methods and shall not cause erosion or sedimentation to occur in existing drainage systems. All sedimentation or blocking of existing systems shall be thoroughly cleaned and returned to original condition by the CONTRACTOR at his expense.
5. Damage caused by the CONTRACTOR'S operations to public or private property shall be repaired by him to the satisfaction of the ENGINEER and the damaged property owner at the CONTRACTOR'S expense.
6. The CONTRACTOR shall perform all work, furnish all materials and install all measures required to reasonably control soil erosion resulting from construction operations and prevent excessive flow of sediment from the construction site. Such work may include the installation of water diversion structures, diversion ditches and sediment basins and seeding, mulching or sodding critical areas to provide temporary protection. The CONTRACTOR shall submit a plan showing the methods to be used for controlling erosion

and sedimentation during construction along with the schedule of construction operations to the ENGINEER for review.

7. All erosion and sediment control practices shall be in place prior to any grading operations and installation of proposed structures or utilities.
8. All erosion and sediment control practices shall be left in place until construction is completed and/or area is stabilized.
9. Where necessary, disturbed areas shall be temporarily seeded and/or mulched until proper weather conditions exist for establishment of a permanent vegetative cover.

3.07 SHEETING, SHORING, AND BRACING

A. General

1. Unless otherwise shown or specified, excavations shall be open, shored and braced or sheeted where necessary to prevent injury to workmen, structures, pipelines and utilities.
2. Structures within 100 feet of sheeting installations shall be subject to a pre-construction survey to identify and record existing structural conditions. In the instance of private residencies, the homeowners shall be contacted directly. These inspections shall be carried out by a pre-inspection firm experienced in this line of work.
3. During the actual construction process, the CONTRACTOR shall provide the monitoring and recording of the actual vibrations generated. A baseline of ambient vibration levels shall be established prior to driving sheet piling.
 - a. The particle acceleration during the driving of the sheet piling shall not exceed 2.0 FPS.
 - b. The CONTRACTOR will be required to change the construction methods if the work is resulting in unacceptable vibration levels.
4. All municipal, county, state, and federal ordinances, codes, regulations, and laws shall be observed. The CONTRACTOR shall provide all sheeting, shoring, and bracing which conforms to New York State Department of Labor – Industrial Code Note 23 and all applicable sections of the 1970 Occupational Safety and Health Act (OSHA), and any other requirements as necessary.
5. All municipal, county, state and federal ordinances, codes, regulations, laws and OSHA regulations shall be observed.
6. Maintain shoring and bracing in excavations regardless of time period excavations will be open. Carry down the shoring and bracing as excavation progresses.
7. Safe and satisfactory sheeting, shoring and bracing shall be the entire responsibility of the CONTRACTOR.
8. The CONTRACTOR shall be held accountable and responsible for the sufficiency of all shoring and bracing used and for all damage to persons or

property resulting from the improper quality, strength, placing, maintaining or removing of the same.

9. The ENGINEER'S permission to proceed with work in either a sheeted, shored braced or open trench condition shall in no way relieve the CONTRACTOR from the above responsibilities.
10. The clearances and types of temporary structures, insofar as they affect the character of the finished work, and the design of steel sheeting to be left in place, will be subject to the review of the ENGINEER, but the CONTRACTOR shall be solely responsible for the adequacy of all sheeting, shoring, bracing, cofferdamming, etc.
11. 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 pipelines or structures.
12. All steel sheet piling designed to remain in place shall be new materials. New or used materials may be used for temporary work.
13. Steel sheet piling shall be manufactured from steel conforming to ASTM A328. Steel for soldier piles, wales, and braces shall be manufactured to conform to ASTM A36.

B. Sheeting Left in Place

1. Steel sheet piling shall be left in place or where conditions are such that the removal of sheeting will endanger the work or adjacent pipes or structures or when ordered in writing to be left in place by the ENGINEER. It shall consist of rolled sections of the continuous interlocking type unless otherwise specified. The type and design of the sheeting and bracing shall conform to the above specifications for all steel work for sheeting and bracing.
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 submitted to the ENGINEER for review. Jetting will not be permitted.
4. The CONTRACTOR shall cut off piling left in place at least 2 feet below road surface or to the grades shown or ordered by the ENGINEER and shall dispose of the cutoffs.
5. Portions of sheeting or soldier piles and breast boards which are in contact with concrete shall be left in place.

C. Removal of Sheeting and Bracing

1. Sheeting and bracing shall be removed from excavation unless otherwise indicated by the ENGINEER. Removal shall be done so as to not cause injury to the work.

- a. Wood or steel sheeting shall not be removed when adjacent to structures, pavement, pipes, or any other public or private property where removal may cause damage to such property.
 - b. Fill all voids left by removal of sheeting with select fill.
 2. Removal of sheet piling shall be done so as not to cause injury to the Work. Removal shall be equal on both sides of excavation to ensure no unequal loads on pipe or structures.
- D. Pipeline Alignment in New York State Department of Transportation and Erie County Highway Department Right-Of-Way:
 1. The New York State Department Of Transportation and Erie County Highway Department require all trenches or excavations which fall within a 1 on 1 slope as measured from the edge of pavement to be tight-sheeted with pre-driven steel sheet piling prior to excavation.
 - a. The design of the predriven steel sheet piling and bracing system is the responsibility of the CONTRACTOR. The ENGINEER may reject any materials which he regards as unsound.
 - b. A copy of all predriven steel sheet piling and bracing system designs shall be submitted to the ENGINEER for his information before installation of same. Each drawing and computation page shall display the seal and signature of a licensed New York State professional engineer. This information must also be submitted to the Agency having jurisdiction for review and must meet with that Agency's approval.
 - c. The CONTRACTOR'S submittal to the ENGINEER shall include written verification from the Agency of jurisdiction that the information being submitted to the ENGINEER has been approved by that Agency.
 2. If devices other than pre-driven steel sheet piling are approved by the Agency of jurisdiction in areas designated as requiring temporary sheeting, the CONTRACTOR may (with the ENGINEER'S review) be allowed to use them. However, the costs of furnishing and using these devices will be considered as included in the unit prices bid for the various pipe sections.
- E. In areas where the Drawings call for sheeting to remain in place, alternate sheeting methods will not be allowed. Only pre-driven, steel sheet piling systems designed for the CONTRACTOR by a professional engineer will be allowed in these areas.

3.08 BACKFILL AND COMPACTION

- A. All backfill required for trenches and structures required to provide the finished grades shown and as described herein shall be furnished, placed and compacted in 6 inch lifts by the CONTRACTOR. Unless otherwise specified or required, fill shall be obtained from the excavated materials. All materials used for filling and

backfilling shall be soil of acceptable quality, free from boulders, frozen lumps, wood, stumps, sludge, or other organic matter or other deleterious or hazardous materials. Excavated materials meeting these requirements and approved by the ENGINEER may be used as backfill.

- B. Rock and/or earth material may be encountered during the work that is unsuitable for backfilling. When this material is encountered, it shall be disposed of in the specified manner, possibly resulting in a shortage of suitable backfill material. In this event, the CONTRACTOR shall be responsible for furnishing, delivering and installing clean earth or select backfill materials to properly and completely backfill the excavation. Backfill material for these situations may be obtained from other areas of the project where suitable material is available or from offsite locations as approved by the ENGINEER. All backfill material is subject to the ENGINEER'S review and must meet the minimum requirements of the specifications above.
- C. Backfill excavations as promptly as work permits, but not until completion of the following:
 - 1. Inspection by the ENGINEER of all work within the excavation.
 - 2. Inspection, testing approval, and recording of locations of underground utilities, connections, branches, structures and other facilities.
 - 3. Removal of shoring and bracing, and backfilling of voids with satisfactory materials. Cut off temporary sheet piling driven below bottom of structures and remove in a manner to prevent settlement of the structure or utilities, or leave in place if required.
 - 4. Removal and proper disposal of trash and debris.
- D. Excavation shall be kept dry during backfilling operations. Backfill around piping and structures shall be brought up evenly on all sides.
- E. The minimum density to be obtained during backfilling operations shall be 95 percent and is a percentage of the maximum density obtained in the laboratory as defined in ASTM D698 Method C including Note 2. This percentage is of modified Proctor density. In-place density determinations shall be made using a sand density cone or equivalent method as specified by ASTM D1556. If any bricks, bottles, pieces of metal, debris or other foreign matter larger than $\frac{3}{4}$ -inch size are encountered in the density test hole, a different test location shall be chosen. The ENGINEER will determine the frequency of field testing required to determine the density of the fill and shall direct the number and location of density tests. All equipment necessary to determine fill density, including nuclear density meters, shall be supplied by the CONTRACTOR.
- F. The water content of fill material shall be controlled during placement within the range necessary to obtain the density specified. In general, the moisture content of the fill shall be within 5 percent dry and 2 percent wet of the optimum moisture

content for the specified density as determined by laboratory tests. The CONTRACTOR shall perform all necessary work to adjust the water content of the material to within the range necessary to permit the density specified. No fill material shall be placed and no compaction of fill will be permitted when there is any standing water in the trenches or when the fill material or the ground the fill is to be placed on is frozen.

- G. The CONTRACTOR is not allowed to access any part of an existing water supply system (fire hydrants, etc.) as a source of water for any reason during construction activities, including the use of water for backfilling to obtain the proper moisture content.
- H. If the specified densities are not obtained because of the CONTRACTOR'S improper control of placement or compaction procedures, or because of inadequate or improperly functioning equipment, the CONTRACTOR shall perform whatever work is required to provide the specified densities. This work shall include complete removal of unacceptable fill areas, replacement and re-compaction until acceptable fill is provided.
- I. All backfill in pipe trenches shall be placed in horizontal layers not exceeding 6 inches in depth and thoroughly compacted before the next layer is placed.
- J. Where pipe is laid in rock excavation, crushed stone or gravel fill shall be carefully placed and tamped over the rock before the pipe is laid. After laying, pipe, the balance of the backfill shall be placed as described herein above.
- K. Placement:
 - 1. Place pipe bedding, select backfill and/or earth backfill or borrow materials, as specified herein and in Section 15051- Buried Piping Installation.
 - 2. Trenches under roadways shall be backfilled with select backfill material for the entire length of the open cut crossing plus 5 feet back from the edge of pavement or a distance equal to a 1 on 1 slope to the invert, whichever is greater.
 - 3. Where shoulders are excavated, the trench shall be backfilled with select granular material.
 - 4. The entire trench area under driveways, parking areas, and sidewalks, shall be backfilled with select granular material in accordance with the Contract Drawings and Specifications.
 - 5. Prior to commencing with the backfilling operation, the CONTRACTOR shall submit information to the ENGINEER such as catalog cuts, specification sheets, etc., describing the type of compaction equipment he intends to use.

- L. Pipe Trench Preparation
 - 1. Braced trench width shall be minimized to greatest extent practical but shall conform to the following:
 - a. Trench width shall be sufficient to provide room for installing, jointing and inspecting piping, as shown on Contract Drawings.
 - b. Enlargements at pipe joints may be made if required and specified by the ENGINEER.
 - c. Trench width shall be sufficient for sheeting, bracing, sloping, and dewatering.
 - d. Trench width shall be sufficient to allow thorough compacting of backfill.
 - e. Do not use excavating equipment which requires the trench to be excavated to excessive width.
 - 2. Depth of trench shall be as shown. If required, depths may be revised as specified by the ENGINEER.
- M. The CONTRACTOR shall repair any settlement that occurs at no additional cost to the OWNER.

3.09 GRADING

- A. General
 - Uniformly grade areas within limits of grading under this Section including adjacent transition areas. Smooth subgrade surface within specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades.
- B. Turfed Areas
 - Finish areas to receive topsoil to within not more than 1 inch above or below the required subgrade elevation.
- C. Walks and Pavements
 - Shape surface of areas under walks to line, grade and cross-section, with finish surface not more than $\frac{1}{2}$ inch above or below the required subgrade elevation.
- D. Slabs
 - Grade smooth and even, free of voids, compacted as specified, and to required elevation. Provide final grades within a tolerance of 3 inch when tested with a 10 foot straightedge.
- E. Compaction
 - After grading, compact subgrade surfaces to the depth and percentage of maximum density required.

- F. All existing drainage swales and ditches, if disturbed, shall immediately, upon completion of pipe installation, be restored to proper lines and grades. CONTRACTOR shall ensure the final drainage facilities are in working condition and acceptable to the agency of jurisdiction.

3.10 PAVEMENT SUBBASE COURSE

- A. General
Place subbase material, in layers of specified thickness, over ground surface to support the 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 as specified, placed in such quantity to compact to thickness of each subbase course layer. Compact and roll at least 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. 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.

3.11 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 by the CONTRACTOR and disposed of in compliance with Municipal, County, State, Federal or other applicable regulations at no additional cost to the OWNER.
- B. The CONTRACTOR shall not dispose waste excavated material in any of the following locations:
 - 1. Wetland areas.
 - 2. Flood plains.
 - 3. Any area where excess siltation will damage or pollute receiving water.
 - 4. Disposal of excess materials shall only be allowed at locations approved by NYSDEC Region 9.

3.12 RESTORATION AND CLEAN-UP

- A. Following installation, the CONTRACTOR shall restore all areas to their original condition to the requirements of Section 02900 - Restoration, and to the satisfaction of the ENGINEER.

END OF SECTION

SECTION 02900

RESTORATION

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Specified

The work specified shall include all labor, material, equipment, services and incidentals necessary to restore surfaces, pavements, sidewalks, driveways, curbs, gutters, lawns, culverts, and other features disturbed, damaged, or destroyed during the performance of the work under or as a result of the operations of the Contract.

B. Related Work Specified Elsewhere

1. Section 02316 - Select Granular Materials
2. Section 02317 - Rock Excavation
3. Section 02351 - Excavation, Backfill, and Trenching
4. Section 03300 - Concrete
5. Section 15051 - Buried Piping Installation

1.02 QUALITY ASSURANCE

A. The quality of materials and the performance of work used in the restoration shall produce a surface or feature equal to the condition of each before the work began.

B. Reference Standards

1. American Association of Nurserymen (AAN)
2. ASTM D698, Standard Compaction Test
3. ASTM D2487, Classification of Soils for Engineering
4. ASTM D2974, Standard Test Method for Moisture, Ash and Organic Matter of Peat and Other Organic Soils
5. New York State Department of Transportation Standard Specifications, latest revision

1.03 SUBMITTALS

A. CONTRACTOR shall submit the following submittals:

1. The location of source and data for off-site topsoil.
2. Analysis of the seed.
3. Should a hydroseeder be used, the CONTRACTOR shall submit all data including material and application rates.
4. Mix designs for asphalt.

1.04 SCHEDULE OF RESTORATION

- A. A schedule of restoration operations shall be submitted by the CONTRACTOR for review.
 - 1. After an accepted schedule has been agreed upon it shall be adhered to unless otherwise revised by the ENGINEER.
- B. In general, permanent restoration of traveled surfaces will not be permitted until one month time has elapsed after excavations have been completely backfilled as specified.
- C. The replacement of surfaces at any time, as scheduled or as directed, shall not relieve the CONTRACTOR of responsibility to repair damages by settlement or other failures.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Topsoil shall be unfrozen friable clayey loam free from clay lumps, stones, roots, sticks, stumps, brush, hazardous materials, or foreign objects.
- B. Fertilizer shall be a standard quality commercial carrier of available plant food elements. A complete prepared and packaged material containing a minimum of 10 percent nitrogen, 10 percent phosphoric acid and 10 percent potash.
 - 1. Each bag of fertilizer shall bear the manufacturer's name and guaranteed statement of analysis.
- C. Seed mixtures shall be of commercial stock of the current season's crop and shall be delivered in unopened containers bearing the guaranteed analysis of the mix.
 - 1. All seed shall meet the New York State Department of Transportation 713-04 standard specifications for germination and purity.

D. Seed Mixtures:

<u>Species</u>	<u>Lawn Areas*</u>	<u>Non-maintained Areas*</u>
Kentucky Bluegrass	50	20
Creeping Red Fescue	30	20
Manhattan or Pennfine Ryegrass	20	60

* % by weight

- E. Mulch shall be stalks of oats, wheat, rye or other acceptable crops which are free from noxious weeds.

2.02 MATERIALS

- A. Paving Materials: The source and gradation of materials shall be acceptable to the ENGINEER. Materials shall conform to the following:
1. Pavement Sub-Base Course Material: The sub-base course materials shall be select backfill material as specified in Section 02316 of the Specifications.
 2. Tack Coat: The tack coat shall be NYSDOT Section 702, Item 702-3401 Asphalt Emulsion (HFMS-2H).
 3. Bituminous Base Course: Base course where required shall be placed in accordance with the NYSDOT Specifications, Section 403 – Hot Mix Asphalt Concrete Pavement. The material shall be NYSDOT, Item 403.12, Type 2, Base Course.
 4. Bituminous Binder Course: Binder course pavement where required shall be placed in accordance with NYSDOT Specifications, Section 403 – Hot Mix Asphalt Concrete Pavement. The binder course pavement material shall be NYSDOT Item No. 403.13, Type 3, Binder Course.
 5. Bituminous Surface Course: The bituminous concrete surface course shall be a hot mix bituminous material consisting of a mixture of mineral aggregate and asphalt cement as approved by ENGINEER. The surface course shall be NYSDOT Item No. 403.19, Type 7F, Top Course.
- B. Concrete Materials: Concrete used for road bases, roads, driveways, sidewalks, curbs, or similar items shall be a 4,000 psi mix. Concrete and reinforcing materials shall be as specified in Section 03300 of these Specifications.

2.03 MATERIALS TESTING.

- A. All materials must be tested and approved prior to delivery to the site. Samples of materials proposed for use shall be submitted by the CONTRACTOR to the ENGINEER and the testing laboratory. Samples of the materials shall be submitted at least ten days in advance of its anticipated use.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Temporary Pavement
1. Immediately upon completion of backfilling of the trench or excavation, the CONTRACTOR shall place a temporary pavement over all disturbed areas of streets, driveways, sidewalks, and other traveled places where the original surface has been disturbed as a result of his operations.
 2. The temporary pavement shall consist of compacted select backfill surfaced with cold patch to such a depth as required to withstand the traffic to which it will be subjected.

3. The surface of the temporary pavement shall conform to the slope and grade of the area being restored.
4. For dust prevention, the CONTRACTOR shall treat all surfaces, not covered with cold patch, as frequently as may be required
5. The temporary pavement shall be maintained by the CONTRACTOR in a safe and satisfactory condition until such time as the permanent paving is completed. The CONTRACTOR shall immediately remove and restore all pavement as shall become unsatisfactory.

B. Permanent Pavement Replacement

1. The permanent and final re-paving of all streets, driveways and similar surfaces where pavement has been removed, disturbed, settled or damaged by or as a result of performance of the Contract shall be repaired and replaced by the CONTRACTOR, by a new and similar pavement, consisting of base, binder, and/or top courses each having the same depth as existing pavement or as required by the local community or Highway Permit.
 - a. The top surface shall conform with the grade of existing adjacent pavement and the entire replacement shall meet the current specifications of the local community for the particular types of pavement.
 - b. Where the local community has no specification for the type of pavement, the work shall be done in conformity with the New York State Department of Transportation Standard which conforms the closest to the type of surfacing being replaced, as determined by the ENGINEER and with the following specifications:
 - 1) Unless specified otherwise, replacement of existing roads under the jurisdiction of New York State, Counties or Cities, shall be constructed to the following requirements:
 - a) Pavement subbase as outlined under Section 02316.
 - b) Base Course Pavement – 8 inches minimum compacted thickness or combination of concrete base where encountered.
 - c) Binder Course Pavement – 1-1/2 inches minimum compacted thickness.
 - d) Surface Course Pavement – 1 inch minimum compacted thickness.
 - 2) Unless specified otherwise, replacement of existing roads under the jurisdiction of Towns or Villages shall be constructed to the following requirements:
 - a) Pavement subbase as outlined under Section 02316.
 - b) Binder Course Pavement – 4 inches minimum compacted thickness.

- c) Surface Course Pavement – 2 inches minimum compacted thickness.
 - c. All required permits for local governing bodies shall be obtained.
 - d. Install or reinstall pavement striping in accordance with NYSDOT Standard Specifications.
- C. Preparation for Permanent Pavement
 1. When scheduled and within the time specified, the temporary pavement shall be removed and base prepared, at the depth required by the local community or Highway Permit, to receive the permanent pavement.
 - a. The base shall be brought to the required grade and cross-section and thoroughly compacted before placing the permanent pavement.
 - b. Any base material which has become unstable for any reason shall be removed and replaced with compacted base materials.
 - c. Cuts which are not straight will require another saw-cutting further from the trench. Additional select backfill and pavement needed for restoration outside the defined pay limits will be installed and paid for by the CONTRACTOR.
 2. Prior to placing the permanent pavement, all service boxes, manhole frames and covers and similar structures within the area shall be adjusted to the established grade and cross-section.
 3. The edges of existing asphalt pavement shall be cut a minimum of one foot beyond the excavation or disturbed base whichever is greater.
 - a. All cuts shall be parallel or perpendicular to the centerline of the street.
 - b. All cuts will be made in straight continuous lines by saw-cutting or other acceptable technique.
 - c. Additional one-foot saw cut may be required for top course if shown on the drawings or required by permit.
 4. Install or reinstall traffic inductance loops in accordance with NYSDOT Standard Specifications by a firm which is qualified by the NYSDOT.
- D. Bituminous Tack Coat
 1. The tack coat shall be uniformly applied by a pressure distributor to a prepared clean pavement. The tack coat shall be applied as approved by the ENGINEER to offer the least inconvenience to traffic and to permit one-way traffic, where practical, to prevent pickup or tracking of the bituminous material.
 2. Tack coat shall not be applied on a wet pavement surface or when the surface temperature is below 45 degrees F. The temperature and areas to be treated shall be approved by the ENGINEER prior to application. The application rate shall be 0.03 to 0.07 gallons per square yard as approved by the ENGINEER.

- E. Asphalt Pavement
1. The permanent asphalt pavement replacement for streets, driveways and parking area surfaces shall be replaced with bituminous materials of the same depth and kind as the existing unless otherwise specified.
 2. Prior to placing of any bituminous pavement tack coat shall be applied to the edges of the existing pavement and other features.
 3. The furnishing, handling and compaction of all bituminous materials shall be in accordance with the New York State Department of Transportation Standards latest edition.
- F. Cold Milling
1. Cold milling of existing surfaces shall follow New York State Department of Transportation Standard Specifications, latest edition.
 2. Material removed during the milling process will become the property of the CONTRACTOR and shall be disposed of at an acceptable location off-site.
 3. CONTRACTOR must maintain drainage into all gutters and catch basins during the milling operation.
- G. Concrete Pavement and Pavement Base
1. Concrete pavements and concrete bases for asphalt, brick or other pavement surfaces shall be replaced with Class "B" concrete, air-entrained as specified in Section 03300.
 2. Paving slabs or concrete bases shall be constructed to extend one foot beyond each side of the trench and be supported on undisturbed soil. Where such extension of the pavement will leave less than two feet of original pavement slab or base, the repair of the pavement slab or base shall be extended to replace the slab to the original edge of the pavement or base unless otherwise indicated on the Contract Drawings.
 3. Where the edge of the pavement slab or concrete base slab falls within the excavation, the excavation shall be backfilled with Select Backfill compacted to 95 percent maximum dry density as determined by ASTM D698 up to the base of the concrete.
 4. The new concrete shall be of the same thickness as the slab being replace and shall contain reinforcement equal to the old pavement.
 - a. New concrete shall be placed and cured in accordance with the applicable provisions of the State Department of Transportation Standards.
- H. Stone or Gravel Pavement
1. All pavement and other areas surfaced with stone or gravel shall be replaced with material to match the existing surface unless otherwise specified.
 - a. The depth of the stone or gravel shall be at least equal to the existing or at least 6 inches.

- b. After compaction, the surface shall conform to the slope and grade of the area being replaced.
- c. Stone material used shall comply with the New York State Department of Transportation Standard Specifications, latest edition.

I. Driveways

1. Asphalt Driveways

- a. After the watermain has been installed and the trench properly backfilled, the CONTRACTOR shall cut back the drive one foot each side of the trench. The asphalt shall be cut with carborundum saw or other device to give a uniform and continuous straight edge. Where watermain or service piping are installed under drive aprons the ENGINEER may specify the replacement of the entire apron and the CONTRACTOR shall remove and replace same to its base.
- b. The cut edge shall be painted with a bituminous seal coat and asphalt shall then be replaced to equal or exceed the existing asphalt in quality and depth.
 - 1) In no case shall the finished thickness of the asphalt driveway be less than four (4) inches, a minimum of three (3) inches of binder and one (1) inch of top to match the existing driveway.
 - 2) Courses shall be laid in one (1) inch lifts and compacted with a minimum two (2) ton roller or other mechanical means specified by the ENGINEER.
 - 3) If the existing drive was in the opinion of the ENGINEER recently sealed, then the CONTRACTOR shall apply one (1) coat of coal tar emulsion sealer over the top lift. In no case shall cold patch be considered pavement, but may be used temporarily as an expedient, the cost of which will be borne by the CONTRACTOR.

2. Concrete Driveways

- a. The CONTRACTOR shall be responsible for the proper consolidation of the sub-grade before laying the new driveway, and any settlement or failure of the new driveway shall be repaired or replaced by the CONTRACTOR to the satisfaction of the ENGINEER.
- b. Where drives are encountered, the CONTRACTOR shall cut the concrete each side of the trench limits using a concrete saw at breaks in the drive or at expansion joints at the direction of the ENGINEER. Any concrete broken beyond the cut or break line will be replaced at the CONTRACTOR'S expense.
- c. The drive shall then be replaced to equal or exceed the existing drive in quality and depth.

- 1) Reinforcing shall be installed in all replacements, tying it to existing reinforcing where it protrudes from the cut edge. 6 x 6 x 6 welded wire mesh or equal shall be used. The CONTRACTOR shall then install Transit Mix Concrete meeting NYSDOT specifications to the depth of the original base, or a minimum of six (6") inches, whichever is more.
- 2) The surface shall be finished to match the existing surface. The CONTRACTOR shall properly cure all concrete after placing and shall protect it from damage from all types of traffic and harm prior to final setting.

J. Concrete Walks, Curbs and Gutter Replacement

1. Concrete walks, curbs and gutters removed or damaged in connection with or as a result of the construction operations shall be replaced with new construction.
 - a. The minimum replacement will be a flag or block of sidewalk and five feet of curb or gutter.
2. Walks shall be constructed of concrete, air-entrained with NYSDOT No.1 stone aggregate on a 4-inch base of compacted gravel or stone.
 - a. The walk shall be not less than 4 inches in thickness or to match the thickness of the replaced walk, shall have construction joints spaced to match the existing walks, and shall have expansion joints spaced not more than 50 feet apart and shall be sloped at right angles to the longitudinal centerline approximately $\frac{1}{8}$ -inch per foot of width.
3. One-half inch expansion joint material shall be placed around all objects within the sidewalk area as well as objects to which the new concrete will abut, such as valve boxes, manhole frames, curbs, buildings and others.
4. Walks shall be hand-floated and broom-finished, edged and grooved at construction joints and at intermediate intervals matching those intervals of the walk being replaced.
 - a. The intermediate grooves shall be scored a minimum of $\frac{1}{4}$ of the depth of the walk.
 - b. The lengths of blocks formed by the grooving tool, and distances between construction and expansion joints shall be uniform throughout the length of the walk in any one location.
5. The minimum length of curb or gutter to be left in place or replaced shall be 5 feet. Where a full section is not being replaced, the existing curb or gutter shall be saw cut to provide a true edge.
 - a. The restored curb or gutter shall be the same shape, thickness and finish as being replaced and shall be built of the same concrete and have construction and expansion joints as stated above for sidewalks.

6. All concrete shall be placed and cured as specified in Section 03300, Concrete.

K. Lawns and Improved Areas

1. The area to receive topsoil shall be graded to a depth of not less than 4 inches or as specified, below the proposed finished surface. If the depth of existing topsoil prior to construction was greater than 4 inches, topsoil shall be replaced to that depth.
 - a. All debris and inorganic material shall be removed and the surface loosened for a depth of 2 inches prior to the placing of the topsoil.
 - b. The topsoil shall not be placed until the subgrade is in suitable condition and shall be free of excessive moisture and frost.
 - c. Topsoil placed in areas of earth excavation will not be placed until suitable earth compaction has been performed.
2. Satisfactory topsoil removed from the excavations shall be placed on the prepared subgrade to the depth required.
 - a. In the event the topsoil removed during excavation is unsatisfactory or inadequate to obtain the required finish grades, the CONTRACTOR shall furnish the required quantity of satisfactory topsoil from specified sources off site.
 - b. All topsoil shall be free from stones, roots, sticks and other foreign substances and shall not be placed in a frozen or muddy condition.
 - c. The finished surface shall conform to the lines and grades of the area before disturbed or as shown on the Contract Drawings. Any irregularities shall be corrected before the placement of fertilizer and seed.
3. The fertilizer shall be applied uniformly at the rate of 20 pounds per 1000 square feet.
 - a. Following the application of the fertilizer and prior to application of the seed, the topsoil shall be scarified to a depth of at least 2 inches with a disc or other suitable method traveling across the slope if possible.
4. When the topsoil surface has been fine graded, the seed mixture shall be uniformly applied upon the prepared surface with a mechanical spreader at a rate of not less than 5 pounds per 1000 square feet.
 - a. The seed shall be raked lightly into the surface and rolled with a light hand lawn roller.
 - b. Seeding and mulching shall not be done during windy weather.
5. The mulch shall be hand or machine spread to form a continuous blanket over the seed bed, approximately 2 inches uniform thickness at loose measurement. Excessive amounts or bunching of mulch will not be permitted.
 - a. Mulch shall be anchored by an acceptable method.
 - b. Unless otherwise specified, mulch shall be left in place and allowed to disintegrate.

- c. Any anchorage or mulch that has not disintegrated at time of first mowing, shall be removed. Anchors may be removed or driven flush with ground surface.
- 6. Seeded areas shall be watered as often as required to obtain germination and to obtain and maintain a satisfactory sod growth. Watering shall be in such a manner as to prevent washing out of seed. Any washout or damage which occurs shall be regraded and reseeded until a good sod is established.
- 7. Hydroseeding may be accepted as an alternative method of applying fertilizer, seed and mulch. The CONTRACTOR must submit all data regarding materials and application rates to the ENGINEER for review.
- 8. The CONTRACTOR shall maintain the newly seeded areas, including regrading, reseeding, watering and mowing, in good condition, until the development of an established cover.

L. Cultivated Area Replacement

- 1. Areas of cultivated lands shall be graded to a depth to receive topsoil of not less than the depth of the topsoil before being disturbed. All debris and inorganic material shall be removed prior to placing of the topsoil.
- 2. After the topsoil has been placed and graded, the entire area disturbed during construction shall be cultivated to a minimum depth of 12 inches with normal farm equipment.
 - a. Any debris or inorganic materials appearing shall be removed.
 - b. The removal of stones shall be governed by the adjacent undisturbed cultivated area.
- 3. Grass areas shall be re-seeded using a mixture equal to that of the area before being disturbed, unless otherwise specified.

M. Other Types of Restoration

- 1. Shrubs and landscape items damaged or destroyed as a result of the construction operations shall be replaced in like species and size.
 - a. All planting and care thereof shall meet the standards of the American Association of Nurserymen.
- 2. Water courses shall be reshaped to the original grade and cross-section and all debris removed. Where required to prevent erosion, the bottom and sides of the water course shall be protected.
- 3. Culverts destroyed or removed as a result of the construction operations shall be replaced in like size and material and shall be replaced at the original location and grade. When there is minor damage to a culvert and with the consent of the ENGINEER, a repair may be undertaken, if satisfactory results can be obtained.
- 4. Should brick pavements be encountered in the work, the restoration shall be as set forth in the General Requirements or as directed.
- 5. Items removed for construction such as mailboxes, signposts, reflector markers, and the like shall be replaced in as good or better condition than existing. Items damaged by the CONTRACTOR shall be replaced at his

expense. Privately owned items, such as mailboxes, shall be reinstalled to the satisfaction of the OWNER and ENGINEER.

N. Lawn Maintenance

1. All lawn areas shall be mowed by the CONTRACTOR before the new grass reaches a height of 4 inches.
 - a. Following the establishment of a good stand of grass and the first mowing, the CONTRACTOR'S obligation shall end except for the repair of settlement or damage
2. Any lawn area which does not develop an established cover shall be re-seeded and maintained at the CONTRACTOR'S expense until an established cover is present.

O. Tree Plantings

1. Determine location of underground utilities and perform work in a manner which will avoid possible damage. Hand excavate, as required, to minimize possibility of damage to underground utilities. Maintain grade stakes until removal is mutually agreed upon by all parties concerned.
2. Trees replaced by the CONTRACTOR will be a minimum of 6 feet high and 3 inches in trunk diameter. CONTRACTOR must fertilize and water tree appropriately after planting and will guarantee tree for a period of two years. All issues regarding tree planting including type, size, and final location must be approved by the ENGINEER prior to payment.

END OF SECTION

SECTION 03300

CONCRETE

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work Specified
 1. All cast-in-place concrete used in the construction of watermains and appurtenances including cradles, encasements, thrust blocks, anchors, and manholes.
 2. All cast-in-place concrete used in the construction of sidewalks, gutters, curbs and other sections of restoration.
 3. Reinforcing steel, form work, and items of concrete accessories required for the completion of the work.

- B. Related Work Specified Elsewhere
 1. Section 01450 - Testing Laboratory Services Furnished by Contractor
 2. Section 02351 - Excavation, Backfill and Trenching
 3. Section 02900 - Restoration

1.02 QUALITY ASSURANCE

- A. References
 1. ACI 211, Proportioning Concrete Mixtures
 2. ACI 304, Measuring, Mixing, Transporting, and Placing Concrete
 3. ACI 305R, Hot Weather Concreting
 4. ACI 306, Cold Weather Concreting
 5. ACI 309R, Consolidation of Concrete
 6. ASTM A185, Standard Specifications for Steel Welded Wire Fabric, Plain for Concrete Reinforcement
 7. ASTM A615, Standard Specifications for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
 8. ASTM C33, Standard Specifications for Concrete Aggregates
 9. ASTM C94, Standard Specifications for Ready-Mixed Concrete
 10. ASTM C150, Standard Specifications for Portland Cement
 11. ASTM C260, Standard Specifications for Air-Entraining Admixtures for Concrete
 12. ASTM C309, Standard Specifications for Liquid Membrane-Forming Compounds for Curing Concrete
 13. ASTM C494, Standard Specifications for Chemical Admixtures for Concrete
 14. ASTM D1751, Standard Specifications for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction

- B. Tests
 - 1. All previous testing of non-concrete materials incorporated in the concrete mix shall be performed within the past twelve months. Make test reports available to the ENGINEER upon request.
 - 2. For each day when concrete is being placed, provide one slump test and three cylinders for compression testing. One cylinder shall be tested at 7 days and two (2) cylinders at 28 days. Submit all copies of test results to ENGINEER for review.

1.03. SUBMITTALS

- A. Name and location of concrete supplier.
- B. Concrete mix design indicating amount of all ingredients for concrete to be used in the Work.
- C. Manufacturer's literature for curing compounds, joint materials, admixtures, form coatings, manufactured form systems, ties, etc.
- D. Laboratory test results; compression cylinder test results from previous projects may be used for verification of design.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Cement
 - 1. Conform to ASTM C150, Type II.
 - 2. Type I or III may be employed with the ENGINEER'S approval.
- B. Fine and Coarse Aggregates
 - 1. Comply in all respects to ASTM C33.
 - 2. Maximum size of coarse aggregate: 1 – 2 inches; $\frac{3}{4}$ -inch for precast structures.
 - 3. Coarse aggregate for concrete used for sidewalks, curbs, and gutters shall be crushed limestone or approved equal.
- C. Water: Potable and complying with ASTM C94
- D. Admixtures
 - 1. Water Reducing - conform to ASTM C494, Type A.
 - 2. Air-Entraining - conform to ASTM C260.

- E. Reinforcing steel bars shall be deformed new billet steel conforming to ASTM A615, Grade 60. Welded wire fabric shall be cold drawn steel conforming to ASTM A185.
- F. Expansion joint material shall be ASTM D1751, asphalt-saturated cellulosic fiber, 1/2 inch thickness and of the width required for full depth joints.
- G. Membrane curing compound shall be pigmented and conform to the requirements of ASTM C309, Type 1, Class B.
 - 1. Grout - All grout shall be non-shrink, non-metallic, non-gas forming, preblended and ready for use requiring only the addition of water. Minimum 28 day compressive strength must be 5000 psi.

2.02 CONCRETE MIX DESIGN

- A. Mix design shall be established by the concrete supplier based on a proven strength record for concrete made with similar ingredients.
- B. Conform to ACI 211, except as specified herein, using approved materials.
- C. The various classes of concrete are designated as follows:

<u>Class</u>	<u>Design Compressive Strength at 28 Day, psi</u>	<u>Maximum Water/Cement Ratio by Weights</u>	<u>Minimum Weight of Cement Per Cubic Yard</u>
B (air-entrained)	4000	0.45	600 lbs

- D. Maximum Slump
 - 1. General - 4 inches
 - 2. Sidewalks, curbs and gutters - 3 inches
 - 3. Use minimum water possible subject to workability.
- E. Except where otherwise specified, all concrete shall be air-entrained in the range of 5% to 7%.

2.03 BATCHING AND MIXING

- A. Batching
 - 1. The CONTRACTOR shall have a modern and dependable batch plant within a reasonable distance from the work at his disposal.
 - 2. Comply with ACI 304.
 - 3. Use only approved materials.

- B. Mixing and Delivery
 - 1. Comply with ASTM C94, and furnish batch ticket information.

2.04 SOLID CONCRETE BLOCKS

- A. Solid concrete blocks used for support or restraint shall be of nominal sizes conforming to ASTM C55.
- B. Units shall have a minimum compressive strength of 3500 psi.

PART 3 - EXECUTION

3.01 CONCRETE PLACEMENT

- A. Forms shall be substantially free from surface defects and sufficiently tight to prevent leakage of mortar. They shall be properly braced and tied so as to maintain position and shape during and after placing of concrete.
- B. The CONTRACTOR shall build into the concrete reinforcing steel, sleeves, waterstops, etc., as shown on the Contract Drawings, or in restoration work, reinforcing steel and other embedded items equal to that found in the concrete being replaced.
- C. All concrete shall be thoroughly consolidated by the use of vibrators or by spading or puddling sticks and tampers in accordance with ACI 309R.
 - 1. No concrete shall be deposited under water without written permission of the ENGINEER and then only in accordance with proper tremie techniques.
- D. Cold weather placement: Comply with ACI 306.1.
- E. Hot weather placement: Comply with ACI 305R.
- F. At locations where replacing section of existing concrete driveway or walkway, sawcut existing concrete to provide a clean edge at the nearest adjacent construction joint, provided that the joint is beyond one foot from the edge of the trench or excavation.

3.02 FINISHING

- A. All formed concrete surfaces to be exposed shall be given a rubbed finish. In the case of restoration, the rubbed finish shall be equal to that of the concrete surface being replaced.
- B. Inverts, benchwalls, floors or structures and similar surfaces shall be given a float finish.

- C. Sidewalks and driveways shall be hand floated using a magnesium float and given a broom finish perpendicular to traffic, edges of slabs to be tooled.

3.03 CURING

- A. Concrete shall be maintained in a moist condition for seven (7) days using methods that will insure complete and continuous saturation.
- B. Sidewalks, curbs and gutters may be cured by the use of a membrane curing compound applied in accordance with the manufacturer's directions.

3.04 NON-SHRINK GROUTING

- A. For openings that are left in new concrete or where made in existing concrete for the insertion of wall castings, pipes or other fixtures, the space around these items shall be made watertight by completely filling with a non-shrink grout unless another means is specified elsewhere in the Contract Documents.
- B. All work shall be done in strict accordance with the manufacturer's recommendations.

3.05 QUALITY CONTROL

- A. The CONTRACTOR shall be solely responsible for the quality control of all concrete.
- B. Concrete which does not meet the requirements of these specifications may be rejected by the ENGINEER.
- C. Field Inspection: Testing shall be performed in accordance with Section 01450, Testing Laboratory Services Furnished by Contractor.

END OF SECTION

SECTION 03480

PRECAST CONCRETE VAULTS AND CHAMBERS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Specified

The work specified shall include all labor, materials, tools, equipment, services and incidentals necessary to furnish valve and meter vaults, air release manholes, surface water inlets, and similar structures, complete with frames and covers, manhole steps and appurtenances as shown on the Contract Drawings.

B. Related Work Specified Elsewhere

1. Section 02316 - Select Granular Materials
2. Section 02351 - Excavation, Backfill, and Trenching
3. Section 03300 - Concrete
4. Section 15051 - Buried Piping Installation
5. Section 15106 - Ductile Iron pipe, Fittings, and Accessories
6. Section 15110 - Valves and Appurtenances
7. Section 15120 - Piping Specialties and Accessories

1.02 QUALITY ASSURANCE

A. Reference Standards

1. ASTM A48 - Standard Specification for Grey Iron Castings
2. ASTM C62 - Standard Specification for Building Brick (solid Masonry Units made from Clay or Shale)
3. ASTM C91 - Standard Specification for Masonry Cement
4. ASTM C139 - Standard Specification for Concrete Masonry Units for Construction of Catch Basins and Manholes
5. ASTM C144 - Standard Specification for Aggregate for masonry Mortar
6. ASTM C478 - Standard Specification for Precast Reinforced Concrete Manhole Sections
7. ASTM C913 - Standard Specification for Precast Concrete Water and Wastewater Structures
8. AWWA Standards identified in other related sections
9. ASTM Standards identified in other related sections
10. ANSI Standards identified in other related sections
11. Occupational Safety and Health Administration (OSHA)

1.03 SUBMITTALS

A. Shop Drawings

1. Prior to any field construction, the CONTRACTOR shall submit review drawings and conformance data for materials to be used in the construction of vaults and inlets for review.

PART 2 - PRODUCTS

2.01 PRECAST CONCRETE STRUCTURES

A. General: the following requirements apply to all precast concrete structures, chambers, and vaults constructed on this project.

1. All precast concrete structures shall be designed by a licensed New York State registered Professional Engineer. Each drawing for design shall be stamped and signed by the Professional Engineer.
2. Precast concrete structures shall be manufactured in accordance with ATM C478, latest revision, and shall be designed for HS-20 Live Load, latest revision.
3. Precast concrete structures shall be of approved design and sufficient strength to withstand the loads to be imposed upon them. An approved watertight joint shall be provided between precast concrete sections.
4. Mark date of manufacture and name or trademark of manufacturer on inside of precast concrete chamber section.
5. Sizes of precast concrete structures shall be as shown on the drawings.
6. All concrete in precast units shall be stone aggregate and develop a strength of 4,000 psi at 28 days and shall conform to the following specifications:
 - a. All concrete furnished and installed for precast concrete vaults shall be in accordance with ACI 318 Code for Reinforced Concrete.
 - b. Materials:
 - 1) Cement: Portland Cement, ASTM C150, Type I or Type II.
 - 2) Admixtures: Admixtures other than air entraining shall not be used. Air entraining admixture shall conform to ASTM C260. Air content of concrete with $\frac{3}{4}$ -inch maximum size aggregate shall be 6 percent plus or minus 1 percent volume.
 - c. Water: Clean and free from injurious amounts of oils, acids, alkalis, organic materials, or other substances.
 - d. Aggregates: aggregates shall conform to ASTM C33, latest revision. Course aggregate shall be size number 67 (nominal $\frac{3}{4}$ -inch to No. 4).

- e. Proportions of materials in concrete and strength of concrete shall be subject to the following conditions:
 - 1) Minimum 28-day compressive strength – 4,000 psi.
 - 2) Maximum water to cement ration by weight – 0.45.
 - 3) Minimum cement content 600 lbs/cubic yard.
- 7. All precast concrete shall be manufactured by wet cast methods only, and shall be approved design.
- 8. All precast concrete shall be reinforced. Reinforcing shall be designed for all applicable loads and forces encountered. Steel reinforcing shall be ASTM A 496-A 615 Grade 60-60 KSI.
- 9. Prior to backfilling, all below grade exterior faces of the concrete structures shall be painted with two coats of sealer. The sealer shall be Bitumastic 300-M, a comparable grade of Carboline, or approved equal.

2.02 CHAMBER, VAULT, AND MANHOLE CONSTRUCTION DETAILS.

- A. Precast concrete chamber, vault, bases, and manholes shall have monolithic reinforced concrete and shall have a keyway type joint between precast concrete sections.
- B. Joint between precast concrete section shall be sealed as recommended by manufacturer and shall be watertight upon completion of joint. Joints shall be buttered inside and outside with 1 to 2 cement brick sand mortar.
- C. Where the proposed piping passes through exterior walls of precast concrete chambers and vaults, the manufacturer shall provide an oversized opening and mechanical type seal or shall provide an assembly consisting of a flexible rubber boot with clamp assembly. The boot assembly shall meet the requirements of ASTM C-923 and shall have a stainless steel power sleeve and clamps.
- D. All precast concrete chambers and vaults shall be furnished with a sump assembly as shown on the drawings.
- E. Where noted, all interior walls and top of chambers and vaults shall be insulated with 2” thick closed cell rigid insulation to a minimum of 4’-0” below finished grade. Insulation must be permanently adhered to the concrete surfaces.
- F. Product and manufacturer:
 - 1. Kistner Concrete Products.
 - 2. Fort Miller, Inc.
 - 3. Or approved equal.

2.03 PRECAST CONCRETE CATCH BASINS.

- A. In addition to the general requirements for precast concrete structures outline above, the following shall apply:

1. Precast concrete catch basins shall be manufactured as one or two piece units with integral bottom and wall cast in one pour per piece so that there are no joints present in the sections.
2. Catch basin base and walls shall be of acceptable design and of sufficient strength to safely support HS-20 loading.
3. For precast concrete base section, the minimum thickness of base slab shall be 6-inch thickness.
4. Precast concrete walls for catch basin shall be 6-inch thickness except at knockouts where the minimum thickness shall be 2 inches.
5. Pipe connections to catch basins for storm drainage piping shall consist of a knockout in the catch basin wall for installation of the proposed piping. The void between the proposed piping and the wall of the catch basin shall be grouted with cement – mortar grout and shall be approved by the ENGINEER.
6. Product and manufacturer:
 - a. Kistner Concrete Products.
 - b. Fort Miller, Inc.
 - c. Or approved equal.

2.04 MISCELLANEOUS METALS.

A. Steps.

1. Provide approved aluminum steps as follows:
 - a. Aluminum-magnesium-silicide type alloy conforming to ASTM Specification B221.
 - b. Drop front design with grooved step surface.
 - c. Conform to details shown on Drawings.
 - d. Aluminum surfaces embedded in concrete and in contact with dissimilar materials shall be painted with an approved bitumastic paint.

B. Ladders.

1. For Valve Chambers, provide approved ladders as follows:
 - a. Produce from ASTM A36 steel, galvanized.
 - b. Shall have 1-inch diameter rungs spaced a maximum of 12-inch on centers.
 - c. Conform to all applicable OSHA 1910.27 requirements for fixed ladders.
 - d. Designed for a single concentrated load of 200 pounds minimum.
 - e. Minimum ladder width of 16 inches.
 - f. Length as required to extend from underside of slab to top of floor.
 - g. Shall be attached to wall with galvanized steel hardware suitable for all loads imposed upon them and as recommended by the ladder manufacturer.

- a) Catch Basin Frame and Cover – Grate Top – Model No. R4832B, Bicycle Proof, by Neenah Foundry Co.
- b) Or approved equal.

PART 3 - EXECUTION

3.01 INSPECTION

A. Precast Sections

- 1. Precast section shall be installed level on a flat stable subgrade. Where an unstable condition exists, the CONTRACTOR shall excavate the unstable material and replace with compacted granular material.
- 2. All joints shall be filled inside and out with mortar to provide a smooth and continuous surface.

B. Benchwalls and Inverts

Mortar surfaces of benchwalls and concrete floors shall be given a broom finish. Where inverts are required they shall be lined with a half section of pipe of the same type used for the sewer or shall be constructed of Class "B" concrete, shaped and troweled to produce a smooth circular cross-section.

C. Frames and Castings

Frames and castings shall be set in a full bed of mortar a maximum of 1/2" thick. Where required to adjust the frames and castings to grade there shall be installed to a maximum of four brick courses.

D. Steps

- 1. Steps shall be installed in vertical alignment spaced 12-inches on center.
- 2. In concrete sections the steps shall be cast into the section or secured with cadmium plated bolts to threaded inserts which are precast into the concrete.
- 3. In masonry construction the steps shall be built into the masonry walls.

E. Plastering

- 1. Plaster shall be with mortar not less than 2-inch thick and troweled smooth.
- 2. Outside of masonry structures.
- 3. Inside and outside of brick courses under frames and castings.

F. Sumps

Sumps of the size specified shall be built into the floors of vaults and similar structures. Floors shall be sloped to the sump.

- G. Lifting holes shall be sealed tight with a solid rubber plug driven into hole and remaining void filled with a mix of 1 part cement and 2 part sand mortar.
- H. All precast concrete structures shall be free from visible leakage: each structure shall be tested for leaks and inspected and all leaks shall be repaired in a manner subject to the ENGINEER'S approval.
- I. Grading at chambers:
 - 1. All precast concrete structures in unpaved areas shall be constructed as shown or directed to an elevation 6 inches higher than the original ground.
 - 2. The ground surface shall be graded to drain away from structure. Fill shall be placed around them to a level of the upper rim of the frame and cover, and the surface evenly graded on 1 to 5 slope to the existing surrounding ground. The slope shall be covered with 4 inches of topsoil, seeded, and maintained.
 - 3. All precast structures installed with or under pavement areas shall be constructed to an elevation, which permits the frame and cover to be set flush with the final paving grade.

END OF SECTION

SECTION 15051

BURIED PIPING INSTALLATION

PART 1 – GENERAL

1.01 DESCRIPTION

A. Work Specified

The work specified shall include all labor, material, equipment, services and incidentals necessary to furnish and install watermain, specials and fittings, install fire hydrants and to perform interconnections and abandonments as shown on the plans and specified herein.

B. Related Work Specified Elsewhere

1. Section 02080 - Fire Hydrants
2. Section 02316 - Select Granular Materials
3. Section 02351 - Excavation, Backfill, and Trenching
4. Section 15106 - Ductile Iron Pipe and Fittings
5. Section 15107 - Copper Pipe
6. Section 15108 – Thermoplastic Pipe
7. Section 15109 - Prestressed Concrete Cylinder Pipe
8. Section 15110 - Valves and Appurtenances
9. Section 15120 - Piping Specialties and Accessories
10. Section 15140 - Testing and Disinfection

1.02 QUALITY ASSURANCE

A. Reference Standards

1. AWWA Standards identified in other related sections
2. ASTM Standards identified in other related sections
3. ANSI Standards identified in other related sections
4. Occupational Safety and Health Administration (OSHA)
5. 1996 Safe Drinking Water Act
6. NSF/ANSI Standard 60 and 61, as applicable
7. All other standards itemized in related work sections

1.03 SUBMITTALS

A. Shop Drawings

Prior to obtaining any products in relationship to this Section, the CONTRACTOR shall submit detailed shop drawings and data for review by the ENGINEER.

- B. Materials List
The CONTRACTOR shall submit, along with shop drawings, a materials list, which shall include full information regarding all components of the watermain. Materials of construction shall be presented in the listing.
- C. Other Submittals
 1. Prior to installation of the proposed watermain, the CONTRACTOR shall furnish the required number of the manufacturer's Operation and Maintenance Manual for each item.
 2. The CONTRACTOR shall submit certificates of compliance with the applicable referenced standards.
 3. A tabulated layout schedule.
 4. Detailed procedure, schedules and list of materials for interconnection sequence.
 5. Furnish delivery tickets indicating the pipe manufacturer, pipe type and class, identifying that the pipe was new and from a manufacturer that has been submitted and approved.
- D. Certificate
 1. Submit certificate of compliance with NSF/ANSI Standard 61 for all products under this section, including interior coatings, by an independent, authorized laboratory.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. During delivery and handling, all materials shall be braced and protected from any distortion or damage in accordance with the manufacturer's requirements; any such distortion or damage shall be basis for rejection of the materials.
- B. Equipment used for unloading shall be covered with wood or rubber to avoid damage to the exterior of the pipe, fittings and accessories. Do not drop or roll materials off trucks.
- C. The materials shall be inspected before and after unloading. Materials that are found to be cracked, chipped, gouged, dented, or otherwise damaged shall not be accepted.
- D. Interiors of pipe, fittings and specials shall be kept free from dirt and foreign matter.
- E. Store pipe and fittings on heavy wood blocking or platforms so they are not in contact with the ground.
- F. Pipe, fittings, and specials shall be unloaded opposite to or as close to the place where they are to be used as is practical to avoid unnecessary handling.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General

1. All products, including interior coatings, shall be suitable for use in a potable water system.
2. All products, including wetted parts, shall be certified to meet NSF/ANSI Standard 61.

B. Pipe

Materials for the piping, joints and fittings shall be as specified in other related sections or as shown in the pipe schedule or on the Contract Drawings.

1. Pipe and appurtenances shall comply with the applicable standards for its type of material.
2. All pipes, fittings, valves, hydrants, specials, and accessories must be new materials in first-class condition. Used or recycled materials shall not be allowed, regardless of condition.
3. Piping for hydrant branches shall only be Class 53 ductile iron.
4. Piping within casing pipes (except for tree bores) and beneath pavement shall be either ductile iron pipe or prestressed concrete cylinder pipe as shown and as specified.
5. Piping in non-paved areas shall be either ductile iron pipe, prestressed concrete cylinder pipe, or PVC as shown and as specified.

C. Joints

Type of joints shall be as specified in other related Sections or as shown in the pipe schedule or as on the Contract Drawings.

D. Detectable Pipe Marker Tape

1. Detectable pipe marker tape shall be placed above all new watermains as shown on the Drawings.
2. Detectable pipe marker tape shall be tied to watermain valve boxes.
3. Splices, where needed, shall be made in accordance with manufacturer's recommendations.
4. At completion of the project and before final payment is made, the CONTRACTOR shall test the entire length of the pipe using pipe locating equipment. Tests shall be made only in the presence of the ENGINEER. Any section of tape not continuous or that is undetectable shall be removed and replaced at the CONTRACTOR'S expense.

E. Locate/Tracer Wire

1. Locate/tracer wire shall be placed above the full length of all new watermains as shown on the Drawings.
2. Locate/tracer wire shall be minimum #12 AWG solid copper conductor THHN, THWN, or oil and gasoline resistant.

3. Locate/tracer wire coating shall be blue in color.
4. Locate/tracer wire shall be adhered to the waterline and fittings at appropriate intervals as applicable, valve bodies, hydrant assemblies, casing pipe ends, and other appurtenances as required for proper installation and as detailed on the drawings.
5. At completion of the project and before final payment is made, the CONTRACTOR, shall test the entire length of the pipe using pipe locating equipment. Tests shall be made only in the presence of the ENGINEER. Any section of tracer/locating wire not continuous or that is undetectable shall be removed and replaced at the CONTRACTOR'S expense.

PART 3 - EXECUTION

3.01 INSTALLATION

A. General

1. Excavation and backfilling shall be in accordance with the applicable provisions of Section 02351 - Excavation, Backfill, and Trenching.
2. Blocking will not be permitted under pipe, except where the pipe is to be laid with concrete cradle or encasement.
3. Pipe shall be installed on a layer of select material as shown on the Drawings to provide an acceptable bedding. The top of this layer shall then be considered the bottom of the trench.
4. Pipe shall not be laid on bedrock without appropriate bedding stone.
5. No pipe shall be laid upon a foundation in which frost exists; or when there is danger of the formation of ice or the penetration of frost at the bottom of the excavation.
6. Bell holes shall be dug in the bottom of the trench to allow the pipe to have a firm bedding along the entire length of the pipe.
7. Temporary watertight bulkheads shall be placed in all open ends of pipe whenever pipe laying is not actively in process. The bulkheads shall be designed to prevent the entrance of dirt, debris, or water.
8. Precautions shall be taken to prevent the flotation of pipe in the event of water entering the trench.
9. Hydrant installation shall be as specified in Section 02080 - Fire Hydrants and as specified herein.

B. Location and Grade

1. Watermain and appurtenances shall be located as shown on the Contract Drawings or as directed and as established from the control survey in accordance with the General Requirements.
2. The alignment and grades shall be determined and maintained by a method acceptable to the ENGINEER.

3. Pipe shall be installed in straight horizontal trenches. "Snaking" of pipe by bending sections horizontally shall not be allowed.

C. Subgrade

The subgrade for pipelines shall be earth or bedding as specified or directed and shall be installed in accordance with Section 02351 - Excavation, Backfill and Trenching.

D. Joints

1. Joints shall be assembled using gaskets, lubricants and solvents as furnished by the pipe manufacturer and in accordance with the manufacturer's recommendations.
2. Joint deflection shall not exceed 50% of manufacturer's recommendations.

E. Bedding

Bedding shall be deposited and compacted in accordance with Section 02351 - Excavation, Backfill, and Trenching, and shall be as itemized below unless otherwise specified or directed.

1. For watermains:
 - a. The bedding shall be as specified in Section 02316, Select Granular Materials.
 - b. Bedding shall be deposited and tamped in 6-inch layers to the centerline of the pipe or to 6 inches above the pipe in paved or traveled areas.
 - c. Native material placed above the centerline of the pipe shall be deposited in such a manner as to not damage the pipe. Native material shall be suitable for backfill above the centerline of the pipe provided the materials are 2 inches in size or less. Native materials shall be suitable for backfill 6 inches above the pipe in non-paved areas provided the materials are 2 to 4 inches in size, but bedding is required to 6 inches above the pipe. Native materials greater than 4 inches are unacceptable for backfill.

F. Thrust Restraints

Thrust restraints for watermains shall be accomplished by the use of both thrust blocks and mechanical restraints for sizes through 12 inches. Joints for watermains 16 inches and larger shall have thrust restraints provided by harnessed joints only. Restraints shall be in the form of retainer glands; ductile iron locking segments with spigot weldment; or anchors of the size and type specified or as required by the pressure and stability of the supporting surface.

1. Thrust restraints shall be installed at all changes in direction, changes in size, dead ends or other locations where shown or directed.
2. Valves shall be treated as a bulkhead condition and pipe joints shall be restrained on both sides of the valve.

3. Cast in place concrete used for thrust restraints shall have developed the required strength prior to testing of the watermain.
4. When approved for use by ENGINEER, tie rods and nuts for thrust restraints shall be of high tensile steel and shall have a minimum yield strength of 70,000 psi.
 - a. Tie rods and nuts installed underground shall be coated with two coats of coal tar pitch preservative coating after installation.
 - b. Oil, grease, paint, or any coating which requires drying will not be acceptable.
5. All fire hydrant branches from the mainline tee to and including valve and hydrant shall be restrained.
6. All piping installed for interconnections shall be restrained.
7. All piping installed within casing pipes shall be restrained for the full length of the pipe installed within the casing pipe.
8. All piping installed within the limits of creek crossings shall be restrained for the full length of the creek crossing limits.

G. Service Connections

1. Connections to in-service pressure watermains shall be in accordance with the applicable provisions of Section 15120, Piping Specialties and Accessories.

H. Concrete Thrust Blocks

1. Solid concrete blocks shall be used for proper blocking. Hollow concrete blocks or wooden blocking are not acceptable. Cast-in-place wet concrete mix shall be used for vertical bends and anchor collars.

I. Magnetic Pipe Marker

1. Magnetic pipe marker tape shall be placed above all new watermains as shown on the Drawings.
2. Magnetic pipe marker tape shall be tied to watermain valve boxes.
3. Splices, where needed, shall be made in accordance with manufacturer's recommendations.
4. At completion of the project and before final payment is made, the CONTRACTOR shall test the entire length of the pipe using pipe locating equipment. Tests shall be made only in the present of the ENGINEER. Any section of tape not continuous or that is undetectable shall be removed and replaced at the CONTRACTOR'S expense.

3.02 CUTTING AND SPECIAL HANDLING

- A. Field cuts of pipes shall be in accordance with the manufacturer's instructions.
- B. Where a pipe requires special handling or installation it shall be in accordance with the applicable referenced standard.

3.03 INTERCONNECTIONS

- A. Perform interconnections as shown on the Contract Drawings and in accordance with Section 01731, Connections to Existing Facilities.

3.04 ABANDONMENTS

- A. Hydrants and Valves
 1. Removal of existing and abandoned hydrants and valves shall be made with caution to prevent damage while being removed.
 2. Return all existing and abandoned hydrants as specified or when directed to the Erie County Water Authority at 3030 Union Road, Cheektowaga, New York.
 3. CONTRACTOR is responsible for unloading the abandoned hydrants at the Erie County Water Authority and placing the hydrants in the location specified by the AUTHORITY.
 4. CONTRACTOR must deliver the hydrants during normal business hours and must schedule the delivery at least 48 hours in advance.
 5. At all valves being abandoned, locate the valve, close the valve, remove the entire valve box, backfill and restore as shown on the Drawings.
- B. Existing Watermains
 1. No watermain abandonments shall be performed until the ENGINEER is satisfied that the new watermain is functional and meets all codes, standards, tests, and requirements.
 2. Abandonments shall only be allowed after all service connections have been transferred to the new watermain, when applicable.
 3. Perform the abandonments as shown on Contract Drawings and in accordance with Section 01731, Connections to Existing Facilities.

3.05 TREE TUNNELING

- A. Provide root protection at trees by boring casing pipe through root system.
 1. Use casing pipe as defined in Section 15121, Casing Pipe.
 2. All pipe installed in casing pipe must be restrained.
 3. PVC pipe may be installed in casing pipe if authorized by ENGINEER.
 4. Fill annular space with pea gravel to satisfaction of ENGINEER.
 5. The volume of pea gravel used shall be compared to the annular space volume to ensure complete filling. Incomplete filling of annular space will not be considered acceptable. CONTRACTOR shall remove pea gravel and reinstall, at his expense, if so ordered by the ENGINEER.

3.06 INSTALLATION OF PIPE UNDER CREEKS BY OPEN CUT METHOD

A. General

1. Install watermain, fittings, bedding, and rip rap within the pay limits for the creek crossings as shown and specified.
2. Comply with the applicable requirements of this section as well as other sections of these specifications.
3. Comply in all respects with the requirements of the applicable permits issued for this project.
4. Construction of the creek crossings shall be performed within the work limits shown on the plans or specified in the permits. Any other lands, easements, or rights-of-way required by the CONTRACTOR for his operations shall be obtained by the CONTRACTOR at his expense.
5. All necessary precautions shall be taken to prevent contamination of any wetland or waterway by any soils, sediments, fuels, solvents, lubricants, paints, or any other environmental deleterious materials associated with this project.
6. Any material dredged in the prosecution of the Work shall be removed evenly, without leaving large refuse piles, ridges across the bed of the waterway, or deep holes that may cause damage to navigable channels or to the banks of the waterway.
7. Debris or excess material dredged during construction operations shall be completely removed from the bed and banks of all water areas and sent to an approved upland area for disposal.
8. All sediments are to be retained on the project site through the use of silt fences or other approved sediment traps.
9. Disturbances to the bed and banks of the creek shall be limited to those areas shown on the plans and covered under the applicable permits.
10. No work on creek crossings shall be performed immediately after a storm that may cause high water conditions or flooding.
11. Whenever possible, creek excavation and bank grading shall be carried out by equipment operating on dry land.
12. Prior to trenching through stream banks, the upland sections of the trench shall be bulkheaded or plugged to prevent drainage of turbid water into the creek.
13. Existing stream banks and vegetation shall be protected as much as possible to prevent bank collapse and erosion.
14. Watermain markers shall be provided on both sides of the creek crossings. Markers shall be flexible, impact resistant fiberglass and royal blue in color. Labels shall be self-adhesive and waterproof.
15. All other applicable requirements of this section shall apply to excavation and backfill of creek crossings.

3.07 TESTING

- A. General
Performance testing, leakage, hydrostatic, and proof-of-design tests shall be as specified in Section 15140 - Testing and Disinfection.
- B. Testing Criteria
Perform pressure testing to the criteria listed in the table as shown on the Drawings.
- C. Ultrasonic Joint Testing.
 - 1. Each joint shall, at the CONTRACTOR'S sole cost and expense, be tested with ultrasonic test equipment prior to being backfilled. If a leak is detected, corrective action shall be taken prior to installing the next pipe.
 - 2. The fact that a point (or joints) has passed the ultrasonic testing does not waive the requirements for the hydrostatic tests described in Section 15140.
 - 3. The testing equipment shall be as manufactured by Moffat Enterprises of Powell Butte, or equal.

3.08 DISINFECTION

- A. All watermains, hydrant branches, blow-offs, and ARV piping shall be tested and disinfected in accordance with Section 15140 - Testing and Disinfection.

3.09 GENERAL

- A. Install watermain, fittings, and accessories in accordance with applicable sections; as shown on the drawings; and, as specified, required, or directed.
- B. Tapping Information
 - 1. All materials as specified herein shall be installed by or under the direction of personnel who are acceptable to the Authority.
 - a. Threaded taps shall be made using a machine designed for cutting, threading and inserting the corporation without interruption of service.
 - 1) Teflon tape may be used on corporation threads.
 - b. Tapping sleeve connections shall be made using a machine to cut and remove the segment through the valve without interruption of service.
 - 2. Valve boxes shall be set plumb and shall be independently supported on concrete blocking so no weight will be transmitted to the curb stop or watermain.
 - 3. Service saddles and tapping saddles installed on prestressed concrete cylinder pipe shall be encased in a minimum of 2 inches of concrete mortar after installation.

4. Service saddles shall be used under the following condition:
 - a. When water services are placed on 4-inch or smaller pipes.
 - b. When water services larger than 1-inch are placed on a 6-inch pipe.
 - c. When water services larger than 1-1/2-inch are placed on an 8-inch pipe.
 - d. When water services are tapped to all plastic (PVC) pipe.
 - e. When services larger than 1-1/2-inch are placed on ductile iron pipe.
 - f. When water services are tapped to all asbestos-cement pipe.
5. CONTRACTOR is not allowed to excavate, disturb, or park any equipment beyond the Right-of-Way line without prior approval from the property owner.
6. If minimum depth is not achieved for the water service at any location, CONTRACTOR shall either excavate and lower the service or repush/drill the service to the minimum depth, at his expense, until a satisfactory service is installed.
7. Curb boxes are not allowed to be cut for any reason.
8. Repair or replace any connections, which are leaking to ensure a watertight connection.

C. Water Service Tubing

1. Copper tubing shall be installed in accordance with the applicable provisions of Section 02351 - Excavation, Backfill & Trenching, Section 15051 - Buried Piping Installation and Section 15107 - Copper Pipe.
2. Bedding for service connection tubing shall be furnished, installed and coordinated with Section 02316 - Select Granular Materials.

D. Water Service Installations

1. Existing service lines shall be maintained until such time as the proposed watermain has been installed, tested, and disinfected, and approval to place the watermain into service has been obtained. Existing services may then be transferred to the new watermain.
2. New water service installations shall be installed by boring or jacking method under existing roads and pavements. Open-cut of water services across roads will not be allowed.
3. Use tapping machines and equipment compatible with corporation stops and service saddles specified. Use tools and cutting equipment, which minimizes the amount of PVC shavings and remove shavings during tapping; retain coupon, and reduce stress during tapping. Single fluted cutters or twist drills shall not be used for tapping PVC piping.
4. Service locations shown on the drawings are shown schematically only. The actual service locations shall be determined by ENGINEER and CONTRACTOR in the field.
5. For additional information relating to water services, refer to the Drawings.

- E. Tapping Watermain.
1. Wet tap connections to existing watermains shall be as shown on the drawings.
 2. The person or firm who will be performing the watermain tap shall be acceptable to the Authority.
 3. Prior to ordering the tapping sleeve, the CONTRACTOR shall excavate a test pit to the depth required and expose the main to be tapped to accurately measure the outside diameter of the main. No tapping sleeve shall be ordered until this information has been obtained.
 4. Tapping sleeves shall be suitable for use with the existing pipe to be tapped. Tapping sleeve shall be compatible with the tapping valve furnished.
 5. Thrust blocks shall be constructed behind the wet tap connection as shown on the drawings and specified herein.
 6. Refer to Section 15140 for additional requirements for tapping sleeve and valve testing.
 7. After each tap has been completed, the CONTRACTOR shall keep the tapping area uncovered for a minimum period of one (1) hour to determine if any leakage is occurring. If any leakage has occurred, the tap shall be made watertight in a manner approved by the ENGINEER.
 8. A full pipe coupon shall be retained as a result of the tapping operation.
 9. The valves shall be kept closed until approval from the ENGINEER is given to open the valve.
- F. Discrepancies
1. If discrepancies occur between the Drawings and field conditions, the CONTRACTOR shall notify the ENGINEER immediately.
 2. The CONTRACTOR shall not proceed with the installation in areas of discrepancy until said discrepancy is resolved.

END OF SECTION

SECTION 15106

DUCTILE IRON PIPE, FITTINGS, AND ACCESSORIES

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Specified

The work specified shall include all labor, material, equipment, tools, services and incidentals necessary to furnish and install ductile iron pipe, fittings and appurtenances as shown, specified and required.

B. Pipe Schedule

1. Hydrant piping:
 - a. Pipe Class 53.
 - b. All joints are to be restrained and only as follows:
 - 1) Mechanical joint pipe and fittings utilizing wedge action retainer glands.
 - 2) Anchor pipe and anchor fittings.
2. 4-inch through 12-inch watermain (except hydrant piping):
 - a. Pipe class 52.
 - b. Non-restrained joints
 - 1) Bell and spigot push-on joint pipe.
 - c. Restrained joints utilizing one of the following:
 - 1) Mechanical joint pipe and fittings utilizing wedge action retainer glands.
 - 2) Bell and spigot push-on joint pipe with ductile iron pipe wedge action restraining devices and mechanical joint fittings utilizing wedge action retainer glands.
 - 3) Flexible restrained joint pipe and fittings utilizing patented ductile iron locking segment(s) or flex ring with factory applied spigot retainer weldment.
 - 4) Flexible restrained joint pipe utilizing patented ductile iron locking segment(s) or flex ring with factory applied spigot retainer weldment and mechanical joint fittings utilizing wedge action retainer glands.
3. 16-inch and larger watermain:
 - a. Pipe Class 54.
 - b. Non-restrained joints:
 - 1) Bell and spigot push-on joint pipe.
 - c. Restrained joints, utilizing one of the following:
 - 1) Flexible restrained joint pipe and fittings utilizing patented ductile iron locking segment(s) or flex ring with factory applied spigot retainer weldment.

- 2) Flexible restrained joint pipe utilizing patented ductile iron locking segment(s) or flex ring with factory applied spigot retainer weldment and mechanical joint fittings utilizing wedge action retainer glands.
 4. Watermain installed by Horizontal Directional Drilling:
 - a. Pipe Class 53
 - b. All pipe joints are to be restrained by use of boltless and flexible restraint joint pipe utilizing patented ductile iron locking segment(s) or flex ring with factory applied retainer weldment. If fittings are part of the Horizontal Directional Drill, they shall be flexible restraint joints utilizing patented ductile iron locking segment(s) or flex ring with factory applied spigot retainer weldment.
 5. Flanged pipe watermain, all sizes:
 - a. Pipe Class 53.
 - b. Flanged joints are for non-buried applications.
- C. Related Work Specified Elsewhere
1. Section 02080 - Fire Hydrants
 2. Section 15051 - Buried Piping Installation
 3. Section 15110 - Valves and Appurtenances
 4. Section 15120 - Piping Specialties and Accessories
 5. Section 15140 - Testing and Disinfection

1.02 QUALITY ASSURANCE

- A. Manufacturer's Qualifications
1. Manufacturer shall have a minimum of 5 years' experience producing ductile iron pipe, fittings and accessories, and shall show evidence of at least 5 installations in satisfactory operation.
 2. Parts Interchangeability: It is the intent of these specifications that all materials furnished herein shall be compatible with similar materials of other manufacturers.
- B. Reference Standards
1. AWWA C104, American National Standard for Cement-Mortar Lining for Ductile Iron Pipe and Fittings for Water
 2. AWWA C105, American National Standard for Polyethylene Encasement for Ductile Iron Pipe Systems
 3. AWWA C110, American National Standard for Ductile-Iron and Gray-Iron Fittings, 3-inch through 48-inch, (75 mm through 1200 mm), for Water and Other Liquids
 4. AWWA C111, American National Standard for Rubber-Gasket Joints for Ductile Iron Pressure Pipe and Fittings
 5. AWWA C115, American National Standard for Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded Flanges

6. AWWA C150, American National Standard for Thickness Design of Ductile-Iron Pipe
7. AWWA C151, American National Standard for Ductile Iron Pipe, Centrifugally Cast, for Water
8. AWWA C153, American National Standard for Ductile-Iron Compact Fittings. 3 In. Through 24 In. (76 mm through 610 mm) and 54 In. Through 64 In. (1400 mm through 1600 mm), for Water Service
9. ANSI B16.1, Cast Iron Pipe Flanges and Flanged Fittings
10. ANSI B1.20, Pipe, Threads, General Purpose (Inch)
11. ANSI B18.2.1, Square and Hex Bolts and Screws Inch Series, Including Hex Cap Screws and Lag Screws
12. ANSI B18.2.2, Square and Hex Nuts
13. ASTM A307, Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength
14. ASTM A354, Specification for Quenched and Tapered Alloy Steel Bolts, Studs and Other Externally Threaded Fasteners
15. ASTM A536 Standard Specification for Ductile Iron Castings
16. NSF/ANSI Standard 61
17. Underwriter's Laboratories (UL)
18. International Organization for Standardization (ISO)
19. Factory Mutual Research Corporation
20. 1996 Safe Drinking Water Act

1.03 SUBMITTALS

- A. Shop Drawings: Submit for approval the following:
 1. Detailed drawings and data on pipe, fittings and accessories.
 2. A materials list, which shall include full information regarding all components of the equipment. Materials of construction shall be presented in the listing.
- B. Laying Schedules or drawings when requested or required or when custom pieces or specially marked pipe is used. Field closures and field cuts, and manner of restrained joints shall be shown.
- C. Submit certificates of compliance with the applicable referenced standards.
- D. Submit certificate of compliance with NSF/ANSI Standard 61 for all products under this section, including interior coatings, by an independent, authorized laboratory.
- E. Furnish delivery tickets indicating the pipe manufacturer, pipe type and class, identifying that the pipe was new and from a manufacturer that has been submitted and approved.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. During delivery and handling, all materials shall be braced and protected from any distortion or damage; any such distortion or damage shall be basis for rejection of the materials.
- B. Equipment used for unloading shall be covered with wood or rubber to avoid damage to the exterior of the pipe, fittings and accessories. Furthermore, all ductile iron pipe requiring polyethylene encasement as per Section 2.02.B, where the polyethylene has been field pre-applied to the pipe shall be handled with suitably padded equipment to prevent damage to the coating. Do not drop or roll materials off trucks. All ductile iron pipe and fittings shall be handled with padded slings or other appropriate equipment. The use of cables, hooks or chains will not be permitted.
- C. The materials shall be inspected before and after unloading. Materials that are found to be cracked, gouged, chipped, dented or otherwise damaged will not be accepted.
- D. Interiors of pipe, fittings and accessories shall be kept free from dirt and foreign matter.
- E. Store pipe and fittings on heavy wood blocking or platforms so they are not in contact with the ground.
- F. Pipe, fittings, and specials shall be unloaded opposite to or as close to the place where they are to be used as is practical to avoid unnecessary handling.

1.05 PIPE INSTALLATION SPECIALIST

- A. A factory trained and certified manufacturer's pipe installation specialist shall be present during CONTRACTOR start-up and for a total of 5 working days when pipe laying is in progress and thereafter shall be available during the course of the project to assist the OWNER, ENGINEER, and/or CONTRACTOR when requested by the OWNER, ENGINEER and/or CONTRACTOR. This field service shall be at no cost to the OWNER. This can include field review of pipe/fittings when requested by the OWNER, ENGINEER, and/or CONTRACTOR.
- B. The specialist shall submit three (3) copies of a written report to the ENGINEER presenting the findings of each visit. As a minimum, each report should include the following: date, day, time, purpose of the visit (and who initiated the visit), weather conditions, CONTRACTOR'S name, project name and the contract number, ENGINEER'S name, individuals contacted, location visited (station, street, field office, ENGINEER'S main office, OWNER'S office CONTRACTOR'S office, etc.), and any other pertinent information related to the visit (such as the results of individual pipe/fitting inspections, etc.)

PART 2 - PRODUCTS

2.01 MATERIALS

A. General

1. All products, including interior coatings shall be suitable for use in a potable water system.
2. All products, including wetted parts, shall be certified to meet NSF/ANSI Standard 61.
3. All ductile iron pipe, fittings and accessories shall be designed for a working pressure and field hydrostatic test pressure as shown in Section 15051, Buried Piping Installation.
4. All ductile iron pipe, fittings, and accessories must be new materials in first-class condition. Used or recycled materials shall not be allowed, regardless of condition.
5. All ductile iron pipe shall be provided from the same manufacturer.
6. Pipe shall be fully gauged.
7. Pipe shall be furnished in nominal laying lengths of 18 or 20 feet unless otherwise specified.
8. Pipe and fittings shall be lined with cement mortar lining in accordance with AWWA C104, except it shall be double thickness and a bituminous seal coat meeting NSF/ANSI Standard 61. The exterior shall be provided with a bituminous coating in accordance with AWWA C151. Fittings may be lined with an NSF/ANSI Standard 61 approved fusion bonded epoxy meeting the applicable sections of AWWA C116.
9. Bonded joints may be required in areas where the ENGINEER has evaluated soil conditions and has recommended that corrosion protection is required at locations as shown on the drawings. The pipe manufacturer shall supply all joint bonding materials, including #4 AWG stranded insulated copper wire bonding jumpers.

B. Ductile Iron Mechanical Joint Pipe and Fittings

1. Ductile Iron Mechanical Joint Pipe:
 - a. Pipe shall be centrifugally cast ductile iron conforming to the requirements of AWWA C151 for material, dimensions, tolerance, tests, markings and other requirements.
 - b. Manufacturer:
 - 1) American Cast Iron Pipe Co.,
 - 2) Atlantic States, Inc. -A Division of McWane, Inc.,
 - 3) Clow - A Division of McWane, Inc.,
 - 4) US Pipe.
2. Ductile Iron Mechanical Joint Fittings:
 - a. Tees, bends, elbows, reducers, increasers, offsets and other such fittings shall be mechanical joint ductile iron compact body conforming to AWWA C110 or AWWA C153, as specified.
 - b. Reducers shall be concentric or eccentric where specified.

- c. Fittings shall be suitable for use with polyvinyl chloride pressure pipe.
 - d. Manufacturer:
 - 1) American Cast Iron Pipe Co.,
 - 2) Clow - A Division of McWane, Inc.,
 - 3) Sigma Corp.,
 - 4) Star Pipe Products, Inc.
 - 5) Tyler - A Division of McWane, Inc.,
 - 6) US Pipe.
3. Joints for Ductile Iron Mechanical Joint Pipe and Fittings:
- a. Joints shall conform to AWWA C111 and shall be mechanical joint bell and spigot and be furnished complete with all necessary accessories consisting of ductile iron follower glands, plain tipped rubber gaskets, nuts and bolts, unless otherwise specified.
 - b. Fittings shall have mechanical joint ends and be furnished with all necessary joint accessories consisting of ductile iron follower glands, (or cast iron glands for cast iron fittings), plain tipped rubber gaskets, nuts and bolts, unless otherwise specified. Split follower glands shall be furnished and installed only when approved by the ENGINEER.
 - c. All nuts and tee bolts for mechanical joint accessories shall be fluorocarbon coated as specified herein.
4. Restrained Joints for Ductile Iron Mechanical Joint Pipe and Fittings:
- a. Restrained joints for mechanical joint pipe and fittings shall be made by restraining the pipe on each side of the fitting for all joints along the length of pipe as shown, specified or required.
 - b. Restraining shall be accomplished at the mechanical joint fitting by use of a mechanical joint wedge action retainer that incorporates mechanical joint restraint into the design of the follower gland with individually actuated wedges that are tightened against the barrel of the pipe, as specified herein.

C. Push-On Ductile Iron Pipe and Fittings

- 1. Push-On Ductile Iron Pipe:
 - a. Pipe shall be centrifugally cast ductile iron conforming to the requirements of AWWA C151 for material, dimensions, tolerance, tests, markings and other requirements.
 - b. Manufacturer:
 - 1) American Cast Iron Pipe Co.,
 - 2) Atlantic States, A Division of McWane, Inc.,
 - 3) Clow - A Division of McWane, Inc.,
 - 4) US Pipe.
- 2. Fittings:
 - a. Tees, bends, elbows, reducers, increasers, offsets and other such fittings shall be mechanical joint ductile iron compact body

conforming to AWWA C110 or AWWA C153 and as specified herein.

3. Joints for Push-On Ductile Iron Pipe and Fittings:
 - a. Joints shall conform to AWWA C111 and shall be bell and spigot and be furnished complete with circular rubber gaskets, and other accessories as necessary for a complete installation.
 - b. Fittings shall have mechanical joint ends and be furnished with all necessary joint accessories consisting of ductile iron follower glands, (cast iron glands for cast iron fittings), plain tipped rubber gaskets, nuts and bolts, unless otherwise specified. Split follower glands shall be furnished and installed only when approved by the ENGINEER.
 - c. All nuts and tee bolts for mechanical joint accessories shall be fluorocarbon coated as specified herein.

D. Ductile Iron Flexible Restraint Joint Pipe and Fittings and/or Mechanical Joint Fittings

1. Ductile Iron Flexible Restraint Joint Pipe:
 - a. Pipe shall be centrifugally cast ductile iron conforming to the requirements of AWWA C151 for material, dimensions, tolerance, tests, markings, and other requirements.
 - b. Restrained joint pipe shall be designed for a water working pressure of 350 psi for pipe sizes 4-inch through 20-inch and 250 psi for pipe sizes 24-inch through 54-inch.
 - c. Flexible restraint joints shall consist of a boltless, glandless restraining system with factory applied spigot weld ring or weldment (weld bead of established height and width), which retains the wedge-shaped locking segments. These locking segments are either inserted into the bell prior to spigot engagement or inserted after spigot engagement by “caulking” a snap-ring into the bell, or inserting the segments through slots cast into the bell face.
 - d. Pipe that utilizes gaskets with embedded restraining gripper or friction segments is not acceptable.
 - e. Field applied weldments or weldments applied in a shop other than at the manufacturing facility are not allowed. Field cuts shall be restrained by cutting the barrel of the pipe and inserting it into a mechanical joint fitting and using wedge action retainer glands. As an alternative, flexible restrained closures may be incorporated into the Work provided they are accounted for in the approved laying schedule.
 - f. Manufacturer:
 - 1) American Cast Iron Pipe Co. - Flex Ring,
 - 2) Clow - Super Lock,
 - 3) US Pipe - TR Flex,
 - 4) Or approved equal.

2. Ductile Iron Restrained Fittings and Mechanical Joint Fittings:
 - a. All ductile iron fittings shall meet the requirements of AWWA C153 or AWWA C110.
 - b. Fittings may be either flexible restraint joint or mechanical joint. If flexible restraint joint fittings are used, a certain number of fittings must be mechanical joint to allow for field adjustments in line or grade.
 - c. Fittings that utilize gaskets with embedded restraining gripper or friction segments are not acceptable.
 - d. Field applied weldments or weldments applied in a shop other than at the manufacturing facility are not allowed.
 - e. Manufacturer of Flexible Restraint Joint Fittings:
 - 1) American Cast Iron Pipe Co. - Flex Ring,
 - 2) Clow - Super Lock,
 - 3) US Pipe - TR Flex,
 - 4) Or approved equal.
 - f. Manufacturer of Mechanical Joint Fittings:
 - 1) American Cast Iron Pipe Co.,
 - 2) Clow - A Division of McWane, Inc.,
 - 3) Sigma Corp.,
 - 4) Star Pipe Products, Inc.
 - 5) Tyler - A Division of McWane, Inc.,
 - 6) US Pipe.

E. Ductile Iron Anchor Pipe and Fittings

1. Ductile iron anchor pipe and fittings shall provide positive joint restraint by incorporating an integrally cast anchor gland (stop shoulder) at one end and an anchor, mechanical joint or plain end at the other end. The plain end, when fitted with a standardized mechanical joint gasket is to be inserted into a mechanical joint bell and bolted tight. A split, rotating ring shall be provided on the elbows, tees and on one end of the couplings or anchor pipe to permit vertical alignment regardless of the mating bolt hole alignment.
 - a. Pipe shall be centrifugally cast ductile iron conforming to the applicable requirements of AWWA C151 for material, dimensions, tolerance, tests, markings and other requirements.
 - b. Fittings shall conform to the applicable requirements of AWWA C110 or AWWA C153.
 - c. Anchor pipe shall be furnished in lengths from 18-inches to 18 feet as shown or specified.
 - d. Pipe and fittings shall be furnished complete with circular rubber gaskets conforming to AWWA C111, and other accessories as necessary for a complete installation.
 - e. Manufacturer:
 - 1) Tyler - A Division of McWane, Inc.,
 - 2) Clow - A Division of McWane, Inc.

- F. Ductile Iron Flanged Pipe and Fittings
1. Ductile Iron Pipe with Threaded Flanges:
 - a. Pipe shall be centrifugally cast ductile iron conforming to the requirements of AWWA C151 and C115 for material, dimensions, tolerance, tests, markings, and other requirements.
 - b. Pipe barrels and flanges shall have a taper pipe thread (NPT) in accordance with ANSI B1.20.1, with pipe diameters adapted to ductile iron pipe standard outside diameters.
 - c. Flanged pipe shall be minimum Class 53 thickness and shall be furnished in standard laying lengths as specified or required.
 - d. Manufacturer:
 - 1) American Cast Iron Pipe Co.,
 - 2) Clow - A Division of McWane, Inc.,
 - 3) US Pipe,
 - 4) Fast Fabricators, Inc.
 2. Ductile Iron Flanged Fittings:
 - b. Tees, bends, elbows, reducers, increasers and other such fittings shall be flanged ductile iron in accordance with the requirements of AWWA C110 and shall conform to ANSI A21.10, 250 psi rating.
 - c. Reducers shall be eccentric unless otherwise specified.
 - d. Manufacturer:
 - 1) American Cast Iron Pipe Co.,
 - 2) Clow - A Division of McWane, Inc.,
 - 3) Sigma Corp,
 - 4) Tyler - A Division of McWane, Inc.,
 - 5) Union Foundry Co., A Division of McWane, Inc.
 - 6) US Pipe.
 3. Joints for Ductile Iron Flanged Pipe and Fittings:
 - a. Flanged joints shall conform to the requirements of AWWA C110 and drilling and facing of flanges shall be in accordance with ANSI B16.1 Class 125 flanges unless otherwise specified.
 - b. Flanged ductile iron pipe and fittings shall be furnished complete with all necessary joint accessories consisting of natural or synthetic rubber gaskets, $\frac{1}{8}$ -inch thick, full face; and, nuts, bolts and washers, unless otherwise specified.
 - c. All nuts, bolts and washers for flanges and accessories shall conform to ANSI B18.2.1 and ANSI B18.2.2, respectively and shall be Type 304 stainless steel, high strength, low alloy steel or fluorocarbon coated as specified herein.

G. Accessories

1. Flange Fillers, Blind Flanges and Reducing Companion Flanges:
 - a. Conform to the requirements of AWWA C115 for material, dimensions, tolerance, tests, markings and other requirements.
 - b. Drilling and facing of flanges shall be in accordance with ANSI B16.1, Class 125 flanges unless otherwise specified.

- c. Flanged fillers, blind flanges and reducing companion flanges shall be furnished complete with all necessary joint accessories consisting of natural or synthetic rubber gaskets, 1/8-inch thick, full face; and, nuts, bolts and washers, unless otherwise specified.
 - d. Threaded outlets or taps, (Mueller threads), shall be provided in blind flanges as specified or required.
 - e. All nuts, bolts and washers for flanges and accessories shall conform to ANSI B18.2.1 and ANSI B18.2.2, respectively and shall be Type 304 stainless steel, high strength, low alloy steel.
2. Caps and Plugs:
- a. Conform to the requirements of AWWA C110 for material, dimensions, tolerance, tests, markings and other requirements.
 - b. Caps and plugs shall be mechanical joint or push-on joint and be furnished with all necessary joint accessories consisting of ductile iron follower glands, plain tipped rubber gaskets, nuts and bolts, unless otherwise specified.
 - c. All nuts and tee bolts for mechanical joint accessories shall be fluorocarbon coated as specified herein.
 - d. Threaded outlets or taps, (Mueller threads), shall be provided in plugs and caps as specified or required.
3. Solid Mechanical Joint Sleeves:
- a. Conform to the requirements of AWWA C153 for material, dimensions, tolerance, tests, markings, and other requirements of mechanical joint class 350 ductile iron solid sleeves.
 - b. Unless otherwise specified, provide long laid length sleeves complete with follower glands, rubber gaskets and fluorocarbon coated nuts, tee bolts, and accessories.
4. Manufacturer
- a. American Cast Iron Pipe Co.,
 - b. Clow - A Division of McWane, Inc.,
 - c. Sigma Corp.,
 - d. Star Pipe Products,
 - e. Tyler - A Division of McWane, Inc.,
 - f. US Pipe.

H. Mechanical Joint Wedge Action Retainer Gland

- 1. Restraint shall be accomplished by use of a retainer gland that incorporates mechanical joint restraint into the follower gland with individually actuated wedges that increase their resistance to pull-out as pressure or external forces increase.
- 2. The joint restraint ring and its wedging components shall be made of grade 65-45-12 ductile iron conforming to ASTM A536. The wedges shall be ductile iron heat treated to a minimum hardness of 370 BHN. T-bolts shall be fluorocarbon coated as specified herein.

3. Dimensions of the gland shall be such that it can be used with the standardized mechanical joint bell conforming to AWWA C111 and AWWA C153.
4. Torque limiting twist off nuts shall be used to insure the proper actuation of the wedges. When the nut is sheared off, a standard hex head shall remain.
5. Manufacturer, for use on ductile iron pipe:
 - a. EBAA Iron, Series 1100 MEGALUG,
 - b. Uni-Flange Series 1400,
 - c. SIGMA One-Lok,
 - d. Star Pipe products – Stargrip.

I. Push-On Ductile Iron Pipe Joint Restraining Device

1. When specified or allowed by the ENGINEER, restraining push-on ductile iron pipe joints shall be accomplished by use of a joint restraint system that consists of restraining rods and split ductile iron clamping rings, installed on the spigot and behind the bell. The clamping ring shall incorporate a series of machined serrations on the inside surface to provide 360 degree contact and support of the pipe barrel. Lateral thrust restraint is provided when the side clamping bolts are tightened allowing the serrations to lock onto the pipe barrel.
2. Threaded restraining rods and bolts and clamping bolts and nuts shall be fluorocarbon coated.
3. The joint restraint rings shall be made of high strength, grade 65-45-12 ductile iron conforming to ASTM A536.
4. Dimensions of the gland shall be such that it can be used with the standardized mechanical joint bell conforming to AWWA C111 and AWWA C153.
5. Restraining push-on joints as specified herein shall not be allowed for hydrant branches.
6. Restraining push-on joints shall be used on pipe sizes 6-inch to 12-inch only when allowed or specified. Restraining push-on joints in this manner shall not be allowed on pipe larger than 12 inches.
7. Manufacturer, for use on ductile iron pipe:
 - a. Uni-Flange Series 1450,
 - b. EBAA Series 1700,
 - c. Or approved equal.

J. Fluorocarbon Coated Nuts and Bolts

1. T-bolts shall be heat treated ductile iron material with a minimum of 65,000 psi tensile strength and 45,000 psi yield strength meeting ANSI/AWWA C111/A21-95.
2. Nuts and bolts shall have a fluorocarbon SC-1 coating.
3. Manufacturer:
 - a. Standco Industries,
 - b. Or approved equal.

- K. Threaded Harnessing Rods and Bolting Accessories
1. Threaded harnessing rods shall only be used when approved by the ENGINEER.
 2. Harness rods and nuts shall be heat treated steel with a minimum yield strength of 70,000 psi and a minimum ultimate strength of 110,000 psi.
 3. Threads shall conform to American Standard Course Threads.
 4. Rods and nuts shall be galvanized or cadmium plated, unless otherwise specified.
 5. Non-coated materials may be protected with the application of two (2) coats of a bituminous preservative coating after installation.
 6. Oil, grease, paint, or any coating, which requires drying will not be acceptable.

2.02 COATINGS, LININGS, AND POLYETHYLENE ENCASEMENT FOR DUCTILE IRON PIPE AND FITTINGS

- A. Coatings and Linings for Ductile Iron Joint Pipe and Fittings
1. Ductile iron pipe and fittings shall be lined with a bituminous seal coated cement-mortar lining in accordance with AWWA C104, except the thickness for pipe shall be double that specified.
 2. Ductile iron pipe and fittings shall be coated on the outside with a bituminous coating, approximately one millimeter thick. Fittings may be lined with an NSF/ANSI Standard 61 approved fusion bonded epoxy meeting the applicable sections of AWWA C116.
 3. The exterior of flanged ductile iron pipe and fittings for exposed piping shall be coated with a primer coating suitable to receive epoxy paint finish paint system.
- B. Polyethylene Encasement For Ductile Iron Pipe and Fittings
1. Two layers (double) of Polyethylene encasement shall be used for ductile iron pipe and fittings and on ductile iron fittings when using PVC pipe, conforming to AWWA Specification C105.
 2. Polyethylene film shall be manufactured of virgin polyethylene material conforming to the following requirements of ASTM Standard Specification D1248 - Polyethylene Plastics Molding and Extrusion Materials.
 3. Polyethylene film shall have a tensile strength of 1,200 psi minimum and shall allow elongation of 300 percent minimum and have a dielectric strength of 800 V/mil thickness minimum.
 4. Polyethylene film shall have a minimum nominal thickness of 0.008 in (8 mils). The minus tolerance of thickness shall not exceed 10 percent of the nominal thickness.
 5. Tape required to complete the installation shall be approximately two (2) inches wide, plastic backed adhesive tape such as Polyken #900, Scotchrap #50 or approved equal.

6. Tube size or sheet width for each size of pipe shall be in accordance with AWWA C-105.
- C. Polyethylene Encasement for Ductile Iron Pipe to be Installed by Horizontal Directional Drilling (HDD)
1. Ductile iron pipe to be installed by horizontal directional drilling (HDD) shall be installed with a double polyethylene encasement per AWWA C105. "Method A" shall be used for installations below the water table. Only polyethylene encasement meeting all material requirements of AWWA C105 shall be used.
 2. Polyethylene film shall be manufactured of virgin polyethylene material conforming to the following requirements of ASTM Standard Specification D1248 – Polyethylene Plastics Molding and Extrusion Materials.
 3. Polyethylene film shall have a tensile strength of 1,200 psi minimum and shall allow elongation of 300 percent minimum and have a dielectric strength of 800 V/mil thickness minimum.
 4. Polyethylene film shall have a minimum nominal thickness of 0.008 in (8 mils). The minus tolerance of thickness shall not exceed 10 percent of the nominal thickness.
 5. Tape required to complete the installation shall be approximately two (2) inches wide, plastic backed adhesive tape, such as Polyken #900, Scotchrap #50, or approved equal.
 6. Tube size or sheet width for each size of pipe shall be in accordance with AWWA C-105.

PART 3 - EXECUTION

3.01 GENERAL

- A. Refer to Section 15051 for buried piping installation.

END OF SECTION

SECTION 15107

COPPER PIPE

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Specified

The work specified shall include all labor, materials, tools, equipment, services and incidentals necessary to furnish and install new copper pipe and fittings as shown, specified and required.

B. Related Work Specified Elsewhere

1. Section 15051 - Buried Piping Installation
2. Section 15120 - Piping Specialties and Accessories
3. Section 15140 - Testing and Disinfection

1.02 QUALITY ASSURANCE

A. Manufacturer's Qualifications

1. Manufacturer shall have a minimum of 5 years experience producing copper pipe, fittings and appurtenances, and shall show evidence of at least 5 installations in satisfactory operation.
2. Parts Interchangeability: It is the intent of these specifications that all materials furnished herein shall be compatible with similar materials of other manufacturers.

B. Reference Standards

1. ASTM B32, Specification for Solder Metal
2. ASTM B42, Specification for Standard Size Seamless Copper Pipe
3. ASTM B68, Specification for Bright Annealed Seamless Copper Tube
4. ASTM B75, Specification for Seamless Copper Tube
5. ASTM B88, Specification for Seamless Copper Water Tube
6. ASTM B302, Specification for Threadless Copper Pipe
7. ASTM B306, Specification for Copper Drainage Tube (DWV)
8. NSF/ANSI Standard 61
9. Underwriter's Laboratories (UL)
10. International Organization for Standardization (ISO)
11. Factory Mutual Research Corporation
12. National Fire Protection Association
13. ASME, Boiler and Pressure Vessel Code
14. Federal Specification WW-P-377D(1), Pipe, Copper, Seamless Standard Sizes (S/S by ASTM B42)

15. ANSI B16.22, Wrought Copper and Bronze Solder - Joint Pressure Fittings
16. 1996 Safe Drinking Water Act

1.03 SUBMITTALS

- A. Shop Drawings: Submit for approval the following:
 1. Detailed drawings and data on pipe, fittings and accessories.
 2. A materials list, which shall include full information regarding all components of the equipment. Materials of construction shall be presented in the listing.
 3. Any operations and maintenance information for copper pipe.
- B. Submit certificates of compliance with the applicable referenced standards.
- C. Submit certificate of compliance with NSF/ANSI Standard 61 for all products under this section, including interior coatings, by an independent, authorized laboratory.
- D. Furnish delivery tickets indicating the pipe manufacturer, pipe type and class, identifying that the pipe was new and from a manufacturer that has been submitted and approved.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. During delivery and handling, all materials shall be braced and protected from any distortion or damage; any such distortion or damage shall be basis for rejection of the materials.
- B. The materials shall be inspected before unloading. Materials that are found to be cracked, gouged, chipped, dented, or otherwise damaged will not be accepted.
- C. Interiors of pipe, fittings and appurtenances shall be kept free from dirt and foreign matter.
- D. Store pipe and fittings so they are not in contact with the ground.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. All products, including interior coatings, shall be suitable for use in a potable water system.
- B. All products, including wetted parts, shall be certified to meet NSF/ANSI Standard 61.

- C. All piping and fittings shall be designed for a working pressure and field hydrostatic test pressure as shown in Section 15051, Buried Piping Installation.
- D. Copper pipe: Copper pipe shall conform to the requirements of ASTM B88 and Federal Specification WW-T-799a. Buried copper piping to maximum 2-inch diameter shall be type K, soft temper, suitable for use with flared fittings. Exposed copper piping shall be Type L hard temper tubing. Fittings shall conform to ANSI B16.22.
- E. All copper piping and accessories must be new materials in first-class condition. Used or recycled materials will not be allowed, regardless of condition.

2.02 MARKING

- A. All items shall be marked or labeled with the following information:
 - 1. Metal or alloy designation.
 - 2. Temper.
 - 3. Size and schedule.
 - 4. ASTM specification number.
 - 5. Name and location of supplier.

2.03 JOINTING

- A. All joints shall conform to manufacturer's recommendations and shall be made by skilled workmen.
- B. Joints shall develop full strength and shall be stronger than the pipe joined.

PART 3 - EXECUTION

3.01 GENERAL

- A. Refer to Section 15051 for copper piping installation.
- B. All connections to copper piping shall be watertight at operating pressure.
- C. Copper Tubing
 - 1. Copper tubing shall be installed in accordance with the applicable provisions of Section 02351, Excavation, Backfill and Trenching and Section 15051, Buried Piping Installation.
 - a. Flared connections shall only be allowed for all buried fittings.
 - b. No coupling shall be allowed, especially under paved areas. Exception shall be based on the length of the service and the size of the coil of tubing provided and shall be only as allowed by ENGINEER.

- c. Installation shall be suitable for open-cut or push or drill methods.
- 2. Exposed copper tubing shall be carefully erected and neatly arranged.
 - a. Copper tubing shall be run parallel with walls inside structures and shall be pitched to drain.
 - b. Drain valves shall be installed at the low points of liquid filled systems.
 - c. Joints shall be soldered suitable for the pressure intended.
- 3. Unions shall be provided on copper tubing systems with soldered joints.
 - a. Unions shall be located at control valves, solenoid valves, moisture and steam traps, other items of connected equipment and as shown on the Drawings.
 - b. Unions shall be of cast bronze or brass construction.
 - c. Dielectric unions shall be used when connecting copper tubing to ferrous metals.

END OF SECTION

SECTION 15108

THERMOPLASTIC PIPE

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Specified

The work specified shall include all labor, material, equipment, tools, services, and incidentals necessary to furnish and install thermoplastic pipe as shown, specified, and required.

B. Related Work Specified Elsewhere

1. Section 15051 - Buried Piping Installation
2. Section 15106 - Ductile Iron Pipe, Fittings, and Accessories
3. Section 15110 - Valves and Appurtenances
4. Section 15140 - Testing and Disinfection

1.02 QUALITY ASSURANCE

A. Manufacturers Qualifications

1. Manufacturer shall have a minimum of 5 years' experience producing thermoplastic pipe and shall show evidence of at least 5 installations in satisfactory operation.
2. Parts Interchangeability: It is the intent of these specifications that all materials furnished herein shall be compatible with similar materials of other manufacturer's.

B. Reference Standards

1. AWWA C900, Polyvinyl Chloride (PVC) Pressure Pipe, 4-inch through 12-inch for Water Distribution
2. ASTM D1598, Standard Test Method for Time-to-Failure of Plastic Pipe Under Constant Internal Pressure
3. ASTM D1599 Standard Test Method for Resistance to Short-Time Hydraulic Failure Pressure of Plastic Pipe, Tubing, and Fittings
4. ASTM D1784, Standard Specifications for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPCC) Compounds
5. ASTM D2122, Standard Test Methods of Determining Dimensions of Thermoplastic Pipe and Fittings
6. ASTM D2241, Standard Specification for Poly (Vinyl Chloride) (PVC) Pressure Rated Pipe (SDR Series)
7. ASTM D3034, Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings

8. ASTM D3212, Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
9. ASTM F477, Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe
10. NSF/ANSI Standard 61
11. Underwriter's Laboratory (UL)
12. International Organization for Standardization (ISO)
13. Factory Mutual Research Corporation
14. 1996 Safe Drinking Water Act
15. American Water Works Association Manual M23.

1.03 SUBMITTALS

- A. Shop Drawings: Submit for approval the following:
 1. Detailed drawings and data on pipe, fittings, and accessories.
 2. A materials list, which shall include full information regarding all components of the equipment. Materials of construction shall be presented in the listing.
 3. Any operations and maintenance information for thermoplastic pipe.
- B. Submit certificates of compliance with the applicable referenced standards.
- C. Submit certificate of compliance with NSF/ANSI Standard 61 for all products under this section, including interior coatings, by an independent, authorized laboratory.
- D. Furnish delivery tickets indicating the pipe manufacturer, pipe type and class, identifying that the pipe was new and from a manufacturer that has been submitted and approved.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Thermoplastic pipe shall be stored on the job site in accordance with AWWA M23 and the manufacturer's recommendations. Thermoplastic pipe that has been subjected to excessive ultraviolet radiation from the sun shall not be used. Noticeably faded materials shall not be installed and shall be promptly removed from the site.
- B. Store thermoplastic pipe in the field by supporting the pipe uniformly per AWWA M23. Do not stack the pipe higher than 1.22 m (4 feet) or with weight on the bell ends. Cover stored thermoplastic pipe to protect it from the sun's ultraviolet radiation. Pipe that has been contaminated with any petroleum products (inside or outside) shall not be installed.
- C. During delivery and handling, all materials shall be braced and protected from any distortion or damage; any such distortion or damage shall be basis for rejection of the materials.

- D. Equipment used for unloading shall be covered with wood or rubber to avoid damage to the exterior of the pipe, fittings, and accessories. Do not drop or roll materials off trucks. All thermoplastic pipe shall be handled with padded slings or other appropriate equipment. The use of cables, hooks or chains will not be permitted.
- E. The materials shall be inspected before and after unloading. Materials that are found to be cracked, gouged, chipped, dented, or otherwise damaged will not be accepted.
- F. Interiors of pipe, fittings, and accessories shall be kept free from dirt and foreign matter.
- G. Store pipe and fittings on heavy wood blocking or platforms so they are not in contact with the ground.
- H. Pipe, fittings, and specials shall be unloaded opposite to or as close to the place where they are to be used as is practical to avoid unnecessary handling.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. General
 - 1. All products, including interior coatings, shall be suitable for use in a potable water system.
 - 2. All products, including wetted parts, shall be certified to meet NSF/ANSI Standard 61.
 - 3. All polyvinyl chloride pipe, fittings, and accessories must be new materials in first-class condition. Used or recycled materials will not be allowed, regardless of condition.
- B. Polyvinyl Chloride (PVC) Pressure Pipe
 - 1. Pipe
 - a. Polyvinyl chloride pipe, in sizes from 4-inches to 12-inches in diameter, shall be made from Class 12454-B materials or better in accordance with ASTM D1784.
 - b. Polyvinyl chloride pipe and accessories shall conform to the requirements of:
 - 1) Watermains under AWWA C900,
 - 2) Pressure rated ASTM D2241.
 - c. Polyvinyl chloride pipe and accessories to be used for potable water shall be certified as suitable by the NSF or other testing agency and shall be marked with the seal of the agency.

- d. Pipe shall be designed for a working pressure and field hydrostatic test pressure as identified in Section 15051, Buried Piping Installation. Pipe shall be a minimum of DR-18.
 - e. Pipe shall bear the manufacturer's name, DR rating, and pressure rating.
 - f. The outside diameter dimensions of the pipe shall conform with the outside diameter dimensions of ductile iron pipe.
2. Fittings for Polyvinyl Chloride Pipe
- a. Fittings for polyvinyl chloride pipe shall be mechanical joint ductile iron fittings as specified in Section 15106. Fittings shall be poly-wrapped.
3. Joints
- a. Joints for polyvinyl chloride pipe shall be push-on in accordance with the standard for the type of material.
 - 1) Polyvinyl chloride pipe joints shall be elastomeric.
 - a) Rubber gaskets for elastomeric joints shall conform to ASTM F477.
 - b) The rubber gasket shall be factory installed in the pipe, fittings, and couplings.
 - c) The plain end of the pipe shall be marked by the manufacturer to show the depth of penetration into the bell or coupling.
4. Restrained Joints
- a. Restrained polyvinyl chloride pipe joints shall be made by restraining the pipe on each side of the fitting for the length of pipe shown or specified and suitable for a field hydrostatic test pressure as identified in Section 15051, Buried Piping Installation.
 - b. Restrained PVC pipe connecting to ductile iron mechanical joint fittings and valves shall be a ductile iron clamp, EBAA Iron Sales Megalug Retainer Gland, Series 2000 PV, or approved equal.
 - c. Restrained bell joint PVC pipe shall be a ductile iron split clamping ring and back-up ring, EBAA Iron Sales Retainers, Series 1600 PV or 6500, or approved equal.
 - d. All clamping bolts and nuts shall be fluorocarbon coated, high strength corrosion resistant low alloy steel.
 - e. Tie-rods shall not be allowed unless pre-approved by the ENGINEER. When used, tie-rods and accessories must be covered with two (2) coats of a bituminous coating to minimize corrosion.
5. Manufacturer:
- a. JM Manufacturing,
 - b. National Pipe and Plastics, Inc.,
 - c. Or approved equal.

- C. Polyethylene Tubing
 - 1. Polyethylene tubing shall conform to the requirements of ASTM D 2737 and be NSF approved and suitable for use in potable water systems. Tubing shall be SDR 9, 200 psi, copper tube size and shall not exceed 2 inches in size.
 - 2. Polyethylene tubing shall only be used where authorized by ENGINEER.

- D. Sewer Pipe
 - 1. All plastic sewer pipe and fittings shall conform to the requirements of ASTM D3034.
 - 2. All joints shall be of the bell and spigot type and conform to ASTM D3212. Gaskets shall be in accordance with ASTM F477.
 - 3. All bells shall be formed integrally with the pipe and shall contain a factory installed elastomeric gasket which is positively retained.
 - 4. All fittings shall have a push-on joint, unless otherwise specified, which is compatible with the pipe and shall conform to ASTM D3034.
 - 5. Flexible sewer couplings shall consist of Type 304 stainless steel clamps and housing with a one-piece neoprene sleeve and shall be as manufactured by Fernco or approved equal.

PART 3 - EXECUTION

- A. Refer to Section 15051 for thermoplastic pipe installation.

- B. Thermoplastic pipe joint deflection.
 - 1. The maximum pipe joint deflection allowed shall not exceed ½ of the manufacturer's recommended joint deflection. Bending of thermoplastic pipe for achieving pipe deflection is strictly prohibited.

- C. Polyethylene Tubing
 - 1. Refer to Section 15051 for buried thermoplastic piping installation.
 - 2. Polyethylene tubing shall be installed in accordance with the applicable provisions of Section 02351, Excavation, Backfill, and Trenching and Section 15051, Buried Piping Installation.
 - a. Polyethylene tubing shall not be used unless ordered in writing by the ENGINEER for use at specific locations. The CONTRACTOR shall provide compression type corporation stops, curb stops, and unions only for use with polyethylene tubing. At all locations where compression fittings are used, a stainless steel insert must be provided.
 - b. Compression fittings are not permitted for any other application.

END OF SECTION

SECTION 15109

PRESTRESSED CONCRETE CYLINDER PIPE

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Specified

The work specified shall include all labor, materials, tools, equipment, services, and incidentals necessary to furnish and install prestressed concrete cylinder water piping and fittings as shown, specified and required.

B. Related Work Specified Elsewhere

1. Section 15051 - Buried Piping Installation
2. Section 15110 - Valves and Appurtenances
3. Section 15140 - Testing and Disinfection

1.02 QUALITY ASSURANCE

A. CONTRACTOR'S Qualifications

1. CONTRACTOR shall have a minimum of 5 years' experience installing prestressed concrete cylinder pipe, fittings, and appurtenances.
2. A list of qualifications must be presented including:
 - a. The number of years your organization has been installing prestressed concrete cylinder pipe under your present name.
 - b. Any projects similar to this project completed by your organization. Include all projects completed within the last three years and all projects completed for the Authority specifically within the last five years.
 - c. List the names of any company that has operated under the umbrella of your organization and the projects that they have completed.

B. Welder's Qualifications

1. All welders and welding operators shall be qualified under AWS D1.1 Structural Welding Code – Steel, under AWS D1.3 Structural Welding Code – Sheet Steel, or under Sec. IX of the ASME Boiler and Pressure Vessel Code for Welding P – No. 1 (carbon or low alloy) steels. For the purpose of this standard, welders and the welding operators qualified under Sec. IX of the ASME Boiler and Pressure Vessel Code to weld P – No. 1 steels shall be deemed qualified to weld any combination of steels listed in Sec. 4.6 of AWWA C-301. Each welder and welding operator shall have qualified or requalified within the past three (3) years.

C. Manufacturer's Qualifications

1. Manufacturer shall have a minimum of 5 years' experience producing prestressed concrete cylinder pipe, fittings, and appurtenances, and shall show evidence of at least 5 installations in satisfactory operation.
2. Parts Interchangeability: It is the intent of these specifications that all materials furnished herein shall be compatible with similar materials of other manufacturers. This interchangeability for both cylinder and embedded cylinder pipe shall include, but not be limited to the following components: cylinder outside diameter, joint ring outside diameter, joint depth (stab depth), and joint O-ring gasket. Care must always be taken to assure that the interchangeable pipe has the proper design for both external and internal pressures (working plus surge) and have the proper cylinder thickness if installed in a restrained joint area of the pipeline.

D. Marking for Identification

1. All pipe, fittings, and specials shall have the pipe class and specification designation with size and length dimensions stenciled thereon. Pipe that has been designed for pipe load conditions or thrust restraint shall have special markings thereon which can be readily identified. The name or trademark of the manufacturer, and the date and place of manufacture shall also be stenciled on the pipe, fittings, and specials. The piping for each service or system as specified herein shall be provided by a manufacturer who has thoroughly familiarized himself with the design intent of the overall system and will provide piping suitable for the service intended.

E. Reference Standards

1. AWWA C301, Prestressed Concrete Pressure Pipe, Steel-Cylinder Type, for Water and Other Liquids
2. AWWA C304, Design of Prestressed Concrete Cylinder Pipe
3. AWWA Manual M9, Concrete Pressure Pipe
4. AWWA C651, Preventative and Corrective Measures During Construction
5. NSF/ANSI Standard 61
6. Underwriter's Laboratories (UL)
7. International Organization for Standardization (ISO)
8. Factory Mutual Research Corporation

1.03 SUBMITTALS

A. Shop Drawings: Submit for approval the following:

1. Information on the product confirming compliance with the specified standard and any modifications included in this specification section.
2. As a minimum, the submittal shall include the following: design data sheet(s), pipe and joint detail drawings, restrained joint detail drawings, testable joint detail drawings, closure details (restrained and unrestrained),

fitting detail drawings, and pipe laying schedule. The submittal should note any exceptions to AWWA C301 and any modifications included in this specification section.

3. Material specifications and certifications.
4. Shop drawings and affidavit of compliance per AWWA C301.
5. Design calculations (for information only) per AWWA C301 and AWWA C304. The CONTRACTOR shall submit to the ENGINEER the design calculations for each size and class of pipe. Along with each design, the CONTRACTOR shall include the calculated, explicit safety factor of 2.0 times working pressure plus 100 psi surge, including working external loads, where the maximum tensile stress in prestressing wire shall not exceed its yield strength, f_{sy} .
6. The manufacturer is solely and fully responsible for pipe manufacture in accordance with the design criteria contained in the plans and specifications.
7. Affidavit that all materials conform to AWWA C301 and any modifications included in this specification section.
8. Affidavit that all tests called for in AWWA C301 and any modifications included in this specification section have been performed and that all results indicate conformance to AWWA C301 and any modifications included in this specification section.
9. A complete indexed booklet (for information only) containing all data, design mixes, certified test (and certified retests, if any), reports, etc. for the pipe components (concrete, steel, wire, mortar, etc.) and the pipe fittings and specials. This booklet shall also include production information for each piece of pipe-by-pipe identification number.
10. Pipe repair procedures, if procedures different than AWWA C301 are to be used.
11. Written procedures for field repairs of pipe.
12. Submit certificate of compliance with NSF/ANSI Standard 61 for all products under this section, including interior coatings, by an independent, authorized laboratory.
13. Information on polyethylene encasement to be used.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. During delivery and handling, all materials shall be braced and protected from any distortion or damage; any such distortion or damage shall be basis for rejection of the materials.
- B. Equipment used for unloading shall be covered with wood or rubber to avoid damage to the exterior of the pipe, fittings and appurtenances. Do not drop or roll materials off trucks. All prestressed concrete cylinder pipe and fittings shall be handled with padded slings or other appropriate equipment. The use of cables, hooks or chains will not be permitted.

- C. The materials shall be inspected before and after unloading. Materials that are found to be cracked, gouged, chipped, or otherwise damaged will not be accepted.
- D. Interiors of pipe, fittings and appurtenances shall be kept free from dirt and foreign matter.
- E. Store pipe and fittings on heavy wood blocking or platforms so they are not in contact with the ground.
- F. Pipe, fittings, and specials shall be unloaded opposite to or as close to the place where they are to be laid as is practical to avoid unnecessary handling.

1.05 PIPE INSTALLATION SPECIALIST

- A. A factory trained and certified manufacturer's pipe installation specialist shall be present during CONTRACTOR start-up and for a total of 5 working days when pipe laying is in progress and thereafter shall be available during the course of the project to assist the OWNER, ENGINEER, and/or CONTRACTOR when requested by the OWNER, ENGINEER, and/or CONTRACTOR. This field service shall be at no cost to the OWNER. This can include field review of pipe/fittings when requested by the OWNER, ENGINEER, and/or CONTRACTOR
- B. The specialist shall submit three (3) copies of a written report to the ENGINEER presenting the findings of each visit. As a minimum, each report should include the following: date, day, time, purpose of the visit (and who initiated the visit), weather conditions, CONTRACTOR'S name, project name and the contract number, ENGINEER'S name, individuals contacted, location visited (station, street, field office, ENGINEER'S main office, OWNER'S office, CONTRACTOR'S office, etc.), and any other pertinent information related to the visit (such as the results of individual pipe/fitting inspections, etc.)

PART 2 - PRODUCTS

2.01 PRESTRESSED CONCRETE CYLINDER PRESSURE PIPE

- A. General
 - 1. All products, including interior coatings shall be suitable for use in a potable water system.
 - 2. All products including wetted parts shall be certified to meet NSF/ANSI Standard 61.
 - 3. Prestressed concrete cylinder pipe shall consist of a steel shell with steel bell and spigot end-rings welded to the ends of the cylinder.

4. Joint O-ring gaskets shall be interchangeable with other pipe of same size of other manufacturers. The composition of the rubber shall be either natural or synthetic rubber. Gaskets removed from existing pipe shall not be reused.
5. Restrained joints shall be designed for working pressure (P_w) plus surge pressure (P_s).
6. All necessary fittings, outlets, bevels, bevel adapters, restrained joints, closure pieces shall be provided when specified.
7. All prestressed concrete cylinder pipe, fittings, and accessories must be new materials in first-class condition. Used or recycled materials will not be allowed, regardless of condition. Pipe shall not be supplied from inventory, but shall be manufactured specifically for this Contract.
8. Manufacturer of prestressed concrete cylinder pipe, fittings, and appurtenances shall be:
 - a. Thompson Pipe Group,
 - b. Or approved equal.

B. Prestressed Concrete Steel Cylinder Pipe (Lined Cylinder and Embedded Cylinder Pipe).

1. Steel cylinders shall meet the requirements of AWWA C301 and shall be of sufficient thickness such that the stress in the cylinder at the specified working pressure plus surge is no greater than 50% of the specified minimum yield of the material as stated in AWWA C301 section 4.4.7.1; and in no case shall the cylinder thickness be less than 0.0747" (14 gauge).
2. The required area of steel for prestressed concrete pipe shall have a single layer of prestressing. Any design with multiple layers of prestressing wire shall not be acceptable.
3. All prestressed concrete pipe shall be manufactured in nominal 20-foot laying lengths. Concrete cores for pipe shall be manufactured per AWWA 301.
4. The pipe "Class" shall be clearly marked per AWWA C301. Markings indicating the pipe class and identifying each pipe in reference to the laying schedule shall also be included. Each pipe shall have an identification number to correlate production information such as concrete core placement, prestressing and mortar coating. A record of this production information shall be furnished. Each length of straight and special pipe and each fitting shall be plainly marked on the interior on the bell end.
5. Transient pressures, earth loads, and live loads above the design pressure shall be accounted for as outlined in AWWA C301. All highway live loads (including impact) shall be American Association of State Highway Transportation Officials HS-20 loading. Where specified, the live load for railroad crossing shall be Cooper E-80 loading.

C. Design Conditions

1. Prestressed concrete cylinder pipe and fittings shall have a single design for each size of pipe furnished. There shall be no circumstance where multiple designs will be acceptable for any given size with the exceptions of: a design for restrained areas where heavier cylinders will be required; and, a design for deep stream/road/railroad crossings. The single design per size shall be in accordance with AWWA C304 for the following parameters:
 - a. Pipe inside diameter (d_i): As shown on plans.
 - b. Operating pressure (P_w): See Section 15051, Buried Piping Installation.
 - c. Surge pressure (P_t): 100 psi, minimum, or as otherwise specified.
 - d. Total design pressure: (cumulative sum of b and c), minimum, or as otherwise specified.
 - e. Field hydrostatic test pressure (P_{ft}): See Section 15051, Buried Piping Installation (as measured at the lowest point in the pipeline gradient), or as otherwise specified.
 - f. Safety Factor: 2.0 (based on conditions described in 1.03.A.5.)
 - g. Laying Condition: As shown on plans.
 - h. Depth of cover (H): As shown on plans (8 feet minimum).
 - i. Soil weight: 120 lbs per cubic foot.
 - j. Live loading: AASHTO HS-20.
 - k. In combination with the internal pressures, pipe, fittings, and specials shall be designed for the external condition listed below which results in a single class of pipe for each size of pipe:
 - 1) Earth cover for existing grade as shown on Drawings, plus all applicable transient and live loads.
 - 2) Earth cover for proposed grade as shown on Drawings plus all applicable transient and live loads.
 - 3) All combinations of earth cover between the existing and proposed grades as shown on the drawings plus the applicable live loads (highway or railroad).
 - 4) 3.5 feet of cover plus the applicable live loads (highway or railroad).

D. Joints for Prestressed Concrete Steel Cylinder Pipe

1. Prestressed concrete cylinder pipe joints shall be sealed by a rubber gasket so that the joint will remain tight under all conditions of service, including movement due to expansion, contraction, and normal settlement. Exposed portions of the joint rings shall be protected by a coating as specified in 2.01.H. following.
2. Exterior joints shall be protected with cement grout (1 part cement to 3 parts sand) poured into a joint grout band or “diaper” after the pipe is firmly bedded and at least partially backfilled to avoid movement after the joint has been grouted. All joint grout bands shall be a minimum of 12-inch wide and be lined with earthfoam®.
3. All watermains shall require mechanically restrained joints at each fitting causing a change in direction of $7\text{-}1/2$ degrees or greater. The restrained joint shall provide uniform retainage 360 degrees around the pipe joint. Prestressed concrete cylinder pipe shall be restrained where specified or indicated on the drawings with a harness clamp ring or with a snap ring. These types of joints shall allow flexibility.
4. Where joints on existing pipe are required to be restrained, such restraint shall be accomplished by welding the joint. Extreme care should be taken when restraining multiple lengths of any existing prestressed concrete cylinder pipe that have not been designed to resist axial thrust loads. The CONTRACTOR shall verify the steel cylinder thickness prior to restraining the existing pipe by welding joints.
5. Steel cylinder design for all areas requiring restrained joints shall be based on the type of fitting (i.e. deflection angle of bend, valve, or tee), working pressure plus surge, and an allowable longitudinal stress of 13,500 psi (14-gauge minimum).
6. All PCCP installed within casing pipe shall be supplied with double gasketed, air testable joints. The spigot rings for these joints shall have two equal sized grooves for gaskets separated sufficiently to allow an air pressure test of the small annular space between the gaskets once the joint is assembled. A test port shall be provided through the spigot for introducing air pressure into the area between the gaskets. The contractor shall test each of these joints after it is assembled to a gauge pressure 50 psi for a minimum of 5 minutes. Once the pressure has stabilized, a valve in the air supply line shall be closed. The joint is acceptable if the pressure drop is less than 5 psi. If the joint does not pass this air test, it must be disassembled, re-assembled using new gaskets, and re-tested. All testing to be performed in the presence of the ENGINEER.

E. Fittings, Outlets, Caps and Bevels

1. Outlets, connections, and appurtenances shall be of a size and class suitable for the pipe with which they are intended to be used.

2. Suitable watertight end caps or plugs, approved by the ENGINEER, shall be furnished for the purpose of capping the ends of pipe when pipe laying is not actually in progress.
 3. Bevel pipe and/or bevel adapters shall be used where the required deflection of the pipeline is more than what is allowed by the joint opening method for straight pipe or as specified.
 4. Other accessories not included under AWWA C301 shall be in accordance with the appropriate standard.
- F. Harnessed Bulkheads, Plugs, and Caps
1. Harnessed dished bulkheads, plugs, and caps shall be provided as shown and/or required and shall be designed for the conditions stated herein. Plugs and caps shall be flat steel plates for temporary protection. The flat plates shall be reinforced with stiffeners. Permanent bulkheads shall be dish-shaped steel plates protected by concrete. Two, outlets with plugs, sized as shown on the plans (2-inch minimum), shall be provided in each bulkhead for pipe filling/testing purposes.
- G. Construction and Materials
1. All pipe, fittings, specials, bends, closure pieces, joints, gaskets, etc., shall conform to the requirements of AWWA C301.
 2. Physical Features of Pipe:
 - a. Steel cylinder shall be formed by spiral-welding steel coil with a full penetration lap-seam weld.
 - b. Steel bell and spigot end-rings shall be welded to the ends of the cylinder.
 - c. O-ring gasket shall be natural or synthetic rubber gasket conforming to AWWA C301.
 - d. Concrete cores for all prestressed concrete pipe shall be manufactured per AWWA C301.
 - e. Minimum steel cylinder thickness to be used in fittings and specials shall be $\frac{3}{8}$ -inch
 - f. Prestressing wire for precompression of the concrete core shall be a minimum of 6 gauge and shall have yield and tensile strengths equal to or less than that of Class II meeting the requirements of ASTM A648.
 - g. Cement mortar coating per AWWA C301 shall be a minimum of $\frac{3}{4}$ inch over the prestressing wire.
- H. Coatings, Linings, and Polyethylene Encasement For Prestressed Concrete Cylinder Pipe
1. Exposed Steel Joint Rings:
 - a. Exposed portions of the joint rings shall be protected by a zinc metallized coating having a minimum thickness of 0.004 inch with

- a grout or cement mortar placed after installation in accordance with the pipe manufacturer's recommendation.
2. All coatings shall be applied in accordance with the coating manufacturer's instructions. All surface preparation and primers required to ensure a lasting coating and lining shall be provided.
 3. All linings shall be applied by the pipe manufacturer at the pipe manufacturing facility.
 4. Repair Damaged Protective Coatings: prepare surfaces and apply coatings in accordance with manufacturer's instructions. Use coating material and application rate specified in this Section.
 5. Polyethylene Encasement For Prestressed Concrete Cylinder Pipe and Fittings.
 - a. Polyethylene encasement shall be used for Prestressed Concrete Cylinder Pipe and fittings, conforming to AWWA Specification C105.
 - b. Polyethylene film shall be manufactured of virgin polyethylene material conforming to the following requirements of ASTM Standard Specification D1248 – Polyethylene Plastics Molding and Extrusion Materials.
 - c. Polyethylene film shall have a tensile strength of 1,200 psi minimum and shall allow elongation of 300 percent and have a dielectric strength of 800 V/mil thickness minimum.
 - d. Polyethylene film shall have a minimum nominal thickness of 0.008 inch (8 mils). The minus tolerance of thickness shall not exceed 10 percent of the nominal thickness.
 - e. Tape required to complete the installation shall be approximately two (2) inches wide, plastic backed adhesive type, such as Polyken #900, Scotchrap #50, or approved equal.
 - f. Tube size or sheet width for each size of pipe shall be in accordance with AWWA C-105.
 6. Raised Mortar Coating Skids:
 - a. Where prestressed concrete cylinder pipe is installed within a casing pipe, raised mortar coating skids shall be provided to assist in insertion as follows:
 - 1) Diameter of the raised mortar coating skids shall be two-inches (2") minimum greater than the outside diameter of the pipe spigot;
 - 2) Width of the coating skids shall be twelve-inches (12") typical;
 - 3) The first and last pipes inserted into the casing pipe shall have raised mortar coating skids at each end;
 - 4) Each subsequent pipe shall have one coating skid;

- 5) The laying schedule will indicate locations and dimensions of raised mortar coating skids as per manufacturer's recommendations.

I. Additional Piping Required

1. In addition to pipe shown on the Drawings and necessary to complete Work, CONTRACTOR shall furnish additional restrained joint prestressed concrete cylinder pipe pieces. This includes having a number of shorts and bends on hand in the event that there is a need for correction in line of work due to unforeseen errors or obstructions. As a minimum, the following shall be supplied for each size of pipe:
 - a. Two (2) half bevel adapters,
 - b. Two (2) full bevel adapters,
 - c. One (1) short,
 - d. One (1) closure,
 - e. One (1) PCCP Bell x DIP (MJ Spigot)
 - f. One (1) PCCP Bell x DIP (MJ Bell).
2. If any of the above pieces are used in the Work, CONTRACTOR shall install the additional fittings, shorts, and closures at no additional cost to OWNER.
3. In the event fittings, shorts, and/or closure pieces are not utilized, the OWNER may purchase them at the CONTRACTOR'S invoice price plus a 10% handling fee. If the OWNER chooses not to purchase these additional items, they shall be returned and the OWNER shall only be responsible for a restocking fee.
4. Included are all necessary restraints, adapters, bolts, grout, and other appurtenances necessary for installation of the pieces as specified.

J. Closure Pieces

1. Follower ring type closure pieces shall be furnished and installed where required by the CONTRACTOR. These shall be furnished by the pipe manufacturer.
 - a. The pipe layout submitted by the manufacturer shall reflect the CONTRACTOR'S planned schedule for operations and the schedule of construction. Pipe closures shall be designed by the manufacturer for the pressure required and shall be located in straight runs of pipe. The number, design, and location of all closure pieces shall be as shown or subject to the approval of the ENGINEER. All closure pieces shall be restrained.
 - b. The CONTRACTOR may elect either to cut the closure cylinder to the required length in the field, or if timing permits, to have the pipe manufacturer supply the required length base upon exact field measurements.
 - c. All closures, including concrete required for protection of the cylinder and joint rings, shall be provided.

PART 3 - EXECUTION

3.01 PRESTRESSED CONCRETE CYLINDER PIPE.

- A. Before the pipe is lowered into the trench, the mortar coating at the pipe ends and both end rings should be thoroughly cleaned and carefully checked for damage. The bell joint ring shall be smooth and free from burrs and deformations. Before the gasket is installed, it shall be thoroughly lubricated by immersing it in a viscous solution of vegetable soap.
- B. After the pipe has been lowered into the ditch, the lubricated gasket should be stretched around the spigot and settled into the circumferential groove.
- C. While the pipe is still clear of the trench bottom, it shall be aligned with the pipe to which it will be joined. As the pipe is advanced toward the pipe in place, the spigot is depressed manually and guided into the flare of the bell.
- D. Long radius curves may be accomplished by opening one side of the joint between straight sections of pipe. Before the joint is opened, the pipe must be brought straight "home" and then deflected toward the inside of the curve. Deflection of joint openings shall not exceed 50% of the manufacturer's recommendations. Long radius curves can also be achieved by the use of half and full bevel pipe joints and/or adapters.
- E. The joints of pipes 24 inches in diameter and larger may be checked from within the pipe. As the spigot is thrust "home", its advance is checked by two steel inserts in the seat of the bell, 180 degrees apart. These inserts are then removed and a feeler gauge is entered into the recess until the gasket can be felt. If any irregularity is detected in the position of the gasket, the pipe must be removed and the gasket examined for cuts. If undamaged, it may be used again after both, the gasket and the joint are re-lubricated.
- F. Prior to the installation of adjacent pipe, a joint diaper shall be placed around the bell of the pipe already laid. After the installation of the adjacent pipe, the diaper shall be slipped forward to cover the joint recess and fastened in place with either wire or steel strapping stitched into its edges. A 1:3 cement mortar grout mixture (1 part cement to 3 parts sand) shall then be poured into the joint recess beneath the diaper and rodded to assure complete filling of the entire diaper and recess.
- G. Complete installation of polyethylene encasement prior to backfilling.

3.02 ULTRASONIC JOINT TESTING

- A. Each joint shall, at the CONTRACTOR'S sole cost and expense, be tested with ultrasonic test equipment prior to being backfilled. If a leak is detected, corrective action shall be taken prior to installing the next pipe.

- B. The fact that a point (or joints) has passed the ultrasonic testing does not waive the requirements for the hydrostatic tests described herein.
- C. The testing equipment shall be as manufactured by Moffat Enterprises of Powell Butte, or equal.

3.03 HYDROSTATIC PRESSURE AND LEAKAGE TEST

- A. After the transmission main has been laid and the joints completed, this newly laid pipe shall be subjected to a pressure and leakage test.
- B. The test pressure for this test shall be as specified in Section 15051, Buried Piping Installation, and shall be measured at the lowest point in the test section.

3.04 DURATION

- A. The duration of the hydrostatic pressure and leakage test shall be as specified in Section 15051, Buried Piping Installation.

3.05 PROCEDURE

- A. The pipe shall be slowly filled with water and the specified test pressure, measured at the point of lowest elevation, shall be applied by means of a pump connected to the pipe in a satisfactory manner. Prior to testing, the pipe shall be allowed to soak under low pressure to allow the pipe walls to absorb water and for temperature stabilization. The pump, pipe, gauges, water, and measuring devices will be furnished by the CONTRACTOR. All work shall be accomplished by the CONTRACTOR.
- B. When filling of the new line is achieved by accepting water from an existing waterline, the CONTRACTOR shall, as minimum, furnish and install apparatus such as a reduced pressure zone backflow preventer at the source of the supply to protect against the backflow of water from the new line to the existing line. Water for these purposes shall be metered. The pipeline shall be allowed to soak under low pressure to allow the pipe walls to absorb water and for temperature stabilization.
- C. Testing shall be done as soon as the line is installed as determined by the ENGINEER.
- D. The pressure and leakage test shall be performed as follows:
 - 1. For the entire Contract from the beginning station to the end station.
 - 2. For each valved section of the Contract (i.e., from line valve to line valve). These series of section tests shall be performed so that each section is tested separately and so that each butterfly line valve is tested in both directions.

3. The CONTRACTOR shall furnish outlets for filling with water, expelling air, and testing each section as required. Outlets shall also be provided for sample points as shown on the drawings. These outlets shall be manufactured with the pipe.
4. All tests shall indicate satisfactory results.

3.06 EXPELLING AIR BEFORE TESTING

- A. Before applying the specified test pressure, all air shall be expelled from the pipe. To accomplish this, factory installed outlets shall be furnished at various locations and elevations in the test section including the points of highest elevation in the test section. After satisfactory test results these outlets shall be tightly plugged if no longer required.
- B. When test bulkheads are used for testing, they shall include two (2) outlets, one for filling and one for releasing air.

3.07 PRESSURE AND LEAKAGE TEST

- A. All exposed pipes, joints, and fittings which are exposed when the test is conducted shall be carefully examined for visible leakage. Those portions of the pipeline covered by backfill shall be walked to observe leakage appearing on the ground surface. Any leaks discovered in the joints shall be corrected until tight. Any cracked or defective pipe, fittings, etc. discovered in consequence of this pressure test shall be removed and replaced by the CONTRACTOR with new material as previously specified and the test repeated until satisfactory to the ENGINEER.
- B. Suitable means (acceptable to ENGINEER) shall be provided by the CONTRACTOR for determining the quantity of water loss by leakage under the specified test pressure. No pipe installation will be acceptable until, or unless, this leakage is less than specified.
- C. Allowable leakage shall be as specified in Section 15140, Testing and Disinfection.
- D. Should any test of pipe laid disclose leakage per mile of pipe greater than that specified, the CONTRACTOR shall, at his own expense, locate and repair the defective joints or pipe until the leakage is within the specified allowable.

3.08 LEAKAGE DEFINED

- A. Leakage is defined as the quantity of water to be supplied into the newly laid pipe necessary to maintain the specified test pressure after the pipe has been filled with water and the air expelled.

3.09 WATER FOR TESTING

- A. Water for performing the first filling, flushing, and testing operations shall be furnished by the OWNER. Disposal of all water shall be by the CONTRACTOR at his expense. If the water for filling and testing is obtained from an existing waterline, a meter shall be installed to measure the quantity of water used for these purposes. No water shall be obtained from an existing waterline unless the CONTRACTOR first obtains the consent of the agency having jurisdiction over the existing main. Existing codes may restrict the amount and rate of water that can be obtained from the existing line and the CONTRACTOR shall comply with the directions of the agency of jurisdiction or the ENGINEER in this regard. If additional water is required for any reason (refilling, retesting, etc.), the water shall be at the CONTRACTOR'S expense.
- B. If test results are unsatisfactory and additional water is required to refill, retest, etc., additional water shall be at the CONTRACTOR'S expense.

3.10 DISINFECTION

- A. All watermains shall be disinfected in accordance with AWWA C601 and Section 15140, Testing and Disinfection.

END OF SECTION

SECTION 15110

VALVES AND APPURTENANCES

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Specified

The work specified shall include all labor, material, equipment, services and incidentals necessary to furnish and install valves and appurtenances as shown, specified and required.

B. Related Work Specified Elsewhere

1. Section 02080 - Fire Hydrants
2. Section 15051 - Buried Piping Installation
3. Section 15106 - Ductile Iron Pipe and Fittings
4. Section 15140 - Testing and Disinfection

1.02 QUALITY ASSURANCE

A. Manufacturer's Qualifications

1. Manufacturer shall have a minimum of 5 years' experience producing valves and appurtenances, and shall show evidence of at least 5 installations in satisfactory operation.
2. Parts Interchangeability: It is the intent of these specifications that all materials furnished herein shall be compatible with similar materials of other manufacturer's.

B. Reference Standards

1. ANSI B16.1, Cast Iron Pipe Flanges and Flanged Fittings
2. ANSI B16.4, Cast Iron Fittings
3. ASTM A48, Standard Specification for Gray Iron Castings
4. ASTM A126, Standard Specification for Gray Iron Castings for Valves, Flanges and Pipe Fittings
5. ASTM A307, Standard Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength
6. ASTM A354, Standard Specification for Quenched and Tempered Alloy Steel Bolts, Studs and Other Externally Threaded Fasteners
7. ASTM A436, Standard Specification for Austenitic Gray Iron Castings
8. ASTM A536, Standard Specification for Ductile Iron Castings
9. ASTM B62, Standard Specification for Composition Bronze or Ounce Metal Castings
10. AWWA C500, Standard for Metal-Seated Gate Valves for Water Supply Service

11. AWWA C504, Standard for Rubber-Seated Butterfly Valves
12. AWWA C508, Standard for Swing Check Valves for Waterworks Service, 2 in.(50 mm) Through 24 in. (600 mm) NPS
13. AWWA C509, Standard for Resilient Seated Gate Valves for Water Supply Service
14. AWWA C800, Underground Service Line Valves and Fittings
15. American Gear Manufacturers Association (AGMA) Standards
16. NEMA, National Electrical Manufacturer's Association
17. NEC, National Electrical Code
18. NSF/ANSI Standard 61
19. Underwriter's Laboratories (UL)
20. International Organization for Standardization (ISO)
21. Factory Mutual Research Corporation
22. 1996 Safe Drinking Water Act
23. Manufacturing Standardization Society of the Valve and Fittings Industry (MSS)

1.03 SUBMITTALS

- A. Shop Drawings: Submit for approval the following:
 1. Manufacturer's literature, illustrations, specifications, detailed drawings, data and descriptive literature on all valves and appurtenances.
 2. Deviations from Drawings and Specifications.
 3. Engineering data including dimensions, materials, size and weight.
 4. Fabrication, assembly, installation and wiring diagrams.

- B. Operation and Maintenance Data: Submit complete manuals including:
 1. Copies of all Shop Drawings, test reports, maintenance data and schedules, description of operation, and spare parts information.

- C. Shop Tests: Submit for approval the following:
 1. Hydrostatic tests for each valve when required by the valve specifications included herein.
 2. Each gate valve shall have the leakage test required by Section 5 of AWWA C509 performed with the pressure differential applied in both directions.
 3. The manufacturer of butterfly valves shall submit certified copies of reports covering the bi-directional leakage tests in accordance with Section 6, AWWA C504.

- D. Certificates:
 1. Where specified or otherwise required by ENGINEER, submit test certificates.
 2. The CONTRACTOR shall submit certificates of compliance with the applicable referenced standards.

3. Submit certificate of compliance with NSF/ANSI Standard 61 for all products under this section, including interior coatings, by an independent, authorized laboratory.
- E. Delivery Tickets:
1. Furnish delivery tickets indicating the valve manufacturer, valve type and class, identifying that the valves are new and from a manufacturer that has been submitted and approved.
- F. Testing Criteria:
1. CONTRACTOR must provide manufacturer's test specifications for all tapping sleeve and valves prior to field testing.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. During delivery and handling, all materials shall be braced and protected from any distortion or damage; any such distortion or damage shall be basis for rejection of the materials.
- B. Equipment used for unloading shall be covered with wood or rubber to avoid damage to the exterior of the valves and accessories. Do not drop or roll materials off trucks. All valves and appurtenances shall be handled with padded slings or other appropriate equipment. The use of cables, hooks or chains will not be permitted.
- C. The materials shall be inspected before and after unloading. Materials that are found to be cracked, gouged, chipped, dented or otherwise damaged will not be accepted.
- D. Interiors of valves and appurtenances shall be kept free from dirt and foreign matter.
- E. Store valves and appurtenances on heavy wood blocking or platforms so they are not in contact with the ground.
- F. Valves and appurtenances shall be unloaded opposite to or as close to the place where they are to be used as is practical to avoid unnecessary handling.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. General
1. All products, including interior coatings, shall be suitable for use in a potable water system.

2. All products, including wetted parts, shall be certified to meet NSF/ANSI Standard 61.
3. Valves shall have manufacturer's name and working pressure cast in raised letters on valve body. Valves shall be suitable for test pressures specified in Section 15051, Buried Piping Installation.
4. Manual valve operators shall turn clockwise to close unless otherwise specified. Valves shall indicate the direction of operation.
5. Valve shall be treated as a bulkhead (dead end) condition and pipe joints shall be restrained on both sides of the valve for the lengths as shown, specified, or required.
6. All valves, operators, and appurtenances shall be designed to withstand the working and hydrostatic test pressures as specified in Section 15051, Buried Piping Installation.
7. Unless otherwise specified all flanged valves shall have ends conforming to ANSI B16.1, Class 125.
8. All bolts, nuts and studs shall, unless otherwise approved, shall conform to ASTM A307, Grade B; or ASTM A354. All bolts, nuts and studs on or required to connect submerged or buried valves shall be fluorocarbon coated.
9. Bolts and nuts shall have hexagon heads and nuts.
10. Gasket material and installation shall conform to manufacturer's recommendations.
11. Identification: Identify each valve 4 inches and larger with a brass or stainless steel nameplate stamped with the approved designation. Nameplate shall be permanently fastened to valve body at the factory. Stenciled designations are acceptable for buried valves.
12. All valves and appurtenances must be new materials in first-class condition. Used or recycled materials will not be allowed, regardless of condition.

B. Gate Valves, Flanged and Screwed

1. 2¹/₂ inches Diameter and Smaller: Valves shall be bronze screwed ends, solid wedge, rising stem, screwed bonnet type with screwed ends.
 - a. Product and Manufacturer: Provide one of the following:
 - 1) Fig. 49-U, as manufactured by Jenkins Brothers or,
 - 2) Watts - WGV,
 - 3) Or approved equal.
2. 3-Inch Diameter and Larger:
 - a. Valves shall be iron body, bronze mounted, rising stem and in conformance with AWWA C500.
 - b. Unless otherwise shown or specified exposed valves shall have flanged ends conforming to ANSI B16.1, Class 125 conforming to ANSI A21.11.
 - c. Exposed manually operated gate valve shall be equipped with hand wheels. Gate valves located more than five feet above the

operating floor shall be provided with chainwheels, sprockets, and aluminum chain. The chain shall extend to three feet above the operating floor.

- d. Manufacturer: Provide gate valves of one of the following:
 - 1) Mueller Company,
 - 2) Dresser Manufacturing Division, M&H Division,
 - 3) Or approved equal.

C. Resilient Seat Gate Valves

1. General

- a. The design working pressure and test pressure for all valve sizes shall be as described in AWWA C509 and materials conforming to C509. All valves shall be designed to operate vertically in a horizontal pipeline.
- b. The valve disc shall be fully encapsulated with a synthetic elastomer and shall seat against a corrosion-resistant surface.
- c. Valves for buried applications shall have mechanical joint ends and be restrained per Section 15106, Ductile Iron Pipe, Fittings, and Accessories, by use of a mechanical joint wedge action retainer gland to resist movement.
- d. All bolts and nuts, including bonnet assembly and seal plate hold-down, shall be fluorocarbon coated high strength, corrosion resistant low alloy steel.
- e. Valves for exposed applications shall have flanged ends conforming to ANSI B16.1, Class 125 conforming to ANSI A21.11.
- f. Thin walled AWWA C515 valves shall not be allowed.

2. Gate Valve

- a. The body, bonnet, seal plate, disc and hub nut shall be iron.
- b. Non-rising valve stem, stem nuts, glands and bushings shall be bronze.
- c. Shaft "O"-ring seals shall be synthetic rubber or Buna-N and shall be capable of being replaced under pressure.
- d. All internal parts shall be accessible without removing the main body from the pressurized line.

3. Operators

- a. Operator shall be suitable for buried service.
- b. Operators shall be as specified in AWWA C509 for submerged, buried, or in-plant service as specified.
- c. Operators shall be equipped with a 2-inch square operating nut and shall be full gasketed and grease packed for buried service. Operating nuts shall turn clockwise to close the valve. A cast arrow showing the direction of valve opening shall be supplied.

- d. Valves larger than 12-inch diameter shall be equipped with a bevel gear operator and installed in the horizontal position unless otherwise noted.
 - e. Valves 24-inch through 54-inch diameter installed in the horizontal position shall have a cleanout port located at the bottom of the wedge guides.
4. Manufacturer:
- a. Kennedy Valve Company, No. 8571,
 - b. Mueller, 2360-16,
 - c. Or approved equal.
- D. Butterfly Valves
1. General
- a. Butterfly valves shall be short-body design conforming to AWWA C504 and shall have flanged ends for exposed applications and mechanical joint or Victaulic ends for buried applications as specified.
 - b. Valves for buried applications shall have mechanical joint ends and be restrained per Section 15106, Ductile Iron Pipe, Fittings, and Accessories, by use of a mechanical joint wedge action retainer gland. Valves may also have Victaulic ends as shown, specified, or required.
 - c. Valves shall be tight closing, rubber seat type with recessed rubber seat securely mounted to the valve body.
 - d. All other bolts, nuts and studs shall, unless otherwise approved, be flouorocarbon coated.
 - e. Bolts and nuts shall have hexagon heads and nuts.
 - f. Gasket material and installation shall conform to manufacturer's recommendations.
 - g. Identification: Identify each valve with a brass or stainless steel nameplate stamped with the approved designation. Nameplate shall be permanently fastened to valve body at the factory.
 - h. All butterfly valves and their operators shall be designed for buried and submerged conditions and shall open counterclockwise.
2. Butterfly Valve
- a. Body shall be cast iron ASTM A126, Class B, with integrally cast shaft bearing hubs. Flanged ends shall conform to ANSI B16.1 and match existing.
 - b. Valve shafts shall be Type 304 stainless steel solid one piece design for valve sizes 3" through 20" and stub shaft design for valves larger than 24" in diameter with an adjustable thrust bearing to center the valve disc.
 - c. Discs shall be of one-piece design, cast iron or ductile with a Type 316 stainless steel seating edge with demonstrated test results of 100,000 cycles of drip tight capability.

- d. Valve seats shall be synthetic rubber. Rubber seats shall be bonded to the valve body. The seat bond must withstand a 75 pound pull under test procedure ASTM D429, Method B.
 - e. Valve bearings shall be as specified in Sect. 3, AWWA C504. The shaft bearings shall be teflon or teflon lined/fiberglass backed.
 - f. Valve shaft packing shall be non-metallic, split-V self-compensating Chevron style.
3. Operators
- a. Operators shall be permanently lubricated and totally enclosed and be provided with a handwheel, chainwheel or 2-inch square nut, as specified.
 - b. Operators shall be equipped with a totally enclosed permanently lubricated lever-traveling nut drive, self locking type and shall be designed to hold the valve in any intermediate position between “fully open” and “fully closed” without creeping or fluttering.
 - c. Operators shall be equipped with adjustable stop-limiting devices to prevent over travel of the disc in the open and closed positions. Stops shall be located within the operator housing and be capable of adsorbing the full operator torque with minimum safety factor of 5.
 - d. Operator housing, supports and connections to the valve shall have provisions for four-bolt mounting.
 - e. Operator components shall withstand an input torque of 450 foot-pounds at the extreme operator positions without damage.
 - f. Enclosed lever-traveling nut operators shall have a gear ratio designed not to exceed 80 pounds pull to meet the required operator torque.
 - g. Operators shall turn clockwise to close the valve.
 - h. Extension stems shall not be allowed. All valves shall be located such that the cover over the top of the operating nut shall not exceed 5-foot in depth.
4. Manufacturer:
- a. Henry Pratt Co, Groundhog,
 - b. DeZurik,
 - c. Or approved equal.
- E. Tapping Sleeve and Valve
1. Tapping Sleeve
- a. Tapping sleeves and valves shall be used for connections larger than 2 inches and shall be stainless steel constructed of 18-8 Type 304 stainless steel.
 - b. All bolts and nuts shall be 18-8 Type 304 stainless steel, with heavy hex nuts to be fluorocarbon coated to prevent galling.
 - c. Tapping sleeves shall be designed and sized in accordance with the recommendations of the manufacturer.

- d. The sleeve shall be fabricated in two halves, for assembly around the watermain by means of bolts and gaskets to form a watertight seal. Bolts shall be removable and the gasket shall be a 360 degree gridded type to resist oil, alkalies, and suitable for water service.
 - e. The flange shall be 18-8 type 304 stainless steel, the outlet side shall conform to AWWA C 207 (ANSI B16.1, class 125), 150 lb drilling for attachment to standard tapping valves. 18-8 type 304 stainless steel flange bolts and flange gasket shall be supplied with tapping sleeve.
2. Tapping Saddle for Prestressed Concrete Cylinder Pipe.
 - a. Tapping saddle assembly shall consist of tapping saddle, steel bands, rubber gasket, and a separate flanged tapping gland.
 - b. The assembly shall be so designed that the saddle must be installed on the pipe before the prestressing wires can be cut. The gland is to be a separate piece that is installed after the wires are cut and is held against the cylinder by bolting its flange to the flange on the saddle. The outlet on the gland shall allow a tapping valve, as specified herein, to be bolted to it.
 3. Tapping Valve (20-inch diameter and smaller):
 - a. Valves for tapping sleeves 20-inches and smaller shall be resilient seat as specified in paragraph 2.01.C herein and shall be specially designed for this purpose.
 - b. The end flange of the tapping valve shall mate with the flange of the tapping sleeve and conform to AWWA C 207 (ANSI B16.1, class 125), 150 lb drilling and to the dimensions of MSS SP-60. The other end of the tapping valve shall be mechanical joint, unless otherwise specified.
 4. Tapping Sleeve Manufacturer for Tapping Ductile Iron, PVC Pipe, or ACP Pipe.
 - a. Mueller, Model No. 304,
 - b. Ford style FTSS,
 - c. Smith Blair 665,
 - d. Or approved equal.
 5. Tapping Saddle Manufacturer for Prestressed Concrete Cylinder Pipe:
 - a. Thompson Pipe Group,
 - b. Or approved equal.
 6. Tapping Valve Manufacturer:
 - a. Mueller, No. 2360/2361,
 - b. Kennedy No. 8950,
 - c. Or approved equal.
- F. Check Valves - Liquid Service
1. General:

- a. Check valves shall absolutely prevent the return of water back through the valve when the upstream pressure decreases below the downstream pressure. The valve shall be tight seating.
2. 2¹/₂-Inches Diameter and Smaller: Valves shall be bronze, screwed ends with screw in cap suitable for 150 psi service.
 - a. Product and Manufacturer: Provide one of the following:
 - 1) Fig. 92-A, as manufactured by Jenkins Brothers,
 - 2) Fig. 34-1/2, as manufactured by Crane Company,
 - 3) Or approved equal.

G. Air Release Valves

1. Air release valves shall be designed to operate automatically under pressure to release entrapped air from a watermain, pump, tank, or water system. Once the air has been released, the valve shall close and remain closed until reopened by entrapped air. No leakage or process fluid will be permitted.
2. All internal valve components shall be stainless steel.
3. The air release valve shall be float operated and shall incorporate a compound lever mechanism to enable the valve to automatically release accumulated air from a fluid system that system is pressurized and operating.
4. The air release valve shall close drop tight, incorporating an adjustable Buna-N orifice button.
5. The float shall be stainless steel and be capable of withstanding a test pressure of 300 psi.
6. The linkage/lever mechanism shall be able to be removed from the valve without disassembly of the mechanism, and shall be designed to prevent jamming.
7. The body and cover shall be cast iron conforming to the requirements of ASTM A126 Class B, and shall be designed to withstand a test pressure of 450 psig.
8. Manufacturer:
 - a. ValMatic, model #38,
 - b. Or approved equal.

H. Combination Air and Vacuum Release Valves

1. Combination air release valves shall be designed to relieve entrapped air and to break a siphon in a pipeline regardless of flow direction.
2. All internal valve components shall be corrosion-resistant.
3. Manufacturer:
 - a. ValMatic, valve #201C.2,
 - b. Or approved equal.

2.02 PAINTING

A. Shop Painting

1. Clean and prime coat ferrous metal surfaces.
2. All interior wetted ferrous surfaces of valves and appurtenances except finished or bearing surfaces shall be shop-painted with an approved epoxy paint system certified to NSF/ANSI Standard 61 for potable water and applied in accordance with the paint system manufacturer's recommendations.
3. Coat machined, polished and non-ferrous surfaces including gears, bearing surfaces and similar unpainted surfaces with corrosion prevention compound listed in NSF/ANSI Standard 61 and applied in accordance with the manufacturer's recommendations. Maintain coating during storage and until equipment begins operation.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Install valves and appurtenances as shown on the Drawings and in accordance with the manufacturer's recommendations.
- B. All valves shall be kept in the closed position until otherwise directed by the ENGINEER. Hydrant valves shall be opened during the hydrostatic testing and then closed until the watermain is placed into service.
- C. Install all valves so that handwheels, levers, extension stems, or wrenches can be conveniently turned from operating area and as approved by the ENGINEER.
- D. Install all valves plumb and level unless otherwise approved. Valves shall be installed free from distortion and strain caused by misaligned piping, equipment, or other causes.
- E. Gate valves larger than 12-inches in diameter shall be installed horizontally, unless otherwise noted, and shall be equipped with a bevel gear operator so the valve can be operated with a key held in the vertical position.
- F. CONTRACTOR shall operate each valve full open to full close in the presence of ENGINEER. The number of turns shall be recorded and provided to OWNER with the Record Drawings.

END OF SECTION

SECTION 15120

PIPING SPECIALTIES AND ACCESSORIES

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Specified

1. CONTRACTOR shall provide all labor, materials, equipment, tools, services, and incidentals necessary to furnish and install piping specialties and accessories as shown, specified and required. Included, but not limited to the following: couplings, repair clamps, joint clamps, service saddles, service fittings, water meter fittings, tile set, corporation stops, curb stops, and curb boxes.

B. Related Work Specified Elsewhere

1. Section 02316 - Select Granular Materials
2. Section 02351 - Excavation, Backfill and Trenching
3. Section 15106 - Ductile Iron Pipe and Fittings
4. Section 15107 - Copper Pipe
5. Section 15108 - Thermoplastic Pipe
6. Section 15109 - Prestressed Concrete Cylinder Pipe
7. Section 15110 - Valves and Appurtenances
8. Section 15140 - Testing and Disinfection

1.02 QUALITY ASSURANCE

A. Manufacturer's Qualifications

1. Manufacturer shall have a minimum of 5 years of experience in the production of substantially similar types of piping specialties specified and shall show evidence of satisfactory service in at least 5 installations.
2. Parts Interchangeability: It is the intent of these specifications that all materials furnished herein shall be compatible with similar materials of other manufacturers.

B. Reference Standards

1. AWWA C104, Cement-Mortar Lining for Ductile Iron Pipe and Fittings for Water
2. AWWA C115, American National Standard for Flanged Ductile-Iron Pipe with Ductile-Iron Pressure Pipe and Fittings
3. AWWA C301, Prestressed Concrete Pressure Pipe, Steel-Cylinder Type, for Water and Other Liquids
4. AWWA C600, Standard for Installation of Ductile-Iron Watermains and Their Appurtenances

5. AWWA C605, Standard for Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water
6. AWWA C651, Standard for Disinfecting Watermains
7. AWWA C800, Underground Service Line Valves and Fittings
8. AWWA C900, Polyvinyl Chloride (PVC) Pressure Pipe, 4-inch Through 12-inch for Water Distribution
9. ASTM A536, Standard Specification for Ductile Iron Castings
10. ASTM B92, Specification for Standard Size Seamless Copper Pipe
11. ASTM B62, Standard Specification for Composition Bronze or Ounce Metal Castings
12. ASTM D2000, Standard Classification System for Rubber Products in Automotive Applications
13. NSF/ANSI Standard 61
14. Underwriter's Laboratories (UL)
15. International Organization for Standardization (ISO)
16. Factory Mutual Research Corporation
17. 1996 Safe Drinking Water Act

1.03 SUBMITTALS

- A. Shop Drawings: Submit for approval the following:
 1. Manufacturer's literature, illustrations, specifications, detailed drawings, data and descriptive literature on all piping specialties.
 2. Deviations from Drawings and Specifications.
 3. Engineering data including dimensions, materials, size and weight.
 4. Fabrication, assembly, installation and wiring diagrams.
- B. Operation and Maintenance Data: Submit complete manuals including:
 1. Copies of all Shop Drawings, test reports, maintenance data and schedules, description of operation, and spare parts information.
- C. Certificates:
 1. Where specified or otherwise required by ENGINEER, submit test certificates.
 2. The CONTRACTOR shall submit certificates of compliance with the applicable referenced standards.
 3. Submit certificate of compliance with NSF/ANSI Standard 61 for all products under this section, including interior coatings, by an independent, authorized laboratory.
- D. Delivery Tickets:
 1. Furnish delivery tickets indicating the manufacturer, accessory type and class, identifying that the equipment was new and from a manufacturer that has been submitted and approved.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. During delivery and handling, all materials shall be braced and protected from any distortion or damage; any such distortion or damage shall be basis for rejection of the materials.
- B. Handle all materials very carefully. Materials which are cracked, dented or otherwise damaged will not be accepted.
- C. The materials shall be inspected before and after unloading. Materials that are found to be cracked, gouged, chipped, dented or otherwise damaged will not be accepted.
- D. Interiors of pipe, fittings and accessories shall be kept free from dirt and foreign matter.
- E. Store piping specialties and accessories on heavy wood blocking or platforms as necessary so they are not in contact with the ground.
- F. Pipe, fittings, and specials shall be unloaded as necessary opposite to or as close to the place where they are to be used as is practical to avoid unnecessary handling.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. General
 - 1. All products, including interior coatings shall be suitable for use in a potable water system.
 - 2. All products, including wetted parts, shall be certified to meet NSF/ANSI Standard 61.
 - 3. All piping specialties and accessories must be new materials in first-class condition. Used or recycled materials will not be allowed, regardless of condition.
- B. Couplings
 - 1. Sleeve Type, Flexible Couplings:
 - a. Material: Steel, with epoxy coated sleeve.
 - b. Gasket: Manufacturer's standard best quality for the service intended.
 - c. Bolts and Nuts: Buried or submerged couplings shall be provided with Type 304 stainless steel or fluorocarbon coated bolts and nuts.

- d. Couplings shall be designed for a working pressure and field hydrostatic test pressure as identified in Section 15051, Buried Piping Installation.
- e. Harnessing:
 - 1) Harness couplings to restrain pressure piping. Couplings shall be designed for a working pressure and field hydrostatic test pressure as identified in Section 15051, Buried Piping Installation.
 - 2) Adjacent flanges shall be tied with bolts of corrosion resistant alloy steel. Provide flange mounted stretcher bolt plates and lugs as required and to be designed by coupling manufacturer, unless otherwise approved.
 - 3) Conform to dimensions, size, spacing and materials for lugs, bolts, washers and nuts as recommended by manufacturer and approved by ENGINEER for the pipe size, wall thickness and test pressure required. However, the following minimum bolting shall be provided if not specifically stated by the ENGINEER.

Pipe Diameter (In.)	Minimum Number of Bolts	Bolt Diameter (In.)	At (Degrees)
4	2	5/8	180
6-8	2	3/4	180
10-12	2	7/8	180
14-20	4	1	90
24-48	4	1-1/2	90

- f. Remove pipe stop unless otherwise shown or specified.
 - g. Couplings 16-inches to 24-inches shall be furnished as long laying lengths of 16-inches. Couplings over 24-inches shall be furnished as 10-inch lengths.
 - h. Manufacturer:
 - 1) Dresser Industries, Style 138, for sizes up to 12-inches, Dresser Industries, Style 38, for sizes over 12-inches,
 - 2) Smith-Blair, Type 411, (or type 441 where specified),
 - 3) Or approved equal.
2. Hymax Coupling:
- a. Material: Center sleeve shall be fabricated of high strength carbon steel tubing. Compression end rings to be either one bolt or two fabricated of carbon steel.

- b. Gasket: Two layered gaskets of which the inner ring is removable to expand the range of the coupling. Material shall be EPDM according to NSF61.
- c. Bolts and Nuts: Buried or submerged couplings shall be provided with type 304 stainless steel. Bolts to be coated with an anti-seize coating to prevent galling.
- d. Coating: Interior and exterior shall be provided with NFS-61 approved fusion bonded epoxy coating.
- e. Harnessing: as specified herein.
- f. To be used only when approved by ENGINEER.
- g. Manufacturer:
 - 1) Dresser Industries Style 262 for sizes up to 12-inches,
 - 2) Or approved equal.

C. Flanged Coupling Adapter

- 1. The body shall be ductile iron conforming to ASTM A536. The bolt circle, bolt size, and spacing shall conform to AWWA C115 flange drilling.
- 2. The follower gland shall be ASTM A536 ductile iron.
- 3. Gaskets and “O” rings shall be grade 30 standard.
- 4. Nuts and bolts shall be fluorocarbon coated or Type 304 stainless steel, high strength, low alloy.
- 5. Provide fusion bonded epoxy coating on the gasket ring and shop prime enamel on the body.
- 6. Flange coupling adapter shall not be provided with anchor studs, which are not allowed.
- 7. Flange coupling adapter shall be suitable for use on ductile or cast iron pipe to the outside diameter specified.
- 8. Flange coupling adapters shall be restrained as shown, specified, or required.
- 9. Manufacturer:
 - a. Smith-Blair, Style 912,
 - b. Dresser, Style 128,
 - c. Ford FFCA,
 - d. Hymax 2100,
 - e. Or approved equal.

D. Restrained Flanged Adapter

- 1. Restraint shall be accomplished by use of a gland that incorporates wedges that increase their resistance to pull out as pressure or external forces increase.
- 2. The restrained flange adapter shall be comprised of two rings made of ductile iron conforming to ASTM A536.
- 3. The restraining ring shall be suitable for flanges conforming to AWWA C115 flange drilling.

4. Nuts and bolts shall be fluorocarbon coated or Type 304 stainless steel, high strength, low alloy.
5. Torque limiting twist off nuts shall be used to insure the proper actuation of the wedges. When the nut is sheared off, a standard hex head shall remain.
6. Provide fusion bonded epoxy coating on the gasket ring and shop primer on the body.
7. Restrained flange adapter shall be suitable for use on ductile iron pipe.
8. Manufacturer:
 - a. EBAA Iron, Series 2100 Megaflange,
 - b. Or approved equal.

E. Repair Clamps

1. Repair clamps shall be full circle, 18-8 type 304 stainless steel single band provided in minimum length of 12-inches unless otherwise specified. Bands are to be single section for sizes to 12 inches and double sections for sizes over 12 inches.
2. Nuts and bolts shall be Type 304 stainless steel or fluorocarbon coated.
3. Ductile iron lugs shall be field removable.
4. Repair clamps with a separate keeper bar will not be accepted nor repair clamps with two bolts on a 7.5 inch full circle clamp.
5. Grade 60 gasket.
6. When ordered, provide tapped repair clamps with stainless steel outlet taps for corporation stops in CC (AWWA) thread.
7. Manufacturer:
 - a. Smith-Blair, Style 226, for sizes to 12 inches,
Smith-Blair, Style 227, for sizes over 12 inches,
Smith-Blair, 238 and 239 for tapped clamps,
 - b. Dresser, Style 360,
 - c. Ford, Style F1, for sizes to 12 inches,
Ford, Style F2, for sizes over 12 inches,
 - d. Or approved equal.

F. Joint Clamps

1. Joint clamps shall be furnished to permanently stop or prevent leaks through the jointing materials of bell and spigot joints.
2. Clamp shall be fully adjustable to provide a close fit on the bell and spigot and shall be designed to be installed on pipes without interruption of water service.
3. Manufacturers standard rubber gasket shall shut the leak off when compressed by the spigot ring drawn up, in turn, by bolts connected to a bell ring.

4. Manufacturer:
 - a. Smith-Blair, Style #274,
 - b. Dresser, Style 160,
 - c. Or approved equal.

G. Service Saddles

1. Service saddles for iron, asbestos-cement pipe or Polyvinyl Chloride (PVC) pipe shall be of the double strap style.
2. Bodies shall be brass alloy conforming to ASTM B62 (85-5-5-5) and a threaded outlet conforming to AWWA C800.
3. Straps shall be high quality silicon bronze, flattened to provide a wider bearing surface to the pipe.
4. Nuts shall be brass alloy as per ASTM B62.
5. Gasket shall be Buna-N rubber in accordance with ASTM D2000.
6. Manufacturer:
 - a. Smith-Blair, Style 323,
 - b. Ford, Style 202B,
 - c. Or approved equal.

H. Services Fittings: Bronze Unions, Couplings and Adapters

1. General
 - a. Service fittings shall have a body cast from corrosion resistant bronze in accordance with ASTM B62 (85-5-5-5).
 - b. Connections shall meet applicable sections of AWWA C-800 and be suitable for flared connection to type K copper pipe.
2. Manufacturer:
 - a. Unions, copper to copper, three parts:
 - 1) Mueller Co #H-15400,
 - 2) Ford C22-XX,
 - 3) Or approved equal.
 - b. Unions, copper to copper, two parts:
 - 1) Mueller Co #H-15405,
 - 2) Ford C02-XX,
 - 3) Or approved equal.
 - c. Eighth bend coupling with gasket:
 - 1) Mueller Co #H-15063,
 - 2) Ford LA02-XX,
 - 3) Or approved equal.
 - d. Quarter bend coupling with gasket:
 - 1) Mueller Co #H-15068,
 - 2) Ford L02-XX,
 - 3) Or approved equal.

- e. Straight male adapter:
 - 1) Mueller Co #H-15425,
 - 2) Ford C28-XX,
 - 3) Or approved equal.
- f. Straight female adapter:
 - 1) Mueller Co #H-15450,
 - 2) Ford C21-XX,
 - 3) Or approved equal.

I. Water Meter Couplings, Flanges and Gaskets

- 1. Water Meter Coupling:
 - a. Meter couplings shall be bronze hex body with iron pipe thread and bronze nut drilled for wire seal.
 - b. Manufacturer:
 - 1) Ford #C38 Body Style A,
 - 2) Or approved equal.
- 2. Water Meter Flanges:
 - a. Meter flanges shall be bronze, tapped for iron pipe or have male iron pipe thread.
 - b. Manufacturer:
 - 1) Ford #6F or M; and, Ford #7F,
 - 2) Or approved equal.
- 3. Water Meter Gaskets:
 - a. Gaskets shall be 1/8-inch thick, not reinforced rubber.
 - b. Manufacturer:
 - 1) Ford: #GT120R, #GT140 and #GT141,
 - 2) Or approved equal.

J. Water Meter Tile Set

- 1. The water meter tile set shall be rigid PVC, high insulating “R” value body meter box specially designated for buried meter applications.
- 2. The water meter tile set shall be designed such that the meter is easily accessible and braced for additional stabilization. No bottom is to be provided.
- 3. A closed-cell insulation pad or a double lid cover system shall be provided to prevent freezing.
- 4. The water meter tile set shall be suitable for a minimum depth of cover of 5 feet over the water service tubing.
- 5. A locking cast iron lid shall be furnished for each tile set.
- 6. The water meter tile set shall be furnished complete with male I.P. thread inlet and outlet connections, full port angle key at meter inlet, dual check valve at meter outlet, coupling and fittings ready for a complete meter installation.
- 7. Manufacturer:
 - a. Mueller/McCullough Thermo Coil Meter Box,

- b. Ford Pit Setter – PD VHH-188-18-60 for $\frac{5}{8}$ -inch x $\frac{3}{4}$ -inch meters, Ford Pit Setter – PD VHH-488-20-60 for 1-inch meters,
 - c. Or approved equal.

- K. 1 $\frac{1}{2}$ -inch and 2-inch Water Meter Tile Set.
 - 1. The water meter tile set shall be suitable diameter to allow for 1 $\frac{1}{2}$ -inch and 2-inch meters and shall be constructed of rigid PVC specially designated for buried meter applications.
 - 2. The water meter tile set shall be designed such that the meter is easily accessible and braced for additional stabilization. No bottom is to be provided.
 - 3. The water meter tile set shall be suitable for a minimum depth of cover of 5 feet over the water service tubing.
 - 4. A locking cast iron lid shall be furnished for each tile set. An insulation pad or double lid arrangement shall be provided to prevent freezing.
 - 5. The water meter tile set shall be furnished complete with male I.P. thread inlet and outlet connections, angle key valve at meter inlet, angle key valve at meter outlet, bypass piping with ball valve, flanged meter couplings, and fittings ready for a complete meter installation.
 - 6. Manufacturer:
 - a. Mueller/McCullough EZ-Vault Meter Setter,
 - b. Ford Pit Setter-PMBB-688-36HB-60 for 1 $\frac{1}{2}$ -inch meters, Ford Pit Setter-PMBB-788-36HB-60 for 2-inch meters,
 - c. Or approved equal.

- L. Corporation Stops
 - 1. Corporation stops shall be furnished with bronze stem, washer, nut, body and key.
 - 2. Corporation stops shall be threaded to conform to AWWA C800 with standard corporation stop thread at the inlet. The outlet shall be fitted with coupling nut for flared tube service unless otherwise specified.
 - 3. Components shall be suitable for operating pressure meeting or exceeding AWWA C-800 criteria for high pressure application.
 - 4. Manufacturer:
 - a. Mueller: copper outlet, #B25000, for sizes $\frac{3}{4}$ -inch through 1-inch, Mueller: copper outlet, #B25020, for sizes over 1-inch,
 - b. Ford: copper outlet, FB600, for sizes $\frac{3}{4}$ -inch through 1-inch, Ford: copper outlet, FB600 with L02, for sizes over 1-inch,
 - c. Or approved equal.

- M. Curb Stops
 - 1. Curb stops shall be manufactured in accordance with AWWA C-800 and shall have all brass components conforming to 85-5-5-5 ASTM B62.
 - 2. Curb stops shall be ball type, quarter turn to open or close, and shall be suitable for potable water service buried application.

3. Components shall be suitable for operating pressure meeting or exceeding AWWA C-800 criteria for high pressure application.
4. Manufacturer:
 - a. Mueller:
 - 1) $\frac{3}{4}$ -inch through 2-inch copper to copper: B25204.
 - 2) $\frac{3}{4}$ -inch through 2-inch copper to iron: B25174.
 - b. Ford:
 - 1) $\frac{3}{4}$ -inch through 2-inch copper to copper: B22.
 - 2) $\frac{3}{4}$ -inch through 2-inch copper to iron: B21,
 - c. Or approved equal.

N. Curb Boxes

1. Curb boxes shall be high quality cast-iron castings suitable for H20 loadings.
2. Boxes shall be two-piece adjustable depth with arch pattern base. An extension stem will not be allowed.
3. Valve box covers shall be marked "water" and shall be cast iron with a brass pentagon plug.
4. Manufacturer:
 - a. Bibby-LaPerle:
 - 1) For $\frac{3}{4}$ -inch and 1-inch; 2 $\frac{1}{2}$ -inch shaft: V-009, size 95E,
 - 2) For 1 $\frac{1}{2}$ -inch and 2-inch; 4 $\frac{1}{4}$ -inch shaft: V-425, size 145R,
 - b. Hays,
 - c. Mueller,
 - d. Clow - a division of McWane, Inc.,
 - e. Tyler - a division of McWane, Inc.,

O. Valve Boxes

1. Valves installed in the ground shall be equipped with an adjustable screw type valve box, minimum 1 foot adjustment.
2. The valve box shall have a barrel with a base to fit the valve on which it is to be installed.
3. Valve boxes for gate valves shall be three piece screw type, 5- $\frac{1}{4}$ " shaft with No. 6 base and a valve box cover.
4. Valve boxes for butterfly valves shall be two piece screw type, 5- $\frac{1}{4}$ " shaft, with integrated base and a valve box cover.
5. Valve boxes shall be high quality cast-iron castings suitable for HS-20 loadings.
6. All valve box parts must be compatible and interchangeable with Buffalo Pipe and Foundry Corp. valve boxes.
7. Valve box covers shall be marked "water" and shall fit properly in the barrel without movement.
8. Manufacturer:
 - a. Bibby-LaPerle, (Figure V619 for gate, V652 for butterfly valves),
 - b. Bass & Hays, BH39605,

- c. Tyler Union - a division of McWane, Inc. (6860 for gate, 6850 for butterfly valves),
- d. Sigma

P. Insulation

1. Materials

- a. Watermain, valves, water service piping and fittings and other appurtenances installed where depth of bury is less than 54 inches (4 feet, 6 inches) or where shown on the drawings, shall be fully wrapped with a closed cell polystyrene insulation.

2.02 PAINTING

A. Shop Painting

- 1. Clean and prime coat ferrous metal surfaces.
- 2. All interior wetted ferrous surfaces of valves and appurtenances except finished or bearing surfaces shall be shop-painted with an approved epoxy paint system certified to NSF/ANSI Standard 61 for potable water and applied in accordance with the paint system manufacturer's recommendations.
- 3. Coat machined, polished and non-ferrous surfaces including gears, bearing surfaces and similar unpainted surfaces with corrosion prevention compound listed in NSF/ANSI Standard 61 and applied in accordance with the manufacturer's recommendations. Maintain coating during storage and until equipment begins operation.

PART 3 - EXECUTION

3.01 GENERAL

- A. Install piping specialties and accessories as shown on the Drawings and in accordance with the applicable requirements of Section 15051, Buried Piping Installation.

END OF SECTION

SECTION 15121

CASING PIPE

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Specified

The Work specified shall include all labor, materials, tools, equipment, services and incidentals necessary to furnish and install new casing pipe and incidentals as shown, specified and required.

B. Related Work Specified Elsewhere:

1. Section 02316 - Select Granular Materials
2. Section 02351 - Excavation, Backfill and Trenching
3. Section 15106 - Ductile Iron Pipe and Fittings
4. Section 15108 - Thermoplastic Pipe
5. Section 15109 - Prestressed Concrete Cylinder Pipe
6. Section 15110 - Valves and Appurtenances

1.02 QUALITY ASSURANCE

A. All materials shall be new, of first quality and in first class condition. They shall be of the type and manufacturer shown or specified, and substitutions will not be permitted unless specified by the ENGINEER.

B. Reference Standards:

1. ASTM A123, Zinc (Hot Galvanized) Coatings of Products Fabricated from Rolled, Pressed and Forged Steel Shapes, Bars, Plate Bars and Strips
2. ASTM A139, Electric Fusion (ARC) Welding Steel Pipe
3. ASTM A153, Zinc Coating (Hot Dip) on Iron and Steel Hardware
4. ASTM A307, Low Carbon Steel Externally and Internally Threaded Standard Fasteners
5. ASTM A252, Welded and Seamless Pipe Piles
6. ASTM A570, Standard Specification for Steel, Sheet and Strip, Carbon, Hot-Rolled, Structural Quality
7. ASTM C32, Standard Specification for Sewer and Manhole Brick (made from clay or shale)
8. ASTM C207, Standard Specification for Hydrated Lime for Masonry Purposes

C. Steel casing pipe and all incidentals shall be furnished by one supplier.

- D. Requirements of Regulatory Agencies:
1. The CONTRACTOR shall be responsible for obtaining all required permits and shall comply with all provisions thereof at his own expense.
 2. The CONTRACTOR shall, in addition to #1 above, obtain all additional permits, provide insurance, bonds and guarantees, and all else required by the governing authorities at his own expense. The CONTRACTOR'S responsibility under this paragraph may include, but not be limited to the following:
 - a. Constructing and removing temporary facilities or structures.
 - b. Providing details of construction methods.
 - c. Providing detailed construction schedules.
 - d. Reimbursing the applicable authority for any and all expenses incurred by them in connection with the Work.
 - e. Traffic maintenance.
 - f. Coordination of scheduling with the Authority.
 - g. Necessary clean-up and restoration.
- E. Tolerances:
1. The casing pipe shall be installed on the lines and grades shown on the Drawings and within tolerances required to allow the carrier pipe to pass through the crossing in accordance with the lines and grades shown, specified, or directed.
- F. Welding:
1. Welding shall be done in strict accordance with manufacturer's written requirements.
 2. Welding operators shall be prequalified in accordance with the standard qualification procedure of the American Welding Society, and certificates attesting thereto shall be delivered to the ENGINEER prior to beginning of any welding operations.

1.03 SUBMITTALS

- A. Shop Drawings identifying the casing pipe materials and installation procedure.
- B. Certifications for welding operators.
- C. All permits necessary for county highway crossings.
- D. The CONTRACTOR shall submit certificates of compliance with the applicable referenced standards.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. During delivery and handling, all materials shall be braced and protected from any distortion or damage in accordance with the manufacturer's requirements; any such distortion or damage shall be basis for rejection of the materials.
- B. Equipment used for unloading shall be covered with wood or rubber to avoid damage to the exterior of the pipe, fittings and accessories. Do not drop or roll materials off trucks.
- C. The materials shall be inspected before and after unloading. Materials that are found to be cracked, chipped, gouged, dented or otherwise damaged will not be accepted.
- D. Interiors of materials shall be kept free from dirt and foreign matter.
- E. Store casing pipe on heavy wood blocking or platforms so they are not in contact with the ground.
- F. Casing pipe shall be unloaded opposite to or as close to the place where they are to be laid as is practical to avoid unnecessary handling.

1.05 JOB CONDITIONS

- A. Provide guardrails, fences, signs, lights, barricades, barrels, and all other protective items necessary in accordance with the requirements of all applicable permits, laws, regulations, and ordinances, and as necessary to prevent damage or injury to private or public property or to workmen or the general public.

PART 2 - PRODUCTS

2.01 PROPERTIES OF STEEL CASING PIPE

- A. Design Criteria: Steel Casing Pipe
 - 1. Minimum Tensile Strength - 60,000 PSI
 - 2. Minimum Yield Strength - 35,000 PSI
 - 3. Minimum Wall Thickness as Follows:

<u>Carrier Pipe</u>	<u>Casing Diameter</u>	<u>Minimum Wall Thickness</u>
4"	12"	0.313
6"	16"	0.313
8"	18"	0.313
10"	20"	0.313
12"	24"	0.313
16"	30"	0.563
20"	36"	0.563
24"	42"	0.563
30"	48"	0.625
36"	60"	0.625
42"	66"	0.625

- B. Casing pipe diameter shall be nominal outside diameter.
- C. Steel casing pipe shall be in accordance with ASTM A139, Grade B or ASTM A252, Grade 2.

2.02 MATERIALS

- A. Steel Casing Pipe
 1. Steel casing pipe shall be fabricated in accordance with the above listed specifications to the lengths and diameters shown on the Contract Drawings.
 2. For casing pipes 30-inches in diameter and smaller, grout holes will not be required. For casing pipes larger than 30-inches in diameter, provide an adequate number of 1-1/2 inch holes, furnished three feet on center alternating 30 degrees with the top of the casing pipe. This shall be provided before installation to check for voids in the space between the ground and the outside of the casing pipe after the casing pipe is installed.
 3. The 1-1/2 inch holes in steel casing pipe shall be tapped to receive 1-1/2" pipe plugs.
 4. Grouting or other methods approved by the ENGINEER shall be used to fill such voids as uncovered.
 5. All steel casing pipe must be new in first-class condition. Used or recycled casing pipe will not be allowed, regardless of condition.
- B. Brick Bulkheads
 1. Brick shall meet the requirements of ASTM C32, Grade MS.
 2. Mortar shall be composed of Portland Cement, hydrated lime and sand in which the volume of sand shall not exceed three times the sum of the volumes of cement and lime.
 - a. Cement shall be type II Portland Cement.
 - b. Hydrated lime shall be types conforming to ASTM C207.

- C. Cathodic Protection
 - 1. Five (5) seventeen pound magnesium anodes shall be provided and installed for each end of each casing for cathodic protection.
 - 2. Follow manufacturer's recommendations for attaching to casing pipe and proper burial procedures.

- D. Casing Spacers for Ductile Iron Pipe
 - 1. Stainless Steel
 - a. All casing spacers shall be made of 14 gauge Type 304 stainless steel with $\frac{5}{16}$ " Type 304 stainless steel fasteners.
 - b. Runners shall be high molecular weight polyethylene.
 - c. Spacers shall electrically insulate watermain from casing pipe to provide proper cathodic protection.
 - d. Acceptable manufacturers:
 - 1) Smith-Blair,
 - 2) Approved equal.

- E. Casing Spacers for Prestressed Concrete Cylinder Pipe
 - 1. Raised Mortar Coating Skids
 - a. Where prestressed concrete cylinder pipe is installed within a casing pipe, raised mortar coating skids shall be provided to assist in insertion as follows:
 - 1) Diameter of the raised mortar coating skids shall be two-inches (2") minimum greater than the outside diameter of the pipe spigot;
 - 2) Width of the coating skids shall be twelve-inches (12") typical;
 - 3) The first pipe and last pipe inserted into the casing pipe shall have raised mortar coating skids at each end;
 - 4) Each subsequent pipe shall have one coating skid;
 - 5) The laying schedule will indicate locations and dimensions of raised mortar coating skids as per manufacturer's recommendations.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. General
 - 1. Installation of the casing pipes shall include installation of the steel casing pipe by either the boring and/or jacking method in both earth and/or rock wherever it is encountered.
 - 2. Bulkheads shall be installed at each end of the casing pipe of sufficient strength and quality to support the filling operation and to support annular

fill. Vents shall be provided as required to assure complete filling of annular space as required by applicable authorities.

3. When a carrier pipe is installed inside a casing pipe, the entire annular space around the carrier pipe shall be filled with sand or pea gravel.
4. Recovery pits shall be excavated at each bore or jack location to determine possible conflicts in alignment with existing utilities not shown on the plans.
5. The CONTRACTOR is responsible for proper line and grade at each crossing. Misalignment or improper grade, as compared to the Contract Drawings, will require extra work to be performed at no additional cost to the OWNER.
6. Tight vertical sheeting shall be driven before excavating for bore and receiving pits as required. Sheeting shall be for the full length, width, and depth of the excavation. Sheeting shall conform to the applicable requirements of Section 02351, Excavation, Backfill, and Trenching.
7. Sheeting details shall be submitted by the CONTRACTOR to any affected agency for approval in advance of performing the Work.

B. Boring

1. The boring method shall consist of pushing the casing pipe into the fill with a boring auger rotating inside the pipe to remove the spoil.
2. The front of the casing pipe shall be provided with suitable mechanical arrangements or devices that will positively prevent the auger and cutting head from leading the pipe so that there will be no unsupported excavation ahead of the pipe.
3. The equipment and mechanical arrangements or devices used to bore and remove the earth and/or rock shall be removable from within the casing pipe in the event an obstruction is encountered.
4. The face of the cutting edge shall be arranged to provide reasonable obstruction to the free flow of soft or poor soil.
5. Water or other liquids shall not be used to facilitate casing emplacement or spoil removal.
6. The diameter of the boring hole shall be essentially the same as the outside diameter of the casing pipe.
7. If voids develop around the casing pipe as it is bored, cement grout will be pumped to fill all such voids; or fill by other means acceptable to the ENGINEER. All voids shall be filled as soon as possible after completion of the boring operation.

C. Jacking

1. The steel casing pipe installed by the jacking method shall be weldable steel pipe.
2. No type of auger, boring or drilling equipment shall be used.
3. Bracing and backstops shall be designed of sufficient rating such that jacking can be accomplished in a continuous manner until the leading

edge of the pipe reaches the final position shown on the Contract Drawings.

4. The diameter of the boring hole shall be essentially the same as the outside diameter of the pipe.
5. If voids develop around the casing pipe as it is jacked, cement grout will be pumped to fill all such voids; or fill be other means acceptable to the ENGINEER. All voids shall be filled as soon as possible after completion of the jacking operation.
6. Jacking operations shall be in accordance with the American Railway Engineering Association Specifications, Chapter 1, Part 4, "Jacking Culvert Pipe Through Fills".

D. Obstruction

If an obstruction is encountered during installation by jacking or boring and it is impossible to advance the casing pipe, the CONTRACTOR shall choose one of the following:

1. Abandon the casing pipe in place and fill completely with grout. Provide whatever bulkheading is necessary to accomplish the grouting operation. The crossing will be moved to another location acceptable to the ENGINEER and the crossing rebored at the CONTRACTOR'S expense.
2. As acceptable to the ENGINEER and authority having jurisdiction, the CONTRACTOR may continue the casing pipe by tunneling and installation of liner plates. This continuation by the tunneling method shall be at the CONTRACTOR'S expense.

E. Welding

1. Welding shall be done in accordance with the manufacturer's written requirements.
2. Welding operators shall be prequalified in accordance with the standard qualification procedure of the American Welding Society, and certification attesting thereto shall be delivered to the ENGINEER prior to beginning of any welding operation.

F. Inspection

1. All casing pipe will be inspected by the ENGINEER prior to installation.
2. Prior to the work in this section, the CONTRACTOR shall inspect the installation area to determine if the work of other trades has progressed to the point where the installation may properly commence.
3. The CONTRACTOR shall verify that the installation can proceed in accordance with all pertinent codes and regulations, the original design and the referenced standards.

G. Installation of Carrier Pipe in Steel Casing.

1. Verify that casing is installed to the proper lines and grades.

2. Joints for all carrier pipes 24-inches and larger in diameter shall be made within the casing pipe unless otherwise permitted by the ENGINEER.
3. Push or pull each length of pipe into casing, adjust line and grade as necessary without disturbing adjacent joints.
4. All carrier pipe joints falling within the steel casing pipe shall be restrained whether or not the pipe section falls within a restrained section of pipe as shown on the Drawings.

H. Discrepancies

1. If the above referenced inspection reveals discrepancies, the CONTRACTOR shall notify the ENGINEER immediately.
2. The CONTRACTOR shall not proceed with the installation in areas of discrepancy until said discrepancy is resolved.

I. Blasting

1. Blasting is not allowed.

J. Annular Fill and Bulkhead

1. Provide vents as required to assure complete filling of annular space and as required by the applicable authorities.
2. Prior to the filling of the annular space, carrier pipe shall be properly and sufficiently secured against flotation and against all movement which would disturb joints.
 - a. The CONTRACTOR shall be responsible for all improper joints including all joints disturbed by placing annular fill.
 - b. The CONTRACTOR shall repair, replace or take whatever action is necessary to properly install casing pipe at no additional expense to the OWNER.
3. After the carrier pipe is installed in casing, fill annular space with pea gravel between carrier pipe and casing and construct brick and mortar bulkheads as specified herein.
4. Fill annular space in three (3) stages in the presence of the ENGINEER to his/her satisfaction.
5. The volume of pea gravel used shall be compared to the annular space volume to ensure complete filling. Incomplete filling of annular space will not be considered acceptable. CONTRACTOR will remove pea gravel and reinstall, at his expense, if so ordered by the ENGINEER.
6. Install bulkheads at pipe joints at each end of the casing of sufficient strength and quality to support the filling operation, and to support annular fill.

END OF SECTION

SECTION 15122

MAGNESIUM ANODE

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Specified

The Work specified shall include all labor, materials, tools, equipment, services and incidentals necessary to furnish and install prepackaged magnesium (sacrificial) anodes to cathodically protect a portion of new or existing cast iron pipe or ductile iron pipe, steel casing pipe, service or hydrant branch pipe, and/or new ductile iron fittings and copper water services on new or existing pipe.

B. Related Work Specified Elsewhere:

1. Section 02316 – Select Granular Materials
2. Section 02351 – Excavation, Backfill and Trenching
3. Section 15106 – Ductile Iron Pipe and Fittings
4. Section 15108 – Thermoplastic Pipe
5. Section 15109 – Prestressed Concrete Cylinder Pipe
6. Section 15110 – Valves and Appurtenances
7. Section 15121 – Casing Pipe

1.02 QUALITY ASSURANCE

A. All materials shall be new, of first quality and in first class condition. They shall be of the type and manufacturer shown or specified, and substitutions will not be permitted unless specified by the ENGINEER.

B. Reference Standards:

1. ASTM B843, Standard Specification for Magnesium Alloy Anodes for Cathodic Protection.
2. ASTM G97 – 97(2013), Standard Test Method for Laboratory Evaluation of Magnesium Sacrificial Anode Test Specimens for Underground Applications.

C. Magnesium anodes pipe and all incidentals shall be furnished by one supplier.

D. Requirements of Regulatory Agencies:

1. The CONTRACTOR shall be responsible for obtaining all required permits and shall comply with all provisions thereof at his own expense.
2. The CONTRACTOR shall, in addition to #1 above, obtain all additional permits, provide insurance, bonds and guarantees, and all else required by the governing authorities at his own expense. The CONTRACTOR'S

responsibility under this paragraph may include, but not be limited to the following:

- a. Constructing and removing temporary facilities or structures.
- b. Providing details of construction methods.
- c. Providing detailed construction schedules.
- d. Reimbursing the applicable authority for any and all expenses incurred by them in connection with the Work.
- e. Traffic maintenance.
- f. Coordination of scheduling with the Authority.
- g. Necessary clean-up and restoration.

E. Thermite Welding:

1. Thermite welding shall be done in strict accordance with manufacturer's written requirements.
2. Welding operators shall be prequalified in accordance with the standard qualification procedure of the American Welding Society, and certificates attesting thereto shall be delivered to the ENGINEER prior to beginning of any welding operations.

1.03 SUBMITTALS

- A. Shop Drawings identifying the magnesium anode materials and installation procedure.
- B. Certifications for thermal welding operators.
- C. The CONTRACTOR shall submit certificates of compliance with the applicable referenced standards.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. During delivery and handling, all materials shall be braced and protected from any distortion or damage in accordance with the manufacturer's requirements; any such distortion or damage shall be basis for rejection of the materials.
- B. Equipment used for unloading shall be covered with wood or rubber to avoid damage to the anodes and accessories. Do not drop or roll materials off trucks.
- C. The materials shall be inspected before and after unloading. Materials that are found to be wet, torn, contain broken wires, loss of anode salts or otherwise damaged will not be accepted.
- D. Store anodes on heavy wood blocking or platforms with a waterproof tarp so they are not in contact with the ground and stay dry.

PART 2 - PRODUCTS

2.01 PROPERTIES OF MAGNESIUM (SACRIFICIAL) ANODES

- A. Anodes shall be high potential magnesium anode ingots with prepackaged backfill.
- B. Anode ingot shall meet or exceed ASTM B843, Grade M1C for high-potential magnesium anodes, with the following chemical composition:

<u>Element</u>	<u>Percent By Weight</u>
Aluminum	0.01 maximum
Manganese	0.5 – 1.3
Zinc	0.05 maximum
Copper	0.02 maximum
Silicon	0.05 maximum
Iron	0.03 maximum
Nickel	0.001 maximum
Other metallic elements	0.05 maximum or 0.3 total
Magnesium	Remainder

- C. Laboratory tests shall be performed by a third party, in accordance with ASTM G97 (Laboratory Evaluation of Magnesium Test Specimens for Underground Application) requirements. Test results shall demonstrate a minimum open circuit potential of -1.70 volts with respect to a saturated Calomel electrode (-1.774 volts with respect to a copper/copper sulfate electrode) and a minimum current efficiency of 50% or 500 amp-hours per pound.
- D. Anode shall come furnished with minimum 10 feet of coiled #12 AWG solid copper wire with insulation, firmly attached to the galvanized steel core of the anode. The core cavity shall be filled with electrical sealing compound to assure a fully insulated and protected connection.
- E. Each magnesium anode ingot shall be a 17-pound magnesium bar in a prepackaged backfill-enclosed, permeable cloth bag. Total weight of the anode and backfill enclosed bag shall be approximately 45 pounds.
- F. Backfill in each magnesium anode bag shall contain 75 percent Hydrated Gypsum, 20 percent Bentonite, and 5 percent Sodium Sulfate.

2.02 THERMITE WELD EQUIPMENT

- A. Thermite Weld
 - 1. Connection of anode lead wire to cast iron or ductile iron pipe or fittings shall be made by the thermite weld method.

2. Thermite weld materials shall consist of wire sleeves, weld mold and weld cartridges according to the weld manufacturer's recommendations for the specific wire and pipe sizes and materials.
3. Weld materials from different manufacturers shall not be interchanged.
4. Weld molds shall be graphite molds.
5. Ceramic 'one-shot' molds will not be acceptable.

PART 3 - EXECUTION

3.01 INSTALLATION

A. General

1. Spacing and location of magnesium anodes will be as specified in Contract Documents.
2. Each anode shall be placed in a horizontal position parallel with the pipe, with centerline axis of the anode at least 6 inches below the bottom of the water or steel casing pipe. The centerline axis of the anode shall also be placed at least 6 inches from the exterior wall of the water pipe.
3. Care shall be taken to ensure that the cloth bag is not damaged and no backfill is lost during installation.
4. Each anode shall be centered in the cloth bag. It may be necessary to re-center the anode in the cloth bag by rolling it on the ground prior to installation.
5. Each prepackaged anode shall be lowered into the trench using a sling or rope. The anode shall not be lowered, transported, handled, or lifted by the lead wire. The anode shall not be dropped into the excavation.
6. The anode lead wire shall be long enough to reach from the pipe to the anode without a splice.
7. The anode lead wire shall be attached to the pipe using the thermite weld process.

B. Cathodic Protection Test Station

1. Anodes that are installed at cathodic protection test stations are not to be directly connected to the water pipe or fitting.
2. When the anode lead wire is not long enough to reach the test station terminal board with sufficient slack, the lead wire may be lengthened by splicing on an additional length of lead wire. Splice shall be made using an approved splice connector suitable for buried applications.

C. Polyethylene Wrap

1. To connect anode lead wire to ductile iron pipes that are encased in a polyethylene wrap, the CONTRACTOR shall first cut back the polyethylene wrap to expose the pipe.

2. The CONTRACTOR shall make an “X” shaped cut in the polyethylene wrap and temporarily fold back the polyethylene wrap at the point where the anode lead wire will be connected to the pipe.

D. Surface Preparation and Anode Connection

1. Using a mechanical grinder, remove the minimum area of coating from pipe or fitting surface required for placement of weld mold, creating a bright, shiny surface.
2. Prepare the anode lead wire and pipe surface for thermite welding by assuring that they are dry. Wire and pipe surface shall be free of dirt, grease, and other foreign products.
3. Remove insulation at end to be welded in a manner that will avoid damage to wire.
4. Install adapter sleeves for anode lead wire as recommended by thermite weld manufacturer prior to welding.
5. Hold wire at an approximate 30 degree angle to pipe surface when welding.
6. When weld has cooled, remove weld slag and test weld for strength by striking a sharp blow to the weld with a hammer while pulling firmly on the wire.
7. Re-weld unsound welds and retest weld.
8. Thoroughly clean mold and mold covers after completion of each weld to remove all excess slag.
9. After soundness of weld has been verified, thoroughly clean with a stiff wire brush and brush with an approved bitumastic coating over entire weld area.
10. Lift wire away from pipe and apply bitumastic coating completely around and underneath the wire. Push wire back down on the pipe. Apply a protective bitumastic coating where any original pipe coatings have been disturbed.
11. After the anode lead wire is connected to the pipe, the CONTRACTOR shall repair the polyethylene wrap using polyethylene compatible adhesive tape. The polyethylene wrap shall be folded back against the pipe and the repair tape shall be applied on anode lead wire. The repair tape shall completely cover the area of the polyethylene wrap that was cut and shall completely cover all exposed ductile iron pipe.
12. Extra anode lead wire for each anode shall be coiled. The wire shall have sufficient slack to allow for pipe and anode movement and to protect against undue stress during backfilling.
13. Prior to backfilling the anode, water shall be applied to the anode to moisten its pre-packed backfill.
14. The area immediately surrounding the anode shall be backfilled with native soil. Cushion sand shall be backfilled around the water pipe or fitting so that the sand covers the pipe or fitting to a minimum depth of 12 inches on top, and along both sides of the pipe or fitting.

15. The excavation shall be backfilled in stages using select granular backfill (water) material free from stone, rocks, roots, organic material, trash, or other debris, and carefully tamped to ensure that no voids exist around the bag and that the bag and wire are not damaged.
- E. Anodes on Copper Water Service on PVC, DIP, and PCCP Watermains
1. If designated in the Contract Documents, one 17-pound anode shall be connected to new copper water services on PVC, DIP, and PCCP watermains.
 2. For copper services 1-inch diameter and less, anode lead wire shall be attached to thaw wire type copper tube nut at outlet end of corporation stop. For copper services larger than 1-inch diameter, anode lead wire is to be attached to copper service using bronze ground clamp.
- F. Anodes on Existing Ductile and Cast Iron Watermains
1. Magnesium anodes shall be installed as designated in the Contract Documents or directed by the ENGINEER, on existing cast and ductile iron watermain pipe to cathodically protect both pipes on either side of the joint.
 2. At each excavated joint, an area shall be excavated that is large enough to expose top and one or both sides of existing watermain pipe and safely install anodes in one operation.
 3. Basic general size of the area to be excavated will be dependent on the depth and location of the watermain.
 4. Magnesium anodes are not required to be installed on existing watermain fittings or valves encountered in an excavation, unless otherwise required in the Contract Documents or directed by the ENGINEER.
- G. Anodes on Existing Ductile and Cast Iron Hydrant Branches and Water Services
1. If designated in the Contract Documents, hydrant branches shall be excavated along the branch pipe with the branch gate valve centered in the trench. One 17-pound anode shall be attached to the branch pipe between the watermain and the gate valve and one 17-pound anode on the branch pipe between the gate valve and the hydrant.
 2. Water services 4-inch diameter and larger shall be excavated along the service pipe with the curb shut off valve centered in the excavation. One anode shall be connected to the service pipe between the watermain and the curb valve and a second anode shall be connected to the service pipe between the curb valve and the customer's property. For services with no curb valve, one anode shall be connected to the service pipe in the vicinity of the curb.
 3. Anode sizes shall be based on the service diameter, with one 17-pound anode installed on 4-inch and 6-inch diameter services; two 17-pound anodes installed on 8-inch and 10-inch diameter services; and three 17-pound anodes installed on services 12-inch diameter and larger.

H. Inspection

1. All casing pipe will be inspected by the ENGINEER prior to installation.
2. Prior to the work in this section, the CONTRACTOR shall inspect the installation area to determine if the work of other trades has progressed to the point where the installation may properly commence.
3. The CONTRACTOR shall verify that the installation can proceed in accordance with all pertinent codes and regulations, the original design and the referenced standards.

I. Discrepancies

1. If the above referenced inspection reveals discrepancies, the CONTRACTOR shall notify the ENGINEER immediately.
2. The CONTRACTOR shall not proceed with the installation in areas of discrepancy until said discrepancy is resolved.

END OF SECTION

SECTION 15123

CATHODIC PROTECTION TESTING STATION

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Specified

The Work specified shall include all labor, materials, tools, equipment, services and incidentals necessary to furnish and install cathodic protection testing stations to protect a portion of new or existing cast iron pipe or ductile iron pipe, steel casing pipe, service or hydrant branch pipe, and/or new ductile iron fittings and copper water services on new or existing pipe.

B. Related Work Specified Elsewhere:

1. Section 02316 – Select Granular Materials
2. Section 02351 – Excavation, Backfill and Trenching
3. Section 15106 – Ductile Iron Pipe and Fittings
4. Section 15108 – Thermoplastic Pipe
5. Section 15109 – Prestressed Concrete Cylinder Pipe
6. Section 15110 – Valves and Appurtenances
7. Section 15121 – Casing Pipe
8. Section 15122 – Magnesium Anode

1.02 QUALITY ASSURANCE

A. All materials shall be new, of first quality and in first class condition. They shall be of the type and manufacturer shown or specified, and substitutions will not be permitted unless specified by the ENGINEER.

B. Reference Standards:

1. ASTM B843, Standard Specification for Magnesium Alloy Anodes for Cathodic Protection.
2. ASTM G97 – 97(2013), Standard Test Method for Laboratory Evaluation of Magnesium Sacrificial Anode Test Specimens for Underground Applications.

C. Thermite Welding:

1. Thermite welding shall be done in strict accordance with manufacturer's written requirements.
2. Welding operators shall be prequalified in accordance with the standard qualification procedure of the American Welding Society, and certificates attesting thereto shall be delivered to the ENGINEER prior to beginning of any welding operations.

1.03 SUBMITTALS

- A. Shop Drawings identifying the cathodic protection testing station and installation procedure.
- B. Certifications for thermal welding operators.
- C. The CONTRACTOR shall submit certificates of compliance with the applicable referenced standards.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. During delivery and handling, all materials shall be braced and protected from any distortion or damage in accordance with the manufacturer's requirements; any such distortion or damage shall be basis for rejection of the materials.
- B. The materials shall be inspected before installation. Materials that are damaged will not be accepted.

PART 2 - PRODUCTS

2.01 PROPERTIES OF CATHODIC PROTECTION TESTING STATION

- A. Testing stations shall meet the following minimal requirements:
 - 1. All materials for testing stations shall be new materials and supplied by one supplier.
 - 2. Cathodic protection testing stations shall be composed of a minimum 3-inch diameter polyethylene or polycarbonate riser with screw-type protective cap.
 - 3. Test stations shall be blue in color and include proper labeling identifying it as a waterline testing station.
 - 4. Test stations shall be equipped with a circuit testing board, mounted at the top of the station, capable of being used to monitor voltage in the system.
 - 5. Each test station shall be installed with a base anchor, minimizing the chance of settlement or heaving of the station.
 - 6. All wiring within the test station shall be 12-gauge insulated wire or as required by the station manufacturer.
 - 7. Test station label shall identify that it is a waterline testing station and include the name and contact number for the Erie County Water Authority.
- B. Acceptable manufacturers:
 - 1. Pro-Mark,
 - 2. Brentsen,
 - 3. GMC,
 - 4. Or approved equal.

2.02 THERMITE WELD EQUIPMENT

A. Thermite Weld

1. Connection of lead wires to cast iron, ductile iron, or steel pipe or fittings shall be made by the thermite weld method.
2. Thermite weld materials shall consist of wire sleeves, weld mold and weld cartridges according to the weld manufacturer's recommendations for the specific wire and pipe sizes and materials.
3. Weld materials from different manufacturers shall not be interchanged.
4. Weld molds shall be graphite molds.
5. Ceramic 'one-shot' molds will not be acceptable.

PART 3 - EXECUTION

3.01 INSTALLATION

A. General

1. Spacing and location of the cathodic protection testing station shall be as specified in the Contract Documents and approved by the ENGINEER.
2. Test stations shall be installed in areas where they will not be disturbed by vehicular traffic and will not interfere with trees, plantings, hydrants, valve boxes, or other utilities.
3. Comply with manufacturer's recommendations for testing station installation.

B. Magnesium (sacrificial) Anode Installation.

1. Anodes that are installed at cathodic protection test stations are not to be directly connected to the water pipe or fitting.
2. When the anode lead wire is not long enough to reach the test station terminal board with sufficient slack, the lead wire may be lengthened by splicing on an additional length of lead wire. Splice shall be made using an approved splice connector suitable for buried applications.
3. Comply with Technical Specification Section 15122 for installation of magnesium anodes.

C. Pipe Surface Preparation and Thermite welding

1. Using a mechanical grinder, remove the minimum area of coating from pipe or fitting surface required for placement of weld mold, creating a bright, shiny surface.
2. Prepare the lead wires and pipe surface for thermite welding by assuring that they are dry. Wire and pipe surface shall be free of dirt, grease, and other foreign products.
3. Remove insulation at end to be welded in a manner that will avoid damage to wire.
4. Install adapter sleeves for lead wire as recommended by thermite weld manufacturer prior to welding.

5. Hold wire at an approximate 30 degree angle to pipe surface when welding.
6. When weld has cooled, remove weld slag and test weld for strength by striking a sharp blow to the weld with a hammer while pulling firmly on the wire.
7. Re-weld unsound welds and retest weld.
8. Thoroughly clean mold and mold covers after completion of each weld to remove all excess slag.
9. After soundness of weld has been verified, thoroughly clean with a stiff wire brush and brush with an approved bitumastic coating over entire weld area.
10. Lift wire away from pipe and apply bitumastic coating completely around and underneath the wire. Push wire back down on the pipe. Apply a protective bitumastic coating where any original pipe coatings have been disturbed.
11. After the lead wires are connected to the pipe, the CONTRACTOR shall repair the polyethylene wrap using polyethylene compatible adhesive tape. The polyethylene wrap shall be folded back against the pipe and the repair tape shall be applied on the lead wires. The repair tape shall completely cover the area of the polyethylene wrap that was cut and shall completely cover all exposed ductile or cast iron pipe.
12. Extra lead wire shall be coiled. The wire shall have sufficient slack to allow for pipe, test board, and anode movement and to protect against undue stress during backfilling.
13. The number of anodes may vary and are shown on contract drawings. If multiple anodes are defined, connect anodes in series and to test board accordingly.
14. Prior to backfilling the anode(s), water shall be applied to the anode(s) to moisten its pre-packed backfill.
15. Test wires shall be installed in continuous length. Test wires shall be provided with sufficient slack at the pipe and at the test station box to prevent the test wire from being unduly stressed or broken during backfilling operations and future excavating. Sufficient test wire shall be provided to coil below ground within the test box so that the terminal board and test wires can extend approximately 3 feet above ground level.
16. Test wires shall be handled with care. Damage to wire insulation shall be repaired by spirally wrapping (minimum of 50 percent overlap) with two layers of high voltage rubber splicing tape and two layers of vinyl electrical tape or using an approved splice connector suitable for buried applications.
17. The terminal end of the lead wire for reference electrodes shall be color coded as indicated on the drawings depending on the type of element required for the soil conditions. If necessary, color coding shall be achieved by wrapping colored vinyl tape several times around the end of the lead wire.
18. All test boxes shall be installed on a solid concrete block foundation.

19. Sand embedment shall be required around the wires and conduit. There shall be a minimum of 6 inches along each side, top, and bottom of the wires and conduit.
20. Upon completion of the Work, the CONTRACTOR shall check all wiring for electrical continuity. The test box/valve box shall be backfilled with the top soil being flush with the surrounding finished grade and the surface restore.
21. The area immediately surrounding the anode shall be backfilled with native soil. Cushion sand shall be backfilled around the water pipe or fitting so that the sand covers the pipe or fitting to a minimum depth of 12 inches on top, and along both sides of the pipe or fitting.
22. The excavation shall be backfilled in stages using select granular backfill (water) material free from stone, rocks, roots, organic material, trash, or other debris, and carefully tamped to ensure that no voids exist around the bag and that the bag and wire are not damaged.

D. Inspection of Testing System

1. CONTRACTOR shall demonstrate to the ENGINEER and OWNER that the station is functioning properly after installation is complete.
2. CONTRACTOR shall measure the voltage across the completed test station using an approved multimeter and provide the results to the ENGINEER.
3. If no reading can be obtained, CONTRACTOR shall verify that all wiring is properly installed by excavating the station and inducing current from pipe to anode to demonstrate conductivity. CONTRACTOR shall be responsible for all trouble-shooting measures necessary until it can be shown that test station is operational.
4. CONTRACTOR shall correct any deficiencies regarding the test station at his expense until test system is operational and results are satisfactory to the ENGINEER and OWNER.

END OF SECTION

SECTION 15140

TESTING AND DISINFECTION

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Specified

1. Testing and disinfection of all pressure piping for leakage as specified.
 - a. The CONTRACTOR shall furnish all labor, equipment, test connections, vents, water and materials necessary for carrying out the pressure and leakage tests as specified and required.
 - b. The work specified shall include all labor, material, equipment, services and incidentals necessary to fill, clean, chlorinate, flush, and test all pipelines which will carry or hold potable water.

B. Related Work Specified Elsewhere

1. Section 02080 - Fire Hydrants
2. Section 15051 - Buried Piping Installation
3. Section 15106 - Ductile Iron Pipe and Fittings
4. Section 15108 - Thermoplastic Pipe
5. Section 15109 - Prestressed Concrete Cylinder Pipe
6. Section 15110 - Valves and Appurtenances
7. Section 15120 - Piping Specialties and Accessories

C. Description

1. Permission shall be obtained from the OWNER of the water system before the use of water from any existing system. The CONTRACTOR shall:
 - a. Conform to the requirements of the OWNER.
 - b. Pay all costs connected with the taking or use of water for any retesting.
 - c. The CONTRACTOR shall provide written notice to the Authority and ENGINEER at least three working days in advance of testing and disinfection.
2. All work under this section shall be performed in the presence of the ENGINEER. A representative of the public health authority having jurisdiction must also be present, as required.
3. Chlorination shall be scheduled such that sampling and flushing will be performed during normal business hours.

1.02 QUALITY ASSURANCE

A. Reference Standards

1. AWWA B300, Standard for Hypochlorites

2. AWWA B301, Standard for Liquid Chlorine
3. AWWA C104, Cement-Mortar Lining for Ductile Iron Pipe and Fittings for Water
4. AWWA C301, Prestressed Concrete Pressure Pipe, Steel-Cylinder Type for Water and Other Liquids
5. AWWA C502, Standard for Dry-Barrel Fire Hydrants
6. AWWA C504, Standard for Rubber Seated Butterfly Valves
7. AWWA C600, Standard for Installation of Ductile Iron Watermains and Their Construction
8. AWWA C651-14, Standard for Disinfecting Water Mains
9. AWWA C900 Polyvinyl Chloride (PVC) Pressure Pipe, 4-inch Through 12-inch for Water Distribution
10. NSF/ANSI Standard 60 and 61 (as applicable)
11. Standard Methods for the Examination of Water and Wastewater, latest edition
12. 1996 Safe Drinking Water Act

1.03 SUBMITTALS

- A. The CONTRACTOR shall submit proposed materials, methods, and operations regarding testing and disinfection to the ENGINEER for review prior to the start of testing.
- B. CONTRACTOR must provide a sketch to the ENGINEER of the sampling locations identifying at minimum the following:
 1. Street names,
 2. North arrow,
 3. Sampling locations,
 4. House numbers of nearest buildings to sampling locations.
 5. Other distinguishable landmarks,
 6. Any other information as requested by ENGINEER, OWNER, AUTHORITY, or County Health Department.
- C. The CONTRACTOR shall submit certification that all backflow preventers (Reduced Pressure Zone attachments) and pressure gauges have been tested and certified within the last year.
- D. Qualifications of laboratory analyzing biological samples shall be New York State ELAP certified.
- E. Chain-of-Custody forms are to be furnished for all biological samples taken.
- F. For flushing operations, ENGINEER shall supply calculations identifying the actual approximate scouring velocity achieved in the new waterline, as closely as possible to the required 3.0 ft/sec, and that three pipe volumes have passed through it.

- G. ENGINEER shall provide pressure testing and leakage test results on the ECWA Pressure Test/Leakage Test form available on the ECWA website.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. All products must be suitable for use in a potable water system and NSF-60 certified. All piping, valves, etc. shall be NSF-61 certified.
- B. Chlorination shall be by the use of a solution of sodium hypochlorite contained in the pipe or structure as specified. The use of calcium hypochlorite in powdered, granular, or tablet form, shall not be allowed.

PART 3 - EXECUTION

3.01 TESTS ON PRESSURE PIPING FOR POTABLE WATER

- A. General
1. Flush, test and disinfect prior to connection to existing watermains as specified below, except as otherwise authorized by the ENGINEER.
 2. The length of piping and sections included in the tests shall meet the approval of the ENGINEER; however, the length shall not exceed 2,000 feet in any case. Pressure test of pipe section shall be from valve to valve regardless of watermain size.
 3. Notify the ENGINEER 72 hours in advance of testing.
 4. Equipment in or attached to the pipes being tested shall be protected. Any damage to such equipment during the test shall be repaired by the CONTRACTOR at his expense.
 5. Conduct all tests per AWWA C-600 and C-651, latest editions in the presence of the ENGINEER. Repeat tests in the presence of local authorities having jurisdiction if required by them.
 6. CONTRACTOR shall have sufficient personnel at the site for the entire duration of all tests.
 7. When piping is to be insulated or concealed in a structure, tests shall be made before the pipe is covered.
 8. Provide outlets to flush line, expel air and perform specified tests.
 9. Where connections to existing lines are called for only one such connection will be allowed.
 10. All fittings, hydrants and appurtenances must be properly braced and harnessed before the pressure is applied. Thrust restraining devices which will become a part of the system must also be tested at the test pressure.
 11. When testing absorbent pipe materials such as cement or concrete, the pipeline shall be filled with water at least 24 hours before the test is made.

12. The CONTRACTOR must supply all materials and manpower to perform the tests as specified herein.
13. Testing and disinfection shall be acceptable and approved by the agency of jurisdiction before another connection is made.

B. Initial Flushing

1. CONTRACTOR shall fill and flush new main to remove dirt and miscellaneous debris from the inside of the watermain.
2. CONTRACTOR is responsible for removing all entrapped air during flushing.
3. Flushing must have sufficient flowrate to achieve, as closely as possible to, a fluid velocity of 3.0 feet per second inside the waterline, and as approved by the ENGINEER, OWNER, and Health Department.
4. A minimum 2" tap is required for proper flushing of all watermains having a diameter of 8 inches or less, however, multiple taps or larger taps may be required. ENGINEER shall be responsible for determining necessary connections and providing calculations verifying flushing conditions are met.
5. Refer to AWWA C651, for number of taps required to obtain as closely as possible the minimum 3.0 feet per second flow velocity in all pipes, and as approved by the ENGINEER, OWNER, and Health Department.
6. CONTRACTOR is responsible for providing a water source for flushing. With the permission of the OWNER, an existing watermain may be used as a water source, however, the following restrictions apply:
 - a. The CONTRACTOR is not allowed to operate any valves or hydrants or operate any components which belong to the OWNER.
 - b. If water is drawn from the existing system, an appropriate backwater preventer such as a Reduced-Pressure Zone (RPZ) device must be used. The RPZ must be tested within one (1) year and approved prior to usage.
 - c. Water from flushing procedures must be disposed of properly. Water may be piped or gravity-fed to an existing storm sewer with the ENGINEER'S and the OWNER'S permission if proper erosion control methods to minimize sediment build-up are used. Discharge of water into a roadway or into a parking lot area is strictly prohibited. Water discharging operations shall not cause damage to any public or private property.
7. CONTRACTOR shall partially open and close valves and hydrants several times under expected line pressure to flush foreign material out of the valves and hydrants.
8. Flushing shall continue until three pipe volumes have passed through the new waterline and the water appears sediment-free.

C. Pressure Test

1. Pressure test apparatus must be installed as shown on the Drawings

2. Test pressure shall be as specified in Section 15051, Buried Piping Installation, at the lowest point in the line.
3. Test pressure shall be held on the piping for a period of at least 2 hours, unless a longer period is requested by the ENGINEER, OWNER, or AUTHORITY. Pressure should not fluctuate by more than 5 psi during testing.
4. Pressure gauge must be in good working condition and must be demonstrated to be accurate to the ENGINEER prior to any testing.
5. Gauge must have proper labeling to allow ENGINEER to accurately distinguish the maximum allowable 5 psi change in pressure. Gauge must have markings at no greater than 2 psi increments to allow accurate readings.
6. ENGINEER is responsible for reading the gauge and recording the test results he/she witnesses. Results obtained by the ENGINEER are considered final, and not subject to discussion by the CONTRACTOR.
7. ENGINEER may tap pressure gauge at each reading to ensure needle is measuring pressure accurately.
8. The AUTHORITY reserves the right to read the pressure gauge and record the test results for those lines considered suspect or for potentially inaccurate result recording.
9. ENGINEER shall record pressure at 15 or 30 minute intervals to help determine if the pressure loss is stabilizing.
10. The CONTRACTOR will inform the ENGINEER when to begin the test.
11. If the pressure drop is greater than 5 psi in 2 hours, or if the ENGINEER believes the line is suspect, the CONTRACTOR shall explore for the cause of the excessive leakage and after repairs have been made, the line shall be retested. This procedure shall be repeated until the pressure loss is less than the maximum allowable and the ENGINEER is satisfied.
12. If the pressure drop is 3 psi or greater but less than 5 psi in 2 hours, the CONTRACTOR shall continue the test for another 2 hours. If the pressure drop over the 4 hour period is 5 psi or greater, the test failed and must be repeated after the cause of the leakage is explored and the necessary repairs have been made
13. The ENGINEER shall make a preliminary determination if the test passes or fails based on the pressure and volume losses recorded during testing.
14. After each test, the CONTRACTOR must demonstrate that the test apparatus, including the pressure gauge, is fully functional and accurate. Inaccurate gauges or non-satisfactory equipment will be grounds for test failure, regardless of test results. CONTRACTOR will resupply proper equipment and retest, at his expense.
15. The pressure loss recorded over the 2 or 4-hour test must be acceptable to the County Health Department and AUTHORITY for final hydrostatic testing approval to be given.

16. At the end of the test, the pressure shall be increased to the starting pressure, so that the leakage test data is acquired. See Section D Leakage Test below, for additional information.

D. Leakage Test

1. The leakage test shall be conducted concurrently with the pressure test.
2. The rate of leakage shall be determined at 15-minute intervals by means of volumetric measurement of the makeup water added to maintain the test pressure. The test shall proceed until the rate of leakage has stabilized or is decreasing below an allowable value, for three consecutive 15-minute intervals. After this, the test pressure shall be maintained for at least another 15 minutes.
 - a. At the completion of the test the pressure shall be released at the furthestmost point from the point of application.
3. All exposed piping shall be examined during the test and all leaks, defective material or joints shall be repaired or replaced before repeating the tests.
4. The leakage for pressure pipelines shall not exceed the following allowable rates in gallons per hour per 1000 feet of pipe at the test pressure specified in Section 15051, Buried Piping Installation:

<u>Pipe Diameter</u>	<u>Pipe Material</u>	<u>ECWA Allowable Leakage*</u>
4"	PVC, DIP	0.26
6"	PVC, DIP	0.40
8"	PVC, DIP	0.53
10"	PVC, DIP	0.66
12"	PVC, DIP	0.79
16"	DIP, PCCP	1.06
20"	DIP, PCCP	1.32
24"	DIP, PCCP	1.59
30"	DIP, PCCP	1.98
36"	DIP, PCCP	2.38
42"	DIP, PCCP	2.78
48"	DIP, PCCP	3.17

* 75% of allowable leakage per AWWA C600-17.

5. Regardless of the above allowables, any visible leaks shall be permanently stopped.
6. The CONTRACTOR shall provide a meter certified within the last year or a source-water tank/barrel of small enough cross section so that measurable changes in water depth can be accurately recorded. A two hour test is permitted for circular tanks/barrels of 15 inches in diameter or less. A four hour test is required for circular tanks/barrels greater than 15 inches in diameter. If a tank of non-circular cross section or irregular shape is used,

and the change in water depth cannot be properly measured, the ENGINEER or AUTHORITY may require the test to be run more than 2 hours until an accurate depth change can be recorded and the ENGINEER is satisfied with the results.

7. The leakage volume recorded over the 2 or 4-hour test must be acceptable to the County Health Department and AUTHORITY for final waterline approval to be given.

3.02 BUTTERFLY VALVE TESTING

- A. Each butterfly valve shall have a field leakage test performed with the pressure differential as identified in Section 15051, Buried Piping Installation, applied in both directions. This requirement does not waive the requirements stipulated in AWWA C504.
- B. The duration of each field test in each direction shall be a minimum of two (2) hours.
- C. The CONTRACTOR shall demonstrate to the ENGINEER'S satisfaction that all system components operate correctly, both individually and as a system. All testing equipment and materials required to perform all tests shall be provided by the CONTRACTOR and demonstrated as functional and accurate to the ENGINEER. Non-functional or inaccurate equipment, regardless of test results, will be grounds for test failure. CONTRACTOR shall resupply proper equipment and retest.

3.03 RESILIENT SEAT GATE VALVE TESTING

- A. Each gate valve shall have a field leakage test performed with the pressure differential as identified in Section 15051, Buried Piping Installation, applied in both directions. This requirement does not waive the requirements stipulated in AWWA C509.
- B. The duration of each field test in each direction shall be a minimum of two (2) hours unless specifically defined by the ENGINEER.
- C. The CONTRACTOR shall demonstrate to the ENGINEER'S satisfaction that all system components operate correctly, both individually and as a system. All testing equipment and materials required to perform all tests shall be provided by the CONTRACTOR and demonstrated as functional and accurate to the ENGINEER. Non-functional or inaccurate equipment, regardless of test results, will be grounds for test failure. CONTRACTOR will resupply proper equipment and retest.

3.04 TAPPING SLEEVE AND VALVE TESTING

- A. Prior to making the tap, gate valves shall have a field leakage test performed with a hydrostatic pressure as identified in Section 15051, Buried Piping Installation, on the open end.
- B. Once the system is complete, the valves shall be tested in accordance with the Butterfly and Resilient Seat Gate Valve Testing criteria stated above.
- C. The duration of each field test shall be a minimum of two (2) hours unless specifically defined by the ENGINEER.
- D. After installation of the tapping sleeve or saddle and prior to tapping the main, the sleeve or saddle shall be air tested in accordance with manufacturers' recommendations. If the results of the air test do not meet manufacturers' specifications, the sleeve or saddle will be replaced and retested until the results are satisfactory.
- E. The CONTRACTOR shall demonstrate to the ENGINEER'S satisfaction that all system components operate correctly, both individually and as a system. All testing equipment and materials required to perform all tests shall be provided by the CONTRACTOR and demonstrated as functional and accurate to the ENGINEER. Non-functional or inaccurate equipment, regardless of test results, will be grounds for test failure. CONTRACTOR will resupply proper equipment and retest.

3.05 DISINFECTION

- A. Before disinfection, the line shall be cleaned and flushed with clean water as defined in the Initial Flushing section. CONTRACTOR shall provide outlets as required.
- B. The chlorine solution shall be admitted to pipelines through corporation stops placed in the horizontal axis of the pipe, to structures by means of tubing extending directly into the structure or other approved methods.
- C. CONTRACTOR shall install 2-inch saddles on existing and proposed mains and run 2-inch Type K copper tubing with backflow prevention device to allow for addition of chlorinated water. The rate of chlorine solution flow shall be in such proportion to the rate of water entering the pipe or structure that the resulting free chlorine residual shall be between 50 and 100 milligrams per liter (mg/l). Concentrations over 100 mg/l shall not be allowed to enter the piping system.
- D. The placement of chlorine powder or tablets inside the pipe during installation as a means of disinfection will not be allowed.

- E. The proposed piping shall be tested in all respects, prior to connecting the second end of the pipe to the existing system and prior to installing the annular fill at casing pipes.
- F. All valves to existing mains must be closed during the chlorination process. CONTRACTOR must flush the proposed main through a backflow preventer such as a Reduced Pressure Zone (RPZ) and 2-inch copper until chlorine residual at the opposite end reaches 50 mg/l. All valves to the existing water network are to remain closed until this level is reached. While the chlorinated water is being added, all appurtenances on the main shall be operated so as to completely disinfect the new work. The operation shall be repeated as necessary to provide complete disinfection.
- G. Chlorinated water from hydrants and taps must be properly collected and disposed of by the CONTRACTOR. Discharge of chlorinated water into the existing storm sewer or a natural water body shall not be allowed.
- H. The chlorine treated water shall be retained in the pipe or structure at least 24 hours, unless otherwise directed. During the retention period all valves and hydrants within the treated sections shall be operated.
- I. The chlorine residual shall be not less than 25 mg/l at any point in the pipe or structure at the end of the retention period. CONTRACTOR shall immediately perform final flushing to reduce the retention time high levels of chlorinated water.
- J. When making repairs to or when specified, structures and portions of pipelines shall be chlorinated by a concentrated chlorine solution containing between 200 mg/l and 300 mg/l of free chlorine. The solution shall be applied with a brush or sprayed on the entire inner surface of the empty pipes or structures. The surfaces disinfected shall remain in contact with the strong chlorine solution for at least 30 minutes.
- K. The CONTRACTOR must use an approved test method, as defined in AWWA C651 and *Standard Methods for the Examination of Water and Wastewater*, to determine chlorine levels. Test strips and test kits will be allowed for testing chlorine levels if the kit is less than six months old, in the original bottle, is not past the expiration date, and has a color coded scale on the side with legible concentrations defined. ENGINEER and AUTHORITY reserve the right to reject test results if the test strip or kit is suspect. Sending samples to an approved laboratory is also acceptable.

3.06 FINAL FLUSHING

- A. Upon completion of each disinfecting operation, the CONTRACTOR will be required to empty the contents of the pipe into a tank truck. Dumping into a sewer will only be allowed with approval from the local governing body. In no instance

will chlorinated testing or flushing water be emptied onto the roadways, in ditches, culverts, streams, wetlands, or any other natural water body.

- B. Final flushing will continue until such time as the chlorine residual is between 0.5 and 1.2 mg/l.
- C. Prior to discharging into storm or sanitary sewer systems, and with the written approval of the municipality, the CONTRACTOR shall use a reducing agent (such as sodium thiosulfate) to neutralize any chlorine residual. CONTRACTOR shall prove to the ENGINEER, AUTHORITY and municipality that the water has been properly neutralized prior to discharge using an appropriate testing method.

3.07 BACTERIOLOGICAL TESTING

- A. After disinfection and final flushing, a representative of the laboratory hired by the CONTRACTOR shall, in the presence of the ENGINEER, take two bacteriological samples from sampling points at maximum 1,000-foot intervals along the waterline, at every branch off the main line, and at each end of the test section (one immediately after final flushing and a second one after 24 hours) for testing by an ELAP certified laboratory in accordance with the latest Health Department requirements.
- B. Should acceptable results not occur after these two consecutive tests, the CONTRACTOR shall, at his expense, repeat the disinfection procedure until safe results are obtained.
- C. All precautions shall be taken to maintain dry and sanitary conditions and to prevent contamination of any piping, at the CONTRACTOR'S expense.
- D. If, in the opinion of the ENGINEER or AUTHORITY, contamination has occurred, the CONTRACTOR shall repeat the disinfection and bacteriological testing at his cost and expense.
- E. Test results from the laboratory shall be sent directly to the ENGINEER. Test results sent through the CONTRACTOR shall not be considered.
- F. Bacteriological test results shall expire 30 calendar days after the samples are taken. After 30 calendar days, the CONTRACTOR shall be required to repeat the process, taking two sets of samples and submitting results for review.
- G. As per AWWA C651-14 standards, the limit for pipe installed without bacteriological samples being taken is 20 linear feet.

3.08 APPROVAL

- A. The ENGINEER shall submit the Waterline Installation Complete Works Approval Report(s) to the Erie County Water Authority for review and processing.
- B. Once approval is given, after reconnecting the proposed piping to the existing piping, the CONTRACTOR shall slowly refill the watermain with water and allow it to pressurize so that the ENGINEER may inspect the connections and/or other piping.
- C. The CONTRACTOR shall, at his expense, correct any observed defects to the satisfaction of the ENGINEER and OWNER.

END OF SECTION

SECTION 15207

CLEANING NEW TRANSMISSION WATERMAIN

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Specified

1. The Work under this section shall include all labor, materials, supplies, and equipment necessary to clean the interior surfaces of new transmission watermain which are not expected to be flushed per AWWA requirements (minimum 3 feet per second scour velocity).
2. Watermains to be cleaned include all transmission mains (24-inch diameter or greater) shown on the drawings.
3. CONTRACTOR shall use one or multiple methods defined within this specification to clean new watermain to the satisfaction of the OWNER and ENGINEER.
4. All pipe cleaning shall occur on individual pipe segments at ground level before pipe segments are lowered into the excavation.

B. Related Work Specified Elsewhere

1. Section 02351 – Excavation, Backfill, and Trenching
2. Section 15051 – Buried Piping Installation
3. Section 15106 – Ductile Iron Pipe and Fittings
4. Section 15109 – Prestressed Concrete Cylinder Pipe (PCCP)
5. Section 15140 – Testing and Disinfection

C. The principal methods of cleaning interiors of pipes shall include, but not be limited to, the following:

1. Broom sweeping to remove dust and light debris.
2. Wet mops or other hand-held bristled devices to remove mud or other semi-solid debris.
3. Pressurized water to power-wash solid debris.
4. Polyurethane PIGs (Pipeline Intervention Gadget) to physically remove mud and other debris after waterline is charged.
5. Other methods suggested by the CONTRACTOR and pre-approved by the ENGINEER, OWNER, and Health Department.

1.02 QUALITY ASSURANCE

A. Reference Standards

1. AWWA M28 – Cleaning and Lining Water Mains.
2. AWWA C651 – Disinfecting Water Mains.

1.03 SUBMITTALS

- A. The CONTRACTOR shall provide a “Pipe Cleaning Submittal” identifying how the new watermain will be cleaned during installation and how it will be maintained in a clean condition prior to pressure testing.
- B. The Pipe Cleaning Submittal shall also include a description of measures the CONTRACTOR plans on using to minimize contamination of the new waterline prior to pressure testing and his proposed procedures to clean installed watermain which has become contaminated with mud, debris, bugs, animals, bacteria, or other foreign agents.
- C. For using PIGs:
 - 1. The CONTRACTOR shall submit evidence of qualifications including a list of three (3) projects of equal or greater scope completed within the past 5 years.
 - 2. Submit a written plan of operations including identification of access points, cleaning methodology, type and number of PIGs to be used with locations of entry and exit, and how to dispose or treat flushed water containing contaminants from cleaning operations.

PART 2 – PRODUCTS

2.01 CLEANING TOOLS

- A. All cleaning tools (mops, brooms, etc.) to be used for cleaning purposes are to be new materials for this project. All brooms shall have bristles capable of removing sand, dust, and dried mud from the inside of the pipe. Cleaning tools shall be replaced when worn or ineffective.
- B. Hoses, water tanks, and pressure washers shall be in a clean condition, free of any chemicals or cleaning agents.
- C. Cleaning agents, surfactants, soaps, or other chemicals shall not be used at any time.
- D. Aqueous sodium hypochlorite may be used to disinfect cleaning tools and/or internal pipe surfaces if bacterial contamination is suspected. Concentration of solution is not to exceed 100 ppm at any time.

2.02 POLYURETHANE PIPELINE PIGS

- A. The PIGs shall be manufactured of polyurethane foam with an open cell structure. The PIG shall have a bullet shaped nose with an exterior coating of closed cell urethane and shall be suitable for use in water systems. All PIGs shall be purchased new for this project.

- B. The peripheral surface on the PIG shall also be capable of scratching, scraping, plowing, and jetting. The selection of the type and quantity of the PIGs to be utilized shall be at the discretion of the CONTRACTOR in order to achieve the level of cleanliness specified, however, at least one watermain-diameter size PIG is to be used.

PART 3 - EXECUTION

3.01 GENERAL

- A. Prior to installation, CONTRACTOR shall broom sweep the inside surface of the watermain with a daily-sterilized, new broom to the satisfaction of the ENGINEER and OWNER. CONTRACTOR shall remove all sweepings prior to waterline installation.
- B. If broom sweeping is ineffective in the opinion of the ENGINEER or OWNER, CONTRACTOR shall mop or use a bristle-laden brush with potable water only to scrub mud/debris from the pipe interiors. No cleaning chemicals or soaps shall be utilized during this operation.
- C. If mopping or hand-cleaning is ineffective in the opinion of the ENGINEER or OWNER, the CONTRACTOR shall use a water-spray power washer to clean pipe interiors. No cleaning chemicals or soaps shall be utilized during this operation.
- D. If power washing is ineffective in the opinion of the ENGINEER or OWNER, the CONTRACTOR shall utilize polyurethane PIGs or other methods to clean pipe interiors. CONTRACTOR shall be responsible for installing PIG launchers at appropriate locations and removing launchers as required by ENGINEER and contract drawings.
- E. The CONTRACTOR shall have readily available on site the manpower, equipment, and materials required to track and locate and dislodge any PIG that may become lodged in the pipeline.
- F. The CONTRACTOR shall conduct their operations to minimize any impact to natural waterways and shall not permit silt, clay, or mud to enter any drainage system, stream, creek, waterway, or wetland area.
- G. CONTRACTOR shall comply with all OSHA confined space requirements for workers entering pipelines. Any worker who enters a pipe segment at ground level shall wear a clean 'cleanroom' suit to minimize contamination.
- H. Once watermain is installed, CONTRACTOR shall take all necessary precautions to minimize contamination of the new waterline. This includes, but is not limited to:
 - 1. Capping the end of the new watermain with a watertight cap/plug at the end of each workday,

2. Redirecting surface runoff from entering the excavation,
 3. Maintaining a sump in the excavation at all times with a pump of adequate size to remove groundwater from the excavation,
 4. Using tarps or end caps on cleaned pipe to be installed, and
 5. Entering waterline that has already been installed in the ground shall not be allowed.
- I. If the installed waterline is suspected of contamination, CONTRACTOR shall, at his expense, video the waterline to prove contamination has not occurred and provide a DVD of this video to ENGINEER for review.

3.02 COORDINATION

- A. Scheduling of flushing, cleaning, and testing operations shall be coordinated with and agreed to by the ENGINEER and OWNER.

3.03 PIPELINE CLEANING WITH PIGS

- A. The CONTRACTOR shall make at least three (3) passes with the PIG through the entire length of the watermain.
- B. The CONTRACTOR shall be responsible to select sizes, quantities, and types of PIGs to efficiently clean the pipeline, however, at least one watermain-diameter sized PIG shall be used for cleaning.
- C. The CONTRACTOR may provide additional water pressure and volume that may be required to launch and propel the PIGs through the pipeline.
- D. The CONTRACTOR shall launch PIGs and monitor their progress through the pipeline until retrieval occurs. ENGINEER shall be present during all operations using PIGs.
- E. The CONTRACTOR shall coordinate with the OWNER when filling and flushing existing watermains.
- F. The use of PIGs shall continue until CONTRACTOR, ENGINEER, and OWNER agree that additional passes will not be effective in removing additional debris.

3.04 FLUSHING PRIOR TO PRESSURE TESTING

- A. Regardless of cleaning procedure used, the CONTRACTOR shall flush the watermain a minimum of three (3) pipe volumes at maximum flow velocity possible. CONTRACTOR shall measure and record the outlet pressure using a pitot gauge and report these results to the ENGINEER to determine velocity achieved.

- B. The turbidity and free chlorine of the effluent shall be monitored while flushing. Flushing shall continue until free chlorine levels are greater than 0.5 mg/l and turbidity is less than 0.5 NTU.
- C. Coordinate with ENGINEER and OWNER for flushing times and durations. If approved by ENGINEER and OWNER, watermains with intermediate valves can be flushed in sections to minimize discharge volumes.

3.05 REPORTING OF RESULTS

- A. Upon successful completion of cleaning operations, submit a report containing at a minimum, the following information:
 - 1. General statement describing the type and amount of sedimentation removed and the level of cleanliness of the system.
 - 2. Certification that all of the underground pipes on the attached drawings have been cleaned in accordance with this specification.
 - 3. Any laboratory test results for chlorine levels and turbidity.
 - 4. Any photographs taken of the cleaning process shall be submitted to the ENGINEER and OWNER for record-keeping purposes.

3.06 CLEANING COSTS

- A. All costs for cleaning new transmission main shall be included in the pipe items. No separate payment shall be made for any labor, materials, or procedures defined in this specification.

END OF SECTION

SECTION 15400

CREW LABOR AND EQUIPMENT

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Scope:
1. CONTRACTOR shall furnish all labor, equipment, and incidentals as specified and required to make improvements, modifications or repairs to water domestic and fire service lines, distribution mains, transmission mains, and appurtenances.
 2. The use of crew labor and equipment may also be ordered by ENGINEER to perform other related work.
 3. This item does not include excavation, or any other work associated with other items in the Contract such as watermain, valves, and test pit excavation and backfill.
- B. Location of the Work:
1. When ordered, the Work shall be performed in the Erie County Water Authority's franchised area and all water districts that the Authority operates.
- C. Adequate Crews Required:
1. The CONTRACTOR is to provide, as hereafter set forth, a crew and equipment as may be required to perform the ordered work.
- D. Time Is of the Essence:
1. The CONTRACTOR is obligated to perform his work as expeditiously as possible.
- E. Materials to be Supplied:
1. The CONTRACTOR shall be responsible for obtaining the materials. Materials not included as bid items in the contract will be paid for under Section 01210, Allowances.

1.02 CREW LABOR AND EQUIPMENT

- A. Basic Crew:
1. The CONTRACTOR shall provide a crew consisting of labor and equipment, as follows:
 - a. At a minimum, the following piece of excavation equipment shall be provided: one (1) 24 metric ton crawler excavator. All appurtenances shall be included with the excavator, including but not limited to buckets, hydraulic plate compactor and hydraulic breaker.

- b. One tool and equipment truck, one ton and over, fully equipped with all accessories and heavy duty revolving yellow lights. Truck shall have heavy duty commercial pump, walk behind plate tamper, cut off saw, lighting lamps to sufficiently light the work area, and ladder. The truck shall also have all necessary small tools such as, but not limited to: pipe wrenches, socket wrenches, open end wrenches, and ratchet wrenches of all sizes, also shovels, sledge hammers, pry bars, hammers, hoisting slings, chains, hacksaws, screw drivers, and any other tool required to do the work. The truck shall also have specialized equipment and tools required to make repairs to mains and ¾" to 2" services such as caulking tools, chisels, bursting wedges, tube cutters, flaring tools, pipe cutters, utility socket set pilot shut off tool for copper, pipe de-scaler, curb box cleaner, valve box cleaner, service box keys with pentagon nut key, gate valve key, hydrant wrenches, easy outs, and any other specialized tool required to do the work.
- c. The truck shall be equipped or have readily available at the CONTRACTOR'S office the following specialized equipment: welding machine with accessories (welder must be certified by the American Welding Society), D5 drilling machine, B-100, Aquatap (or approved equal) and A3 drilling and tapping machine complete with all accessories, melting pots, metal detector, M-scope line tracer, gas or diesel powered walk behind road saw with a minimum depth cut of 16 inches and any other specialized tool required to complete the work.
- d. All tool and equipment trucks shall be fully equipped and in good condition at all times and it is understood that there will be no payment for any time lost for failure to have this equipment ready for use when needed. It is also understood that the crew will be fully competent in the use of all items.
- e. One trailer for transporting excavator and/or picking up material complete with all accessories.
- f. One 11 to 20 ton, ten wheeler, rear Dump Truck with accessories and with operator.
- g. One (1) skilled laborer (equipment operator), authorized for the operation of specialized equipment and who shall also perform any particular task necessary to perform the work.
- h. Two (2) supplemental laborers to operate basic tools and equipment and provide general labor necessary to perform the work.

B. Included, with this item, shall be all related costs such as supervision, wages, benefits, operating cost, overhead, and profit.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

- A. All work shall be performed with minimal disturbance to the existing surface conditions. Damage to existing surfaces that is deemed excessive by the Engineer shall be fully restored at no additional cost to the Owner.
- B. The equipment supplied under this item shall be in good working condition as deemed by ENGINEER. No additional payment shall be made to CONTRACTOR for time spent in replacing or repairing malfunctioning equipment.
- C. CONTRACTOR is responsible for contacting the Underground Locating Service to mark the locations of existing utilities.
- D. Authority personnel shall direct the work at the site, but the CONTRACTOR shall be responsible for all County, State, and Federal safety requirements and codes including requirements of OSHA and code rule 16NYCRR Part 753. Included with this item shall be all costs for sheeting, shoring, steel plate, flagmen, cones, signs, arrow boards, flashers, fences, lighting, and any other device necessary to perform the work.
- E. Included with this item shall be all costs for permits not already included in other bid items.

END OF SECTION

SECTION 15500

VACUUM TRUCK AND LABOR

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Scope:
1. CONTRACTOR shall furnish all labor, equipment, and incidentals as specified and required to perform vacuum excavations, when requested.
 2. This item does not include excavation, or any other work associated with other items in the Contract such as watermain, valves, and test pit excavation and backfill.
- B. Location of the Work:
1. When ordered, the Work shall be performed in the Erie County Water Authority's franchised area and all water districts that the Authority operates.
- C. Adequate Crews Required:
1. The CONTRACTOR is to provide, as hereafter set forth, labor and equipment as may be required to perform the ordered work.
- D. Time Is of the Essence:
1. The CONTRACTOR is obligated to perform his work as expeditiously as possible.
- E. Materials to be Supplied:
1. Not Applicable.

1.02 VACUUM TRUCK AND LABOR

- A. Basic Equipment and Labor:
1. The CONTRACTOR shall provide a repair crew consisting of labor and equipment, as follows:
 - a. At a minimum, the following vacuum excavation equipment shall be provided: one (1) vacuum excavation truck with high pressure water jetting and high flow vacuum capabilities with a minimum storage capacity of 12 cubic yards for debris and 1,500-gallon minimum capacity for water.
 - b. One skilled laborer (equipment operator), to operate same, as defined above.
- B. Included, with this item, shall be all related costs such as supervision, wages, benefits, operating cost, overhead, and profit.

PART 2 - PRODUCTS (Not used)

PART 3 - EXECUTION

- A. All work shall be performed with minimal disturbance to the existing surface conditions. Damage to existing surfaces that is deemed excessive by the ENGINEER shall be fully restored at no additional cost to the Owner.
- B. The equipment supplied under this item shall be in good working condition as deemed by ENGINEER. No additional payment shall be made to CONTRACTOR for time spent in replacing or repairing malfunctioning equipment.
- C. CONTRACTOR is responsible for contacting the Underground Locating Service to mark the locations of existing utilities.
- D. Authority personnel shall direct the work at the site, but the CONTRACTOR shall be responsible for all County, State, and Federal safety requirements and codes including requirements of OSHA and code rule 16NYCRR Part 753. Included with this item shall be all costs for flagmen, cones, signs, arrow boards, flashers, fences, lighting, and any other device necessary to perform excavation or related work.
- E. Included with this item shall be all costs for permits not already included in other bid items.

END OF SECTION

SECTION 15600

ALL-STOP ORDER FROM NATIONAL GRID

PART 1 - GENERAL

1.01 DESCRIPTION

A. Scope:

1. Since the project is being performed on property owned and operated by National Grid, CONTRACTOR shall be subject to requirements of an 'ALL STOP' order.
2. When an issue regarding electrical distribution or service is identified by National Grid at any of their properties, an 'ALL STOP' order may be issued. This order temporarily halts construction work on all National Grid properties until the issue is resolved.
3. An 'ALL STOP' order is independent of a temporary work stoppage defined by an Electrically Qualified Person due to safety reasons.
4. CONTRACTOR shall be required to comply with any 'ALL STOP' orders issued, temporarily halting construction operations until authorization to proceed is given.
5. This item does not include any other work associated with other items in the Contract.

B. Location of the Work:

1. 'ALL-STOP' orders only apply to property owned and operated by National Grid. Work within the public right-of-way is not affected by this order.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

- A. When an 'ALL STOP' order is issued by National Grid, the OWNER or ENGINEER will notify the CONTRACTOR both verbally and in writing.
- B. The CONTRACTOR shall immediately stop all work on National Grid property, shut down all unnecessary equipment, and gather at an approved location on site as directed.
- C. The CONTRACTOR shall be entitled to payment under the 'ALL STOP' bid item if his entire crew remains on site and standing by to resume work. No payments will be made if the CONTRACTOR resumes work on another part of the project site or leaves the site to perform other work.

- D. CONTRACTOR shall be required to move his equipment on site as directed by National Grid, OWNER or ENGINEER at no additional expense to OWNER. All costs for moving equipment and personnel shall be included in the 'ALL STOP' bid item.
- E. When the 'ALL STOP' order is lifted, ENGINEER shall advise the CONTRACTOR both verbally and in writing that the work may proceed.

END OF SECTION

SECTION 15700

ELECTRICALLY QUALIFIED PERSON

PART 1 - GENERAL

1.01 DESCRIPTION

A. Scope:

1. CONTRACTOR shall provide the services of a third party, electrically qualified person (spotter) as specified and required to monitor all construction activities and Work in close proximity to high voltage overhead or buried electric lines, cables, conduits, or facilities.
2. The use of an electrically qualified person (spotter) will be as ordered by ENGINEER at the direction of the utility owner/operator, National Grid.
3. This item does not include any other work associated with other items in the Contract.

B. Location of the Work:

1. When ordered, the Work shall be performed within the National Grid owned properties or rights-of-way, the Erie County Water Authority's easements and franchised area, and all water districts that the OWNER operates.

C. Adequate Personnel Required:

1. The CONTRACTOR is to provide, as hereafter set forth, an electrically qualified person as may be required to perform the ordered work.
2. Additional qualified person(s) may be required on the project site as ordered by the ENGINEER if conditions warrant such as: multiple CONTRACTOR work crews and equipment; multiple locations throughout the project site; etc.
3. The electrically qualified person(s) must first be approved by the OWNER, ENGINEER, and National Grid to perform the required services prior to rendering those services for the CONTRACTOR.

D. Time Is of the Essence:

1. When required, the CONTRACTOR is obligated to provide the qualified person as expeditiously as possible and prior to commencing any Work that requires those services.

E. Materials to be Supplied:

1. Not Applicable.

1.02 ELECTRICALLY QUALIFIED PERSON

A. Qualified Person:

1. The qualified person shall be knowledgeable in the construction and operation of electric power generation, transmission, substation, and/or

distribution apparatus involved along with the associated hazards in specific duties pertaining to electric operations.

2. The electrically qualified person determines the minimum clearance distance that must be maintained to prevent electrical contact in light of the on-site conditions. The factors that must be considered in making this determination include, but are not limited to:
 - a. Conditions affecting atmospheric conductivity.
 - b. Time necessary to bring the equipment, load line, and load (including rigging and lifting accessories) to a complete stop.
 - c. Wind conditions.
 - d. Degree of sway in the power line.
 - e. Lighting conditions.
 - f. Other conditions affecting the ability to prevent electrical contact.

1.03 SUBMITTALS

- A. The CONTRACTOR shall provide a submittal identifying all electrically qualified persons to be used during this contract, including resumes, professional qualifications, experience, and availability.
- B. Electrically qualified persons shall be acceptable to OWNER, ENGINEER, and National Grid.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

- A. The electrically qualified person shall be on site at all times that the CONTRACTOR is performing any Work in close proximity to high voltage overhead or buried electric lines, cables, conduits, or facilities, or whenever determined by the ENGINEER or National Grid that the services are required.
- B. The electrically qualified person shall be responsible for checking in and out with the ENGINEER when they arrive or depart the site.
- C. The electrically qualified person shall be responsible to monitor the on-site activities of the CONTRACTOR'S personnel and equipment to ensure that they adhere to all safety requirements and regulations of National Grid. The electrically qualified person shall comply with all regulations defined in 1926.1408 through 1926.1411 of the Code of Federal Regulations.
- D. If the electrically qualified person identifies any safety issue on site related to CONTRACTOR'S operations, he is to notify both, the CONTRACTOR and ENGINEER immediately.

- E. Stoppage of work due to a safety issue shall not be considered an “all stop” order, nor qualify for payment under that bid item.
- F. The electrically qualified person shall have continuous contact with the operator and be provided equipment, as necessary, that enables the dedicated spotter to communicate directly with the operator. All equipment for this communication shall be provided.
- G. The CONTRACTOR shall be responsible for all County, State, and Federal safety requirements and codes including requirements of OSHA and code rule 16NYCRR Part 753.

END OF SECTION

Appendix A
ECWA MWBE Requirements

APPENDIX A

WOMEN AND MINORITY BUSINESS ENTERPRISE POLICY

ERIE COUNTY WATER AUTHORITY

APPENDIX A

WOMEN AND MINORITY BUSINESS ENTERPRISE POLICY

ERIE COUNTY WATER AUTHORITY

It is the policy of the Authority to foster and encourage minority business enterprise participation in the construction contracts of the Authority. Through the setting of Minority Business Enterprise goals and careful monitoring of CONTRACTOR compliance, the Authority will ensure the fullest possible participation in construction activities by qualified minority and women-owned firms.

Some of the federal and state laws that provide the basis for Equal Employment Opportunity and Affirmative Action are:

1. Title VII, Civil Rights Act of 1964 (as amended by the Equal employment Opportunity Act of 1972): Prohibits employment discrimination because of race, color, sex, religion or national origin.
2. Executive Order 11246 (as amended by the Executive Order 11375): Requires Affirmative Action by all Federal CONTRACTORS and subcontractors and requires that all firms with Contracts over \$50,000.00 and 50 or more employees develop and implement written programs.
3. Equal Act of 1963: Requires employers to provide equal pay for men and women performing similar work.
4. New York State Human Rights Law: Prohibits discrimination based on race, color, sex, age, creed, disability, national origin and marital status in employment matters.
5. Flynn Act: Guarantees disabled citizens protection against discrimination in housing, employment, public accommodations, training programs and non-sectarian education due to mental, physical or medical disability.
6. Title VI, Civil Rights Act of 1964: Prohibits discrimination based on race, color or national origin in all programs which receive Federal aid.
7. Title IX, Education Amendments Act of 1972: Prohibits sex discrimination against students of any educational institution receiving Federal financial aid.

A. MINORITY BUSINESS UTILIZATION COMMITMENT

The Erie County Water Authority has established the following business utilization rules which requires all prime CONTRACTORS awarded construction contracts let by the Erie County Water Authority to exemplify Affirmative Action to sub-contract to minority business enterprise (MBE). For the purpose of these regulations, the term "Minority Business Enterprise" refers to a business at least fifty-one percent (51%) of which is owned and controlled by minority group members. Minority group members are citizens of the United States who are Women, Blacks, Hispanics and Native Americans. MBE's must demonstrate current certification of a government agency.

The Authority has determined that a goal of ten percent (10%) of the total contract value represents a fair share of minority business utilization on each construction contract awarded.

Recipients of Authority construction Contracts must utilize minority-owned business sources for supplies, services and professional services, allowing these sources the maximum feasible opportunity to compete for Contracts, Subcontracts and third-tier Contracts to be performed, All prime CONTRACTORS awarded Authority Contracts estimated to exceed \$100,000.00 must take positive steps to “afford fair opportunities to MBE’s”. Positive steps shall include, but not be limited to, (a) utilizing a source list of bona fide minority business enterprises, (b) solicitations of bids from MBE’s particularly of those located in Erie County, (c) giving minority firms sufficient time to submit proposals in response to solicitations and (d) maintaining records showing minority business enterprises and specific efforts to identify and award Contracts to these Companies.

Each CONTRACTOR bidding on an Erie County Water Authority contract is to contact MBE’s and solicit bids for various aspects of each project. The CONTRACTOR is to supply the Authority with information regarding contracts for services and products with minority business enterprises and the dollar amount of each contract on the Minority Business Utilization Report.

The Successful Bidder shall submit to the Authority the Minority Business Enterprise Utilization Report - Part A within one week of the bid opening. Part A includes a list of MBE’s from whom the CONTRACTOR has solicited bids, or with whom the CONTRACTOR has signed a binding contractual agreement. The Authority will not consider a CONTRACTOR’s bid where the CONTRACTOR fails to submit this report or where an examination of the report evidences failure by the CONTRACTOR to comply with the affirmative action requirements of the Contract.

In the event of a joint venture participating in this MBE Program, the Joint Venture Disclosure Affidavit must be submitted with Part A by all parties involved. Only to the extent that a minority business enterprise contributes to and is paid for its participation in a joint venture will that dollar be credited towards the 10% goal of minority participation in the Erie Country Water Authority MBE Program.

MBE’s must be approved by the Erie County Water Authority before their participation may be credited toward the 10% goal. Where the proposed MBE is not approved by the Authority, an Authority MBE/Disclosure Affidavit must be filed with the Contract Compliance office. Forms and lists of certified MBE’s can be obtained by calling Lavonya Lester, Director of Equal Employment Opportunity (ECWA) at (716) 685-8223.

A Minority Business Enterprise Utilization Waiver Request may be completed and submitted with the Minority Business Enterprise Utilization Report - Part A to the Authority within one week of the bid opening. Waivers shall be granted only where the availability of MBE’s in the market area of the project is less than the 10% goal.

Sufficient information must be provided on the Minority Business Enterprise Utilization Waiver Request to ascertain whether a waiver should be approved, conditionally approved or rejected by advice of the Equal Opportunity Office.

A waiver approval limits the CONTRACTOR’s obligation to solicit MBE’s for this particular project. It does not relieve the CONTRACTOR of MBE utilization for any other Erie County Water Authority project on which he submits a bid.

Conditional approval of the waiver request makes it necessary for the CONTRACTOR to continue soliciting MBE’s for contracting purposes, after he has been declared the low bidder.

A MBE Utilization Waiver Request will be rejected if the CONTRACTOR:

1. fails to provide information on the Minority Business Enterprise Utilization Report with his bid.
2. provides fraudulent information of the MBE reports.
3. fails to make an honest good faith effort to recruit and contract with MBE's or
4. takes any other action which is contrary to the spirit and intent of the law.

THE INFORMATION PROVIDED ON THE MBE WAIVER REQUEST AND THE MBE UTILIZATION REPORT WILL BE CONSIDERED CONCURRENTLY TO DETERMINE IF A WAIVER SHOULD BE APPROVED, CONDITIONALLY APPROVED OR REJECTED.

The low bidder shall submit to the Authority, within one week of the bid opening, a schedule for minority business enterprise participation, with whom the CONTRACTOR intends to Subcontract, specifying the agreed price to be paid for such work, and identifying in detail the Contract item(s) or parts to be performed by each minority business enterprise. A letter of intent to enter into a Subcontract or purchase agreement, signed by the minority business, contingent upon the contract award, indicating the agreed upon price and scope of work, shall be provided, signed by both the CONTRACTOR and the minority business enterprise. The prime CONTRACTOR shall not substitute or delete the listed minority business enterprise without the written consent of the Erie County Water Authority.

In the event that the MBE goal for the contract is not met, the CONTRACTOR shall provide sufficient documentation to establish that every positive effort was made to identify, solicit and negotiate with MBE's in pursuit of the goal. Such documentation includes, but is not limited to, advertisement in minority-focused media, written contract with minority businesses indicating sufficient bidder's price along with evidence showing the work to be performed is the same, and not a reduced portion thereof.

The CONTRACTOR shall provide to the Erie County Water Authority copies of all subcontracts and/or purchase agreements with minority business enterprises within one week of the bid opening. A notice to proceed with construction shall not be issued until acceptable documentation is received.

When the project is thirty (30%) percent complete, the CONTRACTOR shall submit to the Authority the Minority Business Enterprise Utilization Report - Part B. Part B lists the MBE's on the project, the dollar amounts paid to that date and the estimated amount remaining to be spent.

The Minority Business Enterprise Utilization Report - Part C certifies the actual dollar amount expended to MBE's. Part C must be completed by the prime CONTRACTOR and submitted at the seventy-five (75%) percent payment level.

The Minority Business Enterprise Utilization Report - Part D certifies the total dollar amount expended to MBE's. Part D is to be submitted with the request for final payment.

In the event a CONTRACTOR fails to comply with these provisions the Authority may:

1. Summon the CONTRACTOR to a hearing
2. Withhold progress payments in part or in full
3. Cancel the contract.
4. Bar award of future Contracts until the CONTRACTOR can demonstrate that he will comply.

It is hereby the Erie County Water Authority's commitment to assure that on all contracts awarded, prime CONTRACTORS expend a fair share of the contract with bona fide minority businesses in accordance with the goals set forth by the Authority. Failure to comply with these provisions shall disqualify the bidder and shall constitute a breach of contract subject to all remedies available to the Authority.

The Prime CONTRACTOR and all minority Subcontractors are bound by all requirements as put forth in the Erie County Water Authority standard General Conditions and all modifications thereto contained in these Contract Specifications.

Listing of **AFFIRMATIVE ACTION FORMS ATTACHED:**

<u>NAME OF FORM</u>	<u>PAGE NUMBER(S)</u>
Minority Business Utilization Report- Part A	6 & 7
Waiver Request	8
Erie County Water Authority Minority Business Enterprise Joint Venture Disclosure Affidavit	9
Erie County Water Authority Minority Business Enterprise Utilization Report - Part B	10 & 11
Minority Business Enterprise Utilization Report - Part C	12
Minority Business Enterprise Utilization Report - Part D	13

**ERIE COUNTY WATER AUTHORITY
MINORITY BUSINESS ENTERPRISE
UTILIZATION REPORT - PART A**

This information must be submitted by the successful bidder within one week of bid opening.

COMPANY _____

AUTHORIZED REPRESENTATIVE _____

ADDRESS _____

TELEPHONE NUMBER _____

PROJECT NAME _____

PROJECT NUMBER _____

I. List actions taken to identify, solicit, and contact Minority Business Enterprises (MBE) to bid on subcontracts on this project.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

II. List all bona fide Minority Business Enterprise, subcontractors, professional personnel, solicited, contracted, or presently negotiating a contract in accordance with the minority business utilization goal set forth by the Erie County Water Authority. (Attach additional sheets if necessary.)

MINORITY OWNED FIRM	SUPPLY/ SERVICE	AMOUNT OF PROPOSAL	PRIOR CERTIFICATION	CONTRACT EXECUTED	REASON NOT AWARDED
NAME: _____ ADDRESS: _____ TELE NO. _____ IRS NO. _____				YES _____ NO _____	
NAME: _____ ADDRESS: _____ TELE NO. _____ IRS NO. _____				YES _____ NO _____	
NAME: _____ ADDRESS: _____ TELE NO. _____ IRS NO. _____				YES _____ NO _____	
NAME: _____ ADDRESS: _____ TELE NO. _____ IRS NO. _____				YES _____ NO _____	

PART A CONTINUED

III. Assistance offered by CONTRACTOR to MBE's as to bonding, union requirements, obtaining work capital etc...

- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____
- 6. _____

IV. Total Dollar Amount to be subcontracted to Minority Business Enterprise(s): \$ _____

V. Total Amount of Bid: \$ _____

VI. MBE Percent (%) of project bid: _____

VII. YOU MUST ATTACH COPIES OF RELEVANT CORRESPONDENCE AND DOCUMENTS INCLUDING RETURN RECEIPTS.

DATE

SIGNATURE OF AUTHORIZED REPRESENTATIVE

Note: Within one week of the bid opening, this original form, together with a letter of intent to enter into a subcontract or purchase agreement, contingent upon the contract award, indicating the agreed upon price and scope of work, signed by both the CONTRACTOR and the Minority Business Enterprise, must be submitted to:

Lavonya Lester, Director of Equal Employment Opportunity (ECWA)
Erie County Water Authority
3030 Union Road
Buffalo, New York 14227

**ERIE COUNTY WATER AUTHORITY
MINORITY BUSINESS ENTERPRISE
JOINT VENTURE DISCLOSURE AFFIDAVIT**

To Be Submitted With Part A
Where Applicable

Joint Ventures: _____
Name: _____
Address: _____
Principal Office: _____
Office Phone: _____
Home Phone: _____

Percent of minority ownership in terms of profit and loss sharings:

Capital contributions by each joint venture and accounting therefore:

Equipment and supply contributions by each joint venturer and accounting therefore:

Any ownership options for ownership or loans between the joint venturers - identify terms thereof:

How and by whom the on-site work will be supervised and administered:

I, _____, as
representative of _____ Company,
do hereby swear or affirm that I am authorized to act on its behalf and that in this capacity and to
the best of my knowledge and belief, the information provided herewith relevant to the joint
venture of _____
is accurate, complete and current, and fairly represents the joint venture; further, that I have
personally reviewed the material and assured myself of its accuracy. It is recognized and
acknowledged that the statements herein are being given under oath and any material
misrepresentation will be grounds for terminating any contract which may be awarded in reliance
hereon.

SIGNATURE

**ERIE COUNTY WATER AUTHORITY
MINORITY BUSINESS ENTERPRISE UTILIZATION REPORT - PART B**

CONTRACTOR _____ CONTRACT NAME _____

- I. List all bona fide minority business enterprises, Subcontractors, suppliers, professional personnel, or joint venture firms, with whom you have entered into a binding agreement in accordance with the Minority Business Utilization Goal set forth by the Erie County Water Authority. Include minority trucking firms that will be utilized and included and estimated dollar amount. This information must be submitted to the Erie County Water Authority when the project is 30% complete.

(USE REVERSE SIDE IF MORE SPACE IS NEEDED) MINORITY OWNED FIRMS	TYPE OF WORK	DATE CONTRACT EXECUTED	TOTAL EXPENDED TO DATE	AMOUNT REMAINING
NAME: _____ ADDRESS: _____ _____ IRS #: _____				
NAME: _____ ADDRESS: _____ _____ IRS #: _____				

*Erie County Water Authority reserves the right to require documentation including, but not limited to, canceled checks to verify these amounts:

- II. Total Dollar Amount to be Subcontracted to minority Business Enterprise(s):
\$ _____
- III. Total dollar amount expended to date: \$ _____
- IV. Total amount of bid: \$ _____
- V. MBE Percent (%) of project bid: \$ _____

I, _____ as an official representative of _____, do hereby certify that the information listed above is correct and complete.

NAME

TITLE

DATE

PART B CONTINUED

(USE REVERSE SIDE IF MORE SPACE IS NEEDED) MINORITY OWNED FIRMS	TYPE OF WORK	DATE CONTRACT EXECUTED	TOTAL EXPENDED TO DATE	AMOUNT REMAINING
NAME: _____ ADDRESS: _____ _____ IRS #: _____				
NAME: _____ ADDRESS: _____ _____ IRS #: _____				
NAME: _____ ADDRESS: _____ _____ IRS #: _____				
NAME: _____ ADDRESS: _____ _____ IRS #: _____				
NAME: _____ ADDRESS: _____ _____ IRS #: _____				
NAME: _____ ADDRESS: _____ _____ IRS #: _____				
NAME: _____ ADDRESS: _____ _____ IRS #: _____				
NAME: _____ ADDRESS: _____ _____ IRS #: _____				
NAME: _____ ADDRESS: _____ _____ IRS #: _____				

**MINORITY BUSINESS ENTERPRISE UTILIZATION REPORT - PART C
CERTIFICATION OF EXPENDITURES TO MBE's**

(To be completed by the prime CONTRACTOR and
submitted at the 75% payment level)

CONTRACTOR _____

CONTRACT: _____

MBE	PART B CONTRACT AMOUNT OF ESTIMATE	TOTAL EXPENDED TO DATE	ESTIMATED AMOUNT REMAINING

* Erie County Water Authority reserves the right to require documentation including, but not limited to, canceled checks to verify these amounts.

I, _____
_____ as an official representative of _____,

do hereby certify that the information listed above is correct and complete.

NAME

TITLE

DATE

MINORITY BUSINESS ENTERPRISE UTILIZATION REPORT - PART D

FINAL CERTIFICATION OF EXPENDITURES TO MBE's

(to be completed by the prime CONTRACTOR and submitted with the request for final payment)

CONTRACTOR: _____

CONTRACT: _____

MBE	TOTAL AMOUNT EXPENDED

TOTAL OF ALL MBE
SUB-CONTRACTS \$ _____

AMOUNT OF
CONTRACT _____

FINAL MBE
PERCENTAGE _____

I, _____, as an official
representative of _____,
do hereby certify that the information listed above is correct and complete.

NAME

TITLE

DATE

ACCOUNTABILITY

The CONTRACTOR shall be fully accountable for its performance under this contract and agrees to answer under oath all questions relevant to the performance thereof and to any transaction, act, or omission had, done or omitted in connection therewith if called before the Erie County Water Authority, any Judicial, County or State Officer or agency empowered to investigate the Contract or its performance.

Appendix B

ECWA W-27 Insurance Requirements

Appendix C
NYSDOL Wage Rates

Erie County Water Authority Insurance Requirements for Contracting Services

Project Number: 201700093

Description: Waterline Replacement Project, 36" & 30" Watermain between Millersport Highway & Sheridan Drive, Town of Amherst.

The following minimum insurance requirements shall apply to contractors providing services to the Erie County Water Authority (ECWA). If a service or project, in the opinion of ECWA, represents an unusual or exceptional risk, ECWA may establish additional insurance requirements for that service or project. All insurance required herein shall be obtained at the sole cost and expense of the contractor, including deductibles and self-insured retentions, and shall be in full force and effect on the contract commencement date and for the duration of the contract. These requirements include but are not limited to the minimum insurance requirements.

An X indicates insurance coverage is required.

X **Commercial General Liability Insurance:** (including, but not limited to, Bodily (Personal) Injury, Premises Operations, Property Damage Liability (broad form), Contractual Liability, Advertising Injury, Independent Contractors, Product Liability, Completed Operations Liability and Explosion, Collapse and Underground Coverage) – in an amount not less than \$1,000,000 combined single limit and \$2,000,000 in the aggregate:

- Per Policy
- Per Project or Job
- Per Location

There should be no exclusions for any claims filed, actual or alleged, for violation of any applicable statute including, but not limited to, the New York State or federal labor laws, ordinances, administrative orders, executive orders, rules, regulations, or decrees of any court of competent jurisdiction.

X **Commercial Business Automobile Insurance** in an amount of not less than \$1,000,000 each accident and shall cover liability arising out of any automobile owned, leased, hired, borrowed and non-owned automobiles. Additionally, if vehicles are used for transporting hazardous materials, the contractor shall obtain and maintain the “broadened” coverage (endorsement CA 99 48), as well as proof of MCS 90 04 00.

X **Excess Umbrella Liability Insurance** in an amount of not less than:

\$1,000,000 in the aggregate

\$2,000,000 in the aggregate

\$3,000,000 in the aggregate

\$4,000,000 in the aggregate

X \$5,000,000 in the aggregate

Per Policy

X **Per Project or Job**

Per Location

X **All-Risk Installation Floater:** Builder's risk completed value form based on the total value of the project, providing coverage for work performed, equipment, supplies and materials at the project location, as well as any off-site storage location.

X **Pollution Legal Liability Insurance** in an amount of not less than:

\$1,000,000 in the aggregate

\$2,000,000 in the aggregate

\$3,000,000 in the aggregate

\$4,000,000 in the aggregate

X \$5,000,000 in the aggregate

X **Per Policy**

Per Project or Job

Per Location

And, if disposal of materials is involved, the disposal site operator must carry

Pollution Legal Liability Insurance in an amount of not less than:

\$1,000,000 in the aggregate

\$2,000,000 in the aggregate

\$3,000,000 in the aggregate

\$4,000,000 in the aggregate

\$5,000,000 in the aggregate

Per Policy

Per Project or Job

Per Location

Workers' Compensation and Employers' Liability and New York State Disability Benefits Insurances, as required by New York State statute. If employees of the contractor will be working on or near navigable waters, US Longshore and Harbor Workers Compensation Act endorsement must be included.

Certificates of Insurance, on forms approved by the New York State Department of Insurance, must be submitted to ECWA prior to the award of contract. Renewals of Certificates of Insurance, on forms approved by the New York State Department of Insurance, must be received by ECWA 30 days prior to the expiration of the insurance policy period.

Certificates of Insurance and renewals, on forms approved by the New York State Department of Insurance, must be submitted to ECWA prior to the award of contract. Each insurance carrier issuing a Certificate of Insurance shall be rated by A. M. Best no lower than "A-" with a Financial Strength Code (FSC) of at least VII. The professional service provider shall name ECWA, its officers, agents and employees as additional insured on a Primary and Non-Contributory Basis, including a Waiver of Subrogation endorsement (form CG 20 26 11 85 or equivalent), on all applicable liability policies. Any liability coverage on a "claims made" basis should be designated as such on the Certificate of Insurance.

To avoid confusion with similar insurance company names and to properly identify the insurance company, please make sure that the insurer's National Association of Insurance Commissioners (N.A.I.C.) identifying number or A. M. Best identifying number appears on the Certificate of Insurance. Also, at the top of the Certificate of Insurance, please list the project number.

Acceptance of a Certificate of Insurance and/or approval by ECWA shall not be construed to relieve the outside vendor of any obligations, responsibilities or liabilities.

Certificates of Insurance should be e-mailed to AALESSI@ECWA.ORG, or mailed to Mr. Anthony Alessi, ECWA Claims Representative/Risk Manager, Erie County Water Authority, 295 Main Street – Room 350, Buffalo, New York 14203-2494, or If you have any questions you can contact Mr. Alessi by e-mail or phone (716) 849-8477.

Please refer to the bid and the contract document(s) for additional information regarding insurance requirements.



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an **ADDITIONAL INSURED**, the policy(ies) must be endorsed. If **SUBROGATION IS WAIVED**, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
	PHONE (A/C, No, Ext):	FAX (A/C, No):
	E-MAIL ADDRESS:	
	PRODUCER CUSTOMER ID #:	
	INSURER(S) AFFORDING COVERAGE	
	NAIC #	
INSURED	INSURER A:	
	INSURER B:	
	INSURER C:	
	INSURER D:	
	INSURER E:	
	INSURER F:	

COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR VVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	GENERAL LIABILITY						EACH OCCURRENCE \$ 1,000,000
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000
	<input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR						MED EXP (Any one person) \$ 5,000
	<input checked="" type="checkbox"/> Blanket Broad Form Contractual	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				PERSONAL & ADV INJURY \$ 1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE \$ 2,000,000
	<input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC						PRODUCTS - COMP/OP AGG \$ 2,000,000
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000
	<input checked="" type="checkbox"/> ANY AUTO						BODILY INJURY (Per person) \$
	<input type="checkbox"/> ALL OWNED AUTOS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				BODILY INJURY (Per accident) \$
	<input type="checkbox"/> SCHEDULED AUTOS						PROPERTY DAMAGE (Per accident) \$
	<input type="checkbox"/> HIRED AUTOS						\$
	<input type="checkbox"/> NON-OWNED AUTOS						\$
	<input checked="" type="checkbox"/> UMBRELLA LIAB						EACH OCCURRENCE \$
	<input checked="" type="checkbox"/> EXCESS LIAB	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				AGGREGATE \$
	DEDUCTIBLE						\$
	<input checked="" type="checkbox"/> RETENTION \$ 10,000						\$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						WC STATUTORY LIMITS
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	<input type="checkbox"/>	N/A				OTHER
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. EACH ACCIDENT \$
							E.L. DISEASE - EA EMPLOYEE \$
							E.L. DISEASE - POLICY LIMIT \$

SAMPLE

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

Additional Insured on a Primary and non-contributory basis: Erie County Water Authority
Additional Insured endorsement CG 20 10 11 85 or equivalent

CERTIFICATE HOLDER

CANCELLATION

Erie County Water Authority
295 Main St, Suite 350
Buffalo, NY 14203

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Attn: Anthony Alessi

Understanding New York Workers Compensation Board Workers Compensation and N.Y.S Disability Benefits Liability

This is a brief description for governmental organizations to validate vendor workers compensation and NYS Disability Benefits coverage. These requirements should be used when applying for permits, licenses or secure contracts. Copies should be obtained not only at the initial issuance but at renewal as well. A full instruction manual can be obtained from the [Workers Comp Board](#).

The forms discussed are:

- 1) Form CE-200- [Affidavit of Exemption](#) (obtain at: www.wcb.state.ny.us/content/ebiz/wc_db_exemptions/requestExemptionOverview.jsp)
 - Acceptable proof that the business listed is exempt from providing workers' compensation and/or disability insurance coverage.

- 2) Workers Compensation
 - Form C-105.2: Certificate of Workers Compensation (WC) (Obtain from your insurance agent)
 - All private NYS licensed workers' compensation carriers are required to issue the C-105.2.

 - Form SI- 12: Certificate of WC when self-insured. (Obtain from workers compensation board)
 - Only the Self-Insurance Office of the Workers' Compensation Board issues the SI-12. The Self-Insurance Office can be contacted at **518-402-0247**. **Only one legal name and Federal Employer Identification Number can be listed on each Form SI-12. (Multiple legal entities must not be listed.)**

 - Form GSI- 105.2: Certificate of WC when participating in a group self-insured program.
 - The self-insurance administrator of the group completes the form.

 - Form U-26.3: Certificate of WC
 - Acceptable proof that the business has workers' compensation coverage through the New York State Insurance Fund. Only available through (NYSIF).

- 3) New York State Disability Benefits Law (DBL)
 - Form DB-120.1: [Certificate of DBL Insurance](#) (obtain from workers compensation board)
 - The DB-120.1 must be completed by either the NYS statutory disability benefits insurance carrier, or a licensed NYS insurance agent of that carrier. The form can be obtained by contacting the [Bureau of Compliance](#). (certificates@wcb.state.ny.us)

 - Form DB-155: [Certificate of DBL Self-Insurance](#)
 - The Self-Insurance Office of the Workers' Compensation Board issues the DB-155. The Board's secretary will approve the DB-155. The Self-Insurance Office can be contacted at **518-402-0247**.

- 4) Exemption 1, 2, 3, or 4 Family, Owner Occupied residence (<http://www.wcb.state.ny.us/content/main/forms/bp-1.pdf>)

NOTE: ACORD Certificates of Insurance are not acceptable proof. Must use one of the forms noted above:



CERTIFICATE OF NYS WORKERS' COMPENSATION INSURANCE COVERAGE

Form with fields for Insured Name, Business Telephone Number, NYS Unemployment Insurance Employer Registration Number, Federal Employer Identification Number, Holder Name, Name of Insurance Carrier, Policy Number, Policy effective period, and checkboxes for inclusion/exclusion of partners/officers.

This certifies that the insurance carrier indicated above in box "3" insures the business referenced above in box "1a" for workers' compensation under the New York State Workers' Compensation Law. (To use this form, New York (NY) must be listed under item 3A on the INFORMATION PAGE of the workers' compensation insurance policy).

SAMPLE

Will the carrier notify the certificate holder within 10 days of a policy being cancelled for non-payment of premium or within 30 days if cancelled for any other reason or if the insured is otherwise eliminated from the coverage indicated on this certificate prior to the end of the policy effective period? YES NO

This certificate is issued as a matter of information only and confers no rights upon the certificate holder. This certificate does not amend, extend or alter the coverage afforded by the policy listed, nor does it confer any rights or responsibilities beyond those contained in the referenced policy.

This certificate may be used as evidence of a Workers' Compensation contract of insurance only while the underlying policy is in effect.

Please Note: Upon cancellation of the workers' compensation policy indicated on this form, if the business continues to be named on a permit, license or contract issued by a certificate holder, the business must provide that certificate holder with a new Certificate of Workers' Compensation Coverage or other authorized proof that the business is complying with the mandatory coverage requirements of the New York State Workers' Compensation Law.

Under penalty of perjury, I certify that I am an authorized representative or licensed agent of the insurance carrier referenced above and that the named insured has the coverage as depicted on this form.

Approved by: William Lawley Jr. (Print name of authorized representative or licensed agent of insurance carrier)

Approved by: [Signature] (Signature) (Date)

Title: Managing Partner

Telephone Number of authorized representative or licensed agent of insurance carrier: (716) 849-8618

Please Note: Only insurance carriers and their licensed agents are authorized to issue Form C-105.2. Insurance brokers are NOT authorized to issue it.

Workers' Compensation Law

Section 57. Restriction on issue of permits and the entering into contracts unless compensation is secured.

1. The head of a state or municipal department, board, commission or office authorized or required by law to issue any permit for or in connection with any work involving the employment of employees in a hazardous employment defined by this chapter, and notwithstanding any general or special statute requiring or authorizing the issue of such permits, shall not issue such permit unless proof duly subscribed by an insurance carrier is produced in a form satisfactory to the chair, that compensation for all employees has been secured as provided by this chapter. Nothing herein, however, shall be construed as creating any liability on the part of such state or municipal department, board, commission or office to pay any compensation to any such employee if so employed.
2. The head of a state or municipal department, board, commission or office authorized or required by law to enter into any contract for or in connection with any work involving the employment of employees in a hazardous employment defined by this chapter, notwithstanding any general or special statute requiring or authorizing any such contract, shall not enter into any such contract unless proof duly subscribed by an insurance carrier is produced in a form satisfactory to the chair, that compensation for all employees has been secured as provided by this chapter.

SAMPLE

Form CE-200



**Certificate of Attestation of Exemption
From New York State Workers' Compensation
and/or Disability Benefits Insurance Coverage**

This form cannot be used to waive the workers' compensation rights or obligations of any party.

The applicant may use this Certificate of Attestation of Exemption ONLY to show a government entity that New York State specific workers' compensation and/or disability benefits insurance is not required. The applicant may NOT use this form to show another business or that business's insurance carrier that such insurance is not required.

Please provide this form to the government entity from which you are requesting a permit, license or contract. This Certificate will not be accepted by government officials one year after the date printed on the form.

<p align="center">In the Application of (Legal Entity Name and Address):</p> <p>JOHN SMITH 123 MAIN STREET ALBANY, NY 12207 111-111-1111 Federal ID Number: XXXXX6789</p>	<p align="center">Business Applying For: BUILDING PERMIT</p> <p align="center">From: CITY OF ALBANY, DEPT OF BUILDING AND CODES</p> <p>The location of where work will be performed is 123 ACME AVENUE, ALBANY, NY 12203.</p> <p>Estimated dates necessary to complete work associated with the building permit are from October 14, 2008 to March 31, 2009.</p> <p>The estimated dollar amount of project is \$25,001 - \$50,000</p>
---	--

Workers' Compensation Exemption Statement:

The above named business is certifying that it is **NOT REQUIRED TO OBTAIN NEW YORK STATE SPECIFIC WORKERS' COMPENSATION INSURANCE COVERAGE** for the following reason:

The business is owned by one individual and is not a corporation. Other than the owner, there are no employees, day labor, leased employees, borrowed employees, part-time employees, unpaid volunteers (including family members) or subcontractors.

Disability Benefits Exemption Statement:

The above named business is certifying that it is **NOT REQUIRED TO OBTAIN NEW YORK STATE STATUTORY DISABILITY BENEFITS INSURANCE COVERAGE** for the following reason:

The business is owned by one individual or is a partnership (LLC, LLP, PLLP or a RLLP) under the laws of New York State and is not a corporation; or is a one or two person owned corporation, with those individuals owning all of the stock and holding all offices of the corporation (in a two person owned corporation, each individual must be an officer and own at least one share of stock) or is a business with no NYS location. In addition, the business does not require disability benefits coverage at this time since it has not employed one or more individuals on at least 30 days in any calendar year in New York State. (Independent contractors are not considered to be employees under the Disability Benefits Law.)

I, JOHN SMITH, am the Sole Proprietor with the above-named legal entity. I affirm that due to my position with the above-named business I have the knowledge, information and authority to make this Certificate of Attestation of Exemption. I hereby affirm that the statements made herein are true, that I have not made any materially false statements and I make this Certificate of Attestation of Exemption under the penalties of perjury. I further affirm that I understand that any false statement, representation or concealment will subject me to felony criminal prosecution, including jail and civil liability in accordance with the Workers' Compensation Law and all other New York State laws. By submitting this Certificate of Attestation of Exemption to the government entity listed above I also hereby affirm that if circumstances change so that workers' compensation insurance and/or disability benefits coverage is required, the above-named legal entity will immediately acquire appropriate New York State specific workers' compensation insurance and/or disability benefits coverage and also immediately furnish proof of that coverage on forms approved by the Chair of the Workers' Compensation Board to the government entity listed above.

SIGN HERE	Signature:	Date:
<p>Exemption Certificate Number 2008-00197</p>		<p>Received October 2, 2008 NYS Workers' Compensation Board</p>

Form SI-12



STATE OF NEW YORK
WORKERS' COMPENSATION BOARD
SELF-INSURANCE OFFICE
20 PARK STREET - ROOM 206
ALBANY, NY 12207



(518) 402-0247
FAX (518) 402-6199

COMPLIANCE WITH DISABILITY BENEFITS LAW
(Pursuant To Section 220, subd. 8 of the Disability Benefits Law)

EMPLOYER	FEDERAL EMPLOYER IDENTIFICATION NUMBER
ADDRESS (HOME OR MAIN OFFICE)	LOCATION OF OPERATION
	OPERATIONS TO BE REPORTED ON OR ABOUT:

There are on file with the Workers' Compensation Board, documents indicating that the above-named employer has complied with the Disability Benefits Law with respect to all of his or her employees in the following manner:

- By approved self-insurance pursuant to Section 211, subdivision 3 of the Disability Benefits Law.
- By a combination of approved self-insurance pursuant to Section 211, subdivision 3 of the Disability Benefits Law and insurance with authorized insurance carrier(s).

Date:

By: _____
Gina Wagoner
WC Examiner

DB-155 (3/04)

THIS AGENCY EMPLOYS & SERVES PEOPLE WITH DISABILITIES WITHOUT DISCRIMINATION



New York State Insurance Fund

Workers' Compensation & Disability Benefits Specialists Since 1914

199 CHURCH STREET, NEW YORK, N.Y. 10007-1100

Phone: (888) 997-3863

CERTIFICATE OF WORKERS' COMPENSATION INSURANCE

POLICYHOLDER		CERTIFICATE HOLDER	
POLICY NUMBER	CERTIFICATE NUMBER	PERIOD COVERED BY THIS CERTIFICATE	DATE
		01/01/2009 TO 05/01/2010	1/8/2009

THIS IS TO CERTIFY THAT THE POLICYHOLDER NAMED ABOVE IS INSURED WITH THE NEW YORK STATE INSURANCE FUND UNDER POLICY NO. 2058 840-6 UNTIL 05/01/2010, COVERING THE ENTIRE OBLIGATION OF THIS POLICYHOLDER FOR WORKERS' COMPENSATION UNDER THE NEW YORK WORKERS' COMPENSATION LAW WITH RESPECT TO ALL OPERATIONS IN THE STATE OF NEW YORK, EXCEPT AS INDICATED BELOW.

IF SAID POLICY IS CANCELLED, OR CHANGED PRIOR TO 05/01/2010 IN SUCH MANNER AS TO AFFECT THIS CERTIFICATE, 10 DAYS WRITTEN NOTICE OF SUCH CANCELLATION WILL BE GIVEN TO THE CERTIFICATE HOLDER ABOVE. NOTICE BY REGULAR MAIL SO ADDRESSED SHALL BE SUFFICIENT COMPLIANCE WITH THIS PROVISION. THE NEW YORK STATE INSURANCE FUND DOES NOT ASSUME ANY LIABILITY IN THE EVENT OF FAILURE TO GIVE SUCH NOTICE.

THIS CERTIFICATE DOES NOT APPLY TO BUILDING DEMOLITION.

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS NOR INSURANCE COVERAGE UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICY.

NEW YORK STATE INSURANCE FUND

DIRECTOR, INSURANCE FUND UNDERWRITING

This certificate can be validated on our web site at <https://www.nysif.com/cert/certval.asp> or by calling (888) 875-5790
VALIDATION NUMBER: 107031806

STATE OF NEW YORK
WORKERS' COMPENSATION BOARD
**CERTIFICATE OF PARTICIPATION IN WORKERS' COMPENSATION
GROUP SELF-INSURANCE**

1a. Legal Name and Address of Business Participating in Group Self-Insurance (Use Street Address Only)	1d. Business Telephone Number of Business referenced in box "1a"
1b. Effective Date of Membership in the Group	1e. NYS Unemployment Insurance Employer Registration Number of Business referenced in box "1a"
1c. The Proprietor, Partners or Executive Officers are <input type="checkbox"/> included (Only check box if all partners/officers included) <input type="checkbox"/> all excluded or certain partners/officers excluded	1f. Federal Employer Identification Number of Business referenced in box "1a"
2. Name and Address of the Entity Requesting Proof of Coverage (Entity Being Listed as Certificate Holder)	3. Name and Address of Group Self-Insurer

This certifies that the business referenced above in box "1a" is complying with the mandatory coverage requirements of the New York State Workers' Compensation Law as a participating member of the Group Self-Insurer listed above in box "3" and participation in such group self-insurance is still in force. The Group Self-Insurer's Administrator will send this Certificate of Participation to the entity listed above as the certificate holder in box "2".

The Group Self-Insurer's Administrator will notify the above certificate holder within 10 days IF the membership of the participant listed in box "1a" is terminated. (These notices may be sent by regular mail.) Otherwise, this Certificate is valid for a maximum of one year from the date certified by the group self-insurer.

If this certificate is no longer valid according to the above guidelines and the business referenced in box "1a" continues to be named on a permit, license or contract issued by the certificate holder, the business must provide the certificate holder either with a new certificate or other authorized proof the business is complying with the mandatory coverage requirements of the New York State Workers' Compensation Law.

Under penalty of perjury, I certify that I am an authorized representative of the Group Self-Insurer referenced above and that the business referenced in box "1a" has the coverage as depicted on this form.

Certified by: _____
(Print name of authorized representative of the Group Self-Insurer)

Certified by: _____
(Signature) (Date)

Title: _____

Telephone Number: _____



CERTIFICATE OF INSURANCE COVERAGE DISABILITY AND PAID FAMILY LEAVE BENEFITS LAW

PART 1. To be completed by Disability and Paid Family Leave Benefits Carrier or Licensed Insurance Agent of that Carrier

1a. Legal Name & Address of Insured (use street address only)
1b. Business Telephone Number of Insured
1c. Federal Employer Identification Number of Insured or Social Security Number
2. Name and Address of Entity Requesting Proof of Coverage (Entity Being Listed as the Certificate Holder)
3a. Name of Insurance Carrier
3b. Policy Number of Entity Listed in Box "1a"
3c. Policy effective period

4. Policy provides the following benefits:
A. Both disability and paid family leave benefits
B. Disability benefits only.
C. Paid family leave benefits only.
5. Policy covers:
A. All of the employer's employees eligible under the NYS Disability and Paid Family Leave Benefits Law.
B. Only the following class or classes of employer's employees:

Under penalty of perjury, I certify that I am an authorized representative or licensed agent of the insurance carrier referenced above and that the named insured has NYS Disability and/or Paid Family Leave Benefits insurance coverage as described above.

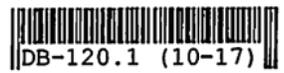
Date Signed By Telephone Number Name and Title

IMPORTANT: If Boxes 4A and 5A are checked, and this form is signed by the insurance carrier's authorized representative or NYS Licensed Insurance Agent of that carrier, this certificate is COMPLETE. Mail it directly to the certificate holder. If Box 4B, 4C or 5B is checked, this certificate is NOT COMPLETE for purposes of Section 220, Subd. 8 of the NYS Disability and Paid Family Leave Benefits Law. It must be mailed for completion to the Workers' Compensation Board, Plans Acceptance Unit, PO Box 5200, Binghamton, NY 13902-5200.

PART 2. To be completed by the NYS Workers' Compensation Board (Only if Box 4C or 5B of Part 1 has been checked)

State of New York Workers' Compensation Board
According to information maintained by the NYS Workers' Compensation Board, the above-named employer has complied with the NYS Disability and Paid Family Leave Benefits Law with respect to all of his/her employees.
Date Signed By Telephone Number Name and Title

Please Note: Only insurance carriers licensed to write NYS disability and paid family leave benefits insurance policies and NYS licensed insurance agents of those insurance carriers are authorized to issue Form DB-120.1. Insurance brokers are NOT authorized to issue this form.



Additional Instructions for Form DB-120.1

By signing this form, the insurance carrier identified in Box 3 on this form is certifying that it is insuring the business referenced in box "1a" for disability and/or paid family leave benefits under the New York State Disability and Paid Family Leave Benefits Law. The Insurance Carrier or its licensed agent will send this Certificate of Insurance to the entity listed as the certificate holder in Box 2.

The insurance carrier must notify the above certificate holder and the Workers' Compensation Board within 10 days IF a policy is cancelled due to nonpayment of premiums or within 30 days IF there are reasons other than nonpayment of premiums that cancel the policy or eliminate the insured from coverage indicated on this Certificate. (These notices may be sent by regular mail.) Otherwise, this Certificate is valid for one year after this form is approved by the insurance carrier or its licensed agent, or until the policy expiration date listed in Box 3c, whichever is earlier

This certificate is issued as a matter of information only and confers no rights upon the certificate holder. This certificate does not amend, extend or alter the coverage afforded by the policy listed, nor does it confer any rights or responsibilities beyond those contained in the referenced policy.

This certificate may be used as evidence of a Disability and/or Paid Family Leave Benefits contract of insurance only while the underlying policy is in effect.

Please Note: Upon the cancellation of the disability and/or paid family leave benefits policy indicated on this form, if the business continues to be named on a permit, license or contract issued by a certificate holder, the business must provide that certificate holder with a new Certificate of NYS Disability and/or Paid Family Leave Benefits Coverage or other authorized proof that the business is complying with the mandatory coverage requirements of the New York State Disability and Paid Family Leave Benefits Law.

DISABILITY AND PAID FAMILY LEAVE BENEFITS LAW

§220. Subd. 8

(a) The head of a state or municipal department, board, commission or office authorized or required by law to issue any permit for or in connection with any work involving the employment of employees in employment as defined in this article, and notwithstanding any general or special statute requiring or authorizing the issue of such permits, shall not issue such permit unless proof duly subscribed by an insurance carrier is produced in a form satisfactory to the chair, that the payment of disability benefits and after January first, two thousand and twenty-one, the payment of family leave benefits for all employees has been secured as provided by this article. Nothing herein, however, shall be construed as creating any liability on the part of such state or municipal department, board, commission or office to pay any disability benefits to any such employee if so employed.

(b) The head of a state or municipal department, board, commission or office authorized or required by law to enter into any contract for or in connection with any work involving the employment of employees in employment as defined in this article and notwithstanding any general or special statute requiring or authorizing any such contract, shall not enter into any such contract unless proof duly subscribed by an insurance carrier is produced in a form satisfactory to the chair, that the payment of disability benefits and after January first, two thousand eighteen, the payment of family leave benefits for all employees has been secured as provided by this article.

FORM DB-155



STATE OF NEW YORK
WORKERS' COMPENSATION BOARD
SELF-INSURANCE OFFICE
20 PARK STREET - ROOM 206
ALBANY, NY 12207



(518) 402-0247
FAX (518) 402-6199

COMPLIANCE WITH DISABILITY BENEFITS LAW (Pursuant To Section 220, subd. 8 of the Disability Benefits Law)

EMPLOYER	FEDERAL EMPLOYER IDENTIFICATION NUMBER
	LOCATION OF OPERATION
ADDRESS (HOME OR MAIN OFFICE)	OPERATIONS TO BE REPORTED ON OR ABOUT:

There are on file with the Workers' Compensation Board, documents indicating that the above-named employer has complied with the Disability Benefits Law with respect to all of his or her employees in the following manner:

- By approved self-insurance pursuant to Section 211, subdivision 3 of the Disability Benefits Law.
- By a combination of approved self-insurance pursuant to Section 211, subdivision 3 of the Disability Benefits Law and insurance with authorized insurance carrier(s).

Date:

By: _____
Gina Wagoner
WC Examiner

DB-155 (3/04)

THIS AGENCY EMPLOYS & SERVES PEOPLE WITH DISABILITIES WITHOUT DISCRIMINATION

Affidavit of Exemption to Show Specific Proof of Workers' Compensation Insurance Coverage for a 1, 2, 3 or 4 Family, Owner-occupied Residence

*****This form cannot be used to waive the workers' compensation rights or obligations of any party.*****

Under penalty of perjury, I certify that I am the owner of the 1, 2, 3 or 4 family, **owner-occupied** residence (including condominiums) listed on the building permit that I am applying for, and I am not required to show specific proof of workers' compensation insurance coverage for such residence because (please check the appropriate box):

- I am performing all the work for which the building permit was issued.
- I am not hiring, paying or compensating in any way, the individual(s) that is(are) performing all the work for which the building permit was issued or helping me perform such work.
- I have a homeowners insurance policy that is currently in effect and covers the property listed on the attached building permit AND am hiring or paying individuals a total of less than 40 hours per week (aggregate hours for all paid individuals on the jobsite) for which the building permit was issued.

I also agree to either:

- ◆ acquire appropriate workers' compensation coverage and provide appropriate proof of that coverage on forms approved by the Chair of the NYS Workers' Compensation Board to the government entity issuing the building permit if I need to hire or pay individuals a total of 40 hours or more per week (aggregate hours for all paid individuals on the jobsite) for work indicated on the building permit, or if appropriate, file a CE-200 exemption form; OR
- ◆ have the general contractor, performing the work on the 1, 2, 3 or 4 family, **owner-occupied** residence (including condominiums) listed on the building permit that I am applying for, provide appropriate proof of workers' compensation coverage or proof of exemption from that coverage on forms approved by the Chair of the NYS Workers' Compensation Board to the government entity issuing the building permit if the project takes a total of 40 hours or more per week (aggregate hours for all paid individuals on the jobsite) for work indicated on the building permit.

(Signature of Homeowner)

(Date Signed)

(Homeowner's Name Printed)

Home Telephone Number _____

Property Address that requires the building permit:

<p><i>Sworn to before me this _____ day of</i> _____, _____.</p> <p><i>(County Clerk or Notary Public)</i></p>
--

Once notarized, this BP-1 form serves as an exemption for both workers' compensation and disability benefits insurance coverage.

LAWS OF NEW YORK, 1998
CHAPTER 439

The **general municipal law is amended by adding a new section 125** to read as follows:

125. ISSUANCE OF BUILDING PERMITS. NO CITY, TOWN OR VILLAGE SHALL ISSUE A BUILDING PERMIT WITHOUT OBTAINING FROM THE PERMIT APPLICANT EITHER:

1. PROOF DULY SUBSCRIBED THAT WORKERS' COMPENSATION INSURANCE AND DISABILITY BENEFITS COVERAGE ISSUED BY AN INSURANCE CARRIER IN A FORM SATISFACTORY TO THE CHAIR OF THE WORKERS' COMPENSATION BOARD AS PROVIDED FOR IN SECTION FIFTY-SEVEN OF THE WORKERS' COMPENSATION LAW IS EFFECTIVE; OR

2. AN AFFIDAVIT THAT SUCH PERMIT APPLICANT HAS NOT ENGAGED AN EMPLOYER OR ANY EMPLOYEES AS THOSE TERMS ARE DEFINED IN SECTION TWO OF THE WORKERS' COMPENSATION LAW TO PERFORM WORK RELATING TO SUCH BUILDING PERMIT.

Implementing Section 125 of the General Municipal Law

1. General Contractors -- Business Owners and Certain Homeowners

For **businesses and certain homeowners listed as the general contractors on building permits**, proof that they are in compliance with Section 57 of the Workers' Compensation Law (WCL) is **ONE** of the following forms that indicate that they are:

- ◆ insured (C-105.2 or U-26.3),
- ◆ self-insured (SI-12), or
- ◆ are exempt (CE-200),

under the mandatory coverage provisions of the WCL. Any residence that is not a **1, 2, 3 or 4 Family, Owner-occupied Residence** is considered a business (income or potential income property) and must prove compliance by filing one of the above forms.

2. Owner-occupied Residences

For homeowners of a **1, 2, 3 or 4 Family, Owner-occupied Residence**, proof of their exemption from the mandatory coverage provisions of the Workers' Compensation Law when applying for a building permit is to file form BP-1.

- ◆ Form BP-1 shall be filed if the homeowner of a **1, 2, 3 or 4 Family, Owner-occupied Residence** is listed as the general contractor on the building permit, and the homeowner:
 - ◇ is performing all the work for which the building permit was issued him/herself,
 - ◇ is not hiring, paying or compensating in any way, the individual(s) that is(are) performing all the work for which the building permit was issued or helping the homeowner perform such work, or
 - ◇ has a homeowner's insurance policy that is currently in effect and covers the property for which the building permit was issued AND the homeowner is hiring or paying individuals a total of less than 40 hours per week (aggregate hours for all paid individuals on the jobsite) for the work for which the building permit was issued.
- ◆ If the homeowner of a **1, 2, 3 or 4 Family, Owner-occupied Residence** is hiring or paying individuals a total of **40 hours or MORE** in any week (aggregate hours for all paid individuals on the jobsite) for the work for which the building permit was issued, then the homeowner may not file the "Affidavit of Exemption" form, BP-1(11/04), but shall either:
 - ◇ acquire appropriate workers' compensation coverage and provide appropriate proof of that coverage on forms approved by the Chair of the NYS Workers' Compensation Board to the government entity issuing the building permit (the C-105.2 or U-26.3 form), OR
 - ◇ have the general contractor, (performing the work on the 1, 2, 3 or 4 family, **owner-occupied** residence (including condominiums) listed on the building permit) provide appropriate proof of workers' compensation coverage, or proof of exemption from that coverage on forms approved by the Chair of the NYS Workers' Compensation Board to the government entity issuing the building permit.

STATE OF NEW YORK - WORKERS' COMPENSATION BOARD
ESTADO DE NUEVA YORK - JUNTA DE COMPENSACION OBRERA
NOTICE OF COMPLIANCE
WORKERS' COMPENSATION LAW

TO EMPLOYEES

IMPORTANT INFORMATION FOR EMPLOYEES WHO ARE INJURED OR SUFFER AN OCCUPATIONAL DISEASE WHILE WORKING.

1. By posting this notice and information concerning your rights as an injured worker, your compliance with the Workers' Compensation Law.
2. If you do not notify your employer within 30 days of the date of your injury your claim may be disallowed, so do so immediately.
3. You are entitled to obtain any necessary medical treatment and should do so immediately.
4. You may choose any doctor, podiatrist, chiropractor or psychologist referred by a medical doctor that accepts NY State Workers Compensation patients and is Board authorized. However, if your employer is involved in a certified preferred provider organization (PPO) you must first be treated by a provider chosen by your employer and your employer must give you a written statement of your rights concerning further medical care.
5. You should tell your doctor to file copies of medical reports concerning your claim with the Workers' Compensation Board and with your employer's insurance company, which is indicated at the bottom of this form.
6. You may be entitled to lost time benefits if your work-related injury keeps you from work for more than seven days, compels you to work at lower wages or results in permanent disability to any part of your body. You may be entitled to rehabilitation services if you need help returning to work.
7. You should not pay any medical providers directly. They should send their bills to your employers insurance carrier. If there is a dispute, the provider must wait until the Board makes a decision before it attempts to collect payment from you. If you do not pursue your claim or the Board rules that your injury is not work-related, you may be responsible for the payment of the bills.
8. You are entitled to be represented by an attorney or licensed representative, but it is not required. If you do hire a representative do not pay him/her directly. Any fee will be set by the Board and will be deducted from your award.
9. If you have difficulty in obtaining a claim form or need help in filling it out or if you have any other questions or problems about a job-related injury, contact any office of the Workers' Compensation Board.

WORKERS' COMPENSATION BOARD OFFICES

- Albany, 12241 - 100 Broadway-Menands - (866) 750-5157
- Brooklyn, 11201 - Ill Livingston St. - Brooklyn - (800) 877-1373
- Binghamton, 113901 - State Office Bldg. - 44 Hawley St. - (866) 802-3604
- Buffalo, 14202 - Statler Tower, 107 Delaware Ave. - (866) 211-0645
- Hempstead, 11788 - 220 Rabro Drive - Suite 100 - (866) 681-5354
- Hempstead, 11550 - 175 Fulton Avenue - (866) 805-3630
- New York, 10027 - 215 W. 1125th St, Manhattan (800)-877-1373
- Peekskill, 10566 - 41 North Division St. (866) 746-0552
- Queens, 11432 - 168-46 91st Ave., Jamaica (800) 877-1373
- Rochester, 14614 - 130 Main Street West - (866) 211-0644
- Syracuse, 13203 - 935 James St. - (866) 802-3730

DOWNSTATE MAIL ADDRESS

Claims-related mail for the Hauppauge, Hempstead, Peekskill and all NYC offices should be mailed to:
 PO Box 5205 Binghamton, NY 13902-5205

AVISO DE CUMPLIMIENTO
LEY DE COMPENSACION OBRERA

A EMPLEADOS

INFORMACION IMPORTANTE PARA EMPLEADOS QUE SEAN LESIONADOS O SUFRAN UNA ENFERMEDAD OCUPACIONAL MIENTRAS TRABAJAN.

1. Su patrono esta cumpliendo la Ley de Compensacion Obrera cuando despliega este comunicado concerniente a sus derechos como trabajador lesionado.
2. Si usted no notifica a su patrono dentro del termino de 30 dias de haber sufrido su lesion su reclamacion podria ser desestimada, por eso notifique inmediatamente.
3. Usted tiene derecho a recibir cualquier tratamiento medico necesario relacionado con su lesion y debe gestionarlo inmediatamente.
4. Para el tratamiento de cualquier lesion o enfermedad relacionada con el trabajo usted puede escoger cualquier medico, podiatra, quiropractico o psicologo (si es referido por un medico autorizado) que esta autorizado y acepte pacientes de la Junta de Compensacion Obrera. Sin embargo, si su patrono esta autorizado a participar en una organizacion certificada de proveedores preferidos (PPO), usted debera obtener tratamiento inicial para cualquier lesion o enfermedad relacionada con el trabajo de la correspondiente entidad. Patronos que participen en cualquiera de estos programas establecidos por ley estan obligados a proveer a sus empleados notificacion escrita explicando sus derechos y obligaciones bajo el programa que este acogido.
5. Usted debera requerir de su Medico que radique copias de los informes medicos de su caso en la Junta de Compensacion Obrera y en la compania de seguros de su patrono, que se indica al final de esta forma.
6. Usted tiene derecho a compensacion si su lesion relacionada con el trabajo le impide trabajar por mas de siete dias, le obliga a trabajar a sueldo mas bajo o resulta en una capacidad permanente de cualquier parte de su cuerpo. Usted puede tener derecho a servicios de rehabilitacion si necesita ayuda para regresar al trabajo.
7. No pague a ningun proveedor medico directamente por tratamiento de su lesion o enfermedad relacionada con el trabajo. Ellos deben enviar sus facturas al asegurador de su patrono. Si el caso es cuestionado, el proveedor debera esperar hasta que la junta decida el caso, antes de iniciar gestion de cobro alguna contra usted. Si usted no tramita su caso o la Junta con el trabajo, usted podria ser responsable del pago de las facturas.
8. No es obligatorio el estar representado en ninguno de los procedimientos de la Junta, pero es un derecho que usted tiene, el estar representado por abogado o por representante licenciado si usted asi lo desea. Si es representado, no pague al abogado o al representante licenciado. Cuando la Junta decida su caso, los honorarios seran determinados por la Junta y descontados de sus beneficios.
9. Si tiene dificultad en conseguir un formulario de reclamacion o necesita ayuda para llenarlo o tiene dudas sobre cualquier situacion relacionada con una lesion o enfermedad comuniquese con la oficina mas cercana de la Junta.



ARY S. WEISS CHAIR/PRESIDENT/IZACH

Workers' Compensation benefits, when due, will be paid by

(Los beneficios de Compensacion Obrera, cuando debidos, seran pagados por):

<i>SAMPLE</i>	
Effective From (En vigor Desde)	To (Hasta Cancellation)
Policy No. (Poliza No)	

Name of employer (Nombre del patrono)

THIS NOTICE MUST BE POSTED CONSPICUOUSLY IN AND ABOUT THE EMPLOYER'S PLACE OR PLACES OF BUSINESS

C-105(4-09)
 S.I.F. U-30e
 "U30SIF/SN"

PRESCRIBED BY CHAIR
 WORKERS' COMPENSATION BOARD
 STATE OF NEW YORK

www.wcb.state.ny.us

Failure by an employer to post this notice in and about the employer's place or places of business may result in a \$250 penalty for each violation.

NOTICE OF COMPLIANCE
DISABILITY BENEFITS LAW
TO EMPLOYEES

AVISO DE CUMPLIMIENTO
LEY DE BENEFICIOS POR INCAPACIDAD
A LOS EMPLEADOS

1. If you are unable to work because of an illness or injury not work-related, you may be entitled to receive weekly benefits from your employer, or his or her insurance company, or from the Special Fund for Disability Benefits.
2. To claim benefits You must file a claim form, within 30 days from the first date of your disability, but in no event more than 26 weeks from such date.
3. Use one of the following claim forms:
-if, when your disability begins you are employed or are unemployed for four weeks or less, use WHITE claim form (Form DB-450), which you may obtain from your employer, his or her insurance carrier, your health provider or any office of the Workers' Compensation Board, and send it to your employer or the insurance carrier named below.
-If, when your disability begins, you have been unemployed more than four weeks, use the GREEN claim form (Form DB-300), which you may obtain from any Unemployment Insurance Office, your health provider, or any office of the Workers' Compensation Board. Send completed claim form to the Workers' Compensation Board, Disability Benefits Bureau Albany, New York 12241.
IMPORTANT Before filing your claim, your health provider must complete the "Health Care Provider's Statement" on the claim form, showing your period of disability.
4. You are entitled to be treated by any physician, chiropractor, dentist, nurse-midwife, podiatrist or psychologist of your choice. However, unlike workers' compensation, your medical bills will not be paid unless your employer and/or union provide for the payment of such bills under a Disability Benefits Plan or Agreement.
5. If you are ill or injured during the time you are receiving Unemployment Insurance Benefits, file a claim for Disability Benefits as soon as you sustain the injury or illness, by following the instructions outlined above.
6. If you are out of work in excess of seven days, your employer is required to send you a Disability Benefits Statement of Rights (Form DB-271).
7. Other information about Disability Benefits may be obtained by writing or calling the nearest Workers' Compensation Board Office.

1. Si usted no puede trabajar debido a enfermedad o lesión no relacionada con el trabajo, podría tener derecho a recibir, beneficios semanales de su patrón o de la compañía de seguros de el/ella o del Fondo Especial para Beneficios por Incapacidad.
2. Para reclamar beneficios usted debe Presentar una forma de reclamación, dentro de 30 días a Partir de la Primera fecha de su incapacidad, pero en ningún caso más de 26 semanas de dicha fecha.
3. Use una de las siguientes formas de reclamación:
-Si, cuando comience su incapacidad usted está empleado o ha estado desempleado por cuatro semanas o menos, use la forma de reclamación BLANCA (form DB-450), la cual puede obtener de su patrón o de la compañía de seguros de él/ella, o de su proveedor de cuidados de salud, o bien de cualquier oficina de la Junta de Compensación Obrera, y envíela a su patrón o a la compañía de seguros nombrada abajo.
-Si, cuando comience su incapacidad, usted ha estado desempleado más de cuatro semanas, use la forma de reclamación VERDE (form DB-300), la cual puede obtener en cualquier Oficina de Seguro de Desempleo, de su proveedor de salud, o bien de cualquier oficina de la Junta de Compensación Obrera Envíe la forma de reclamación, debidamente terminada, a Workers' Compensation Board, Disability Benefits Bureau, Albany, New York 12241.
IMPORTANT Antes de presentar usted su reclamación, es necesario que su proveedor de salud complete la declaración del médico ("Health Care Provider's Statement") en la forma de reclamación, indicando el período de su incapacidad.
4. Usted tiene derecho a ser tratado por cualquier medico, quiropráctico, dentista, enfermera-partera, podiatra o psicologo que usted elija. Pero, con respecto a la compensación obrera, sus cuentas médicas no serán pagadas a menos que su patrón y/o Unión haga el pago de tales cuentas médicas bajo un Plan o Convenio de Beneficios por Incapacidad.
5. Si estuviera usted enfermo o lesionado durante el tiempo que esté recibiendo beneficios del Seguro de Desempleo, presente una reclamación para Beneficios por Incapacidad, siguiendo las instrucciones arriba descritas, tan pronto como sufra la lesión o la enfermedad.
6. Si usted está desempleado por más de siete días, su patrón está obligado a enviarle la declaración de Derechos de Beneficios por incapacidad (Form DB-271).
7. Otras informaciones relativas a Beneficios por incapacidad pueden obtenerse escribiendo o llamando a la oficina mas cercana de la Junta de Compensación Obrera.

WORKERS' COMPENSATION BOARD OFFICES

Albany, 12241 - 100 Broadway-Menands - (518) 474-6681
 Binghamton, 13901 - State Office Bldg - 44 Hawley St - (607) 721-8333
 Buffalo, 14203-State Office Bldg -125 Main St - (716) 847-3171
 Hempstead, 11550 -175 Fulton Avenue - (516) 560-7145
 Rochester, 14614 - 130 Main Street West - (716) 248-6300
 Syracuse, 13202 - State Office Bldg.-333 E. Washington St. - (315) 428-4465

Robert R. Snashall
Robert R. Snashall
 Chairman (Presidente)

The undersigned employer is in compliance with the provisions of the Disability Benefits Law (El patrón abajo firmante esta en conformidad con las disposiciones de la ley de Beneficios por Incapacidad).

Disability Benefits, when due, will be paid by (Los Beneficios por Incapacidad, cuando debidos, serán pagados por):

The benefits provided are (Los beneficios provistos son)

<input type="checkbox"/>	Statutory (Estatutarios)	<input type="checkbox"/>	Under a Plan or Agreement (Bajo un Plan o Convenio)
--------------------------	-----------------------------	--------------------------	---

Class(es) of employees covered (Clas(es) de empleados amparados)

ALL EMPLOYEES ELIGIBLE UNDER NY DBL

Name of employer (Nombre del Patrón)

SAMPLE

Effective: From (_____) To UNTIL CANCELLED
 (En Vigor Desde) (HASTA)

Policy No _____
 (Poliza No.)

THE WORKERS' COMPENSATION BOARD EMPLOYS AND SERVES
 PEOPLE WITH DISABILITIES WITHOUT DISCRIMINATION.

LA JUNTA DE COMPENSACIÓN OBRERA EMPLEA Y SIRVE
 A PERSONAS INCAPACITADAS SIN DISCRIMINAR.

By *W. J. [Signature]*

**Erie County Water Authority
ACORD Endorsement Samples**

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**ADDITIONAL INSURED – OWNERS, LESSEES OR
CONTRACTORS – (FORM B)**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART.

SCHEDULE

Name of Person or Organization:

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

WHO IS AN INSURED (Section II) is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of "your work" for that insured by or for you.

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – DESIGNATED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART.

SCHEDULE

Name of Person or Organization:

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

WHO IS AN INSURED (Section II) is amended to include as an insured the person or organization shown in the Schedule as an insured but only with respect to liability arising out of your operations or premises owned by or rented to you.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

POLLUTION LIABILITY – BROADENED COVERAGE FOR COVERED AUTOS – BUSINESS AUTO, MOTOR CARRIER AND TRUCKERS COVERAGE FORMS

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM
MOTOR CARRIER COVERAGE FORM
TRUCKERS COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by the endorsement.

A. Liability Coverage is changed as follows:

1. Paragraph **a.** of the **Pollution** Exclusion applies only to liability assumed under a contract or agreement.
2. Exclusion **B.6.** Care, Custody Or Control does not apply.

B. Changes In Definitions

For the purposes of this endorsement, Paragraph **D.** of the **Definitions** Section is replaced by the following:

D. "Covered pollution cost or expense" means any cost or expense arising out of:

1. Any request, demand, order or statutory or regulatory requirement; or
2. Any claim or "suit" by or on behalf of a governmental authority demanding

that the "insured" or others test for, monitor, clean up, remove, contain, treat, detoxify or neutralize, or in any way respond to, or assess the effects of "pollutants".

"Covered pollution cost or expense" does not include any cost or expense arising out of the actual, alleged or threatened discharge, dispersal, seepage, migration, release or escape of "pollutants":

- a.** Before the "pollutants" or any property in which the "pollutants" are contained are moved from the place where they are accepted by the "insured" for movement into or onto the covered "auto"; or

- b.** After the "pollutants" or any property in which the "pollutants" are contained are moved from the covered "auto" to the place where they are finally delivered, disposed of or abandoned by the "insured".

Paragraphs **a.** and **b.** above do not apply to "accidents" that occur away from premises owned by or rented to an "insured" with respect to "pollutants" not in or upon a covered "auto" if:

- (1) The "pollutants" or any property in which the "pollutants" are contained are upset, overturned or damaged as a result of the maintenance or use of a covered "auto"; and
- (2) The discharge, dispersal, seepage, migration, release or escape of the "pollutants" is caused directly by such upset, overturn or damage.

ENDORSEMENT FOR
MOTOR CARRIER POLICIES OF INSURANCE FOR PUBLIC LIABILITY
UNDER SECTIONS 29 and 30 OF THE MOTOR CARRIER ACT OF 1980

Issued to

of

Dated at

This _____ day of _____

Amending Policy No. _____ Effective Date _____

Telephone Number _____ Countersigned by _____
Authorized Company Representative

Name of Insurance Company _____

The policy to which this endorsement is attached provides primary or excess insurance, as indicated by

"□", for the limits shown:

This insurance is primary and the company shall not be liable for amounts in excess of \$ _____ for each accident.

This insurance is excess and the company shall not be liable for amounts in excess of \$ _____ for each accident in excess of the underlying limit of \$ _____ for each accident.

Whenever required by the Federal Motor Carrier Safety Administration (FMCSA), the company agrees to furnish the FMCSA a duplicate of said policy and all its endorsements. The company also agrees, upon telephone request by an authorized representative of the FMCSA, to verify that the policy is in force as of a particular date. The telephone number to call is:

Cancellation of this endorsement may be effected by the company or the insured by giving (1) thirty-five (35) days notice in writing to the other party (said 35 days notice to commence from the date the notice is mailed, proof of mailing shall be sufficient proof of notice), and (2) if the insured is subject to the FMCSA's registration requirements under 49 U.S.C. 13901, by providing thirty (30) days notice to the FMCSA (said 30 days notice to commence from the date the notice is received by the FMCSA at its office in Washington, D.C.).

DEFINITIONS AS USED IN THIS ENDORSEMENT

ACCIDENT includes continuous or repeated exposure to conditions which results in bodily injury, property damage, or environmental damage which the insured neither expected nor intended.

MOTOR VEHICLE means a land vehicle, machine, truck, tractor, trailer, or semitrailer propelled or drawn by mechanical power and used on a highway for transporting property, or any combination thereof.

BODILY INJURY means injury to the body, sickness, or disease to any person, including death resulting from any of these.

PROPERTY DAMAGE means damage to or loss of use of tangible property.

ENVIRONMENTAL RESTORATION means restitution for the loss, damage, or destruction of natural resources arising out of the accidental discharge, dispersal, release or escape into or upon the land, atmosphere, watercourse, or body of water, of any commodity transported by a motor carrier. This shall include the cost of removal and the cost of necessary measures taken to minimize or mitigate damage to human health, the natural environment, fish, shellfish, and wildlife.

PUBLIC LIABILITY means liability for bodily injury, property damage, and environmental restoration.

**ENDORSEMENT FOR
MOTOR CARRIER POLICIES OF INSURANCE FOR PUBLIC LIABILITY
UNDER SECTIONS 29 and 30 OF THE MOTOR CARRIER ACT OF 1980**

The insurance policy to which this endorsement is attached provides automobile liability insurance and is amended to assure compliance by the insured, within the limits stated herein, as a motor carrier of property, with Sections 29 and 30 of the Motor Carrier Act of 1980 and the rules and regulations of the Federal Motor Carrier Safety Administration (FMCSA).

In consideration of the premium stated in the policy to which this endorsement is attached, the insurer (the company) agrees to pay, within the limits of liability described herein, any final judgment recovered against the insured for public liability resulting from negligence in the operation, maintenance or use of motor vehicles subject to the financial responsibility requirements of Sections 29 and 30 of the Motor Carrier Act of 1980 regardless of whether or not each motor vehicle is specifically described in the policy and whether or not such negligence occurs on any route or in any territory authorized to be served by the insured or elsewhere. Such insurance as is afforded, for public liability, does not apply to injury to or death of the insured's employees while engaged in the course of their employment, or property transported by the insured, designated as cargo.

It is understood and agreed that no condition, provision, stipulation, or limitation contained in the policy, this endorsement, or any other endorsement thereon, or violation thereof, shall relieve the company from liability or from the payment of any final judgment, within the limits of liability herein described, irrespective of the financial condition, insolvency or bankruptcy of the insured. However, all terms, conditions, and limitations in the policy to which the endorsement is attached shall remain in full force and effect as binding between the insured and the company. The insured agrees to reimburse the company for any payment made by the company on account of any accident, claim, or suit involving a breach of the terms of the policy, and for any payment that the company would not have been obligated to make under the provisions of the policy except for the agreement contained in this endorsement.

It is further understood and agreed that, upon failure of the company to pay any final judgment recovered against the insured as provided herein, the judgment creditor may maintain an action in any court of competent jurisdiction against the company to compel such payment.

The limits of the company's liability for the amounts prescribed in this endorsement apply separately, to each accident, and any payment under the policy because of any one accident shall not operate to reduce the liability of the company for the payment of final judgments resulting from any other accident.

THE SCHEDULE OF LIMITS SHOWN ON THE NEXT PAGE DOES NOT PROVIDE COVERAGE.

The limits shown in the schedule are for information purposes only.

**ENDORSEMENT FOR
MOTOR CARRIER POLICIES OF INSURANCE FOR PUBLIC LIABILITY
UNDER SECTIONS 29 and 30 OF THE MOTOR CARRIER ACT OF 1980**

**SCHEDULE OF LIMITS
Public Liability**

	Type of Carriage	Commodity Transported	Minimum Insurance
(1)	For-hire (In interstate or foreign commerce).	Property (nonhazardous).	\$ 750,000
(2)	For-hire and Private (In interstate, foreign, or intrastate commerce, with a gross vehicle weight rating of 10,000 or more pounds).	Hazardous substances, as defined in 49 CFR 171.8, transported in cargo tanks, portable tanks, or hopper-type vehicles with capacities in excess of 3,500 water gallons; or in bulk Division 1.1, 1.2, and 1.3 materials; any quantity of Division 2.3, Hazard Zone A, or Division 6.1, Packing Group I, Hazard Zone A material; in bulk Division 2.1 or 2.2; or highway route controlled quantities of a Class 7 material as defined in 49 CFR 173.403.	5,000,000
(3)	For-hire and Private (In interstate or foreign commerce, in any quantity; or in intrastate commerce, in bulk only; with a gross vehicle weight rating of 10,000 or more pounds).	Oil listed in 49 CFR 172.101; hazardous materials and hazardous substances defined in 49 CFR 171.8 and listed in 49 CFR 172.101, but not mentioned in (2) above or (4) below.	1,000,000
(4)	For-hire and Private (In interstate or foreign commerce, with a gross vehicle weight rating of less than 10,000 pounds).	Any quantity of Division 1.1, 1.2, or 1.3 material; any quantity of a Division 2.3, Hazard Zone A, or Division 6.1, Packing Group I, Hazard Zone A material; or highway route controlled quantities of a Class 7 material as defined in 49 CFR 173.403.	5,000,000

APPENDIX C
PREVAILING WAGE RATE SCHEDULE
ERIE COUNTY WATER AUTHORITY

INSTRUCTIONS AND SCHEDULE OF MINIMUM WAGE RATES ISSUED BY NEW YORK STATE LABOR DEPARTMENT

No laborer, worker or mechanic in the employ of the CONTRACTOR or a Subcontractor or other person doing or contracting to do a whole or a part of the work contemplated by this agreement, shall be permitted or required to work more than eight (8) hours in any calendar day, or more than five (5) days in any one week, except in cases of extraordinary emergency caused by fire, flood, or damages to life and property.

The wages to be paid for a legal day's work to laborers, workmen or mechanics under this agreement, shall not be less than the prevailing rate of wages as defined and determined by the Industrial Commissioner of the State of New York, a schedule of which is attached to this contract and made a part thereof, with the same force and effect as though set forth in full herein.

In the performance of the work the CONTRACTOR shall give preference to citizens of the State of New York who have been residents for at least twelve (12) months immediately prior to the commencement of their employment, and persons other than citizens may be employed when citizens of the State of New York are not available. If the above provisions of this contract and the provisions of Sec. 222 of the Law of the State of New York are not complied with, this contract Labor shall be void.

In the hiring of employees for the performance of work under this contract or by subcontract hereunder, the CONTRACTOR or subcontractor, or any persons acting on behalf of the CONTRACTOR or subcontractor, shall not by any reason of race or color discriminate against or intimidate any employee hired for the performance of work under this contract on account of race or color.

There may be deducted from the amount payable to the CONTRACTOR by the Water Authority, under this contract, a penalty of five dollars (\$5.00) for each person for each calendar day during which such person was discriminated against or intimidated in violation of the provisions of this contract.

This contract may be cancelled or terminated by the Water Authority and all monies due or to become due hereunder may be forfeited for a second or subsequent violation of the terms or conditions of the preceding paragraph of this contract.

**PUBLIC WORKS - FAILURE TO PAY PREVAILING WAGE
EXCLUSION FROM CONTRACTING OR SUBCONTRACTING**

CHAPTER 147

A. 7314-A

Memorandum relating to this chapter, see Legislative Memoranda, post.

Approved may 24, 1991, effective as provided in Section 3.

An act to amend the labor law, in relation to debarment of public building service
CONTRACTORS

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1:

Paragraph b of Subdivision 3 of Section 220-b of the Labor Law, as amended by Chapter 651 of the Laws of 1989, is amended to read as follows:

- b. When two final determinations have been rendered against a CONTRACTOR or subcontractor and/or its successor within any consecutive six-year period determining that such CONTRACTOR or subcontractor and/or its successor has willfully failed to pay the prevailing rate of wages or to provide supplements in accordance with this article, whether such failures were concurrent or consecutive and whether or not such final determinations concerning separate public work projects are rendered simultaneously, such CONTRACTOR or subcontractor and/or its successor shall be ineligible to submit a bid on or be awarded any public work contract with the state, any municipal corporation or public body for a period of five years from the second final determination. For purposes of this article, a successor shall mean an employer engaged in work substantially similar to that of the predecessor, where there is substantial continuity of operation with that of the predecessor.

SECTION 2:

Subdivision 7 of Section 235 of the labor Law, as added by Chapter 777 of the Laws of 1971, is amended to read as follows:

7. When, pursuant to the provisions of this section two final orders have been entered against a CONTRACTOR or subcontractor and/or its successor within any consecutive six-year period determining that such CONTRACTOR or subcontractor and/or its successor has willfully failed to pay the prevailing wages in accordance with the provisions of this article, whether such failures were concurrent or consecutive and whether or not such final determinations concerning separate public building service contracts are rendered simultaneously, such CONTRACTOR or subcontractor and/or its successor, and if the CONTRACTOR or subcontractor and/or its successor is a corporation, any officer of such corporation who knowingly participated in such failure, shall be ineligible to submit a bid on or be awarded any public building service work for a period of five years from the date of the second order. For purposes of this article, a successor shall mean an employer engaged in work substantially similar to that of the predecessor, where there is substantial continuity of operation with that of the predecessor. Nothing of this subdivision shall be construed as affecting any provision of any other law or regulation relating to the awarding of public contracts.

SECTION 3:

This act shall take effect 60 days after the date upon which it shall have become a law and shall apply to any conduct occurring after such date.

STATE OF NEW YORK
DEPARTMENT OF LABOR

NOTICE TO ALL PUBLIC OFFICIALS IN CHARGE OF
PUBLIC WORK CONSTRUCTION AND ALL CONTRACTORS
AND SUBCONTRACTORS ENGAGED IN PUBLIC WORKS
CONSTRUCTION IN THE STATE OF NEW YORK

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 to be paid to all laborers, workmen and mechanics employed on public work projects including supplements for welfare, pension, vacation and other benefits. These supplements may include hospital, surgical or medical insurance or benefits; life insurance or death benefits; accidental death or dismemberment insurance; and pension or retirement benefits. If the amount of supplements provided by the employer is less than the total supplements shown on the wage schedule, the difference shall be paid in cash to employees.

Article 8, Section 220 of the Labor Law, as amended by Chapter 750 of the Laws of 1956, also provides that the supplements to be provided to laborers, workmen and mechanics upon public works "shall be in accordance with the prevailing practices in the locality..." The amount for supplements listed on the enclosed schedule does not necessarily include all types of prevailing supplements in the locality, and a future determination of the Industrial Commissioner may require the CONTRACTOR to provide additional supplements.

The CONTRACTOR shall provide statutory benefits for disability benefits, workmen's compensation, unemployment insurance and Social Security.

The substance of this notice should be included in your contract.

Signed - Dr. Philip Ross
INDUSTRIAL COMMISSIONER

PW-39 (5-56)

Article 8 of the New York State Labor Law was amended on July 15, 1983 to provide that wages for Public Projects are to be paid pursuant to the existing Bargaining Agreement in the area where the work is to be performed.

Wages are to be paid on this project as hereinafter set forth or pursuant to the Collective Bargaining Agreement in effect in Erie County, whichever are higher.

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, sex, age, color or national origin, and will take affirmative action to insure that they are afforded equal employment opportunities without discrimination because of race, creed, sex, age, color or national origin or because a person has opposed any practices forbidden under these sections or because he filed a complaint, testified, or assisted in any proceeding under these sections. Such action shall be taken with reference, but not limited to: recruitment, employment, classification, job assignment, promotion, upgrading, demotion, transfer, layoff, discharge, expulsion 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 he 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 clauses (a) through (h) (hereinafter called "non-discrimination clauses") and requesting such labor union or representative to agree in writing, whether in such collective bargaining or other agreement or understanding or otherwise, that such labor union or representative will not discriminate against any member or applicant for membership because of race, creed, sex, age, color or national origin, and will take affirmative action to insure that they are afforded equal membership opportunities without discrimination because of race, creed, sex, age, color or national origin. Such action shall be taken with reference, but not limited to: recruitment, employment, job assignment, promotion, upgrading, classification, demotion, transfer, layoff, discharge, expulsion or termination, rates of pay or other forms of compensation, and selection for training or retraining, including apprenticeship and on-the-job training. Such notice shall be given by the CONTRACTOR prior to the commencement of performance of this contract. Such written agreement shall be made by such labor union or representative prior to the commencement of performance of this contract, unless such labor union or representative fails or refuses so to agree in writing, in which event 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 employee's 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) and (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, sex, age, color or national origin.
- (e) The CONTRACTOR will comply with the provisions of Sections 291-299 of the Executive Law and the Civil Rights Law, will furnish all information and reports deemed necessary by the State Commission for Human Rights under these non-discrimination clauses and such sections of the Executive Law, and will permit access to his books, records and accounts by the State Commission for Human Rights, the Attorney General and the Industrial Commissioner for purposes of investigation to ascertain compliance with these non-discrimination clauses and such sections of the Executive Law and Civil Rights Law.
- (f) This contract may be forthwith cancelled, terminated or suspended, in whole or in part, by the contracting agency 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, until he satisfied the State Commission for Human Rights that he has established and is carrying out a program in conformity with the provisions of these non-discrimination clauses. Such finding shall be made by the State Commission for Human Rights after conciliation efforts by the Commission have failed to achieve compliance with these non-discrimination 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 him 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 cancelled or terminated under clause (f), in addition to other rights of the Erie County Water Authority provided in this contract upon its breach by the CONTRACTOR, the CONTRACTOR will hold the Erie County Water Authority harmless against any additional expenses or costs incurred by the Authority in completing the work or in purchasing the services, materials, equipment or supplies contemplated by this contract, and the Erie County Water Authority may withhold payments from the CONTRACTOR in an amount sufficient for this purpose and recourse may be had against the surety on the performance bond if necessary.
- (h) The CONTRACTOR will include the provisions of clauses (a) through (g) in every subcontract or purchase order in such manner that 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 action in enforcing such provisions of such subcontract or purchase order as the contracting agency 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 contracting agency, the CONTRACTOR shall promptly so notify the Attorney General and Attorney for the Erie County Water Authority, requesting them to intervene and protect the interest of the State of New York and the Erie County Water Authority.



Andrew M. Cuomo, Governor

Roberta Reardon, Commissioner

Erie County Water Authority
Carol Wittcop, Project Assistant
Wendel Companies
375 Essjay Road
Williamsville NY 14221

Schedule Year 2018 through 2019
Date Requested 10/09/2018
PRC# 2018012195

Location Town of Amherst
Project ID# W-27
Project Type 36 Inch Transmission Main Replacement between Millersport Highway and Sheridan Drive in the Town of Amherst. Work consists of a single contract for the installation of approximately 3,000 linear feet

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. 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 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.

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.

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.

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 NYSDOL 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 journeyworkers 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

Erie County Water Authority
Carol Wittcop, Project Assisand
Wendel Companies
375 Essjay Road
Williamsville NY 14221

Schedule Year 2018 through 2019
Date Requested 10/09/2018
PRC# 2018012195

Location Town of Amherst
Project ID# W-27
Project Type 36 Inch Transmission Main Replacement between Millersport Highway and Sheridan Drive in the Town of Amherst. Work consists of a single contract for the installation of approximately 3,000 linear feet

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

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.

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 .



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. 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 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.

Attention Employees

THIS IS A: **PUBLIC WORK PROJECT**

If you are employed on this project as a **worker, laborer, or mechanic** you are entitled to receive the **prevailing wage and supplements rate** for the classification at which you are working.

Chapter 629 of the Labor Laws of 2007:

These wages are set by law and must be posted at the work site. They can also be found at:
www.labor.ny.gov

If you feel that you have not received proper wages or benefits, please call our nearest office.*

Albany	(518) 457-2744	Patchogue	(631) 687-4882
Binghamton	(607) 721-8005	Rochester	(585) 258-4505
Buffalo	(716) 847-7159	Syracuse	(315) 428-4056
Garden City	(516) 228-3915	Utica	(315) 793-2314
New York City	(212) 932-2419	White Plains	(914) 997-9507
Newburgh	(845) 568-5156		

* For New York City government agency construction projects, please contact the Office of the NYC Comptroller at (212) 669-4443, or www.comptroller.nyc.gov – click on Bureau of Labor Law.

Contractor Name: _____

Project Location: _____

OSHA 10-hour Construction Safety and Health Course – S1537-A

Effective July 18, 2008

This provision is an addition to the existing prevailing wage rate law, Labor Law §220, section 220-h. It requires that on all public work projects of at least \$250,000.00, all laborers, workers and mechanics working on the site, be certified as having successfully completed the OSHA 10-hour construction safety and health course. It further requires that the advertised bids and contracts for every public work contract of at least \$250,000.00, contain a provision of this requirement.

NOTE: The OSHA 10 Legislation only applies to workers on a public work project that are required, under Article 8, to receive the prevailing wage.

Where to find OSHA 10-hour Construction Course

1. NYS Department of Labor website for scheduled outreach training at:

www.labor.state.ny.us/workerprotection/safetyhealth/DOSH_ONSITE_CONSULTATION.shtm

2. OSHA Training Institute Education Centers:

Rochester Institute of Technology OSHA Education Center

Rochester, NY

Donna Winter

Fax (585) 475-6292

e-mail: dlwtpo@rit.edu

(866) 385-7470 Ext. 2919

www.rit.edu/~outreach/course.php3?CourseID=54

Atlantic OSHA Training Center

UMDNJ – School of Public Health

Piscataway, NJ

Janet Crooks

Fax (732) 235-9460

e-mail: crooksje@umdnj.edu

(732) 235-9455

<https://ophp.umdnj.edu/wconnect/ShowSchedule.awp?~~GROUP~AOTCON~10~>

Atlantic OSHA Training Center

University at Buffalo

Buffalo, New York

Joe Syracuse

Fax (716) 829-2806

e-mail: mailto:japs@buffalo.edu

(716) 829-2125

http://www.smbs.buffalo.edu/CENTERS/trc/schedule_OSHA.php

Keene State College

Manchester, NH

Leslie Singleton

e-mail: lsingletin@keene.edu

(800) 449-6742

www.keene.edu/courses/print/courses_osh.cfm

3. List of trainers and training schedules for OSHA outreach training at:

www.OutreachTrainers.org

Requirements for OSHA 10 Compliance

Chapter 282 of the Laws of 2007, codified as Labor Law 220-h took effect on July 18, 2008. The statute provides as follows:

The advertised specifications for every contract for public work of \$250,000.00 or more must contain a provision requiring that every worker employed in the performance of a public work contract shall be certified as having completed an OSHA 10 safety training course. The clear intent of this provision is to require that all employees of public work contractors, required to be paid prevailing rates, receive such training “prior to the performing any work on the project.”

The Bureau will enforce the statute as follows:

All contractors and sub contractors must attach a copy of proof of completion of the OSHA 10 course to the first certified payroll submitted to the contracting agency and on each succeeding payroll where any new or additional employee is first listed.

Proof of completion may include but is not limited to:

- Copies of bona fide course completion card (*Note: Completion cards do not have an expiration date.*)
- Training roster, attendance record of other documentation from the certified trainer pending the issuance of the card.
- Other valid proof

**A certification by the employer attesting that all employees have completed such a course is not sufficient proof that the course has been completed.

Any questions regarding this statute may be directed to the New York State Department of Labor, Bureau of Public Work at 518-485-5696.

WICKS Reform 2008

(For all contracts advertised or solicited for bid on or after 7/1/08)

- Raises the threshold for public work projects subject to the Wicks Law requiring separate specifications and bidding for the plumbing, heating and electrical work. The total project's threshold would increase from \$50,000 to: \$3 million in Bronx, Kings, New York, Queens and Richmond counties; \$1.5 million in Nassau, Suffolk and Westchester counties; and \$500,000 in all other counties.
- For projects below the monetary threshold, bidders must submit a sealed list naming each subcontractor for the plumbing, HVAC and electrical work and the amount to be paid to each. The list may not be changed unless the public owner finds a legitimate construction need, including a change in specifications or costs or use of a Project Labor Agreement (PLA), and must be open to public inspection.
- Allows the state and local agencies and authorities to waive the Wicks Law and use a PLA if it will provide the best work at the lowest possible price. If a PLA is used, all contractors shall participate in apprentice training programs in the trades of work it employs that have been approved by the Department of Labor (DOL) for not less than three years. They shall also have at least one graduate in the last three years and use affirmative efforts to retain minority apprentices. PLA's would be exempt from Wicks, but deemed to be public work subject to prevailing wage enforcement.
- The Commissioner of Labor shall have the power to enforce separate specification requirements on projects, and may issue stop-bid orders against public owners for non-compliance.
- Other new monetary thresholds, and similar sealed bidding for non-Wicks projects, would apply to certain public authorities including municipal housing authorities, NYC Construction Fund, Yonkers Educational Construction Fund, NYC Municipal Water Finance Authority, Buffalo Municipal Water Finance Authority, Westchester County Health Care Association, Nassau County Health Care Corp., Clifton-Fine Health Care Corp., Erie County Medical Center Corp., NYC Solid Waste Management Facilities, and the Dormitory Authority.
- Reduces from 15 to 7 days the period in which contractors must pay subcontractors.

IMPORTANT INFORMATION

**Regarding Use of Form PW30.1
(Previously 30R)**

“Employer Registration for Use of 4 Day / 10 Hour Work Schedule”

To use the ‘4 Day / 10 Hour Work Schedule’:

There **MUST** be a *Dispensation of Hours (PW30)* in place on the project

AND

You **MUST** register your intent to work 4 / 10 hour days, by completing the PW30.1 Form.

REMEMBER...

The ‘4 Day / 10 Hour Work Schedule’ applies **ONLY** to Job Classifications and Counties listed on the PW30.1 Form.

Do not write in any additional Classifications or Counties.

(Please note : For each Job Classification check the individual wage schedule for specific details regarding their 4/10 hour day posting.)

Instructions for Completing Form PW30.1

(Previously 30R)

“Employer Registration for Use of 4 Day / 10 Hour Work Schedule”

Before completing Form PW30.1 check to be sure ...

- There is a *Dispensation of Hours* in place on the project.
- The 4 Day / 10 Hour Work Schedule applies to the Job Classifications you will be using.
- The 4 Day / 10 Hour Work Schedule applies to the County / Counties where the work will take place.

Instructions (Type or Print legibly):

Contractor Information:

- Enter the Legal Name of the business, FEIN, Street Address, City, State, Zip Code; the Company’s Phone and Fax numbers; and the Company’s email address (if applicable)
- Enter the Name of a Contact Person for the Company along with their Phone and Fax numbers, and the personal email address (if applicable)

Project Information:

- Enter the Prevailing Rate Case number (PRC#) assigned to this project
- Enter the Project Name / Type (i.e. Smithtown CSD – Replacement of HS Roof)
- Enter the Exact Location of Project (i.e. Smithtown HS, 143 County Route #2, Smithtown,NY; Bldgs. 1 & 2)
- If you are a Subcontractor, enter the name of the Prime Contractor for which you work
- On the Checklist of Job Classifications -
 - Go to pages 2 and 3 of the form
 - Place a checkmark in the box to the right of the Job Classification you are choosing
 - Mark all Job Classifications that apply

****Do not write in any additional Classifications or Counties.****

Requestor Information:

- Enter the name of the person submitting the registration, their title with the company , and the date the registration is filled out

Return Completed Form:

- **Mail** the completed PW30.1 form to: NYSDOL Bureau of Public Work, SOBC – Bldg.12 – Rm.130, Albany, NY 12240 **-OR-**
- **Fax** the completed PW30.1 form to: NYSDOL Bureau of Public Work at (518)485-1870



Bureau of Public Work Harriman
State Office Campus
Building 12, Room 130
Albany, New York 12240
Phone: (518) 457-5589 | Fax: (518) 485-1870
www.labor.ny.gov

Employer Registration for Use of 4 Day / 10 Hour Work Schedule

Before completing this form, make sure that:

- There is a **Dispensation of Hours** in place on the project.
- The 4 Day / 10 Hour Work Schedule applies to the Job Classifications you will be using.
- The 4 Day / 10 Hour Work Schedule applies to the County / Counties where the work will take place.

Please **type or print** the requested information and then **mail or fax** to the address above.

Contractor Information

Company Name: _____ FEIN: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Phone No: _____ Fax No: _____ Email: _____

Contact Person: _____

Phone No: _____ Fax No: _____ Email: _____

Project Information

Project PRC#: _____ Project Name/Type: _____

Exact Location
of Project: _____ County: _____

(If you are Subcontractor)

Prime Contractor Name: _____

Job Classification(s) to Work 4/10 Schedule: *(Choose all that apply on Job Classification Checklist - Pages 3-8)*
**** Do not write in any additional Classifications or Counties****

Requestor Information

Name: _____

Title: _____ Date: _____

Please use the list below with the number assigned to each county as a reference to the corresponding numbers listed in the following pages under **Entire Counties & Partial Counties**.

- | | | | |
|-----|-----------------------------|-----|---------------------------------|
| 1. | Albany County | 33. | Oneida County |
| 2. | Allegany County | 34. | Onondaga County |
| 3. | Bronx County | 35. | Ontario County |
| 4. | Broome County | 36. | Orange County |
| 5. | Cattaraugus County | 37. | Orleans County |
| 6. | Cayuga County | 38. | Oswego County |
| 7. | Chautauqua County | 39. | Otsego County |
| 8. | Chemung County | 40. | Putnam County |
| 9. | Chenango County | 41. | Queens County |
| 10. | Clinton County | 42. | Rensselaer County |
| 11. | Columbia County | 43. | Richmond County (Staten Island) |
| 12. | Cortland County | 44. | Rockland County |
| 13. | Delaware County | 45. | Saint Lawrence County |
| 14. | Dutchess County | 46. | Saratoga County |
| 15. | Erie County | 47. | Schenectady County |
| 16. | Essex County | 48. | Schoharie County |
| 17. | Franklin County | 49. | Schuyler County |
| 18. | Fulton County | 50. | Seneca County |
| 19. | Genesee County | 51. | Steuben County |
| 20. | Greene County | 52. | Suffolk County |
| 21. | Hamilton County | 53. | Sullivan County |
| 22. | Herkimer County | 54. | Tioga County |
| 23. | Jefferson County | 55. | Tompkins County |
| 24. | Kings County (Brooklyn) | 56. | Ulster County |
| 25. | Lewis County | 57. | Warren County |
| 26. | Livingston County | 58. | Washington County |
| 27. | Madison County | 59. | Wayne County |
| 28. | Monroe County | 60. | Westchester County |
| 29. | Montgomery County | 61. | Wyoming County |
| 30. | Nassau County | 62. | Yates County |
| 31. | New York County (Manhattan) | | |
| 32. | Niagara County | | |

Job Classification Checklist

(Place a checkmark by all classifications that will be using the 4/10 schedule)

**** Do not write in any additional Classifications or Counties****

Job Classification	Tag #	Entire Counties	Partial Counties	Check Box
Carpenter – Building	276B-All	7	2 ,5	
Carpenter – Building	276B-Cat	15	5	
Carpenter – Building	276-B-LIV	26, 28, 35, 59	61	
Carpenter – Building	276B-Gen	19, 32, 37	61	
Carpenter – Heavy & Highway	276HH-All	2, 5, 7		
Carpenter – Heavy & Highway	276HH-Erie	15		
Carpenter – Heavy & Highway	276HH- Gen	19, 32, 37, 61		
Carpenter – Heavy & Highway	276HH-Liv	26, 28, 35, 59		
Carpenter – Residential	276R-All	7	2, 5	
Carpenter – Building	277B-Bro	4, 54		
Carpenter – Building	277B-CAY	6, 50, 62		
Carpenter – Building	277B-CS	8, 12, 49, 51, 55	2	
Carpenter – Building	277 JLS	23, 25, 45		
Carpenter – Building	277 omh	22, 27, 33		
Carpenter – Building	277 On	34		
Carpenter – Building	277 Os	38		
Carpenter – Building	277CDO Bldg	9, 13, 39		
Carpenter – Heavy & Highway	277CDO HH	9, 13, 39		
Carpenter – Heavy & Highway	277HH-BRO	4, 6, 8, 12, ,22, 23, 25, 27, 33, 34, 38, 45, 49, 50, 51, 54, 55, 62		
Carpenter – Building	291B-Alb	1, 18, 20, 29, 42, 47, 48		
Carpenter – Building	291B-Cli	10, 16, 17		
Carpenter – Building	291B-Ham	21, 57, 58		
Carpenter – Building	291B-Sar	46		
Carpenter – Heavy & Highway	291HH-Alb	1, 10, 16, 17,18, 20, 21, 29, 42, 46, 47, 48, 57, 58		
Electrician	25m	30, 52		
Electrician – Teledata Cable Splicer	43	12, 22, 27, 33, 38	6, 9, 34, 39, 55, 59	

Job Classification Checklist

(Place a checkmark by all classifications that will be using the 4/10 schedule)

**** Do not write in any additional Classifications or Counties****

Job Classification	Tag #	Entire Counties	Partial Counties	Check Box
Electrician	86	26, 28	19, 35, 37, 59, 61	
Electrician	840 Teledata and 840 Z1	62	6, 34, 35, 50, 59	
Electrician	910	10, 16, 17, 23, 25, 45		
Electrical Lineman	1049Line/Gas	30, 41, 52		
Electrical Lineman	1249a	1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 32, 33, 34, 35, 36, 37, 38, 39, 40, 42, 44, 46, 47, 48, 49, 50, 45, 51, 53, 54, 55, 56, 57, 58, 59, 61, 62		
Electrical Lineman	1249a West	60		
Electrical Lineman	1249a-LT	1, 2, 4, 5, 6, 7, 8, 9, 10, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 32, 33, 34, 35, 37, 38, 39, 42, 46, 47, 48, 49, 50, 45, 51, 53, 54, 55, 57, 58, 59, 61, 62		
Electrical Lineman	1249aREG8LT	11, 14, 36, 40, 44, 56		
Electrical Lineman	1249aWestLT	60		
Elevator Constructor	138	11, 14, 20, 36, 40, 53, 56	13, 44, 60	
Elevator Constructor	14	2, 5, 7, 15, 19, 32, 37, 61		
Elevator Constructor	27	8, 26, 28, 35, 49, 50, 51, 59, 62		
Elevator Constructor	35	1, 10, 16, 18, 21, 22, 29, 39, 42, 46, 47, 48, 57, 58		
Elevator Constructor	62.1	4, 6, 9, 12, 23, 25, 27, 33, 34, 38, 45, 54, 55	13	
Glazier	201	1, 10, 11, 16, 17, 18, 20, 21, 29, 42, 46, 47, 48, 57, 58		
Glazier	660r	2, 5, 7, 15, 19, 32, 37, 61		
Glazier	660	2, 5, 7, 15, 19, 32, 37, 61		
Glazier	677.1	23, 25, 26, 28, 35, 45, 50, 59, 62		
Glazier	677Z-2	6, 12, 22, 27, 33, 34, 38		
Glazier	677z3	4, 8, 9, 13, 39, 49, 51, 54, 55		
Glazier	677r.2	6, 12, 22, 27, 33, 34, 38		
Insulator – Heat & Frost	30-Syracuse	4, 6, 8, 9, 12, 22, 23, 25, 27, 33, 34, 38, 39, 49, 50, 45, 54, 55		
Laborer – Building	621b	2, 7	5	
Laborer – Building	633 bON	34		

Job Classification Checklist

(Place a checkmark by all classifications that will be using the 4/10 schedule)

**** Do not write in any additional Classifications or Counties****

Job Classification	Tag #	Entire Counties	Partial Counties	Check Box
Laborer – Building	633b Cay	6		
Laborer – Building	633bOS	38		
Laborer – Building	785(7)	4	9, 13, 54	
Laborer – Building	785B-CS	8, 51	49	
Laborer – Building	7-785b	12, 55	49, 54	
Laborers – Heavy & Highway	157h/h	47	18, 29, 46	
Laborers – Heavy & Highway	190 h/h	1, 42, 58	11, 20, 46	
Laborers – Heavy & Highway	35/2h	21, 22, 27, 33	18, 29	
Laborer – Residential	621r	2, 7	5	
Laborers – Tunnel	157	47	18, 29, 46	
Laborers – Tunnel	35T	21, 22, 27, 33	18, 29	
Laborers – Tunnel	190	1, 42, 58	11, 20, 46	
Mason – Building	2TS.1	1, 10, 11, 16, 17, 18, 20, 21, 29, 42, 46, 47, 48, 57, 58		
Mason – Building	2TS.2	22, 23, 25, 33, 45	27	
Mason – Building	2TS.3	6, 34, 38	27	
Mason – Building	2b-on	34		
Mason – Building	2b.1	1, 11, 18, 20, 21, 29, 42, 46, 47, 48, 58	57	
Mason – Building	2b.2	22, 33	25	
Mason – Building	2b.3	6, 34	27	
Mason – Building	2b.4	38		
Mason – Building	2b.5	23	25	
Mason – Building	2b.6	45		
Mason – Building	2b.8	10, 16, 17	57	
Mason – Building	3b-Co-Z2	8, 49, 51	2	
Mason – Building	3B-Z1	19, 26, 28, 35, 50, 59, 61, 62		
Mason – Building – Residential	3B-Z1R	19, 26, 28, 35, 50, 59, 61, 62		
Mason – Building	3B-Bing-Z2	4, 9, 13, 39, 54		
Mason – Building	3B-lth-Z2	12, 55		

Job Classification Checklist

(Place a checkmark by all classifications that will be using the 4/10 schedule)

**** Do not write in any additional Classifications or Counties****

Job Classification	Tag #	Entire Counties	Partial Counties	Check Box
Mason – Building	3B-Jam-Z2	7	2, 5	
Mason – Building – Residential	3B-Jam-Z2R	2, 4, 8, 7, 9, 12, 39, 13, 49, 51, 54, 55	5	
Mason – Building	3B-Z3	15, 32	5	
Mason – Building	3B-Z3.Orleans	37		
Mason – Residential	3B-Z3R	15, 32	5	
Mason – Residential	3B-z3R.Orleans	37		
Mason - Heavy & Highway	3h	2, 4, 8, 7, 9, 12, 13, 19, 26, 28, 35, 37, 39, 49, 50, 51, 54, 55, 59, 61, 62	5, 15, 32	
Mason – Tile Finisher	3TF-Z1	19, 26, 28, 35, 50, 59, 61, 62		
Mason – Tile Finisher	3TF-Z2	2, 4, 8, 7, 9, 12, 13, 39, 49, 51, 54, 55	5	
Mason – Tile Finisher	3TF-Z3	15, 32, 37	5	
Mason – Tile Finisher	3TF-Z1R	19, 26, 28, 35, 50, 59, 61, 62		
Mason – Tile Finisher	3TF-Z2R	2, 4, 7, 9, 12, 13, 39, 49, 51, 54, 55	5	
Mason – Tile Finisher	3TF-Z3R	15, 32, 37	5	
Mason – Tile Setter	3TS-Z1	19, 26, 28, 35, 50, 59, 61, 62		
Mason – Tile Setter Residential	3TS-Z1R	19, 26, 28, 35, 50, 59, 61, 62		
Mason – Tile Setter	3TS-Z2	2, 4, 7, 8, 9, 12, 13, 39, 49, 51, 54, 55	5	
Mason – Tile Setter Residential	3TS-Z2R	2, 4, 7, 8, 9, 12, 13, 39, 49, 51, 54, 55	5	
Mason – Tile Setter	3TS-Z3	15, 32, 37	5	
Mason – Tile Setter Residential	3TS-Z3R	15, 32, 37	5	
Mason – Building/Heavy & Highway	780	3, 24, 30, 31, 41, 43, 52		
Operating Engineer - Heavy & Highway	137H/H	40, 60	14	
Operating Engineer – Heavy & Highway	158-832H	2, 8, 26, 28, 35, 49, 51, 59, 62	19	
Operating Engineer – Heavy & Highway	158-H/H	1, 4, 9, 10, 11, 14, 16, 17, 18, 20, 21, 22, 29, 39, 42, 46, 47, 48, 54, 57, 58		
Operating Engineer – Heavy & Highway	158-545h	6, 12, 23, 25, 27, 33, 38, 45, 50, 55		
Painter	1456-LS	1, 3, 10, 11, 14, 16, 17, 18, 20, 21, 24, 29, 30, 31, 36, 40, 41, 42, 43, 44, 46, 47, 48, 52, 53, 56, 57, 58, 60		
Painter	150	28, 59, 62	26, 35	

Job Classification Checklist

(Place a checkmark by all classifications that will be using the 4/10 schedule)

**** Do not write in any additional Classifications or Counties****

Job Classification	Tag #	Entire Counties	Partial Counties	Check Box
Painter	178 B	4, 9, 54		
Painter	178 E	8, 49	51	
Painter	178 I	12, 55		
Painter	178 O	13, 39		
Painter	31	6, 22, 27, 33, 34, 50	25, 35, 38	
Painter	38.O		38	
Painter	38.W	23, 45	25	
Painter	4- Buf,Nia,Olean	2, 15, 19, 32, 37, 61	5, 7, 26, 51	
Painter	4-Jamestown		5, 7	
Sheetmetal Worker	46	26, 28, 35, 50, 59, 62		
Sheetmetal Worker	46r	26, 28, 35, 50, 59, 62		
Teamsters – Heavy & Highway	294h/h	1, 11, 18, 20, 29, 42, 46, 47, 48, 58	57	
Teamsters – Heavy & Highway	317bhh	6, 12, 50, 51, 55, 62	2	
Teamsters - Building/Heavy & Highway	456	40, 60		

Introduction to the Prevailing Rate Schedule

Information About Prevailing Rate Schedule

This information is provided to assist you in the interpretation of particular requirements for each classification of worker contained in the attached Schedule of Prevailing Rates.

Classification

It is the duty of the Commissioner of Labor to make the proper classification of workers taking into account whether the work is heavy and highway, building, sewer and water, tunnel work, or residential, and to make a determination of wages and supplements to be paid or provided. It is the responsibility of the public work contractor to use the proper rate. If there is a question on the proper classification to be used, please call the district office located nearest the project. District office locations and phone numbers are listed below.

Prevailing Wage Schedules are issued separately for "General Construction Projects" and "Residential Construction Projects" on a county-by-county basis.

General Construction Rates apply to projects such as: Buildings, Heavy & Highway, and Tunnel and Water & Sewer rates.

Residential Construction Rates generally apply to construction, reconstruction, repair, alteration, or demolition of one family, two family, row housing, or rental type units intended for residential use.

Some rates listed in the Residential Construction Rate Schedule have a very limited applicability listed along with the rate. Rates for occupations or locations not shown on the residential schedule must be obtained from the General Construction Rate Schedule. Please contact the local Bureau of Public Work office before using Residential Rate Schedules, to ensure that the project meets the required criteria.

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.

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.

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

At a minimum, all work performed on a public work project in excess of eight hours in any one day or more than five days in any workweek is overtime. However, the specific overtime requirements for each trade or occupation on a public work project may differ. Specific overtime requirements for each trade or occupation are contained in the prevailing rate schedules.

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.

Supplemental Benefits

Particular attention should be given to the supplemental benefit requirements. Although in most cases the payment or provision of supplements is straight time for all hours worked, some classifications require the payment or provision of supplements, or a portion of the supplements, to be paid or provided at a premium rate for premium hours worked. Supplements may also be required to be paid or provided on paid holidays, regardless of whether the day is worked. The Overtime Codes and Notes listed on the particular wage classification will indicate these conditions as required.

Effective Dates

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. The rate listed is valid until the next effective rate change or until the new annual determination which takes effect on July 1 of each year. All contractors and subcontractors are required to pay the current prevailing rates of wages and supplements. If you have any questions please contact the Bureau of Public Work or visit the New York State Department of Labor website (www.labor.state.ny.us) for current wage rate information.

Apprentice Training Ratios

The following are the allowable ratios of registered Apprentices to Journey-workers.

For example, the ratio 1:1,1:3 indicates the allowable initial ratio is one Apprentice to one Journeyworker. The Journeyworker must be in place on the project before an Apprentice is allowed. Then three additional Journeyworkers are needed before a second Apprentice is allowed. The last ratio repeats indefinitely. Therefore, three more Journeyworkers must be present before a third Apprentice can be hired, and so on.

Please call Apprentice Training Central Office at (518) 457-6820 if you have any questions.

Title (Trade)	Ratio
Boilermaker (Construction)	1:1,1:4
Boilermaker (Shop)	1:1,1:3
Carpenter (Bldg.,H&H, Pile Driver/Dockbuilder)	1:1,1:4
Carpenter (Residential)	1:1,1:3
Electrical (Outside) Lineman	1:1,1:2
Electrician (Inside)	1:1,1:3
Elevator/Escalator Construction & Modernizer	1:1,1:2
Glazier	1:1,1:3
Insulation & Asbestos Worker	1:1,1:3
Iron Worker	1:1,1:4
Laborer	1:1,1:3
Mason	1:1,1:4
Millwright	1:1,1:4
Op Engineer	1:1,1:5
Painter	1:1,1:3
Plumber & Steamfitter	1:1,1:3
Roofer	1:1,1:2
Sheet Metal Worker	1:1,1:3
Sprinkler Fitter	1:1,1:2

If you have any questions concerning the attached schedule or would like additional information, please contact the nearest BUREAU of PUBLIC WORK District Office or write to:

New York State Department of Labor
Bureau of Public Work
State Office Campus, Bldg. 12
Albany, NY 12240

District Office Locations:	Telephone #	FAX #
Bureau of Public Work - Albany	518-457-2744	518-485-0240
Bureau of Public Work - Binghamton	607-721-8005	607-721-8004
Bureau of Public Work - Buffalo	716-847-7159	716-847-7650
Bureau of Public Work - Garden City	516-228-3915	516-794-3518
Bureau of Public Work - Newburgh	845-568-5287	845-568-5332
Bureau of Public Work - New York City	212-932-2419	212-775-3579
Bureau of Public Work - Patchogue	631-687-4882	631-687-4902
Bureau of Public Work - Rochester	585-258-4505	585-258-4708
Bureau of Public Work - Syracuse	315-428-4056	315-428-4671
Bureau of Public Work - Utica	315-793-2314	315-793-2514
Bureau of Public Work - White Plains	914-997-9507	914-997-9523
Bureau of Public Work - Central Office	518-457-5589	518-485-1870

Erie County General Construction

Boilermaker

10/01/2018

JOB DESCRIPTION Boilermaker

DISTRICT 12

ENTIRE COUNTIES

Allegany, Cattaraugus, Chautauqua, Chemung, Erie, Genesee, Livingston, Monroe, Niagara, Ontario, Orleans, Schuyler, Steuben, Wayne, Wyoming, Yates

WAGES

Per hours: 07/01/2018

Boilermaker \$ 33.00

The wage rate will be 90% of the above for Maintenance work on boilers less than 100,000 pph.

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: \$ 28.49*

*NOTE: \$27.25 of this amount is for every Hour "Paid"

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

1st Term 12 Months, Terms 3-8 at 6 Months

Per Hour:

- 1st \$ 22.45
- 3rd \$ 24.10
- 4th \$ 25.75
- 5th \$ 27.40
- 6th \$ 29.05
- 7th \$ 29.70
- 8th \$ 31.35

Supplemental Benefits per hour:

1st to 6th \$ 27.49**
7th to 8th \$28.49***

**NOTE: \$26.25 of this amount is for every Hour "Paid"

***NOTE: \$27.25 of this amount is for every Hour "Paid"

12-7

Carpenter - Building

10/01/2018

JOB DESCRIPTION Carpenter - Building

DISTRICT 12

ENTIRE COUNTIES

Erie

PARTIAL COUNTIES

Cattaraugus: Townships of Persia and Perrysburg

WAGES

Per hour: 07/01/2018

Building:

Carpenter \$ 32.15

FloorLayer	32.15
Certified Welder	33.15
Hazardous Waste Worker	33.65
Diver-Dry Day	33.15
Diver Tender	33.15
Diver-Wet Day***	61.25

Hazardous Waste Worker: Hazardous sites requiring personal protective equipment.

*** Diver rate applies to all hours worked on the day of dive.

Depth pay for divers:	0' to 80'	no additional fee
	81' to 100'	additional \$0.50 per foot
	101' to 150'	additional \$0.75 per foot
	151' and deeper	additional \$1.25 per foot
Penetration pay:	0' to 50'	no additional fee
	51' to 100'	additional \$0.75 per foot
	101' and deeper	additional \$1.00 per foot

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 worked:

Carpenter(s)	\$ 27.88
Diver(s)	27.88

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following percentage of Journeyman's base wage:

Indentured Prior to 01/01/2016

1st	2nd	3rd	4th
50%	60%	70%	80%

Indentured After 01/01/2016

1st	2nd	3rd	4th	5th
50%	60%	65%	70%	80%

Supplemental Benefits per hour worked:

1st	2nd	3rd	4th	5th
\$11.35	\$11.35	\$13.95	\$13.95	\$13.95

12-276B-Cat

Carpenter - Building / Heavy&Highway

10/01/2018

JOB DESCRIPTION Carpenter - Building / Heavy&Highway

DISTRICT 2

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

PARTIAL COUNTIES

Orange: The area lying on Northern side of Orange County demarcated by a line drawn from the Bear Mountain Bridge continuing east to the Bear Mountain Circle, continue North on 9W to the town of Cornwall where County Road 107 (also known as Quaker Rd) crosses under 9W, then east on County Road 107 to Route 32, then north on Route 32 to Orrs Mills Rd, then west on Orrs Mills Rd to Route 94, continue west and south on Route 94 to the Town of Chester, to the intersection of Kings Highway, continue south on Kings Highway to Bellvale Rd, west on Bellvale Rd to Bellvale Lakes Rd, then south on Bellvale Lakes Rd to Kain Rd, southeast on Kain Rd to Route 17A, then north and southeast along Route 17A to Route 210, then follow Route 210 to NJ Border.

WAGES

Wages per hour: 07/01/2018

Carpenter - ONLY for
 Artificial Turf/Synthetic
 Sport Surface \$ 30.40

Note - Does not include the operation of equipment. Please see Operating Engineers rates.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman \$ 22.43

OVERTIME PAY

See (B, E, Q, X) on OVERTIME PAGE

HOLIDAY

Paid: See (2, 17) on HOLIDAY PAGE
 Overtime: See (5, 6, 16) on HOLIDAY PAGE

Notes:

When a holiday falls upon a Saturday, it shall be observed on the preceding Friday. When a holiday falls upon a Sunday, it shall be observed on the following Monday.

An employee taking an unexcused day off the regularly scheduled day before or after a paid Holiday shall not receive Holiday pay.

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th
50%	60%	70%	80%

Supplemental Benefits per hour:

1st year term	\$ 11.15
2nd year term	11.15
3rd year term	13.75
4th year term	13.75

2-42AtSS

Carpenter - Heavy&Highway

10/01/2018

JOB DESCRIPTION Carpenter - Heavy&Highway

DISTRICT 12

ENTIRE COUNTIES

Erie

WAGES

Per hour: 07/01/2018

Carpenter	\$ 33.94
Certified Welder	35.44
Diver-Dry Day	34.94
Diver-Wet Day**	58.94
Diver Tender	34.94
Hazardous Material Worker	35.94
Piledriver	33.94
Millwright	35.44
Effluent & Slurry Diver-Wet Day	52.41

Hazardous Waste Worker: Hazardous sites requiring personal protective equipment.

** Diver rate applies to all hours worked on the day of dive.

Depth pay for divers:	0' to 50'	no additional fee
	51'to 100'	additional \$0.50 per foot
	101' to 150'	additional \$0.75 per foot
	151' to 200'	additional \$1.25 per foot

Penetration pay:	0' to 50'	no additional fee
	51' to 100'	additional \$0.75 per foot
	101' to deeper	additional \$1.00 per foot

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 worked:

Carpenter(s)	\$ 28.52
Diver(s)	28.52

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (2, 17) on HOLIDAY PAGE
 Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following percentage of Journeyman's wage:

Indentured Prior to 01/01/2016

1st	2nd	3rd	4th
50%	60%	70%	80%

Indentured After 01/01/2016

1st	2nd	3rd	4th	5th
50%	60%	65%	70%	80%

Supplemental benefits per hour worked:

1st	2nd	3rd	4th	5th
\$11.15	\$11.15	\$13.75	\$13.75	\$13.75

12-276HH-Erie

Electrician

10/01/2018

JOB DESCRIPTION Electrician

DISTRICT 3

ENTIRE COUNTIES

Erie

PARTIAL COUNTIES

Cattaraugus: Only the Townships of Ashford, East Otto, Ellicottville, Farmersville, Freedom, Franklinville, Lyndon, Machias, Mansfield, New Albion, Otto, Perrysburg, Persia and Yorkshire.

Genesee: Only the Townships of Alabama, Alexander, Darien, Oakfield, Pembroke and that portion of the Towns of Batavia and Elba that are west of Little Tonawanda Creek; Tonawanda Creek; the City limits of Batavia (in effect prior to Feb. 1, 1970) and State Highway 98 north of the City of Batavia, then north on Highway 98 to the Orleans County line.

Wyoming: Only the Townships of Arcade, Attica, Bennington, Eagle, Java, Orangeville, Sheldon and Wethersfield.

WAGES

Per hour:	07/01/2018	05/27/2019	06/01/2020
		Additional	Additional
Electrician*	\$ 35.24	\$1.60	\$1.80

* Includes teledata work

When shift work is mandated either in the job specification or by the contracting agency the following premiums apply:

17.3% for work from 4:30PM - 1:00AM

31.4% for work from 12:30AM - 9:00AM

Additional \$0.50/hr in shafts over 25 ft. deep and in underground tunnels over 75 ft. long.

Additional \$0.75/hr for work on toothpicks, structural steel, temporary platforms, swinging scaffolds, boatswain chairs, smoke stacks or water towers 30 ft above the floor or for work on rolling scaffolds and ladders over 50 ft.

Additional \$1.50/hr for Cable Splicers on such work as lead, and shielded cable and splices or terminations on cable 5KV and above.

Additional \$1.00/hr for Hot work (Atomic plants).

Additional \$2.00/hr for work on radio, TV, light towers and floating platforms or climbing ladders in excess of 100 ft. high.

SUPPLEMENTAL BENEFITS

Per hour: \$ 26.90*

* NOTE - add 3% of the posted straight time or applicable premium wage rate.

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

Hour terms at the following wages:

0 to 1000 to 2000 to 3500 to 5000 to 6500 to 8000
\$ 13.05 \$ 14.10 \$ 15.85 \$ 19.40 \$ 24.65 \$ 28.20

Supplemental benefits per hour:

0 to 1000 to 5000 to 8000
\$ 12.31* \$ 21.95* \$ 26.90*

* NOTE - add 3% of the posted straight time or applicable premium wage rate.

3-41

Elevator Constructor

10/01/2018

JOB DESCRIPTION Elevator Constructor

DISTRICT 3

ENTIRE COUNTIES

Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming

WAGES

Per hour: 07/01/2018
Elevator Constructor \$ 48.26
Helper 33.78

** IMPORTANT NOTICE - EFFECTIVE 04/01/2009 **

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday or Tuesday thru Friday.

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: \$ 32.65

Note - add 6% of regular hourly rate for all hours worked.

OVERTIME PAY

See (D, O) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 15, 16) on HOLIDAY PAGE
Overtime: See (5, 6, 15, 16) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year (1,700 hour each) terms at the following percentage of Journeyman's wage:

1st* 2nd 3rd 4th
55% 65% 70% 80%

Supplemental benefits per hour: \$ 32.65

* Note - 0-6 months of the 1st year term is paid at 50% of Journeyman's wage with no Supplemental benefits.

Note - add 6% of regular hourly rate for all hours worked.

3-14

Glazier **10/01/2018**

JOB DESCRIPTION Glazier **DISTRICT 3**

ENTIRE COUNTIES
 Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming

WAGES

Per hour:	07/01/2018	05/01/2019	05/01/2020
		Additional	Additional
Glazier	\$ 26.75	\$1.25	\$1.25
Working off Suspended			
Scaffold (Swing Stage)	27.75	1.25	1.25
Maintenance	16.74*	0.85	0.90

* Note - This rate to be used only for all repair and replacement work such as glass breakage, glass replacement, door repair and board ups.

**** 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.

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 Glazier	\$21.67
Maintenance	13.60

OVERTIME PAY

See (B, E2, F, R) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE for Glazier and Glazier Apprentices.
 Paid: See (5, 6) on HOLIDAY PAGE for Maintenance
 Overtime: See (5, 6) on HOLIDAY PAGE.

REGISTERED APPRENTICES

Wages per hour:

Glazier: 1000 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%	90%

Supplemental benefits per hour:

1st & 2nd terms	\$ 7.95
3rd & 4th terms	8.80
All other terms	10.20

3-660

Insulator - Heat & Frost **10/01/2018**

JOB DESCRIPTION Insulator - Heat & Frost **DISTRICT 3**

ENTIRE COUNTIES
 Allegany, Cattaraugus, Chautauqua, Erie, Niagara, Wyoming

PARTIAL COUNTIES
 Genesee: Only the Townships of Alabama, Alexander, Darien, Oakfield and Pembroke.

WAGES

Per Hour:	07/01/2018
Heat & Frost Insulator	\$ 33.25

SUPPLEMENTAL BENEFITS

Per hour:

	\$ 23.09
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OVERTIME PAY

See (B, *E, **Q) on OVERTIME PAGE
 * Note - Double time after 10 hours on Saturday.
 ** Note - Triple time on Labor Day if WORKED.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th
50%	60%	70%	80%

Supplemental Benefits per hour:

1st and 2nd	\$ 18.69
All other terms	\$ 23.09

3-4

Ironworker **10/01/2018**

JOB DESCRIPTION Ironworker

DISTRICT 3

ENTIRE COUNTIES

Cattaraugus, Chautauqua

PARTIAL COUNTIES

Allegany: Entire county except the Towns of Birdsall, Burns and Grove.

Erie: All except the Town of Grand Island north of Whitehaven Road.

Genesee: Only the Townships of Alabama, Alexander, Darien and Pembroke

Steuben: Only the Townships of Canisteo, Freemont, Greenwood, Hartsville, Hornell, Hornellsville, Howard, Jasper, Troupsburg and West Union

Wyoming: Only the Townships of Arcade, Attica, Bennington, Eagle, Gainsville, Java, Orangeville, Pike, Sheldon, Warsaw and Wethersfield.

WAGES

Per hour:	07/01/2018	07/01/2019 Additional	07/01/2020 Additional
Structural	\$ 30.58	\$ 1.25	\$ 1.25
Ornamental	30.58	1.25	1.25
Layout	30.58	1.25	1.25
Rodmen	30.58	1.25	1.25
Reinforcing	30.58	1.25	1.25
Welders	30.58	1.25	1.25
Riggers & Mach. Movers	30.58	1.25	1.25
Curtain Wall Erector	30.58	1.25	1.25
Window Erector	28.23	1.25	1.25
Fence Erector	29.15	1.25	1.25

SUPPLEMENTAL BENEFITS

Per hour:

Fence erectors	\$ 26.42
All others	27.92

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following wage:

1st	2nd	3rd	4th
\$ 16.50	\$ 18.50	\$ 20.50	\$ 22.50

Supplemental benefits per hour:

1st	2nd	3rd	4th
\$ 11.75	\$ 21.12	\$ 22.45	\$ 23.79

3-6

Ironworker **10/01/2018**

JOB DESCRIPTION Ironworker

DISTRICT 3

ENTIRE COUNTIES

Niagara

PARTIAL COUNTIES

Erie: Only that portion of the Township of Grand Island north of Whitehaven Road.
 Orleans: Only the Townships of Ridgeway, Shelby and Yates.

WAGES

Per hour:	07/01/2018	07/01/2019 Additional	07/01/2020 Additional
Structural	\$ 30.50	\$ 1.25	\$ 1.25
Ornamental	30.50	1.25	1.25
Reinforcing	30.50	1.25	1.25
Rigger & Mach. Mover	30.50	1.25	1.25
Pre-Engineered	30.50	1.25	1.25
Fence Erector	30.50	1.25	1.25
Pre-Cast Erector	30.50	1.25	1.25
Welder	30.50	1.25	1.25
Window Erector	30.50	1.25	1.25

SUPPLEMENTAL BENEFITS

Per hour: \$ 28.25

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following wage:

1st term	\$ 16.50
2nd term	18.50
3rd term	20.50
4th term	22.50

Supplemental benefits per hour:

1st term	\$ 11.00
2nd term	18.07
3rd term	19.08
4th term	20.09

3-9

Laborer - Building

10/01/2018

JOB DESCRIPTION Laborer - Building

DISTRICT 3

ENTIRE COUNTIES

Erie

PARTIAL COUNTIES

Cattaraugus: Only the Townships of Perrysburg and the Village Gowanda.

WAGES

CLASS A: Basic, Safety Man, Flagman, Tool Room Man, Nurseryman, Demolition Worker, Top Man, Wrecker, IBC Barriers Except on Structures, Guard Rail, Asphalt Shovelers, Foundation Laborer over 8' in Depth, Hod Carriers, Plaster Tender, Plaster Scaffold Builder, Pneumatic Gas, Electric Tool Operator including all forms of Busters, Jackhammers and Chipping Guns, Steel Burners.

CLASS B: Mortar Mixer, Asphalt Smoothers, Pneumatic Gas, Electric Tool Operator including all forms of Busters, Jackhammers and Chipping Guns over 8' in depth.

CLASS C: Worker on any Swing Scaffold, Blaster, Plumbing Laborer, Wagon Drill Operator, Bottomman (caisson or cofferdam), Laser Setter, Asphalt Rakers, Asphalt Screed Man.

CLASS D: Stone Cutter, Curb Setter and Flag Layer.

CLASS E: Wearing of replaceable cartridge respirator.

CLASS F: Asbestos Removal, Deleader.

CLASS G: Hazardous Waste Worker.

Per hour:	07/01/2018	07/01/2019	07/01/2020
Building Laborer:		Additional	Additional
CLASS A	\$ 26.83	\$ 1.25	\$ 1.75
CLASS B	27.00	1.25	1.75
CLASS C	27.11	1.25	1.75
CLASS D	27.58	1.25	1.75
CLASS E	27.83	1.25	1.75
CLASS F	28.33	1.25	1.75
CLASS G	28.83	1.25	1.75

SUPPLEMENTAL BENEFITS

Per hour: \$ 25.70

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (22) on HOLIDAY PAGE
 Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

Hour terms at the following percentage of Journeyman's wage:

0 to 500	500 to 1000	1000 to 1500	1500 to 2000	2000 to 2500	2500 to 3000	3000 to 4000
55%	60%	65%	70%	75%	80%	90%

Supplemental benefits per hour:

\$ 25.70

3-210b

Laborer - Heavy&Highway **10/01/2018**

JOB DESCRIPTION Laborer - Heavy&Highway

DISTRICT 3

ENTIRE COUNTIES

Erie

WAGES

Heavy/Highway Laborer:

GROUP A: Basic, Drill Helper, Flagman, Outboard and Hand Boats, Demolition Worker, Nurseryman, IBC Barriers (except on structures), Guard Rails, Road Markers.

GROUP B: Grade Checker, Chain Saw, Concrete Aggregate Bin, Concrete Bootmen, Gin Buggy, Hand or Machine Vibrator, Jack Hammer, Mason Tender, Mortar Mixer, Pavement Breaker, Handlers of Steel Mesh, Small Generators for Laborers' Tools, Pipe Layers, Vibrator Type Rollers, Tamper, Drill Doctor, Tail or Screw Operator on Asphalt Paver, Water Pump Operators (2" and Single Diaphragm), Nozzle (Asphalt, Guniting, Seeding, and Sand Blasting), Laborers on Chain Link Fence Erection, Rock Splitter and Power Unit, Pusher Type Concrete Saw and all other Gas, Electric, Oil and Air Tool Operators, Wrecking Laborer and Laser Man.

GROUP C: All Rock or Drilling Machine Operators (Except Quarry Master and Similar Type), Acetylene Torch Operators, Asphalt Raker, Powderman and Welder.

GROUP D: Blasters, Curb and Flatwork Formsetter not on structures, Stone or Granite Curb Setters and Stone Cutter.

Per hour:	07/01/2018	07/01/2019	07/01/2020
Heavy/Highway Laborer:		Additional	Additional
GROUP A	\$ 29.61	\$ 1.25	\$ 1.25
GROUP B	29.81	1.25	1.25
GROUP C	30.01	1.25	1.25
GROUP D	30.21	1.25	1.25

For all Deleader & Asbestos work add \$1.50 to Group A rate.

For all Hazardous waste work add \$2.00 to Group A rate.

For use of replaceable cartridge respirator add \$1.00 to Group A rate.

An additional \$3.00 per hour is required when a single irregular work shift starting any time from 5:00PM to 1:00AM is mandated either in the job specification or by the contracting agency.

Sewer/Water Laborer:

GROUP A: Basic, Flagman, Top man, Wreckers.

GROUP B: Foundation, Plaster tender, Scaffold bootman, Pneumatic, gas, electric, tool operator, jackhammer, chipping guns.

GROUP C: Mortar Mixer, over 8 ft. in depth.

GROUP D: Pavement formsetter, Steelburner, Caisson, Wagon Drill Oper., PipeLayer, Swing Scaffold.

GROUP E: Utility pave driver, Laser operator.

GROUP F: Blaster.

Per hour:	07/01/2018	07/01/2019	07/01/2020
Sewer/Water Laborer:			
GROUP A	\$ 29.61	\$ 1.25	\$ 1.25
GROUP B	29.71	1.25	1.25
GROUP C	29.76	1.25	1.25
GROUP D	29.86	1.25	1.25
GROUP E	30.21	1.25	1.25
GROUP F	30.61	1.25	1.25

For all Deleader & Asbestos work add \$1.50 to Group A rate.

For all Hazardous waste work add \$2.00 to Group A rate.

An additional \$3.00 per hour is required when a single irregular work shift starting any time from 5:00PM to 1:00AM is mandated either in the job specification or by the contracting agency.

SUPPLEMENTAL BENEFITS

Per hour:

\$ 25.70

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

Hour terms at the following percentage of Journeyman's wage:

0 to 500	to 1000	to 1500	to 2000	to 2500	to 3000	to 4000
55%	60%	65%	70%	75%	80%	90%

Supplemental benefits per hour:

\$ 25.70

3-210h

Laborer - Tunnel

10/01/2018

JOB DESCRIPTION Laborer - Tunnel

DISTRICT 3

ENTIRE COUNTIES

Erie

WAGES

CLASS A: Mole Nipper, Powder Handler, Changehouse Attendant and Top Laborer.

CLASS B: Air Spade, Jackhammer, Pavement Breaker.

CLASS C: Top Bell.

CLASS D: Bottom Bell, Side or Roofbelt Driller, Maintenance men, Burners, Block Layers, Rodmen, Caulkers, Miners helper, Trackmen, Nippers, Derailmen, Electrical Cablemen, Hosemen, Groutmen, Gravelmen, Form Workers, Movers and Shaftmen, Conveyor men.

CLASS E: Powder Monkey.

CLASS F: Blasters, Ironmen and Cement Worker, Miner, Welder, Heading Driller.

CLASS G: Steel Erectors, Piledriver, Rigger.

Per hour:	07/01/2018	07/01/2019	07/01/2020
Tunnel Laborer:		Additional	Additional
CLASS A	\$ 31.11	\$ 1.25	\$ 1.25
CLASS B	31.26	1.25	1.25
CLASS C	31.36	1.25	1.25
CLASS D	31.86	1.25	1.25
CLASS E	31.96	1.25	1.25
CLASS F	32.36	1.25	1.25
CLASS G	32.61	1.25	1.25

For all Deleader & Asbestos work add \$1.50 to Class A rate.

For all Hazardous waste add \$2.00 to Class A rate.

For use of replaceable cartridge respirator add \$1.00 to Group A rate.

An additional \$3.00 per hour is required when a single irregular work shift starting any time from 5:00PM to 1:00AM is mandated either in the job specification or by the contracting agency.

SUPPLEMENTAL BENEFITS

Per hour:

\$ 25.70

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

Hour terms at the following percentage of Journeyman's wage:

0 to 500	500 to 1000	1000 to 1500	1500 to 2000	2000 to 2500	2500 to 3000	3000 to 4000
55%	60%	65%	70%	75%	80%	90%

Supplemental benefits per hour:

\$ 25.70

3-210t

Lineman Electrician

10/01/2018

JOB DESCRIPTION Lineman Electrician

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, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES

Per hour:

NOTE: Includes Teledata Work within ten (10) feet of High Voltage Transmission Lines

Below rates applicable on all overhead and underground distribution and maintenance work, and all overhead and underground transmission line work and the installation of fiber optic cable where no other construction trades are or have been involved. (Ref #14.01.01)

	07/01/2018	05/06/2019	05/04/2020
Lineman, Technician	\$ 50.60	\$ 52.05	\$ 53.50
Crane, Crawler Backhoe	50.60	52.05	53.50
Welder, Cable Splicer	50.60	52.05	53.50
Digging Mach. Operator	45.54	46.85	48.15
Tractor Trailer Driver	43.01	44.24	45.48
Groundman, Truck Driver	40.48	41.64	42.80
Equipment Mechanic	40.48	41.64	42.80
Flagman	30.36	31.23	32.10

Additional \$1.00 per hour for entire crew when a helicopter is used.

Below rates applicable on all electrical sub-stations, switching structures, fiber optic cable and all other work not defined as "Utility outside electrical work". (Ref #14.02.01-A)

Lineman, Technician	\$ 50.60	\$ 52.05	\$ 53.50
Crane, Crawler Backhoe	50.60	52.05	53.50
Cable Splicer	55.66	57.26	58.85
Certified Welder - Pipe Type Cable	53.13	54.65	56.18
Digging Mach. Operator	45.54	46.85	48.15
Tractor Trailer Driver	43.01	44.24	45.48
Groundman, Truck Driver	40.48	41.64	42.80
Equipment Mechanic	40.48	41.64	42.80
Flagman	30.36	31.23	32.10

Additional \$1.00 per hour for entire crew when a helicopter is used.

Below rates apply on switching structures, maintenance projects, railroad catenary install/maintenance third rail installation, bonding of rails and pipe type cable and installation of fiber optic cable. (Ref #14.02.01-B)

Lineman, Tech, Welder	\$ 51.92	\$ 53.37	\$ 54.82
Crane, Crawler Backhoe	51.92	53.37	54.82
Cable Splicer	57.11	58.71	60.30
Certified Welder - Pipe Type Cable	54.52	56.04	57.56
Digging Mach. Operator	46.73	48.03	49.34
Tractor Trailer Driver	44.13	45.36	46.60
Groundman, Truck Driver	41.54	42.70	43.86
Equipment Mechanic	41.54	42.70	43.86
Flagman	31.15	32.02	32.89

Additional \$1.00 per hour for entire crew when a helicopter is used.

Below rates applicable on all overhead and underground transmission line work & fiber optic cable where other construction trades are or have been involved. This applies to transmission line work only, not other construction. (Ref #14.03.01)

Lineman, Tech, Welder	\$ 53.11	\$ 54.56	\$ 56.01
Crane, Crawler Backhoe	53.11	54.56	56.01
Cable Splicer	53.11	54.56	56.01
Digging Mach. Operator	47.80	49.10	50.41
Tractor Trailer Driver	45.14	46.38	47.61
Groundman, Truck Driver	42.49	43.65	44.81
Equipment Mechanic	42.49	43.65	44.81
Flagman	31.87	32.74	33.61

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 (also required on non-worked holidays):

The following SUPPLEMENTAL BENEFITS apply to all classification categories of CONSTRUCTION, TRANSMISSION and DISTRIBUTION.

Journeyman	\$ 23.40	\$ 24.15	\$ 24.90
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*plus 6.75% of
 hourly wage

*plus 6.75% of
 hourly wage

*plus 6.75% of
 hourly wage

*The 6.75% is based on the hourly wage paid, straight time rate or premium rate.

OVERTIME PAY

See (B, E, Q,) on OVERTIME PAGE. *Note* Double time for all 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: 1000 hour terms at the following percentage of the applicable Journeyman Lineman wage.

1st	2nd	3rd	4th	5th	6th	7th
60%	65%	70%	75%	80%	85%	90%

SUPPLEMENTAL BENEFITS: Same as Journeyman

6-1249a

Lineman Electrician - Teledata 10/01/2018

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, Schuyler, 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 **10/01/2018**

JOB DESCRIPTION Lineman Electrician - Traffic Signal, Lighting **DISTRICT 6**

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Warren, Washington, Wayne, Wyoming, Yates

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 groundman/groundman truck driver may assist in installing conduit, pipe, cables and equipment.

A flagger's duties shall consist of traffic control only.
 (Ref #14.01.01)

Per hour:

	07/01/2018	05/06/2019	05/04/2020
Lineman, Technician	\$ 43.80	\$ 45.00	\$ 46.20
Crane, Crawler Backhoe	43.80	45.00	46.20
Certified Welder	45.99	47.25	48.51
Digging Machine	39.42	40.50	41.58
Tractor Trailer Driver	37.23	38.25	39.27
Groundman, Truck Driver	35.04	36.00	36.96
Equipment Mechanic	35.04	36.00	36.96
Flagman	26.28	27.00	27.72

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	\$ 24.15	\$ 24.90
	*plus 6.75% of hourly wage	*plus 6.75% of hourly wage	*plus 6.75% of hourly wage

*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 all 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	\$ 26.28	\$ 27.00	\$ 27.72
2nd term	28.47	29.25	30.03
3rd term	30.66	31.50	32.34
4th term	32.85	33.75	34.65
5th term	35.04	36.00	36.96
6th term	37.23	38.25	39.27
7th term	39.42	40.50	41.58

SUPPLEMENTAL BENEFITS: Same as Journeyman

6-1249a-LT

Lineman Electrician - Tree Trimmer

10/01/2018

JOB DESCRIPTION Lineman Electrician - Tree Trimmer

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, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES

Per hour:

Applies to line clearance, tree work and right-of-way preparation on all new or existing energized overhead or underground electrical, telephone and CATV lines. This also would include stump removal near underground energized electrical lines, including telephone and CATV lines.

	07/01/2018	01/01/2019
Tree Trimmer	\$ 25.10	\$ 25.79
Equipment Operator	22.20	22.81
Equipment Mechanic	22.20	22.81
Truck Driver	18.48	18.99
Groundman	15.22	15.64
Flag person	10.97	11.27

SUPPLEMENTAL BENEFITS

Per hour worked (but also required on non-worked holidays):

Journeyman	\$ 9.98	\$ 9.98
	*plus 3% of hourly wage	*plus 3% of hourly wage

* 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 (5, 6, 8, 15, 16, 25) on HOLIDAY PAGE
 Overtime: See (5, 6, 8, 15, 16, 25) on HOLIDAY PAGE

NOTE: All paid holidays falling on a Saturday shall be observed on the preceding Friday.

All paid holidays falling on a Sunday shall be observed on the following Monday.

6-1249TT

Mason - Building **10/01/2018**

JOB DESCRIPTION Mason - Building

DISTRICT 5

ENTIRE COUNTIES

Erie, Niagara

PARTIAL COUNTIES

Cattaraugus: Only the Township of Perrysburg and the Village of Gowanda.

WAGES

Per Hour:	07/01/2018
Building:	
Bricklayer	\$ 31.32
Stone Mason	31.32
Tuck Pointer	31.32

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 \$ 26.68

OVERTIME PAY

See (B,E,E2*,Q) on OVERTIME PAGE

*Note - Or other conditions beyond the employer's control such as fire or natural disaster.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

1250 hour terms at the following wage:

1st	2nd	3rd	4th
\$ 18.41	\$ 18.91	\$ 21.82	\$ 25.77

Supplemental benefits per hour:

1st	2nd	3rd	4th
\$ 10.58	\$ 17.33	\$ 19.53	\$ 21.32

5-3B-Z3

Mason - Building **10/01/2018**

JOB DESCRIPTION Mason - Building

DISTRICT 3

ENTIRE COUNTIES

Erie, Niagara

PARTIAL COUNTIES

Cattaraugus: Only the Township of Perrysburg and the Village of Gowanda.

WAGES

Per hour:	07/01/2018	04/01/2019
Plasterer	\$ 29.65	\$ 30.15

Additional \$3.00/hr for work on swing stage over 20 feet.

SUPPLEMENTAL BENEFITS

Per hour: \$ 19.74 \$ 20.49

OVERTIME PAY

Exterior work only See (B, E, E2, Q) on OVERTIME PAGE.

All other work See (B, E, Q) on OVERTIME PAGE.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

Hour terms at the following dollar amounts:

0 to 1000 to 2000 to 3000 to 4000 to 4700 to 5400 to 6000 to 7000 to 8000
 \$ 12.00 \$ 14.00 \$ 15.00 \$ 16.00 \$ 17.00 \$ 18.00 \$ 19.00 \$ 20.00 \$ 21.00

Supplemental benefits per hour:

Hour terms at the following dollar amounts:

0 to 4000 to 4700 to 5400 to 6000 to 8000
 \$ 2.50 \$ 3.50 \$ 4.50 \$ 5.50 \$ 7.50

3-9-Pltr

Mason - Building / Heavy&Highway

10/01/2018

JOB DESCRIPTION Mason - Building / Heavy&Highway

DISTRICT 3

ENTIRE COUNTIES

Erie

PARTIAL COUNTIES

Cattaraugus: Only the Township of Perrysburg and the Village of Gowanda.

WAGES

Per hour:	07/01/2018	07/01/2019	07/01/2020
		Additional	Additional
Cement Mason	\$ 30.00	\$ 1.00	\$ 1.25

Additional \$0.25 per hr for Swing scaffold or exterior scaffold 42' or higher.
 Additional \$1.00 per hr when required to wear respirator.

SUPPLEMENTAL BENEFITS

Per hour: \$ 30.67

OVERTIME PAY

See (B, E, Q, V) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

750 hour terms at the following dollar amounts:

1st	2nd	3rd	4th	5th	6th
\$ 13.65	\$ 14.65	\$ 17.65	\$ 19.65	\$ 21.65	\$ 23.65

Supplemental benefits per hour:

1st	2nd	3rd	4th	5th	6th
\$ 8.91	\$ 11.82	\$ 13.55	\$ 16.77	\$ 19.06	\$ 22.49

3-111Erie

Mason - Heavy&Highway

10/01/2018

JOB DESCRIPTION Mason - Heavy&Highway

DISTRICT 5

ENTIRE COUNTIES

Allegany, Broome, Cattaraugus, Chautauqua, Chemung, Chenango, Cortland, Delaware, Erie, Genesee, Livingston, Monroe, Niagara, Ontario, Orleans, Otsego, Schuyler, Seneca, Steuben, Tioga, Tompkins, Wayne, Wyoming, Yates

WAGES

Per hour:	07/01/2018	07/01/2019	07/01/2020
Heavy & Highway:		Additional	Additional
Cement Mason	\$30.91	\$ 0.95	\$ 1.00
Bricklayer	30.91	0.95	0.95

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 \$ 21.65

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

1500 hour terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th
50%	60%	70%	80%

Supplemental benefits per hour:

1st term	\$ 13.75
2nd - 4th term	21.65

5-3h

Mason - Tile Finisher

10/01/2018

JOB DESCRIPTION Mason - Tile Finisher

DISTRICT 5

ENTIRE COUNTIES

Erie, Niagara, Orleans

PARTIAL COUNTIES

Cattaraugus: Only the Township of Perrysburg and the Village of Gowanda.

WAGES

Per hour: 07/01/2018

Building:

Marble, Slate, Terrazzo \$ 29.13
and Tile Finisher

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: \$ 16.05

OVERTIME PAY

See (B,E,E2*,Q) on OVERTIME PAGE

*Note - Or other conditions beyond the employer's control such as fire or natural disaster.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

1200 hours 1st and 2nd term and 1300 hours 3rd term at the following wage:

1st	2nd	3rd
\$ 15.26	\$ 17.92	\$ 24.01

Supplemental benefits per hour:

1st	2nd	3rd
\$ 7.23	\$ 9.11	\$ 12.09

5-3TF - Z3

Mason - Tile Setter **10/01/2018**

JOB DESCRIPTION Mason - Tile Setter **DISTRICT 5**

ENTIRE COUNTIES
 Erie, Niagara, Orleans

PARTIAL COUNTIES
 Cattaraugus: Only in the Township of Perrysburg and the Village of Gowanda.

WAGES
 Per hour: 07/01/2018
 Building:
 Marble, Slate, Terrazzo and Tile Setter \$ 31.57

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: \$ 25.76

OVERTIME PAY
 See (B,E,E2*,Q) on OVERTIME PAGE
 *Note - Or other conditions beyond the employer's control such as fire or natural disaster.

HOLIDAY
 Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
 Wages per hour:

1250 hour terms at the following wage:

1st	2nd	3rd	4th
\$ 18.14	\$ 18.68	\$ 21.63	\$ 25.79

Supplemental benefits per hour:

1st	2nd	3rd	4th
\$ 10.43	\$ 17.08	\$ 19.19	\$ 20.72

5-3TS - Z3

Millwright **10/01/2018**

JOB DESCRIPTION Millwright **DISTRICT 12**

ENTIRE COUNTIES
 Erie, Genesee, Niagara

WAGES
 Per hour: 07/01/2018 05/01/2019 07/01/2019
 Additional
 Building \$ 32.40 \$ 32.40 \$ 1.35
 Heavy & Highway* N/A 34.40

* Effective 05/01/2019, all Heavy & Highway Millwright construction will be paid at the rate indicated above. H/H work performed on hazardous waste sites where employees are required to wear protective gear shall receive an additional \$2.00 per hour over the Millwright H/H rate for all hours worked on the day protective gear was worn.

NOTE ADDITIONAL PREMIUMS PAID FOR THE FOLLOWING WORK LISTED BELOW (amount subject to any overtime premiums):
 - Certified Welders shall receive \$1.75 per hour in addition to the current Millwright's rate provided he/she is directed to perform certified welding.

- If a work site has been declared a hazardous site by the Owner and the use of protective gear (including, as a minimum, air purifying canister-type chemical respirators) are required, then that employee shall receive a \$1.50 premium per hour.
- An employee performing the work of a machinist shall receive \$2.00 per hour in addition to the current Millwright's rate. For the purposes of this premium to apply, a "machinist" is a person who uses a lathe, Bridgeport, milling machine or similar type of tool to make or modify parts.
- When performing work underground at 500 feet and below, the employee shall receive an additional \$0.25. This amount will increase to \$0.50 on 7/1/2019.

SUPPLEMENTAL BENEFITS

Per hour Paid: \$ 28.05

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

1300 hour terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th
60%	70%	80%	90%

Supplemental Benefits per hour worked:

1st	2nd	3rd	4th
\$11.20	\$ 23.00	\$ 24.68	\$ 26.37

12-1163-Gen/Nia/Orl/Wyo

Operating Engineer - Building

10/01/2018

JOB DESCRIPTION Operating Engineer - Building

DISTRICT 12

ENTIRE COUNTIES

Cattaraugus, Chautauqua, Erie, Orleans, Wyoming

PARTIAL COUNTIES

Genesee: Only that portion of the county that lies west of a line down the center of Route 98 excluding that area that lies within the City of Batavia.

WAGES

CLASS A: Air Hoist, All Boom Type Equipment, All Pans and Carry-Alls, Archer Hoist, Asphalt Curb and Gutter Machines, Asphalt Roller, Asphalt Spreader or Paver, Automatic Fine Grade Machine (CMI or similar, first and second operator), Backhoe and Pullhoe, Backhoe and Pullhoe (tractor mounted, rubber tired), Back Filling Machine, Belt Placer (CMI or similar type), Bending Machine (Pipe), Bituminous Spreader and Mixer, Blacktop Plants (Automated and Non-automated), Blast or Rotary Drill (Truck or Track Mounted), Blower for Burning Brush, Boiler (when used for power), Boom Truck (excluding pick-up and delivery), Boring Machine, Bulldozer, Cableway, Cage Hoist, Caisson Auger, Central Mix Plant (and all concrete batching plants), Cherry Picker, Concrete Cleaning Decontamination Machine Operator, Concrete Curb and Gutter Machine, Concrete Curing Machine, Concrete Cutters (Vermeer or Similar Type), Concrete Mixer (over 1/2 cu yd.), Concrete Pavement Spreaders and Finishers, Concrete Paver, Concrete Pump, Conveyor, Core Drill, Crane, Crusher, Decon of Equipment, Derrick, Dragline, Dredge, Drill Rig (Tractor Mounted), Dual Drum Paver, Electric Pump used in conjunction with Well Point Systems, Elevating Grader (self propelled or towed), Elevator, Excavator (all purpose, hydraulically operated), Farm Tractor with Accessories, Fine Grade Machine, Forklift, Front End Loader, Generator (10 outlets or more), Gradall, Grader, Grout or Gunite Machine, Head Tower, Heavy Equipment Robotics Operator/Mechanic, Helicopter (when used for hoisting), Hoist (one drum), Hoisting Engine, Horizontal Directional Drill Locator, Horizontal Directional Drill Operator, Hydraulic Boom, Hydraulic Hammer (self-propelled), Hydraulic Pipe Jack Machine (or similar type machine), Hydraulic Rock Expander (or similar type machine), Hydraulic System Pumps, Hydro Crane, Hydro Hammer (or similar type), Industrial Tractor, Jersey Spreader, Kolman Plant Loader (and similar type loaders), Laser Screed, Locomotive, Lubrication Truck, Maintenance Engineer, Maintenance, Lubrication Unit or Truck, Mine Hoist, Mixer for Stabilized Base (self-propelled), Monorail, Motorized Hydraulic Pin Puller, Motorized Hydraulic Seeder, Mucking Machine, Mulching Machine, Multiple Drum Hoist (more than one drum in use), Overhead Crane, Peine Crane (or similar type), Pile Driver, Plant Engineer, Pneumatic Mixer, Post Hole Digger and Driver, Power Broom, Pump Crete, Push Button Hoist, Push or Snatch Cat, Quarry Master or equivalent, Road Widener, Rock Bit Sharpener (all types), Roller (all), Rolling Machine (pipe), Rotomill, Scissors Trucks, Lift, or Boom Lift of any type (when used for hoisting), Scoopmobile, Shovel, SideBoom, Skidsteer/Bobcat (Similar Type), Skimmer, Slip Form Paver (CMI or similar type), Snorkel/Vacuum Truck, Strato-Tower, Stump Chipping Machine, Tire Truck and Drivers performing tire repair (exclude outside vendor), Towed Roller, Tractor Drawn Belt-Type Grader/Loader, Tractor Shovel, Tractor with Towed Accessories, Tractor (when using winch power), Tractors, Trencher, Truck Crane, Truck Mechanic and Helper (exclude Teamsters when repairing their own trucks), Tunnel Shovel, Tube Finisher (CMI and similar type), Ultra High Pressure Waterjet Cutting Tool System Operator/Mechanic, Vacuum Blasting Machine Operator/Mechanic, Vibratory Compactor, Vibro Tamp, Well Drilling Machine, Well Point, Winch, Winch Truck with A Frame.

CLASS B: Aggregate Bin, Aggregate Plant, Apprentice Engineer, Apprentice Engineer Driver, Articulated Off Road Material Hauler, Boiler (used in conjunction with production), CMI and similar type Concrete Spreads (Apprentice Engineer), Cement Bin, Chipping Machine and Chip Spreader, Compressors (4 or less), Compressors (any size, but subject to other provisions for Compressors, Dust Collectors, Generators, Mechanical Heaters, Pumps, Welding Machines - four of any type or combination), Concrete Mixer (1/2 cu. yd. and under), Fireman, Form Tamper, Form Trucks (excluding Teamster or delivery), Fuel Truck or Drivers (exclude Teamster or delivery), Heaters, Heating Boiler (used for temporary heat), Helper on Lubrication Unit or Truck, Jeep Trencher, Power Heaterman, Power Plant in excess of 10 K.W., Pumps, Revinius Widener, Steam Boilers (if manning or license by local law is required), Steam Cleaner (when used for cleaning equipment on the job site), Welding Machine (1 machine over 300 amps or 2 or 3 machines regardless of amps).

Operating Engineer- Building:

Per hour:	07/01/2018
Class A	\$ 36.86
Class B	32.38
Crane(boom over 100ft)	37.39
" (boom over 200ft)	37.86
" (boom over 300ft)	38.36

Additional \$3.00/hr. for Lattice Boom
Additional \$3.00/hr. for Hydraulic Crane over 60 tons.
Additional \$2.50/hr. for Hazardous Work Site
Additional \$1.00/hr. for Tunnel Work
Additional \$1.50/hr. for Mandated Off-Shift Work

SUPPLEMENTAL BENEFITS

Per Hour:

Journeyman	\$ 28.45*
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*Note: For Overtime Hours \$20.25 of this amount is paid a straight time, the remaining balance of \$8.20 is paid at the same premium as the wage.

OVERTIME PAY

See (B, E, *E2, P) on OVERTIME PAGE

* Only Saturdays between October 15th and April 15th.

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (1) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:
1 year Terms

1st	2nd	3rd	4th
\$26.70	\$27.59	\$28.47	\$29.36

Supplemental benefits Per Hour:
All Apprentices \$27.55*

*Note: For Overtime Hours \$20.25 of this amount to be paid a straight time rate remaining balance of \$7.30 is paid at same premium as the wage.

12-17b

Operating Engineer - Heavy&Highway **10/01/2018**

JOB DESCRIPTION Operating Engineer - Heavy&Highway

DISTRICT 12

ENTIRE COUNTIES

Cattaraugus, Chautauqua, Erie, Orleans, Wyoming

PARTIAL COUNTIES

Genesee: Only that portion of the county that lies west of a line down the center of Route 98 excluding that area that lies within the City of Batavia.

WAGES

CLASS A: Air Hoist, All Boom Type Equipment, All Pans and Carry-Alls, Asphalt Curb and Cutter Machines, Asphalt Roller, Asphalt Spreader or Paver, Automatic Fine Grade Machine (CMI or similar, first and second operator), Backhoe and Pullhoe (all), Back Filling Machine, Belt Placer (CMI or similar type), Bending Machine (pipe), Bituminous Spreader and Mixer, Blacktop Plant (all), Blast or Rotary Drill (Truck or Track Mounted), Blower for Burning Brush, Boiler (when used for power), Boom Truck, Boring Machine, Bulldozer, Cableway, Cage Hoist, Caisson Auger, Central Mix Plant (and all Concrete Batching Plants), Cherry Picker, Concrete Cleaning Decontamination Machine, Concrete Curb and Gutter Machine, Concrete Curing Machine, Concrete Mixer (over 1/2 cu. yd.), Concrete Pavement Spreaders and Finishers, Concrete Paver, Concrete Pump, Concrete Saw (self propelled), Conveyor, Convoing Vehicles Convoing Engineer's Equipment, Core Drill, Crane, Crusher, Decontamination of Equipment, Derrick, Dragline, Dredge, Drill Rig (Tractor Mounted), Dual Drum Paver, Electric Pump used in conjunction with Well Point Systems, Elevating Grader (self propelled or towed), Elevator, Excavator (all purpose, hydraulically operated), Farm Tractor with Accessories, Fine Grade Machine, Forklift, Front End Loader, Gradall, Grader, Grout or Guniting Machine, Head Tower, Heavy Equipment Robotics Operator/Mechanic, Hoist (all types), Hoisting Engine, Horizontal Directional Drill Locator, Horizontal Directional Drill Operator, Hydraulic Boom, Hydraulic Hammer (self propelled), Hydraulic Pipe Jack Machine, (or similar type machine), Hydraulic Rock Expander (or similar type machine), Hydraulic System Pumps, Industrial Tractor, Jersey Spreader, Kolman Plant Loader (and similar type Loaders), Laser Screed, Locomotive, Log Skidder (similar type), Maintenance Engineer, Maintenance, Lubrication Unit or Truck, Mine Hoist, Mixer for Stabilized Base (self propelled), Monorail, Motorized Hydraulic Pin Puller, Motorized Hydraulic Seeder, Mucking Machine, Mulching Machine, Overhead Crane, Parts Chasing, Peine Crane (or similar type), Pile Driver, Plant Engineer, Pneumatic Mixer, Post Hole Digger and Post Driver, Power Broom, Pump Crete, Push Button Hoist, Push or Snatch Cat, Quarry Master (or equivalent), Road Widener, Rock Bit Sharpener (all types), Roller (all), Rolling Machine (Pipe), Rotomill, Scoopmobile, Shovel, Side Boom, Skidsteer/Bobcat (similar type), Skimmer, Slip Form Paver (CMI or similar, first and second operator), Snorkel/Vacuum Truck, Strato-Tower, Tire Truck & Repair, Towed Roller, Tractor Drawn Belt-Type Grader/Loader, Tractor Shovel, Tractor with Towed Accessories, Tractors (when using winch power), Trencher, Truck Crane, Tug Boats, Tunnel Shovel, Tube Finisher (CMI and similar), Vacuum Blasting Machine Operator/Mechanic, Vibratory Compactor, Vibro Tamp, Waterjet Cutting Tool System Operator/Mechanic (Ultra High Pressure), Well Drilling Machine, Well Point, Winch, Winch Truck with A Frame.

CLASS B: Aggregate Bin, Aggregate Plant, Apprentice Engineer, Apprentice Engineer Driver, Articulated Off Road Material Hauler, CMI and similar type Concrete Spreads (Apprentice Engineer), Cement Bin, Chipping Machine and Chip Spreader, Compressors (4 or less), Compressors: any size, but subject to other provisions for Compressors, Dust Collectors, Generators, Mechanical Heaters, Pumps, Welding Machines (four of any type or combination), Concrete Mixer (1/2 cu. yd. and under), Fireman, Form Tamper, Fuel Truck, Heating Boiler (used for temporary heat), Helper on Lubrication Unit or Truck, Jeep Trencher, Power Heaterman, Power Plant in excess of 10 K.W., Pumps (4" or over), Revinus Widener, Steam Cleaner, Stump Chipping Machine, Welding Machine (1 machine over 300 amps or 2 or 3 machines regardless of amps).

Operating Engineer- Building Site, Heavy/Highway, Sewer/Water, Tunnel:

Per hour:	07/01/2018
Class A	\$ 38.09
Class B	33.59
Crane(boom over 100ft)	38.84
" (boom over 200ft)	39.09
" (boom over 300ft)	39.59

Additional \$3.00/hr. for Lattice Boom
 Additional \$3.00/hr. for Hydraulic Crane over 60 tons
 Additional \$2.50/hr. for Hazardous Work Site
 Additional \$1.00/hr. for Tunnel Work
 Additional \$1.50/hr. for Mandated Off-Shift Work

SUPPLEMENTAL BENEFITS

Per hour:

Journeymen \$ 30.31*

*Note: For Overtime Hours \$22.61 of the amount paid at straight time, the remaining balance of \$7.70 is paid at the same premium as the wage.

OVERTIME PAY

See (B, E, Q, T) on OVERTIME PAGE

HOLIDAY

Paid: See (*5, **6) on HOLIDAY PAGE
 Overtime: See (**5, ***6) on HOLIDAY PAGE

*,** NOTE: If Holiday falls on a Sunday it will be celebrated on Monday

,* NOTE: If employee works that Monday use "T" under Overtime Pay.

REGISTERED APPRENTICES

Wages per hour:

Apprentices at 1 year terms

1st	2nd	3rd	4th
\$30.59	\$31.59	\$32.59	\$33.59

Supplemental Benefits

All Apprentices \$29.91*

Note: For Overtime Hours \$22.61 of this amount is paid at straight time , the remaining balance of \$7.30 is paid at the same premium as the wage.

12-17 hh/sw/t

Operating Engineer - Marine Dredging

10/01/2018

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:

DREDGING OPERATIONS 07/01/2018

CLASS A

Operator, Leverman, \$ 38.18

Lead Dredgeman

CLASS A1

Dozer,Front Loader

Operator

To conform to Operating Engineer
 Prevailing Wage in locality where work
 is being performed including benefits.

CLASS B

Barge Operator

\$ 33.02

Spider/Spill

Tug Operator(over1000hp),

OperatorII, Fill Placer,

Derrick Operator, Engineer,

Chief Mate, Electrician,

Chief Welder,

Maintenance Engineer

Certified Welder,

\$ 31.09

Boat Operator(licensed)

CLASS C

Drag Barge Operator,

\$ 30.24

Steward, Mate,

Assistant Fill Placer,

Welder (please add)\$ 0.06

Boat Operator

\$ 29.26

CLASS D

Shoreman, Deckhand,

\$ 24.30

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
 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

Operating Engineer - Survey Crew **10/01/2018**

JOB DESCRIPTION Operating Engineer - Survey Crew **DISTRICT 12**

ENTIRE COUNTIES
Cattaraugus, Chautauqua, Erie, Orleans, Wyoming

PARTIAL COUNTIES
Genesee: Only that portion of the county that lies west of a line down the center of Route 98 excluding that area that lies within the City of Batavia.

WAGES
These rates apply to Building and Heavy Highway.

Per hour:
SURVEY CLASSIFICATIONS:

- Party Chief - One who directs a survey party.
- Instrument Person - One who operates the surveying instruments.
- Rod Person - One who holds the rods and assists the Instrument Person.

07/01/2018

Party Chief \$ 40.45
Instrument Person 38.17
Rod Person 26.48

Additional \$3.00 per hr. for work in a Tunnel.
Additional \$2.50 per hr. for EPA or DEC certified toxic or hazardous waste work.

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman \$ 25.75

OVERTIME PAY
See (B, E, P, T) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

WAGES:1000 hour terms for at percentage of Wage:

07/01/2018

0-1000 Hrs 60%
1001-2000 Hrs 70%
2001-3000 Hrs 80%

SUPPLEMENTAL BENEFITS per hour worked:

0-1000 Hrs	\$ 15.83
1001-2000 Hrs	18.48
2001-3000 Hrs	21.13

12-17D Sur

Operating Engineer - Survey Crew - Consulting Engineer

10/01/2018

JOB DESCRIPTION Operating Engineer - Survey Crew - Consulting Engineer

DISTRICT 12

ENTIRE COUNTIES

Cattaraugus, Chautauqua, Erie, Orleans, Wyoming

PARTIAL COUNTIES

Genesee: Only that portion of the county that lies west of a line down the center of Route 98 excluding that area that lies within the City of Batavia.

WAGES

These rates apply to feasibility and preliminary design surveying, line of grade surveying for inspection or supervision of construction when performed under a Consulting Engineer Agreement.

Per hour:

SURVEY CLASSIFICATIONS:

Party Chief - One who directs a survey party.

Instrument Person - One who operates the surveying instruments.

Rod Person - One who holds the rods and assists the Instrument Person.

07/01/2018

Party Chief	\$ 40.45
Instrument Person	38.17
Rod Person	26.48

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman	\$ 25.75
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OVERTIME PAY

See (B, E, P, T) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

WAGES: 1000 hour terms based on the Percentage of Rod Persons Wage:

07/01/2018

0-1000	60%
1001-2000	70%
2001-3000	80%

SUPPLEMENTAL BENEFITS per hour worked:

0-1000	\$ 15.83
1001-2000	18.48
2001-3000	21.13

12-17D Con Eng

Painter

10/01/2018

JOB DESCRIPTION Painter

DISTRICT 3

ENTIRE COUNTIES

Allegany, Erie, Genesee, Niagara, Orleans, Wyoming

PARTIAL COUNTIES

Cattaraugus: Entire County except the Townships of Conewango, Leon, Napoli, New Albion, Randolph and South Valley.

Chautauqua: Only the Townships of Awkright, Dunkirk, Hanover, Pomfret, Portland, Sheridan and Villenova.

Livingston: Only the Townships of North Dansville, Nunda, Ossian, Portage, Sparta, Spring Water and West Sparta.

Steuben: Only the Townships of Avoca, Canisteo, Cohocton, Dansville, Fremont, Greenwood, Hartsville, Hornellsville, Howard, Jasper, Prattsburg, Pulteney, Troupsburg, Tuscarora, Urbana, Wayland, Wayne, Woodhull, West Union, Wheeler, and the City of Hornell.

WAGES

Per hour:	07/01/2018	05/01/2019
		Additional
Basic Rate (Brush & Roll)	\$ 25.95	\$ 1.00
Spray painting, wallcovering	25.95	1.00
Abrasive and hydroblasting	25.95	1.00
Taping/DryWall Finisher	26.45	1.00
Skeleton Steel*	26.70	1.00

* Skeleton Steel: No floors, walls or ceiling are constructed, including radio and television towers, flagpoles, smokestacks, cranes and the abatement of coatings with lead, asbestos and/or arsenic, etc. All work within the confines of a plant shall be paid the skeleton steel rate (except in-plant tank work (see Tank Rate)).

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:
 \$ 24.84

OVERTIME PAY

Exterior work only See (B, E4, F*, R) on OVERTIME PAGE.

All other work See (B, F*, R) on OVERTIME PAGE.

* Note - Saturday is payable at straight time if the employee misses work, except where a doctor's or hospital verification of illness is produced Monday through Friday when work was available to the employee.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

Painter/Decorator: 750 hour terms at the following percentage of Journeyman's Basic wage rate:

1st	2nd	3rd	4th	5th	6th	7th	8th
50%	55%	60%	65%	70%	75%	80%	90%

Taper/Drywall Finisher: 750 hour terms at the following percentage of Journeyman's Taper wage:

1st	2nd	3rd	4th	5th	6th
50%	55%	60%	65%	75%	85%

Supplemental benefits per hour:

Painter/Decorator and Taper/Drywall Finisher:

1st	2nd	3rd	4th	5th	6th	7th	8th
\$ 2.30	\$ 4.30	\$ 5.30	\$ 5.80	\$ 6.30	\$ 6.80	\$ 7.30	\$ 7.55

3-4-Buf, Nia, Olean

Painter

10/01/2018

JOB DESCRIPTION Painter

DISTRICT 3

ENTIRE COUNTIES

Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Cortland, Delaware, Erie, Genesee, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Wayne, Wyoming, Yates

WAGES

Per hour:	07/01/2018	05/01/2019
		Additional
Bridge	\$ 38.00	\$ 1.05
Tunnel	38.00	1.05
Tank*	36.00	1.05

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.

Tank rate applies to indoor and outdoor tanks, tank towers, standpipes, digesters, waste water treatment tanks, chlorinator tanks, etc.
Covers all types of tanks including but not limited to steel tanks, concrete tanks, fiberglass tanks, etc.

Note an additional \$2.00 per hour is required when the contracting agency or project specification requires any shift to start prior to 6:00am or after 12:00 noon.

SUPPLEMENTAL BENEFITS

Per hour: \$ 28.15

OVERTIME PAY

Exterior work only See (B, E4, F*, R) on OVERTIME PAGE.

All other work See (B, F*, R) on OVERTIME PAGE.

*Note - Saturday is payable at straight time if the employee misses work, except where a doctor's or hospital verification of illness is produced Monday through Friday when work was available to the employee.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

750 hour terms at the following percentage of Journeyman's wage rate:

1st	2nd	3rd	4th	5th	6th
50%	55%	60%	65%	75%	85%

Supplemental benefits per hour:

1st & 2nd terms	\$ 5.40
3rd & 4th terms	5.40
5th & 6th terms	6.40

3-4-Bridge, Tunnel, Tank

Painter - Metal Polisher

10/01/2018

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

10/01/2018

JOB DESCRIPTION Plumber

DISTRICT 3

ENTIRE COUNTIES

Erie, Niagara, Wyoming

PARTIAL COUNTIES

Allegany: Only the Townships of Allen, Angelica, Belfast, Caneadea, Centerville, Granger, Hume, New Hudson and Rushford
 Cattaraugus: Only the Townships of Ashford, Dayton, East Otto, Ellicottville, Farmersville, Franklinville, Freedom, Leon, Lyndon, Machias, Mansfield, New Albion, Otto, Perrysburg, Persia and Yorkshire.
 Chautauqua: Only the Townships of Arkwright, Charlotte, Cherry Creek, Dunkirk, Hanover, Pomfret, Portland, Ripley, Sheridan, Stockton, Villenova, Westfield, City of Dunkirk and Village of Fredonia.
 Genesee: Only the Townships of Alabama, Alexander, Batavia, Darien, Elba, Oakfield, Pembroke and the City of Batavia.
 Orleans: Only the Townships of Ridgeway, Shelby and Yates.

WAGES

Per hour: 07/01/2018

Plumber	\$ 34.65
Steamfitter	\$ 34.65

Note - Add 10% (ten-percent) to wage when HAZMAT training is required or when OSHA compliant respirator protection is required.

SUPPLEMENTAL BENEFITS

Per hour: \$ 25.31

Note - \$3.20 of this amount must be paid at the same premium as the wage.

OVERTIME PAY

See (*B, **E, Q) on OVERTIME PAGE

* Double time after 11 hours per day on Weekdays.

** Double time after 10 hours per day on Saturday.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 16) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th	5th
45%	55%	65%	75%	90%

Note - Add 10% (ten-percent) to wage when HAZMAT training is required or when OSHA compliant respirator protection is required.

Supplemental benefits per hour:

\$ 20.85

Note - \$3.20 of this amount must be paid at the same premium as the wage.

3-22-Buffalo, Niagara

Roofer **10/01/2018**

JOB DESCRIPTION Roofer **DISTRICT 3**

ENTIRE COUNTIES
 Erie, Genesee, Niagara, Orleans, Wyoming

WAGES

Per hour:	07/01/2018	06/01/2019 Additional	06/01/2020 Additional
Asbestos Removal	\$ 32.00	\$ 1.00	\$ 1.50
Slate, Tile	29.15	1.00	1.50
Precast tile / slabs	29.15	1.00	1.50
Crete / gypsum planks	29.15	1.00	1.50
Damp and waterproofer	29.00	1.00	1.50
Composition, spayers,	29.00	1.00	1.50
Asphalt mastic,	29.00	1.00	1.50
Steep roofers	29.00	1.00	1.50

When shift work is mandated either in the job specification or by the contracting agency the following premiums apply:
 15.0% for work from 4:30PM - 1:00AM or second shift
 20.0% for work from 12:30AM - 9:00AM or third shift

SUPPLEMENTAL BENEFITS
 Per hour:
 \$ 21.47

OVERTIME PAY
 See (B, *E, **E2, Q) on OVERTIME PAGE
 * and ** Double time after 8 hours on Saturday.

HOLIDAY
 Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
 Wages per hour:

Hour terms at the following percentage of Journeyman's wage:

0 to 499	to 999	to 1499	to 1999	to 2499	to 2999	to 3499	to 4499
60%	65%	70%	75%	80%	85%	90%	95%

Supplemental benefits per hour:

0 to 499	to 999	to 1499	to 1999	to 2499	to 2999	to 3499	to 4499
\$ 8.21	\$ 8.21	\$ 11.57	\$ 11.73	\$ 19.03	\$ 19.64	\$ 20.26	\$ 20.86

3-74

Sheetmetal Worker **10/01/2018**

JOB DESCRIPTION Sheetmetal Worker **DISTRICT 3**

ENTIRE COUNTIES
 Erie, Genesee, Niagara, Orleans, Wyoming

WAGES

Per hour:	07/01/2018	05/27/2019 Additional	06/01/2020 Additional
Sheet Metal Worker	\$ 34.38	\$ 1.20	\$ 1.25

Additional \$0.50 per hour for work more than 30' above floor on boatswain chair.
 Additional \$1.00 per hour for work in "Hot" areas of atomic laboratories, atomic plants, or any premises where radio-active materials are stored or handled and personal protective equipment is required.
 Additional \$1.00 per hour for work when required to have 40-hour HAZMAT training or the use of OSHA compliant respirator is required.

When shift work is mandated either in the job specification or by the contracting agency the following premiums apply:
 Shift Premium per hour:
 Additional 10% for work from 4:30PM - 1:00AM or second shift
 Additional 15% for work from 12:30AM - 9:00AM or third shift

SUPPLEMENTAL BENEFITS
 Per hour:
 \$ 24.39*

* Note - \$17.89 of this amount must be paid at the same premium as the wages per overtime hours.

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6, 16) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:
 One year terms at the following wage:

1st term	\$ 15.47
2nd term	20.19
3rd term	21.61
4th term	25.87
5th term	28.70

Supplemental benefits per hour:

1st term	\$ 14.39	Note - \$7.89 of this amount must be paid at the same premium as the wage.
2nd term	17.39	Note - \$10.89 of this amount must be paid at the same premium as the wage.
3rd term	21.69	Note - \$15.19 of this amount must be paid at the same premium as the wage.
4th term	22.59	Note - \$16.09 of this amount must be paid at the same premium as the wage.
5th term	23.19	Note - \$16.69 of this amount must be paid at the same premium as the wage.

When shift work is mandated either in the job specification or by the contracting agency the following premiums apply;

Shift Premium per hour:
 Additional 10% for work from 4:30PM - 1:00AM or second shift
 Additional 15% for work from 12:30AM - 9:00AM or third shift

3-71

Sprinkler Fitter

10/01/2018

JOB DESCRIPTION Sprinkler Fitter

DISTRICT 1

ENTIRE COUNTIES

Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Washington, Wayne, Wyoming, Yates

WAGES

Per hour	07/01/2018	01/01/2019
Sprinkler Fitter	\$ 34.91	34.91

SUPPLEMENTAL BENEFITS

Per hour	
Journeyman	\$ 23.14 23.69

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
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\$ 8.93	\$ 8.97	\$ 17.09	\$ 17.13	\$ 17.68	\$ 17.72	\$ 17.77	\$ 17.81	\$ 17.86	\$ 17.90
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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

Teamster - Building / Heavy&Highway **10/01/2018**

JOB DESCRIPTION Teamster - Building / Heavy&Highway **DISTRICT 3**

ENTIRE COUNTIES

Erie, Niagara

PARTIAL COUNTIES

Genesee: Only in the Townships of Alabama, Darien and Pembroke.
 Orleans: Only the Townships of Ridgeway, Shelby and Yates.
 Wyoming: Only in the Townships of Arcade, Bennington, Java and Sheldon.

WAGES

GROUP 1: Warehousemen, Yardmen, Truck Helpers, Pickups, Panel Trucks, Flatboy Material Trucks (straight jobs), Single Axle Dump Trucks, Dumpsters, Material Checkers and Receivers, Greasers, Truck Tiremen, Mechanics Helpers and Parts Chasers.

GROUP 2: Tandems and Batch Trucks, Mechanics, Dispatcher.

GROUP 3: Semi-Trailers, Low-Boy Trucks, Asphalt Distributor Trucks and Agitator, Mixer Trucks and dumpcrete type vehicles, Truck Mechanic, Fuel Trucks

GROUP 4: Specialized Earth Moving Equipment, Euclid type, or similar off-highway, where not self-loading, Straddle (Ross) Carrier, and self-contained concrete mobile truck.

GROUP 5: Off-highway Tandem Back-Dump, Twin Engine Equipment and Double-Hitched Equipment where not self-loading.

Per hour: 07/01/2018
 All GROUPS \$ 37.00

Add \$2.00 when required to use personal protection when performing hazardous waste removal work.
 An additional \$1.00 per hour is required when a single irregular work shift starting any time from 5:00PM to 1:00AM is mandated either in the job specification or by the contracting agency.

SUPPLEMENTAL BENEFITS

Per hour: \$ 13.03*

*Note - Only \$ 6.00 per hour needs to be paid for overtime hours.

OVERTIME PAY

See (B, G, P) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE
 Overtime: See (5, 6) on HOLIDAY PAGE

3-449

Teamster - Building / Heavy&Highway **10/01/2018**

JOB DESCRIPTION Teamster - Building / Heavy&Highway **DISTRICT 3**

ENTIRE COUNTIES

Erie, Niagara

WAGES

Per hour: 07/01/2018
 Dump Truck Operator* \$ 21.25

*Does not include Single Axle Dump Trucks (see Teamster Group 1).
*Does not include Off-highway Dump Trucks (see Teamster Groups 2-5).

SUPPLEMENTAL BENEFITS

Per hour: \$ 1.44

OVERTIME PAY

See (B, B2, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

3-449d-DT

Welder

10/01/2018

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, Schuylar, 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 - 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

NYSDOL Bureau of Public Work Debarment List 08/07/2018

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 STREETRIDGWOOD NY 11385	05/15/2015	05/15/2020
DOL	DOL	****8488	ABELCRAFT OF NEW YORK CORP		640 ASHFORD AVENUE ARDSLEY NY 10502	08/27/2013	08/27/2018
DOL	DOL	****4539	ACCOMPLISHED WALL SYSTEMS INC		112 OSCAWANA HEIGHTS ROAD PUTNAM VALLEY NY 10542	08/27/2013	08/27/2018
DOL	DOL	****8018	ACCURATE MECHANICAL LLC		9547 BUSTLETON AVENUE PHILADELPHIA PA 19115	02/05/2014	02/05/2019
DOL	DOL		ACCURATE MECHANICAL OF PHILADELPHIA LLC		9547 BUSTLETON AVENUE PHILADELPHIA PA 19115	02/05/2014	02/05/2019
DOL	DOL	****3344	ACT INC		6409 LAND O LAKES BLVD LAND O LAKES FL 34638	11/10/2015	11/10/2020
DOL	NYC		ADRIANA SELA	C/O COLONIAL ROOFING COMPANY INC	247 48TH STREET BROOKLYN NY 11220	02/05/2014	02/05/2019
DOL	DOL	****1687	ADVANCED SAFETY SPRINKLER INC		261 MILL ROAD P O BOX 296EAST 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 PLACEYONKERS 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	NYC		ANISUL ISLAM		C/O RELIANCE GENERAL CONS 644 OCEAN PARKWAYBROOKLYN NY 11230	09/02/2015	09/02/2020
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 59TH STREET MASPETH NY 11378	05/16/2012	05/08/2020
DOL	DOL		ANTHONY J MINGARELLI JR		C/O T & T CONCRETE INC 2560 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	AG	****0194	APPLIED CONSTRUCTION INC		46 RUGBY ROAD WESTBURY NY 11590	11/20/2013	11/20/2018
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	DOL	****3953	ASCAPE LANDSCAPE & CONSTRUCTION CORP		634 ROUTE 303 BLAUVELT NY 10913	07/26/2012	11/19/2018
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

NYS DOL Bureau of Public Work Debarment List 08/07/2018

Article 8

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 19TH 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	DOL		AVIS R HILL		3510 HICKORY WALK LANE ELLENWOOD GA 32094	01/22/2015	01/22/2020
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		BEVERLY F WILLIAMS		1238 PRESIDENT STREET BROOKLYN NY 11225	11/18/2013	11/18/2018
DOL	DOL		BIAGIO CANTISANI			06/12/2018	06/12/2023
DOL	DOL	****4512	BOB BRUNO EXCAVATING, INC.		5 MORNINGSIDE DRIVE AUBURN NY 13021	11/15/2016	11/15/2021
DOL	DOL	****4512	BOB BRUNO EXCAVATING, INC.		5 MORNINGSIDE DRIVE AUBURN NY 13021	11/15/2016	11/15/2021
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	****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		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	****8530	CAZ CONTRACTING CORP		37-11 35TH AVENUE LONG ISLAND CITY NY 11101	08/26/2013	08/26/2018
DOL	DOL	****8809	CBE CONTRACTING CORP		142 EAST MARKET STREET LONG BEACH NY 11561	03/07/2017	03/07/2022

NYS DOL Bureau of Public Work Debarment List 08/07/2018

Article 8

DOL	AG		CESAR J. AGUDELO		81-06 34TH AVENUE APT. 6E JACKSON 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 304 SAYRE 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
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	NYC	****2905	COLONIAL ROOFING COMPANY INC		247 48TH STREET BROOKLYN NY 11220	02/05/2014	02/05/2019
DOL	NYC	****3182	COLORTECH INC		5990 58TH AVENUE MASPETH NY 11378	11/18/2013	11/18/2018
DOL	DOL	****2703	CONKLIN'S TECH- MECHANICAL INC		5 PARKER AVENUE POUGHKEEPSIE NY 12601	03/25/2014	03/25/2019
DOL	DOL		CONSTANTINOS ZERVAS		37-11 35TH AVENUE LONG ISLAND CITY NY 11101	08/26/2013	08/26/2018
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		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 6 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		DEAN ROBBINS III		212 OXFORD WAY SCHENECTADY NY 12309	12/11/2012	09/16/2018
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	NYC	****3865	DECOMA BUILDING CORPORATION		134 EVERGREEN PL/STE 101 EAST ORANGE NJ 07018	12/30/2013	12/30/2018
DOL	DOL		DEDA GAZIVODAN		C/O DAKA PLUMBING AND H 2561 ROUTE 55 POUGHQUAG NY 12570	02/19/2016	02/19/2021
DOL	DOL	****1446	DELTA CONTRACTING PAINTING AND DECORATING INC		437 SUNRISE HIGHWAY WEST BABYLON NY 11707	08/12/2013	08/12/2018
DOL	DOL	****3538	DELTA CONTRACTING PAINTING AND DESIGN INC		75 MCCULLOCH DRIVE DIX HILLS NY 11746	10/19/2010	08/12/2018
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	****9868	DESANTIS ENTERPRISES		161 OSWEGO RIVER ROAD PHOENIX NY 13135	09/24/2013	11/18/2018

NYSDOL Bureau of Public Work Debarment List 08/07/2018

Article 8

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 STREETLONG 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 AVENUEPORT 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 B INGHAMTON NY 13904	02/04/2016	02/04/2021
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		353 WEST 56TH STREET #7M NEW YORK NY 10019	06/10/2014	06/10/2019
DOL	DOL	****5840	DYNA CONTRACTING INC		363 88TH STREET BROOKLYN NY 11209	11/18/2013	11/18/2018
DOL	DOL		E C WEBB		6409 LAND O LAKES BLVD LAND O LAKES FL 34638	11/10/2015	11/10/2020
DOL	DOL		EARL GALBREATH		640 ASHFORD AVENUE ARDSLEY NY 10502	08/27/2013	08/27/2018
DOL	DOL		EARL L WILSON	WILSON BROTHER DRYWALL CONTRACTORS	36 ABERSOLD STREET ROCHESTER NY 14621	08/31/2015	08/31/2020
DOL	DOL	****1496	EAST COAST DRYWALL INC		1238 PRESIDENT STREET BROOKLYN NY 11225	11/18/2013	11/18/2018
DOL	DOL		EAST COAST PAVING		2238 BAKER RD GILLET 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		ELIZABETH RAMADANI		C/O RAMADA CONSTRUCTION 80 SAVO LOOPSTATEN ISLAND NY 10309	01/07/2014	01/07/2019
DOL	DOL		ELLEN DESANTIS	DESANTIS ENTERPRISES	161 OSWEGO RIVER ROAD PHOENIX NY 13135	09/24/2013	11/18/2018
DOL	DOL	****0780	EMES HEATING & PLUMBING CONTR		5 EMES LANE MONSEY NY 10952	01/20/2002	01/20/3002
DOL	AG		EMILIO FRANZA		90 JUNIUS STREET BROOKLYN NY 11212	01/23/2014	01/23/2019
DOL	DOL		EMPIRE CONCRETE SERVICES LLC		101 SULLYS TRAIL/SUITE 20 PITTSFORD NY 14534	11/18/2013	01/07/2019
DOL	DOL	****0511	EMPIRE CONCRETE SYSTEMS LLC		101 SULLYS TRAIL/ SUITE 2 PITTSFORD NY 14534	11/18/2013	01/07/2019
DOL	DOL	****2353	EMPIRE CONSTRUCTORS LLC		101 SULLYS TRAIL/SUITE 20 PITTSFORD NY 14534	11/18/2013	01/07/2019
DOL	DOL		EMPIRE PRECAST LLC		101 SULLYS TRAIL/SUITE 20 PITTSFORD NY 14534	11/18/2013	01/07/2019
DOL	DOL	****3270	EMPIRE TILE INC		6 TREMONT COURT HUNTINGTON STATION NY 11746	03/08/2016	03/08/2021
DOL	NYC		EVERTON CARLESS		134 EVERGREEN PL/STE 101 EAST ORANGE NJ 07018	12/30/2013	12/30/2018
DOL	DOL	****7403	F & B PAINTING CONTRACTING INC		2 PARKVIEW AVENUE HARRISON NY 10604	09/26/2016	09/26/2021

NYSDOL Bureau of Public Work Debarment List 08/07/2018

Article 8

DOL	DOL		F KALAFATIS		2279 HOLLERS AVENUE BRONX NY 10475	01/07/2014	06/23/2019
DOL	DOL		FANTASTIC PAINTING		493 LANSING ROAD FULTONVILLE NY 12072	11/18/2013	11/18/2018
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	****1311	FLOZ-ON PAINTING & DECORATING INC		12 DUNDERBERG ROAD TOMKINS NY 10986	10/16/2013	10/16/2018
DOL	DOL	****8961	FLOZ-ON PAINTING INC		12 DUNDERBERG ROAD TOMKINS NY 10986	10/16/2013	10/16/2018
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		C/O F & B PAINTING CONTRA 2 PARKVIEW AVENUEHARRISON NY 10604	09/26/2016	09/26/2021
DOL	DOL		FRANK DEMARTINO		101-61 99TH STREET OZONE PARK NY 11416	02/15/2017	02/15/2022
DOL	DOL		FRANK DEMARTINO		101-61 99TH STREET OZONE PARK NY 11416	02/15/2017	02/15/2022
DOL	DOL		FRANK J MERCANDO		134 MURRAY AVENUE YONKERS NY 10704	12/11/2009	02/03/2019
DOL	DOL		FRANK MICELI JR	C/O FRANK MICELI JR CONTRACTIN G INC	19 CLIFF STREET NEW ROCHELLE NY 10801	10/16/2013	10/16/2018
DOL	DOL	****1321	FRANK MICELI JR CONTRACTING INC		19 CLIFF STREET NEW ROCHELLE NY 10801	10/16/2013	10/16/2018
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		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
DOL	DOL	****0090	GOLDS FLOORING INSTALLATIONS INC		25 HAMILTON ROAD MONTICELLO NY 12701	10/16/2013	10/16/2018
DOL	DOL		GREGORY A FUCCI		C/O PAF PAINTING SERVICES 157 TIBBETTS ROADYONKERS NY 10705	03/12/2014	03/12/2019
DOL	DOL		GREGORY FUCCI JR		C/O APOLLO CONSTRUCTION 157 TIBBETTS ROADYONKERS 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	DOL		HALSSAM FOSTOK		5 HANSEN PLACE WAYNE NJ 07470	09/18/2013	09/18/2018
DOL	NYC		HAMEEDUL HASAN		240 HOME STREET TEANECK NJ 07666	08/04/2014	08/04/2019
DOL	AG	****9918	HARA ELECTRIC CORP		2461 47TH STREET ASTORIA NY 11103	09/26/2013	09/26/2018
DOL	NYC		HARMEL SINGH		15 CLINTON LANE HICKSVILLE NY 11801	02/25/2016	02/25/2021

NYS DOL Bureau of Public Work Debarment List 08/07/2018

Article 8

DOL	NYC		HAROLD KUEMMEL		58-83 54TH STREET MASPETH NY 11378	02/26/2016	02/26/2021
DOL	AG		HARVINDER SINGH PAUL		90 JUNIUS STREET BROOKLYN NY 11212	01/23/2014	01/23/2019
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 100 2105 W GENESEE STREETS YRACUSE NY 13219	01/06/2016	01/06/2021
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 LATTABROOK PARK HORSEHEADS NY 14845	03/08/2018	03/08/2023
DOL	DOL		JACQUELINE HOWE		C/O FLOZ-ON PAINTING INC 12 DUNDERBERG ROAD TOMKINS NY 10986	10/16/2013	10/16/2018
DOL	DOL	****8627	JAG I LLC		635 LUZERNE ROAD QUEENSBURY NY 12804	09/16/2013	09/16/2018
DOL	DOL	****2868	JAG INDUSTRIES INC		175 BROAD ST - SUITE 320 GLENS FALLS NY 12801	09/16/2013	09/16/2018
DOL	DOL		JAMES B RHYNDERS		91 COLLEGE AVENUE POUGHKEEPSIE NY 12603	12/04/2015	12/04/2020
DOL	DOL		JAMES BOYCE		C/O EMPIRE CONCRETE SYST 101 SULLYS TRAIL/SUITE 20 PITTSFORD NY 14534	11/18/2013	01/07/2019
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 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		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
DOL	DOL		JERALD HOWE		C/O FLOZ-ON PAINTING INC 12 DUNDERBERG ROAD TOMKINS NY 10986	10/16/2013	10/16/2018
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 AVENUE OSWEGO 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 DESCUL		437 SUNRISE HIGHWAY WEST BABYLON NY 11704	08/12/2013	08/12/2018
DOL	DOL		JOHN F. CADWALLADER		200 LATTABROOK PARK HORSEHEADS NY 14845	03/08/2018	03/08/2023

NYS DOL Bureau of Public Work Debarment List 08/07/2018

Article 8

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 296EAST 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		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		JOSEPH MARTONE		112 OSCAWANA HEIGHTS ROAD PUTNAM VALLEY NY 10542	08/27/2013	08/27/2018
DOL	DOL		JOSHUA DEBOWSKY		9547 BUSTLETON AVENUE PHILADELPHIA PA 19115	02/05/2014	02/05/2019
DOL	DOL		JOYA MUSCOLINO		10 ST CHARLES STREET THORNWOOD NY 10594	09/03/2013	09/03/2018
DOL	DOL		JUANA MARTINEZ		C/O LEAD CONSTRUCTION 27 BUTLER PLACEYONKERS NY 10710	03/19/2015	03/19/2020
DOL	DOL	****4340	JUBCO SITE DEVELOPMENT LLC		462 LAKEVIEW AVENUE VALHALLA NY 10595	12/16/2013	12/16/2018
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	NYC		KATHLEEN SELA	C/O COLONIAL ROOFING COMPANY INC	247 48TH STREET BROOKLYN NY 11220	02/05/2014	02/05/2019
DOL	DOL		KATIE BURDICK		2238 BAKER RD GILLET 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	AG		KOSTAS "GUS" ANDRIKOPOULOS		2461 47TH STREET ASTORIA NY 11103	09/26/2013	09/26/2018
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		LAURI MARTONE		112 OSCAWANA HEIGHTS ROAD PUTNAM VALLEY NY 10542	08/27/2013	08/27/2018
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

NYS DOL Bureau of Public Work Debarment List 08/07/2018

Article 8

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	AG		LEONID FRIDMAN		APT 5 200 BRIGHTON, 15TH STBROOKLYN NY 11235	01/23/2014	01/23/2019
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	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	NYC	****2850	M A 2 FLAGS CONTRACTING CORP		25-18 100TH STREET EAST ELMHURST NY 11369	08/21/2013	08/21/2018
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	****9590	MACK GLASSNAUTH IRON WORKS INC		137 LIBERTY AVENUE BROOKLYN NY 11212	12/21/2015	12/21/2020
DOL	NYC	****3141	MACKAY 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	****5533	MARQUISE CONSTRUCTION & DEVELOPMENT CORP		10 ST CHARLES STREET THORNWOOD NY 10594	09/03/2013	09/03/2018
DOL	DOL	****8810	MARQUISE CONSTRUCTION ASSOCIATES INC		20 BOSWELL ROAD PUTNAM VALLEY NY 10579	09/03/2013	09/03/2018
DOL	DOL	****1134	MARQUISE CONSTRUCTION CORP		10 ST CHARLES STREET THORNWOOD NY 10594	09/03/2013	09/03/2018
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

NYS DOL Bureau of Public Work Debarment List 08/07/2018

Article 8

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
DOL	DOL	****4259	MERCANDO CONTRACTING CO INC		134 MURRAY AVENUE YONKERS NY 10704	12/11/2009	02/03/2019
DOL	DOL	****0327	MERCANDO INDUSTRIES LLC		134 MURRAY AVENUE YONKERS NY 10704	12/11/2009	02/03/2019
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 KTISTAKIS		363 88TH STREET BROOKLYN NY 11209	11/18/2013	11/18/2018
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	DOL		MICHELLE L BARBER		635 LUZERNE ROAD QUEENSBURY NY 12804	09/16/2013	09/16/2018
DOL	NYC		MIGUEL ACOSTA		25-18 100TH STREET EAST ELMHURST NY 11369	08/21/2013	08/21/2018
DOL	NYC		MILANCE HADZIC		22 CALIFORNIA AVE - STE 1 PATERSON NJ 07503	03/11/2015	03/11/2020
DOL	AG		MOHAMMAD RIAZ		46 RUGBY ROAD WESTBURY NY 11590	11/20/2013	11/20/2018
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 RIDGWOOD 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

NYS DOL Bureau of Public Work Debarment List 08/07/2018

Article 8

DOL	NYC		ORSON ARROYO		C/O METRO DUCT SYSTEMS 12-19 ASTORIA BOULEVARDLONG 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
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 FLNEW 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	NYC		PETER TRITARIS		5990 58TH AVENUE MASPETH NY 11378	11/18/2013	11/18/2018
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	DOL	****0015	RAMADA CONSTRUCTION CORP		80 SAVO LOOP STATEN ISLAND NY 10309	01/07/2014	01/07/2019
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 FLOORMASPETH 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	DOL		RHINO CONCRETE LLC		101 SULLYS TRAIL/SUITE 20 PITTSFORD NY 14534	11/18/2013	01/07/2019
DOL	DA		RIANN MULLER		2740 SW MARTIN DOWNS BLVD PALM CITY FL 34990	08/25/2016	08/25/2021
DOL	DOL		RICHARD WILSON		C/O DUFOUR GROUP INC 353 WEST 56TH STREET #7MNEW 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

NYS DOL Bureau of Public Work Debarment List 08/07/2018

Article 8

DOL	NYC		ROBERT GUIDO		3256 BRUNER AVENUE BRONX NY 10469	07/29/2014	07/29/2019
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	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		ROSS J MUSCOLINO		10 ST CHARLES STREET THORNWOOD NY 10594	09/03/2013	09/03/2018
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	****9751	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 GILLETT PA 16923	03/12/2018	03/12/2023
DOL	DOL		SHANE BURDICK		2238 BAKER ROAD GILLETT PA 16923	03/12/2018	03/12/2023
DOL	DOL	****6904	SIGNING STAR LIMITED LIABILITY COMPANY		5 HANSEN PLACE WAYNE NJ 07470	09/18/2013	09/18/2018
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		STEPHEN BIANCHI		462 LAKEVIEW AVENUE VALHALLA NY 10595	12/16/2013	12/16/2018
DOL	DOL	****9751	STEPHEN C WAGAR		544 OLD ROUTE 23 ACRE NY 12405	02/14/2017	02/14/2022
DOL	DOL		STEPHEON SHELDON	FANTASTIC PAINTING	493 LANSING ROAD FULTONVILLE NY 12072	11/18/2013	11/18/2018
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	DOL		STUART CHAITIN		634 ROUTE 303 BLAUVET NY 10913	07/26/2012	11/19/2018
DOL	NYC	****9432	SUBLINK LTD		346 THIRD AVENUE PELHAM NY 10803	11/19/2015	11/19/2020
DOL	DOL		SUZANNE G GOLD	C/O GOLDS FLOORING INSTALLATION S INC	25 HAMILTON ROAD MONTICELLO NY 12701	10/16/2013	10/16/2018
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

NYS DOL Bureau of Public Work Debarment List 08/07/2018

Article 8

DOL	DOL	****7417	TADCO CONSTRUCTION CORP		101-61 99TH STREET OZONE PARK NY 11416	02/15/2017	02/15/2022
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	****8174	THE DALRYMPLE CORPORATION		UNIT 278 541 10TH STREET NATLANTA 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	****2070	THE UNIVERSAL GROUP OF NEW YORK INC		212 OXFORD WAY SCHENECTADY NY 12309	12/11/2012	09/16/2018
DOL	DOL	****9243	THE WELCOME MAT PROPERTY MANAGEMENT LLC		P O BOX 268 STILLWATER NY 12170	09/16/2013	03/21/2019
DOL	DOL		THOMAS DESANTIS	DESANTIS ENTERPRISES	161 OSWEGO RIVER ROAD PHOENIX NY 13135	09/24/2013	11/18/2018
DOL	NYC		THOMAS SCARINCI		130-43 92ND AVENUE RICHMOND HILLS NY 11418	11/27/2013	11/27/2018
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		TIMOTHY F BARBER		635 LUZERNE ROAD QUEENSBURY NY 12804	09/16/2013	09/16/2018
DOL	NYC	****1523	TM MECHANICAL CORP		130-43 92ND AVENUE RICHMOND HILLS NY 11418	11/27/2013	11/27/2018
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 WALLKILL 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	AG	****6490	UNIVERSAL STEEL FABRICATORS INC		90 JUNIUS STREET BROOKLYN NY 11212	01/23/2014	01/23/2019
DOL	NYC	****7174	V&R CONTRACTING		P O BOX 957 PORT JEFFERSON STA NY 11776	03/12/2014	03/12/2019
DOL	NYC		VALERIE VISCONTI		346 THIRD AVENUE PELHAM NY 10803	11/19/2015	11/19/2020
DOL	NYC		VEAP SELA	C/O COLONIAL ROOFING COMPANY INC	247 48TH STREET BROOKLYN NY 11220	02/05/2014	02/05/2019
DOL	NYC		VICK CONSTRUCTION		21 DAREWOOD LANE VALLEY STREAM NY 11581	12/31/2013	12/31/2018
DOL	NYC		VICKRAM MANGRU	VICK CONSTRUCTION	21 DAREWOOD LANE VALLEY STREAM NY 11581	12/31/2013	12/31/2018
DOL	DOL		VICTOR ROTENBERG		C/O GMDV TRANS INC 67048 182ND STREETFRESH MEADOWS NY 11365	06/24/2016	06/24/2021
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

NYSDOL Bureau of Public Work Debarment List 08/07/2018

Article 8

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		WILLIAM MAZZELLA		134 MURRAY AVENUE YONKERS NY 10704	02/03/2014	02/03/2019
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
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 7ABROOKLYN NY 11229	09/24/2012	09/18/2020

NYS DOL Bureau of Public Work Debarment List 08/07/2018

Article 9

AGENCY	Fiscal Officer	FEIN	EMPLOYER NAME	EMPLOYER DBA NAME	ADDRESS	DEBARMENT START DATE	DEBARMENT END DATE
DOL	DOL	*****5530	CFM SERVICE CORPORATION INC		P O BOX 548 225 MONTAUK HWY/SUITE 219MORICHES NY 11955	11/28/2012	04/15/2021
DOL	DOL		JOSEPH KLEINPETER	CFM SERVICE CORPORATIO N INC	P O BOX 548 225 MONTAUK HWY/SUITE 219MORICHES NY 11955	11/28/2012	04/15/2021
DOL	NYC		ROBERT SARDINA		C/O TRAFFIC MOVING SYSTEM 66 ALEXANDER STREET YONKERS NY 10701	03/31/2015	03/31/2020
DOL	NYC	*****2049	TRAFFIC MOVING SYSTEMS INC		66 ALEXANDER STREET YONKERS NY 10701	03/31/2015	03/31/2020

Appendix D

Highway and Agency Permits

Note: Contractor is required to complete current application forms for permits if different than those included in this appendix.



Form PERM 32 (December 2015)
Highway Work Permit Application for Utility
Work Instructions and Form

INSTRUCTIONS FOR COMPLETING THE APPLICATION

FRONT OF APPLICATION

Three (3) copies of the entire application, work plans and all other supporting documents must be submitted. At the time of application, certain information relative to fees and deposits may be contingent upon determinations to be made by the Department. In such cases, the information may be left blank and remittance withheld until a determination is made.

Please complete the following:

- Permittee name, address, phone and email address. Provide joint applicant contact information, if appropriate. If there are additional applicants, attach contact information on a separate sheet.
- Name and phone number(s) of emergency contact person.
- If permit is to be returned to someone other than the applicant, complete this section.
- If the guarantee deposit or bond is to be returned to someone other than applicant, complete this section.
- Estimate the cost of work being performed in the state highway right-of-way and provide this figure.
- Indicate anticipated duration of work to be performed with starting date and ending date.
- Indicate the form of insurance coverage to be provided.
- Give a brief description of the work that is proposed to be done under this permit.
- Indicate whether any overhead and/or underground work (5 foot or greater depth) is included in the proposed work.
- Plans and specifications should accompany this application for any work that involves construction within the state highway right-of-way. Place a check mark on the lines for plans and specifications if they are attached to this application.
- Location of the project should be identified by State Route, highway reference marker(s), and the municipality and county in which work area is located.
- In regard to State Environmental Quality Review (SEQR), indicate the type of action, the name of the Lead Agency, and what date the final determination was made, if available.
- Signature of applicant and date.
- Signature of second applicant, if any, and date.

BACK OF APPLICATION

- Check type of work that will be performed.
- In the appropriate column, indicate total amount of permit fees
- Indicate Utility Charge Account Number if applicable
- Indicate type of performance security provided (bond, deposit, letter of credit), if required.
- Indicate check number of deposit or bond number.

**RESPONSIBILITIES OF PERMITTEE
PURSUANT TO UTILITY HIGHWAY WORK PERMITS**

NOTE: FAILURE TO OBTAIN A PERMIT OR FAILURE TO COMPLY WITH THE TERMS OF A PERMIT MAY RESULT IN THE DEPARTMENT HALTING THE ACTIVITY FOR WHICH A PERMIT IS REQUIRED UNTIL ADEQUATE CORRECTIONS HAVE BEEN MADE.

1. LIMITATIONS ON USE: The specific site identified in this Highway Work Permit, and only that site identified, will be available for use by Permittee only for the purpose stated in this Permit and only on the date(s) and for the duration designated in this permit. This Permit does not authorize any infringement of federal, state or local laws or regulations, is limited to the extent of the authority of NYSDOT and is transferable and assignable only with the written consent of the Commissioner of Transportation. The Commissioner reserves the right to modify fees and to revoke or annul the Permit at any time, at his/her discretion without a hearing or the necessity of showing cause.

2. CONDITIONS OF USE: NYSDOT makes no affirmation that the state-owned site used for the work has been designed, constructed, or maintained for the purpose of the conduct of the work. The Permittee assumes full responsibility for planning and conducting a safe and orderly project that does not expose workers or the public to any unreasonable hazards and that involves a minimal disruption of the normal uses of the state and local highway systems. **It shall be the sole obligation of the Permittee to determine whether the site is suitable for the purpose of safely conducting the work.** The Permittee assumes all responsibility for assuring that the use of the highway/property conforms to applicable requirements of law, including, but not limited to those set forth herein.

Permittee agrees to assure compliance with New York Labor Law, industrial regulations, and OSHA regulations, and to assure the safety of all workers who will be engaged to do the permitted work.

3. INSURANCE COVERAGE: Permittee must have the insurance that is required for the type and extent of the work being performed.

Permittee agrees to maintain liability insurance in full force and effect throughout the term of the highway work permit. Expiration of, or lack of, liability insurance automatically terminates the permit.

To comply with this requirement, an applicant must furnish the Department with one of the following:

- A completed **Certificate of Insurance** evidencing the required types and limits of insurance coverage, with New York State Department of Transportation named as an additional insured on the commercial general liability policy. An industry standard **ACORD 25** form with an **ACORD 855** Addendum is acceptable evidence of the required coverage. Certificate Holder should be indicated as New York State Department of Transportation, with the address of the issuing office.
- A fully executed **Undertaking Agreement** may be provided by Municipalities, Public Utilities, Transportation Corporations, Public Service Corporations or Railroads, as an alternative to providing proof of commercial general liability the insurance.

See PERM 32 Submission Package Requirements on page 4 for more detailed guidance on insurance coverage.

4. COMPENSATION AND DISABILITY INSURANCE COVERAGE: Permittee is required to have compensation insurance and disability coverage as noted in the provisions of the Worker's Compensation Law and Acts amendatory thereof for the entire period of the permit, or the permit will be invalid. Applicant must provide proof of coverage (Form C-105.2, U-26.3 or SI-12 for Worker's Compensation, and DB-120.1 or DB-155 for Disability Benefits), or provide proof of exemption from this requirement (Form CE-200).

5. INDEMNIFICATION: Permittee agrees that, in addition to any protection afforded to NYSDOT under any available insurance, NYSDOT shall not be liable for any damage or injury to the Permittee, its agents, employees, or to any other person, or to any property, occurring on the site or in any way associated with Permittee's activities or operations; whether undertaken by Permittee's own forces or by contractor or other agents working on Permittee's behalf. To the fullest extent permitted by law, the Permittee agrees to defend, indemnify and hold harmless the State of New York, NYSDOT and their agents from and against all claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of any claim, including but not limited to claims for personal injuries, property damage or wrongful death and/or environmental claims, in any way associated with the Permittee's activities or operations, no matter how caused.

6. NOTIFICATION: The following should be notified at the appropriate time as shown below:

- Commissioner of Transportation, through the NYSDOT regional office, one week prior to commencing work.
- Area gas distributors, 72 hours prior to any blasting.
- Utility companies with facilities in work areas, before starting work (in accordance with Industrial Code 53).
- Permission from utility company must be obtained before commencing work affecting the utilities' facilities.
- NYSDOT regional signal maintenance shop, 3 days prior to starting work (traffic signal work).
- NYSDOT regional office, at conclusion of work, and return original copy of permit to Resident Engineer.

NOTIFICATION FOR ANNUAL MAINTENANCE PERMITS: (1) Except in emergencies, the applicant will notify the regional director and resident engineer in writing, at least 72 hours before work is started. This notice will contain a complete description of the work to be done, including sketches where essential. (2) In emergencies, telephone notice will be immediately given the resident engineer, and the full requirements outlined above will be met as soon as possible, and not later than the first working day following the emergency notice.

7. SITE CARE AND RESTORATION: A bond, deposit (bank cashier's check), or a Letter of Credit, in an amount designated by the Department of Transportation, may be required before a permit is issued, in order to guarantee restoration of the site to its original condition. A fully executed Undertaking Agreement may be accepted as an alternative security, where applicable. If the Department is obliged to restore the site to its original condition, the costs to the Department will be deducted from the amount of the permittee's deposit at the conclusion of the work. Costs in excess of the bond/deposit on file will be billed directly to the permittee. If permittee posts a Letter of Credit, the Department may elect to have a contractor restore the site, and issue a draft drawn against the Letter of Credit as payment.

- Anyone working within state highway right-of-way must wear **high visibility apparel** and **hard hat** meeting ANSI Class 2 requirements.
- No unnecessary obstruction is to be left on the pavement or the state highway right-of-way, or in such a position as to block warning signs during non-working hours.
- No work shall be done to obstruct drainage or divert creeks, water courses or sluices onto the state highway right-of-way.
- All false work must be removed and all excavations must be filled in and restored to the satisfaction of the Regional Maintenance Engineer.

8. COSTS INCURRED BY ISSUANCE OF THIS PERMIT: All costs beyond the limits of any liability insurance, surety deposits, etc. are the responsibility of the permittee. The State shall be held free of any costs incurred by the issuance of this permit, direct or indirect.

9. SUBMITTING WORK PLANS: The applicant will submit three (3) copies of work plans and/or maps as required by the Department. This shall include (but not be limited to) such details as: measurements of driveways with relation to nearest property corner; location of existing and proposed poles, guide rail, signal equipment, trees or drainage structures; positions of guys supporting poles; a schedule of the number of poles and feet of excavation necessary for completion of work on the State right-of-way. A description of the proposed method of construction will be included.

- Plan work with future adjustments in mind, as any relocation, replacement or removal of the installation authorized by this permit and made necessary by future highway maintenance, reconstruction or new construction, will be the responsibility of the permittee.
- The permittee must coordinate the work with any State construction being conducted.

10. TRAFFIC MAINTENANCE: A plan detailing how the permittee intends to maintain and protect traffic shall be submitted with work plans. Traffic shall be maintained on the highway in a safe manner during working and non-working hours until construction is completed. The permittee is responsible for traffic protection and maintenance, including adequate use of signs, barriers, and flag persons during working and non-working hours until construction is completed. All sketches will be stamped with "MAINTENANCE OF TRAFFIC SHALL BE IN CONFORMANCE WITH THE NATIONAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."

11. COST OF INSPECTION AND SUPERVISION: Prior to issuance of the Highway Work Permit, the permittee may be required to sign an INSPECTION PAYMENT AGREEMENT FOR HIGHWAY WORK PERMITS (FORM PERM 50) agreeing to the payment of construction inspection charges, based on the number of work days involved.

12. SCOPE:

- **Areas Covered:** Permits issued are for highways, bridges and culverts over which the New York State Department of Transportation has jurisdiction. (Local governments issue permits for highways under their jurisdiction.) Work locations must be approved by the Department.
- **Maintenance:** Unless noted otherwise, applicant shall be fully responsible for the maintenance of all items installed and/or altered as shown on the approved permit plans and documents. Property owners having access to a state highway shall be fully responsible for the maintenance of their driveway in accordance with POLICY AND STANDARDS FOR ENTRANCES TO STATE HIGHWAYS.
- **Work Commencement:** The Permittee shall have a copy of the permit available at the site during the construction period. Work should start within 30 days from validation date of permit or said permit may be revoked.

13. REPORTING ACCIDENTS: Permittee is required to report any accidents that occur during the course of the permit work to their insurance company, and to provide the Department with a copy of any such report.

14. COMPLETION OF PROJECT: Upon completion of the work within the State highway right-of-way authorized by the work permit, the person and his or its successors in interest shall be responsible for the maintenance and repair of such work or portion of such work as set forth within the Terms and Conditions of the Highway Work Permit.

15. USE AND OCCUPANCY: A Use & Occupancy agreement may be a requirement of this permit. If required, Applicant agrees to enter into a Use & Occupancy agreement with the department, and to pay all fees associated with ongoing occupancy of state right-of-way, and all other conditions required under the Use & Occupancy agreement.

PERM 32 Submission Package Requirements

Submit three (3) copies of the final submission package: Submission package must include the entire PERM 32 with all work plans and supporting documents, including the following (check all that apply):

	Stamped Final Plans – Submit in PDF file format on CD, with three (3) paper copies (1" = 50'), or as requested
	ACORD 25 - Certificate of Insurance, with NYSDOT named as Additional Insured (See line 3 below).
	ACORD 855 - New York Construction Certificate of Liability Insurance Addendum (See line 3 below).
	PERM 1, 2, 6 or 16 - Undertaking Agreement, if applicable (See line 4 below).
	PERM 36 - Attachment to Highway Work Permit – Consultant Inspection, if applicable
	PERM 44 - Surety Bond – Performance bond in Applicant's name, or deposit (Bank cashier's check required)
	PERM 50 – Inspection/Supervision Payment Agreement, if applicable
	Proof of Worker's Compensation Insurance (Form C-105.2, U-26.3 or SI-12), or proof of exemption (Form CE-200)
	Proof of Disability Benefits Coverage (Form DB-120.1 or DB-155), or proof of exemption (Form CE-200)
	Permit Fees
	Other (specify):

Insurance Requirements

- 1) In most cases, Permittee must provide proof of **Commercial General Liability** insurance coverage with limits of liability not less than **\$1,000,000** per claim/occurrence, unless any of the following circumstances exist, in which case the limits of liability shall not be less than **\$5,000,000** per claim/occurrence:
 - (a) The estimated value of permitted work in state right-of-way is \$250,000 or more (see line 5 below);
 - (b) The permitted work requires or includes the construction, alteration or maintenance of underground features at any depth five feet or more below grade;
 - (c) The permitted work requires or includes the construction, alteration or maintenance of overhead features that include, but are not limited to, traffic signals, overhead sign structures, retaining walls or other grade separation structures.
- 2) Exceptions to the above liability limits include: (a) Annual maintenance permits require limits of liability not less than \$5,000,000 per claim/occurrence; (b) Permits for vegetation control activities require limits of liability not less than \$1,000,000 per claim/occurrence; (c) Residential driveway permits require limits of liability not less than \$500,000 per claim/occurrence; and (d) Adopt-a-Highway permits are exempt.
- 3) **ACORD 25** with **ACORD 855** (New York Construction Addendum) shall be submitted as an acceptable proof of liability coverage. New York State Department of Transportation should be named as Additional Insured and as the Certificate Holder at the address of the issuing office.
- 4) Municipalities, public utilities, public authorities and railroads may elect to provide a fully executed **Undertaking Agreement** as a substitute for providing proof of insurance coverage, or any other financial security otherwise required.
- 5) When the estimated cost of work being performed in the right-of-way equals or exceeds \$250,000, Permittee must additionally provide proof of a **Protective Liability (OCP)** insurance policy with a minimum liability limit of \$1,000,000 per occurrence, with New York State Department of Transportation as Named Insured.

Permittee agrees to maintain liability insurance in full force and effect throughout the term of the highway work permit. Expiration of, or lack of, liability insurance coverage automatically terminates the permit.

For more information on insurance requirements, go to: www.dot.ny.gov/permits-insurance

STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION
HIGHWAY WORK PERMIT APPLICATION FOR UTILITY WORK

Application is hereby made for a highway work permit:

For Joint application, name and address of Applicant 2 below:

Name
Address
City State Zip
Applicant Phone ()
Applicant Email Address

Name
Address
City State Zip
Applicant 2 Phone ()
Applicant 2 Email Address

Emergency Contact

Emergency Phone ()

RETURN PERMIT TO: (if different from Permittee)

RETURN DEPOSIT/BOND TO: (if different from Permittee)

Name
Address
City State Zip

Name
Address
City State Zip

DESCRIPTION OF PROPOSED WORK:

Estimated cost of work being performed in highway right-of-way: \$

Anticipated duration of work: From to (applies to the operations indicated on the reverse side)

WILL OVERHEAD OR UNDERGROUND (5'+) OPERATIONS BE INVOLVED IN THE PROPOSED WORK? YES NO

ATTACHED: Plans Specifications

LOCATION: State Route: Located Between Reference Markers and

City/Town/Village of County of

SEQR REVIEW (select one)

[] Type II [] Type I [] Unlisted LEAD AGENCY: DATE OF DETERMINATION:

Insurance (check one): General Liability Insurance Undertaking

NOTE: PERMIT IS ISSUED CONTINGENT UPON ALL LOCAL REQUIREMENTS BEING SATISFIED

ACKNOWLEDGMENT: ON BEHALF OF THE APPLICANT, I HEREBY REQUEST A HIGHWAY WORK PERMIT, AND DO ACKNOWLEDGE AND AGREE TO THE RESPONSIBILITIES OF PERMITTEE AND THE OTHER OBLIGATIONS SET FORTH IN THIS PERMIT AND WARRANT COMPLIANCE THEREWITH.

Applicant Signature Date

Applicant 2 Signature Date

Approval recommended by Resident Engineer Res No Date
Approved by Regional Traffic Engineer Reg No Date

Operational Type and Description			PERMIT FEES				
			Base Fee	QTY	Unit Rate	Sub Total	Total Fees
ORIGINAL INSTALLATION			Number of feet/poles				
	1a1	Underground - excavation, tunneling, boring, installing, etc.	32		.32/foot		
	1a2	Underground - Commercial subsurface connection	32		.32/foot		
	1a3	Underground - Residential subsurface connection	32		.32/foot		
	1b1	Overhead - Erecting poles, towers	63		2.50/unit		
	1b2	Overhead - Running new lines	63				
	1b3	Overhead - Commercial service connection	19				
	1b4	Overhead - Residential service connection	19				
	1c1	Installation on bridge or culvert	63				
	1c2	Installation on bridge or culvert requiring structural changes	625				
MAINTENANCE			Number of regions/counties				
	2a	Maintenance, single job	32				
	2b1	Annual maintenance per region			2500		
	2b2	Annual maintenance per county			625		
	2c	Repair of water or sewer lines	32				
	2d	DOT requested maintenance	N/C				
AFTER ORIGINAL CONSTRUCTION			Number of regions/counties				
	3a1	Annual – includes overhead connections – per region			2500		
	3a2	Annual – includes overhead connections – per county			625		
	3b	DOT requested relocation	N/C				
	3c	Commercial subsurface service connection	32				
	3d	Commercial overhead service connection	19				
	3e	Residential subsurface service connection	32				
	3f	Residential overhead service connection	19				
MISCELLANEOUS UTILITY WORK							
	4	Miscellaneous (describe below)	32				

UTILITY CHARGE ACCOUNT NUMBER: _____ WORK ORDER/REF NO: _____

PERFORMANCE SECURITY (Select One): Guarantee Deposit – Cash [] Performance Bond [] Letter of Credit []

Guarantee Deposit Amount: _____

Guarantee Deposit Check Number or Bond Number: _____

(To be completed by NYSDOT issuing office)

Project Identification Number _____ Highway Work Permit No. _____

State Highway (SH) Number _____ Record ID Number _____

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

INSTRUCTIONS TO APPLICANTS FOR HIGHWAY WORK PERMITS

An applicant requesting a Highway Work Permit must obtain and complete those forms which have been checked below according to the type of work to be performed.

- (1) Highway Work Permit Application for Utility Work (Form PERM 32)
- (2) Highway Work Permit Application for Non-utility Work (Form PERM 33)
- (3) ACORD 25 Certificate of Liability Insurance (with ACORD 855 Addendum)
- (4) Application for Charge Account Agreement (Form PERM 10)
- (5) Inspection and/or Supervision Payment Agreement (Form PERM 50 or PERM 52)
- (6) Payment Agreement for Highway Work Permit Design Review (Form PERM 51)

INSTRUCTIONS FOR COMPLETING ABOVE FORMS

- (1) PERM 32: Detailed instructions are included with the application.
- (2) PERM 33: Detailed instructions are included with the application.
- (3) ACORD 25 Certificate of Liability insurance (with ACORD 855 New York Construction Addendum): These forms are obtained from your insurance professional. Specific details on insurance requirements are provided in the PERM 32 and PERM 33 application under Submission Package Requirements.
- (4) APPLICATION FOR CHARGE ACCOUNT AGREEMENT (FORM PERM 10): This form may be used by utilities to request a charge account for Highway Work Permits. The form should be accompanied by a \$50.00 payment to cover administrative costs of establishing the charge account.
- (5) INSPECTION AND/OR SUPERVISION PAYMENT AGREEMENT (FORM PERM 50 OR PERM 52): This form is required for all permits where inspection and/or supervision by Department employees will exceed one work hour. A separate consultant inspection agreement may also be required.
- (6) PAYMENT AGREEMENT FOR HIGHWAY WORK PERMITS DESIGN REVIEW (FORM PERM 51): This form is required for all major commercial permits for projects that have a 100,000 square foot or greater gross building area.
- (7) SPECIAL CONDITIONS FOR COMMERCIAL-MAJOR NON-UTILITY PERMITS (FORM PERM 55)
This form describes prevailing wage and public letting requirements for major commercial permits where the estimated cost of work in the State highway right-of-way of \$250,000 or greater.

Appendix E

NYSEFC MWBE Requirements

Note: Contractor is required to follow and complete all forms contained in Appendix E in concert with all ECWA MWBE requirements. All completed forms and documentation is to be submitted to the ENGINEER and OWNER for review and processing.



**Environmental
Facilities Corporation**

ANDREW M. CUOMO
Governor

SABRINA M. TY
President and CEO

Program Requirements and Bid Packet for Construction Contracts

(For projects funded with NYS financial assistance only)

Effective October 1, 2017

New York State Environmental Facilities Corporation
625 Broadway, Albany, NY 12207-2997
P: (518) 402-6924 F: (518) 402-7456
www.efc.ny.gov

Table of Contents

PART 1: HOW TO USE THIS DOCUMENT	4
PART 2: REQUIRED CONTRACT LANGUAGE	6
SECTION 1 REQUIREMENTS AND PROCEDURES FOR BUSINESS PARTICIPATION OPPORTUNITIES FOR NEW YORK STATE CERTIFIED MINORITY- AND WOMEN-OWNED BUSINESS ENTERPRISES AND EQUAL EMPLOYMENT OPPORTUNITIES FOR MINORITY GROUP MEMBERS AND WOMEN	6
I. General Provisions.....	6
II. Equal Employment Opportunities (EEO)	6
III. Business Participation Opportunities for MWBEs.....	8
A. Contract Goals	8
B. MWBE Utilization Plan	8
C. Requests for Waiver	9
D. Monthly MWBE Contractor Compliance Report (“Monthly MWBE Report”)	9
E. Liquidated Damages - MWBE Participation.....	9
SECTION 2 PARTICIPATION OPPORTUNITIES FOR NEW YORK STATE CERTIFIED SERVICE-DISABLED VETERAN-OWNED BUSINESSES	10
I. General Provisions.....	10
II. Contract Goals	10
III. SDVOB Utilization Plan.....	10
IV. Request for Waiver	10
V. Monthly SDVOB Contractor Compliance Report (“Monthly SDVOB Report”)	11
VI. Breach of Contract and Damages.....	11
SECTION 3 REQUIREMENTS REGARDING SUSPENSION AND DEBARMENT	11
PART 3: GUIDANCE MATERIALS	12
APPLICABILITY OF PROGRAM REQUIREMENTS	12
SECTION 1 GUIDANCE FOR THE REQUIREMENTS AND PROCEDURES FOR BUSINESS PARTICIPATION OPPORTUNITIES FOR NEW YORK STATE CERTIFIED MINORITY- AND WOMEN-OWNED BUSINESS ENTERPRISES AND EQUAL EMPLOYMENT OPPORTUNITIES FOR MINORITY GROUP MEMBERS AND WOMEN	13
I. Summary of EEO and MWBE Forms.....	13
A. Forms to be Submitted Prior to Contract Execution	13
B. Forms to be Submitted During the Term of the Contract.....	13
II. Business Participation Opportunities for MWBEs.....	13
A. Contract Goals	13
B. Good Faith Efforts.....	14
C. MWBE Utilization Plan	15
D. Eligibility for MWBE Participation Credit	15
E. Requests for Waiver	16
III. Subcontractor’s Responsibilities	17
IV. Protests/Complaints	17
V. Waste, Fraud and Abuse	18
SECTION 2 GUIDANCE FOR NEW YORK STATE CERTIFIED SERVICE-DISABLED VETERAN-OWNED BUSINESS ENTERPRISES (“SDVOB”) PARTICIPATION OPPORTUNITIES.....	18
I. Summary of SDVOB Forms.....	18
A. Forms to be Submitted Prior to Contract Execution	18
B. Forms to be Submitted During the Term of the Contract.....	18
II. SDVOB Participation Opportunities	18
A. Contract Goals	18
B. Good Faith Efforts.....	18
C. SDVOB Utilization Plan.....	20
D. Eligibility for SDVOB Participation Credit.....	20
E. Requests for Waiver	21
III. Subcontractor’s Responsibilities	21
IV. Protests/Complaints	22
V. Waste, Fraud and Abuse	22

SECTION 3	GUIDANCE FOR APPLICABLE LABOR STANDARDS.....	22
SECTION 4	GUIDANCE FOR REQUIREMENTS REGARDING SUSPENSION AND DEBARMENT.....	22
SECTION 5	SUMMARY OF CONTRACTOR REQUIREMENTS FOR STATE FINANCIAL ASSISTANCE PROJECTS	23

ATTACHMENTS (REQUIRED FORMS)

- Attachment 1 - EEO Policy Statement
- Attachment 2 - EEO Workforce Employment Utilization Report
- Attachment 3 - MWBE Utilization Plan
- Attachment 4 - MWBE Waiver Request
- Attachment 5 - Monthly MWBE-SDVOB Contractor Compliance Report
- Attachment 6 - SDVOB Utilization Plan
- Attachment 7 – SDVOB Waiver Request

PART 1:

HOW TO USE THIS DOCUMENT

The New York State Environmental Facilities Corporation (“EFC”) implements various State financial assistance programs, including but not limited to the Engineering Planning Grant program, Water Infrastructure Improvement Act (“WIIA”) Grant program as well as the Intermunicipal Grant (“IMG”) program.

This Program Requirements and Bid Packet for Construction Contracts document contains (1) a brief description of State program requirements for Contracts and Subcontracts funded by State financial assistance, (2) required language for such Contracts and Subcontracts to satisfy State financial assistance program requirements, including required forms, and (3) guidance materials to assist entities in complying with these requirements.

PROGRAM REQUIREMENTS

The following requirements apply to projects funded with State financial assistance only:

- Participation of Minority- and Women-Owned Business Enterprises (“MWBE”) and Equal Employment Opportunities (“EEO”) pursuant to New York State Executive Law, Article 15-A and New York Code of Rules and Regulations, Title 5 (5 NYCRR) Parts 140-145 (Regulations of the Commissioner of Economic Development);
- Participation of Service-Disabled Veteran-Owned Business Enterprises (“SDVOB”) pursuant to New York State Executive Law, Article 17-B and 9 NYCRR Part 252;
- Applicable State and/or local prevailing wage requirements; and,
- Requirements regarding suspension and debarment pursuant to State Labor Law § 220-b and State Executive Law § 316.

EFC or its authorized representatives, and other governmental entities as applicable, reserve the right to conduct occasional site inspections to monitor compliance with State financial assistance program requirements.

This document is not intended to be inclusive of all applicable legal requirements and there may be other legal requirements that need to be included in a particular Contract or Subcontract that are not set forth here. Accordingly, EFC recommends that Recipients, Contractors, Subcontractors, and any other involved entities consult their legal counsel for advice on compliance with all applicable laws, including but not limited to local laws. This document is not intended to be legal advice.

Refer to the EFC website at www.efc.ny.gov for the latest version of the bid packet to ensure that the most recent forms and contract language are being used.

REQUIRED CONTRACT LANGUAGE

Part 2 of this document is the Required Contract Language. All of the language in Part 2 must be inserted in to all Contracts and Subcontracts funded in whole or in part with State financial assistance, in order for State financial assistance Recipients, Contractors, and Subcontractors to comply with the above-listed State financial assistance program requirements.

GUIDANCE MATERIALS

Part 3 of this document sets forth Guidance Materials intended to assist State financial assistance Recipients, Contractors, and Subcontractors in complying with the foregoing State financial assistance program requirements, as applicable.

The Guidance Materials are for informational purposes only and are not intended to be used as contractual language. Please do not incorporate the Guidance Materials into any Contracts or Subcontracts.

COMMONLY USED TERMS

The following commonly used terms are defined herein as follows:

“Contract” means an agreement between a Recipient and a Contractor.

“Contractor” means all bidders, prime contractors, Service Providers, and consultants as hereinafter defined, unless specifically referred to otherwise.

“Service Provider” means any individual or business enterprise that provides one or more of the following: legal, engineering, financial advisory, technical, or other professional services, supplies, commodities, equipment, materials, or travel.

“Subcontract” means an agreement between a Contractor and a Subcontractor.

“Subcontractor” means any individual or business enterprise that has an agreement, purchase order, or any other contractual arrangement with a Contractor.

“Recipient” means the party, other than EFC, to a financial assistance agreement or a project finance agreement with EFC through which funds for the payment of amounts due thereunder are being paid in whole or in part.

“State” means the State of New York.

PART 2:

REQUIRED CONTRACT LANGUAGE

SECTION 1 REQUIREMENTS AND PROCEDURES FOR BUSINESS PARTICIPATION OPPORTUNITIES FOR NEW YORK STATE CERTIFIED MINORITY- AND WOMEN-OWNED BUSINESS ENTERPRISES AND EQUAL EMPLOYMENT OPPORTUNITIES FOR MINORITY GROUP MEMBERS AND WOMEN

The Minority- and Women- Owned Business Enterprises (“MWBE”) and Equal Employment Opportunities requirements of this section apply to Contractors and Subcontractors working pursuant to: (1) construction Contracts greater than \$100,000; (2) Contracts that are initially under this threshold but subsequent change orders or contract amendments increase the Contract value to above \$100,000; and, (3) change orders greater than \$25,000.

Disregard this section if it does not apply to this Contract or Subcontract.

I. General Provisions

- A. Contractors and Subcontractors are required to comply with New York State Executive Law Article 15-A and 5 NYCRR Parts 140-145 (“MWBE Regulations”) for all State contracts as defined therein, with a value (1) in excess of \$25,000 for labor, services (including, but not limited to, legal, financial, and other professional services), supplies, equipment, materials, or any combination of the foregoing, or (2) in excess of \$100,000 for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon.
- B. Failure to comply with all of the requirements herein may result in a finding by the Recipient that the Contractor is non-responsive, non-responsible, and/or has breached the Contract, leading to the withholding of funds or such other actions, liquidated damages pursuant to subsection III(F) of this section, or enforcement proceedings as allowed by the Contract.
- C. If any terms or provisions herein conflict with Executive Law Article 15-A or the MWBE Regulations, such law and regulations shall supersede these requirements.
- D. Upon request from the Recipient's Minority Business Officer (“MBO”) and/or EFC, Contractor will provide complete responses to inquiries and all MWBE and EEO records available within a reasonable time. For purposes of this section, MBO means the duly authorized representative of the State financial assistance Recipient for MWBE and EEO purposes.

II. Equal Employment Opportunities (EEO)

- A. Each Contractor and Subcontractor performing work on the Contract shall undertake or continue existing EEO programs to ensure that minority group members and women are afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status. For these purposes, EEO shall apply in the areas of recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, or termination and rates of pay or other forms of compensation.
- B. Contractor represents that it has submitted an EEO policy statement to Recipient prior to the execution of this Contract.
- C. Contractor represents that it's EEO policy statement includes the following language:

1. The contractor will not discriminate on the basis of race, creed, color, national origin, sex, age, disability, or marital status against any employee or applicant for employment, will undertake or continue existing programs of affirmative action to ensure that minority group members and women are afforded equal employment opportunities without discrimination and will make and document its conscientious and active efforts to employ and utilize minority group members and women in its work force on Contracts relating to State financial assistance projects.
 2. The Contractor shall state in all solicitations or advertisements for employees that, in the performance of the Contract relating to this State financial assistance project, all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status.
 3. The Contractor shall request each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding, to furnish a written statement that such employment agency, labor union, or representative will not discriminate on the basis of race, creed, color, national origin, sex, age, disability or marital status, and that such union or representative will affirmatively cooperate in the implementation of the Contractor's obligations herein.
- D. The Contractor will include the provisions of Subdivisions II(A), II(C), and II(E) in every Subcontract in such a manner that the requirements of these subdivisions will be binding upon each Subcontractor as to work in connection with the Contract.
- E. The Contractor shall comply with the provisions of the Human Rights Law (Executive Law Article 15), and all other State and Federal statutory and constitutional non-discrimination provisions. The Contractor and Subcontractors shall not discriminate against any employee or applicant for employment because of race, creed (religion), color, sex, national origin, sexual orientation, military status, age, disability, predisposing genetic characteristic, marital status or domestic violence victim status, and shall also follow the requirements of the Human Rights Law with regard to non-discrimination on the basis of prior criminal conviction and prior arrest.
- F. Required EEO Form
1. EEO Workforce Employment Utilization Report ("Workforce Report")
 - a. The Contractor shall submit a Workforce Report, and shall require each of its Subcontractors to submit a Workforce Report to the Recipient, in such format as shall be required by EFC on a monthly basis during the term of the Contract.
 - b. Separate forms shall be completed by Contractor and any Subcontractor.
 - c. In limited instances, the Contractor may not be able to separate out the workforce utilized in the performance of the Contract from the Contractor's and/or Subcontractor's total workforce. When a separation can be made, the Contractor shall submit the Workforce Report and indicate that the information provided related to the actual workforce utilized on the Contract. When the workforce to be utilized on the Contract cannot be separated out from the Contractor's and/or Subcontractor's total workforce, the Contractor shall submit the Workforce Report and indicate that the information provided is the Contractor's total workforce during the subject time frame, not limited to work specifically under the Contract.

III. Business Participation Opportunities for MWBEs

A. Contract Goals

- For purposes of this Contract, EFC establishes the following goals for New York State certified MWBE participation (“MWBE Combined Goals”) based on the current availability of qualified MBEs and WBEs.

Program	MWBE Combined Goal*
Clean Water State Revolving Fund, Drinking Water State Revolving Fund, & Green Innovation Grant Program	20%
NYS WIIA Grants (also receiving EFC loan)	Clean Water project 23% Drinking Water project 26%
NYS Intermunicipal Grants (also receiving EFC loan)	Clean Water project 24% Drinking Water project 24%
NYS financial assistance only	30%
Engineering Planning Grant	30%

*May be any combination of MBE and/or WBE participation

- For purposes of providing meaningful participation by MWBEs on the Contract and achieving the MWBE Contract Goals established in Section III-A hereof, the Contractor should reference the directory of New York State Certified MWBEs found at the following internet address: <https://ny.newnycontracts.com>.
- The Contractor understands that only sums paid to MWBEs for the performance of a commercially useful function, as that term is defined in 5 NYCRR § 140.1, may be applied towards achievement of applicable MWBE participation goals. For construction Contracts or Subcontracts, the portion of the Contract or Subcontract with an MWBE serving as a supplier, and so designated in ESD’s Directory, that shall be deemed to represent the commercially useful function performed by the MWBE shall be 60% of the total value of the Contract or Subcontract. The portion of a Contract or Subcontract with an MWBE serving as a broker, as denoted by NAICS code 425120, that shall be deemed to represent the commercially useful function performed by the MWBE shall be the monetary value for fees, or the markup percentage, charged by the MWBE.
- Where MWBE Contract Goals have been established herein, pursuant to 5 NYCRR § 142.8, the Contractor must document “good faith efforts” to provide meaningful participation by MWBEs as Subcontractors or suppliers in the performance of the Contract. In accordance with Section 316-a of Article 15-A and 5 NYCRR § 142.13, the Contractor acknowledges that if it is found to have willfully and intentionally failed to comply with the MWBE participation goals set forth in the Contract, such a finding constitutes a breach of Contract and the Contractor shall be liable to the Recipient for liquidated or other appropriate damages, as set forth herein.

B. MWBE Utilization Plan

- The Contractor represents and warrants that Contractor has submitted an MWBE Utilization Plan to the Recipient prior to the execution of this Contract.
- The Contractor agrees to use such MWBE Utilization Plan for the performance of MWBEs on the Contract pursuant to the prescribed MWBE goals set forth in Section III-A of this section.
- The Contractor further agrees that a failure to submit and/or use such MWBE Utilization Plan shall constitute a material breach of the terms of the Contract. Upon the occurrence of such a material breach, the Recipient shall be entitled to any remedy provided herein, including but not limited to, a finding that the Contractor is not responsive.

4. Contractor must report any changes to the Utilization Plan after Contract award and during the term of the Contract to the Recipient's MBO. Contractor shall indicate the changes to the MBO in the next Monthly MWBE Contractor Compliance Report after the changes occurred. At EFC's discretion, an updated MWBE Utilization Plan form and good faith effort documentation may be required to be submitted. When a Utilization Plan is revised due to execution of a change order, the change order should be submitted to the MBO with the revised Utilization Plan.
5. The Contractor shall submit copies of all fully executed subcontracts, agreements, and purchase orders that are referred to in the MWBE Utilization Plan to the MBO within 30 days of their execution.

C. Requests for Waiver

1. If the Contractor, after making good faith efforts, is unable to comply with MWBE goals, the Contractor may submit a Request for Waiver to the Recipient documenting good faith efforts by the Contractor to meet such goals. If the documentation included with the waiver request is complete, the Recipient shall forward the request to EFC for evaluation, and EFC will issue a written notice of acceptance or denial within twenty (20) days of receipt.
2. If the Recipient, upon review of the MWBE Utilization Plan and updated Quarterly MWBE Contractor Compliance Reports determines that the Contractor is failing or refusing to comply with the MWBE Contract Goals and no waiver has been issued in regards to such non-compliance, the Recipient may issue a notice of deficiency to the Contractor. The Contractor must respond to the notice of deficiency within seven (7) business days of receipt. Such response may include a request for partial or total waiver of MWBE Contract Goals.

D. Monthly MWBE Contractor Compliance Report ("Monthly MWBE Report")

The Contractor agrees to submit a report to the Recipient by the third business day following the end of each month over the term of this Contract documenting the payments made and the progress towards achievement of the MWBE goals of the Contract. The Monthly MWBE Report must be supplemented with proof of payment by the Contractor to its Subcontractors (e.g., copies of both sides of a cancelled check) and proof that Subcontractors have been paid within 30 days of receipt of payment from the Recipient. The final Monthly MWBE Report must reflect all Utilization Plan revisions and change orders.

E. Liquidated Damages - MWBE Participation

In accordance with Section 316-a of Article 15-A and 5 NYCRR §142.13, if it has been determined by the Recipient or EFC that the Contractor has willfully and intentionally failed to comply with the MWBE participation goals, the Contractor shall be obligated to pay to Recipient liquidated damages or other appropriate damages, as specified herein and as determined by the Recipient or EFC.

Liquidated damages shall be calculated as an amount not to exceed the difference between:

1. All sums identified for payment to MWBEs had the Contractor achieved the approved MWBE participation goals; and,
2. All sums actually paid to MWBEs for work performed or materials supplied under this Contract.

The Recipient and EFC reserve the right to impose a lesser amount of liquidated damages than the amount calculated above based on the circumstances surrounding the Contractor's non-compliance.

In the event a determination has been made by the Recipient or EFC which requires the payment of damages identified herein and such identified sums have not been withheld, Contractor shall pay such damages to the Recipient within sixty (60) days after they are assessed unless prior to the expiration of such sixtieth day, the Contractor has filed a complaint with the Empire State Development Corporation – Division of Minority and Women's Business Development ("ESD")

pursuant to Subdivision 8 of Section 313 of the Executive Law in which event the damages shall be payable if the Director of ESD renders a decision in favor of the Recipient.

SECTION 2 PARTICIPATION OPPORTUNITIES FOR NEW YORK STATE CERTIFIED SERVICE-DISABLED VETERAN-OWNED BUSINESSES

The requirements of this section apply to Contractors and Subcontractors working pursuant to: (1) construction Contracts greater than \$100,000; (2) Contracts that are initially under this threshold but subsequent change orders or contract amendments increase the Contract value to above \$100,000; and, (3) change orders greater than \$25,000.

Disregard this section if it does not apply to this Contract or Subcontract.

I. General Provisions

Contractors and Subcontractors are required to comply with New York State Executive Law Article 17-B and 9 NYCRR Part 252 for all State contracts as defined therein, with a value (1) in excess of \$25,000 for labor, services (including, but not limited to, legal, legal, financial, and other professional services), supplies, equipment, materials, or any combination of the foregoing, or (2) in excess of \$100,000 for the acquisition, construction, demolition, replacement, major repair or renovation or real property and improvements thereon.

II. Contract Goals

- A. EFC hereby establishes an overall goal of 6% for SDVOB participation, based on the current availability of qualified SDVOBs. For purposes of providing meaningful participation by SDVOBs, the Contractor should reference the directory of New York State Certified SDVOBs found at: https://ogs.ny.gov/veterans/Docs/CertifiedNYS_SDVOB.pdf.
- B. Pursuant to 9 NYCRR § 252.2(n), Contractor must document “good faith efforts” to provide meaningful participation by SDVOBs as subcontractors or suppliers in the performance of the Contract.

III. SDVOB Utilization Plan

- A. In accordance with 9 NYCRR § 252.2(i), Contractor represents and warrants that it has submitted a completed SDVOB Utilization Plan to Recipient prior to the execution of this Contract.
- B. Contractor certifies that it will follow the submitted SDVOB Utilization Plan for the performance of SDVOBs on the Contract pursuant to the prescribed SDVOB contract goals set forth above.
- C. Contractor further agrees that a failure to use SDVOBs as agreed in the Utilization Plan shall constitute a material breach of the terms of the Contract. Upon the occurrence of such a material breach, the Recipient shall be entitled to any remedy provided herein, including but not limited to, a finding of Contractor non-responsibility.
- D. Contractor must report any changes to the Utilization Plan after Contract award and during the term of the Contract to the Recipient's MBO. Contractor shall indicate the changes to the MBO in the next Monthly SDVOB Contractor Compliance Report after the changes occurred. At EFC's discretion, an updated SDVOB Utilization Plan form and good faith effort documentation may be required to be submitted. When a Utilization Plan is revised due to execution of a change order, the change order should be submitted to the MBO with the revised Utilization Plan.
- E. The Contractor shall submit copies of all fully executed subcontracts, agreements, and purchase orders that are referred to in the SDVOB Utilization Plan to the MBO within 30 days of their execution.

IV. Request for Waiver

- A. If Contractor, after making good faith efforts, is unable to comply with the SDVOB Contract goals, Contractor may submit a request for a partial or total waiver to the Recipient, documenting good

faith efforts by Contractor to meet such goals. If the documentation included with the waiver request is complete, the Recipient shall forward the request to EFC for evaluation, and EFC will issue a written notice of acceptance or denial within twenty (20) days of receipt.

- B. Contractor shall attempt to utilize, in good faith, the SDVOBs identified within its SDVOB Utilization Plan, during the performance of the Contract. Requests for a partial or total waiver of established goal requirements made subsequent to Contract award may be made at any time during the term of the Contract to the Recipient, but must be made no later than prior to the submission of a request for final payment on the Contract.
- C. If the Recipient, upon review of the SDVOB Utilization Plan and Monthly SDVOB Contractor Compliance Report determines that Contractor is failing or refusing to comply with the SDVOB Contract goals and no waiver has been issued in regards to such non-compliance, the Recipient may issue a notice of deficiency to Contractor. Contractor must respond to the notice of deficiency within seven business days of receipt. Such response may include a request for partial or total waiver of SDVOB Contract goals.

V. Monthly SDVOB Contractor Compliance Report (“Monthly SDVOB Report”)

In accordance with 9 NYCRR § 252.2(q), Contractor is required to report monthly SDVOB contractor compliance to the Recipient during the term of the Contract for the preceding month’s activity, documenting progress made towards achieving the Contract SDVOB goals. The Contractor agrees to submit a report on to the Recipient by the third business day following the end of each month over the term of this Contract. The Monthly SDVOB Report must be supplemented with proof of payment by the Contractor to its Subcontractors (e.g., copies of both sides of a cancelled check). The final Monthly SDVOB Report must reflect all Utilization Plan revisions and change orders.

VI. Breach of Contract and Damages

In accordance with 9 NYCRR § 252.2(s), any Contractor found to have willfully and intentionally failed to comply with the SDVOB participation goals set forth in the Contract, shall be found to have breached the contract and Contractor shall pay damages as set forth therein.

SECTION 3 REQUIREMENTS REGARDING SUSPENSION AND DEBARMENT

The requirements of this section apply to all Contracts and Subcontracts.

The Contractor and any Subcontractors have not been deemed ineligible to submit a bid on or be awarded a public contract or subcontract pursuant to Article 8 of the State Labor Law, specifically Labor Law § 220-b. In addition, neither the Contractor nor any Subcontractors have contracted with, or will contract with, any party that has been deemed ineligible to submit a bid on or be awarded a public contract or subcontract under Labor Law § 220-b.

In addition, the Contractor and any Subcontractors have not been deemed ineligible to submit a bid and have not contracted with and will not contract with any party that has been deemed ineligible to submit a bid under Executive Law § 316.

PART 3:

GUIDANCE MATERIALS

APPLICABILITY OF PROGRAM REQUIREMENTS

This chart contains a listing of the State financial assistance program requirements contained within this document, as well as the following details regarding each requirement: (1) its applicability, i.e., what types of contracts/subcontracts, particular monetary thresholds if applicable; (2) a section reference to the Required Contract Language that applies from Part 2; and (3) a section reference to the Guidance that applies from this Part.

Requirement	Applicability	Section of Required Contract Language from Part 2	Section of Appropriate Guidance from Part 3
Minority- and Women-Owned Business Enterprises (MWBE) and Equal Employment Opportunities (EEO)	Contractors and Subcontractors working pursuant to: (1) Construction Contracts greater than \$100,000 (2) Contracts that are initially under this threshold but subsequent change orders or Contract amendments increase the Contract value above \$100,000 (3) Change orders greater than \$25,000	1	1
Service-Disabled Veteran-Owned Businesses (SDVOB)	Contractors and Subcontractors working pursuant to: (1) Construction Contracts greater than \$100,000 (2) Contracts that are initially under this threshold but subsequent change orders or Contract amendments increase the Contract value above \$100,000 (3) Change orders greater than \$25,000	2	2
Applicable Labor Standards	All Contracts and Subcontracts for public works are subject to State Labor Law requirements. Review local labor requirements to determine applicability of any additional requirements to your Contract or Subcontract.	-	3
Suspension and Debarment	All Contracts and Subcontracts	3	4

SECTION 1 GUIDANCE FOR THE REQUIREMENTS AND PROCEDURES FOR BUSINESS PARTICIPATION OPPORTUNITIES FOR NEW YORK STATE CERTIFIED MINORITY- AND WOMEN-OWNED BUSINESS ENTERPRISES AND EQUAL EMPLOYMENT OPPORTUNITIES FOR MINORITY GROUP MEMBERS AND WOMEN

I. Summary of EEO and MWBE Forms

A. Forms to be Submitted Prior to Contract Execution

1. EEO Policy Statement

To be submitted by the Contractor to the Recipient's Minority Business Officer ("MBO") prior to Contract execution. The "MBO" refers to the duly authorized representative of the State financial assistance Recipient for MWBE and EEO purposes. This form is attached hereto as Attachment 1. See Required Contract Language, Section 1(II).

2. MWBE Utilization Plan

To be submitted by the Contractor to the MBO after the bid opening, but in no case more than ten (10) business days after the Contractor receives notice from the Recipient that the Contractor has submitted a low bid. This form is attached hereto as Attachment 3. See Required Contract Language, Section 1(III)(B).

B. Forms to be Submitted During the Term of the Contract

1. EEO Workforce Employment Utilization Report ("Workforce Report")

To be submitted by the Contractor to the MBO on a monthly basis during the term of the Contract. An exemplar form with instructions is attached hereto as Attachment 2. The actual Excel fillable form for Contractors and Subcontractors to complete will be e-mailed to MBOs by EFC at the start of the Contract term. See Required Contract Language, Section 1(II)(F).

2. Request for Partial or Total Waiver

If applicable, to be submitted by the Contractor to the MBO at any time during the term of the Contract, but not later than prior to the submission of a request for final payment on the Contract. This form is attached hereto as Attachment 4. See Required Contract Language, Section 1(III)(C).

3. Monthly MWBE Contractor Compliance Report ("Monthly MWBE Report")

To be submitted by the Contractor to the MBO by the third business day following the end of each month over the term of the Contract. This form is attached hereto as Attachment 5. See Required Contract Language, Section 1(III)(D).

II. Business Participation Opportunities for MWBEs

A. Contract Goals

The goals provided herein (Required Contract Language, Section 1(III)(A)) are effective as of October 1, 2017. MWBE participation goals for a contract will be based on the goals in place at the time of the execution date of each respective contract, unless otherwise specified. In certain instances, the goals may vary, such as with projects co-funded by EFC and other state/federal agencies. With some co-funded projects, EFC may defer to the MBE and WBE participation goals and program established by those agencies.

Please contact EFC if you have any questions about the applicable MWBE participation goals for your contract.

B. Good Faith Efforts

The Contractor must make good faith efforts to develop an adequate MWBE Utilization Plan and must continue such good faith efforts in order to meet applicable MWBE participation goals. The Contractor shall maintain documentation of good faith efforts to solicit participation of MWBE firms for State financial assistance projects. If a Contractor is unable to meet contract MWBE participation goals, and submits a Request for Waiver, documentation of such good faith efforts must accompany the request. See Required Contract Language, Section 1(III)(C).

Contractor should also continue good faith efforts to seek opportunities for MWBE participation during the life of the contract even if proposed goals have been achieved.

Examples of documentation of good faith efforts are set forth below:

- Information on the scope of work related to the contract, such as a copy of the schedule of values from the bid submission, and specific steps taken to reasonably structure the scope of work to break out tasks or equipment needs for the purpose of providing opportunities for subcontracting with, or obtaining supplies or services from, MBEs or WBEs.
- Printed screenshots of the directory of Certified Minority- and Women- Owned Business Enterprises (“MWBE directory”) on ESD’s website on a Statewide basis, if appropriate, for both MBEs and WBEs that provide the services or equipment necessary for the contract. Contact the MBO for assistance in performing a proper search including identifying a sufficient number of solicitations to show that good faith effort was made.
- Copies of timely solicitations and documentation (e.g., faxes and emails) that the Contractor offered relevant plans, specifications, or other related materials to MBE and WBE firms on ESD’s MWBE directory to participate in the work, with the responses.
- A log prepared by the Contractor in a sortable spreadsheet documenting the Contractor’s solicitation of MBEs and WBEs for participation as Subcontractors or suppliers pursuant to a contract. The log should consist of the list of MBE and WBE firms solicited, their contact information, the type of work they were solicited to perform (or equipment to provide), how the solicitation was made (fax, phone, email) and the contact information, the contacts name and the outcome. If a bid was received, the bid price should also be included in the log. See a sample log format below:

Date	M/WBE Type	Company	Scope of work	Contact Name	Phone/ Email	Solicitation Format	MWBE Response	Negotiation Required?	Selected? If not, Explain

If no response was received to an initial solicitation, at least one follow-up solicitation should be made in a different format than the first, e.g. fax followed by phone call. Any bids received from non-MWBE firms for the same areas MWBEs were solicited should also be tracked on the log.

- Copies of any advertisements of sufficient duration to effectively seek participation of certified MBE and WBEs timely published in appropriate general circulation, trade and MWBE oriented publications, together with listing and dates of publication of such advertisements. EFC recommends the use of the NYS Contract Reporter that is free to all Contractors - <https://www.nyscr.ny.gov/>. A log should be kept of the responses to the ads, similar to the log for MWBE firm solicitation and should include

the non-MWBE firms that responded and the bid prices. Any negotiations should be documented in the log.

- Documents demonstrating that insufficient MBEs or WBEs are reasonably available to perform the work.
- A written demonstration that the Contractor offered to make up any inability to meet the project MWBE participation goals in other contracts and/or agreements performed by the Contractor on another State financial assistance project.
- The date of pre-bid, pre-award, or other meetings scheduled by the Recipient, if any, and the contact information of any MBEs and WBEs who attended and are capable of performing work on the project.
- Any other information or documentation that demonstrates the Contractor conducted good faith efforts to provide opportunities for MWBE participation in their work. For instance, Prime Contractors and MBOs should develop a list of MWBE firms that have expressed interest in working on State financial assistance projects

C. MWBE Utilization Plan

1. The MWBE Utilization Plan must be submitted to the Recipient's MBO after the bid opening, but in no case more than ten (10) business days after the Contractor receives notice from the Recipient that the Contractor has submitted a low bid.
2. The MBO will evaluate a completed MWBE Utilization Plan. If the MBO finds the Utilization Plan sufficient, it will be forwarded to EFC for review. If the MBO finds the Utilization Plan insufficient, the MBO will work with the Contractor to address deficiencies before submitting to EFC for review. A written notice of acceptance or deficiency will be issued by EFC within 20 business days of receipt of the Utilization Plan. Upon receipt of a notice of deficiency from either the MBO or EFC, the Contractor shall respond with a written remedy to such notice within seven (7) business days of receipt.
3. In coordination with the MBO, EFC will accept an MWBE Utilization Plan upon consideration of many factors, including the following:
 - a. The MWBE Utilization Plan indicates that the proposed goals for the project will be achieved;
 - b. A Contractor, who is a certified MBE or WBE, will be credited for up to 100% of the category of their certification. However, good faith efforts to seek participation in the other category are also required; and,
 - c. Adequate documentation to demonstrate good faith efforts and/or support a specialty equipment/services waiver as described below in Section III(E).
4. EFC reserves the right to request additional information and/or documentation to support the adequacy of the MWBE Utilization Plan.
5. Within 10 days of EFC's acceptance of a MWBE Utilization Plan, EFC will post the approved Utilization Plan on the EFC website.
6. In coordination with the MBO, EFC may issue conditional acceptance of Utilization Plans pending submission of additional documentation that demonstrates there will be an increase in MWBE participation.

D. Eligibility for MWBE Participation Credit

1. To receive MWBE participation credit, Contractors or Subcontractors performing work that have been identified in an approved MWBE Utilization Plan must be certified as an MBE or WBE by ESD.
2. Prime Contractors may also include second or lower tier Subcontractors (Subcontractors hired by Subcontractors) on their MWBE Utilization Plan.
3. Credit for MWBE participation shall be granted only for MWBE firms performing a commercially useful business function according to custom and practice in the industry.

- a. Factors to be used in assessing whether an MWBE is performing a commercially useful function include:
 - i. The amount of work subcontracted;
 - ii. Industry practices;
 - iii. Whether the amount the MWBE is to be paid under the contract is commensurate with the work it is to perform;
 - iv. The credit claimed towards MWBE utilization goals for the performance of the work by the MWBE; and,
 - v. Any other relevant factors.
 - b. "Commercially useful functions" normally include:
 - i. Providing technical assistance to a purchaser prior to a purchase, during installation, and after the supplies or equipment are placed in service;
 - ii. Manufacturing or being the first tier below the manufacturer of supplies or equipment;
 - iii. Providing functions other than merely accepting and referring requests for supplies or equipment to another party for direct shipment to a Contractor; or,
 - iv. Being responsible for ordering, negotiating price, and determining quality and quantity of materials and supplies.
 - c. For construction Contracts or Subcontracts, the following rules apply when calculating MWBE utilization:
 - i. The portion of a Contract or Subcontract with an MWBE serving as a manufacturer that shall be deemed to represent the commercially useful function performed by the MWBE shall be 100% of the total value of the Contract or Subcontract.
 - ii. the portion of a Contract or Subcontract with an MWBE serving as a supplier (as denoted by a NAICS code beginning with 423 or 424, or a NIGP code that does not begin with the number 9), and so designated in ESD's Directory, that shall be deemed to represent the commercially useful function performed by the MWBE shall be 60% of the total value of the Contract or Subcontract.
 - iii. the portion of a Contract or Subcontract with an MWBE serving as a broker (as denoted by NAICS code 425120) that shall be deemed to represent the commercially useful function performed by the MWBE shall be the monetary value for fees, or the markup percentage, charged by the MWBE.
4. No credit will be granted for MWBEs that do not perform a commercially useful function. An MWBE does not perform a commercially useful function if its role adds no substantive value and is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of participation.

E. Requests for Waiver

1. If the Contractor's application of good faith efforts does not result in the utilization of MWBE firms to achieve the aforementioned goals or a specialty equipment/service waiver is requested, the Contractor may request a full or partial waiver of MWBE participation goals by completing a Request for Waiver form, attaching appropriate documentation of good faith efforts, and submitting same to the MBO. See also Required Contract Language, Section 1(III)(C). Even if an MWBE waiver is granted, EEO information must still be submitted.
2. The MBO and EFC will review each waiver request based on the good faith effort criteria presented above and the documentation submitted with the waiver request. EFC will not issue any automatic waivers from MWBE responsibilities.
3. In cases where EFC accepts a full or partial waiver of MWBE participation goals, the waiver request will be posted to EFC's website.
4. Specialty Equipment/Service Waiver: A specialty equipment/service waiver may be granted in cases where:

- a. equipment is made by only one non-MWBE manufacturer,
- b. the technical specifications call for equipment that is not available through an MWBE supplier;
- c. the equipment is constructed on site by specially trained non-MWBE labor;
- d. the service is not available through an MWBE (such as work done by National Grid);
- e. the service is proprietary in nature (such as use of certain computer software necessary for control systems); or,
- f. the service cannot be subcontracted (such as litigation services).

If the contract includes specialty equipment or services, and documentation is submitted demonstrating that there are no MWBE firms capable of completing this portion of the contract, the specialty amount of the contract may be deducted from the total contract amount to determine the MWBE Eligible Amount and the goals will be applied to the MWBE Eligible Amount. This determination is made at the discretion of the MBO and EFC.

Example:

$$\begin{array}{rcl} \$200,000 & - & \$50,000 & = & \$150,000 \\ \text{(Contract)} & & \text{(Specialty equipment/service)} & & \text{(MWBE Eligible Amount)} \end{array}$$
 The MWBE goal is applied to the MWBE Eligible Amount.

A request for this specialty equipment/service deduction can be completed by filling out a Request for Waiver form and submitting it to the MBO. The request must include a copy of the page from the contract where the equipment/ service is described and the cost of each item. For construction contracts, the schedule of values or bid tabulation sheet should also be submitted. Additional documentation may be requested by the MBO or EFC.

III. Subcontractor's Responsibilities

Subcontractors should:

1. Maintain their MWBE certifications, and notify the Contractor and MBO of any change in their certification status.
2. Notify the Contractor of any MWBE Subcontractors they hire so they may be included on the Contractor's Utilization Plan.
3. Respond promptly to solicitation requests by completing and submitting bid information in a timely manner.
4. Maintain business records that should include, but not be limited to, contracts/agreements, records of receipts, correspondence, purchase orders, and canceled checks.
5. Ensure that a required EEO Policy Statement and applicable MWBE requirements are included in each subcontract.
6. Notify the MBO and EFC when contract problems arise, such as non-payment for services or when the Subcontractor is not employed as described in the MWBE Utilization Plan.

IV. Protests/Complaints

Contractors or Subcontractors who have any concerns, issues, or complaints regarding the implementation of any EFC State financial assistance MWBE & EEO Program, or wish to protest should do so in writing to the MBO and EFC. The MBO, in consultation with EFC, will review the circumstances described in the submission, investigate to develop additional information, if warranted, and determine whether action is required. If the Contractor or Subcontractor believes the issue has not been resolved to their satisfaction, they may appeal in writing to EFC for consideration.

V. Waste, Fraud and Abuse

Subcontractors, Contractors, or Recipients who know of or suspect any instances of waste, fraud, or abuse within the MWBE & EEO Program should notify the project MBO and EFC immediately. Additionally, suspected fraud activity should be reported to the New York State Office of Inspector General at (800) 367-4448, or the ESD Compliance Office at (212) 803-3266.

SECTION 2 GUIDANCE FOR NEW YORK STATE CERTIFIED SERVICE-DISABLED VETERAN-OWNED BUSINESS ENTERPRISES (“SDVOB”) PARTICIPATION OPPORTUNITIES

I. Summary of SDVOB Forms

A. Forms to be Submitted Prior to Contract Execution

1. SDVOB Utilization Plan

To be submitted by the Contractor to the MBO after the bid opening, but in no case more than ten (10) business days after the Contractor receives notice from the Recipient that the Contractor has submitted a low bid. This form is attached hereto as Attachment 6. See Required Contract Language, Section 2(III).

B. Forms to be Submitted During the Term of the Contract

1. Request for Partial or Total Waiver

If applicable, to be submitted by the Contractor to the MBO at any time during the term of the Contract, but not later than prior to the submission of a request for final payment on the Contract. This form is attached hereto as Attachment 7. See Required Contract Language, Section 2(IV).

2. Monthly SDVOB Contractor Compliance Report (“Monthly SDVOB Report”)

To be submitted by the Contractor to the MBO by the third business day following the end of each month over the term of the Contract. This form is attached hereto as Attachment 5. See Required Contract Language, Section 2(V).

II. SDVOB Participation Opportunities

A. Contract Goals

The goals provided herein (Required Contract Language, Section 2(II)(A)) are effective as of October 1, 2017. SDVOB participation goals for a contract will be based on the goals in place at the time of the execution date of each respective contract, unless otherwise specified. Following Contract execution, Contractor is encouraged to contact the Office of General Services’ Division of Service-Disabled Veterans’ Business Development at 518-474-2015 or VeteransDevelopment@ogs.ny.gov to discuss additional methods of maximizing participation by SDVOBs on the Contract.

B. Good Faith Efforts

The Contractor must make good faith efforts to develop an adequate SDVOB Utilization Plan and must continue such good faith efforts in order to meet applicable SDVOB participation goals. The Contractor shall maintain documentation of good faith efforts to solicit participation of SDVOB firms for State financial assistance projects. If a Contractor is unable to meet contract SDVOB participation goals, and submits a Request for Waiver, documentation of such good faith efforts must accompany the request. See Required Contract Language, Section 2(II)(B).

Contractor should also continue good faith efforts to seek opportunities for SDVOB participation

during the life of the contract even if proposed goals have been achieved.

Examples of documentation of good faith efforts are set forth below:

- Information on the scope of work related to the contract, such as a copy of the schedule of values from the bid submission, and specific steps taken to reasonably structure the scope of work to break out tasks or equipment needs for the purpose of providing opportunities for subcontracting with, or obtaining supplies or services from SDVOBs.
- A list of vendors from the directory of Certified SDVOBs on OGS's website on a Statewide basis, if appropriate, that provide the services or equipment necessary for the contract. Contact the MBO for assistance in performing a proper search including identifying a sufficient number of solicitations to show that good faith effort was made.
- Copies of timely solicitations and documentation (e.g., faxes and emails) that the Contractor offered relevant plans, specifications, or other related materials to SDVOB firms in OGS's Certified SDVOB directory to participate in the work, with the responses.
- A log prepared by the Contractor in a sortable spreadsheet documenting the Contractor's solicitation of SDVOBs for participation as Subcontractors or suppliers pursuant to a contract. The log should consist of the list of SDVOB firms solicited, their contact information, the type of work they were solicited to perform (or equipment to provide), how the solicitation was made (fax, phone, email) and the contact information, the contacts name and the outcome. If a bid was received, the bid price should also be included in the log. See a sample log format below:

Date	Company	Scope of work	Contact Name	Phone/ Email	Solicitation Format	SDVOB Response	Negotiation Required?	Selected? If not, Explain

If no response was received to an initial solicitation, at least one follow-up solicitation should be made in a different format than the first, e.g. fax followed by phone call. Any bids received from non-SDVOB firms for the same areas SDVOBs were solicited should also be tracked on the log.

- Copies of any advertisements of sufficient duration to effectively seek participation of certified SDVOBs timely published in appropriate general circulation, trade publications, together with listing and dates of publication of such advertisements. EFC recommends the use of the NYS Contract Reporter that is free to all Contractors - <https://www.nyscr.ny.gov/>. A log should be kept of the responses to the ads, similar to the log for SDVOB firm solicitation and should include the non-SDVOB firms that responded and the bid prices. Any negotiations should be documented in the log.
- Documents demonstrating that insufficient SDVOBs are reasonably available to perform the work.
- A written demonstration that the Contractor offered to make up any inability to meet the project SDVOB participation goal in other contracts and/or agreements performed by the Contractor on another State financial assistance project.
- The date of pre-bid, pre-award, or other meetings scheduled by the Recipient, if any, and the contact information of any SDVOBs who attended and are capable of performing work on the project.
- Any other information or documentation that demonstrates the Contractor conducted good faith efforts to provide opportunities for SDVOB participation in their work. For

instance, Prime Contractors and MBOs should develop a list of SDVOB firms that have expressed interest in working on State financial assistance projects

C. SDVOB Utilization Plan

1. The SDVOB Utilization Plan must be submitted to the Recipient's MBO after the bid opening, but in no case more than ten (10) business days after the Contractor receives notice from the Recipient that the Contractor has submitted a low bid.
2. The MBO will evaluate a completed SDVOB Utilization Plan. If the MBO finds the Utilization Plan sufficient, it will be forwarded to EFC for review. If the MBO finds the Utilization Plan insufficient, the MBO will work with the Contractor to address deficiencies before submitting to EFC for review. A written notice of acceptance or deficiency will be issued by EFC within 20 business days of receipt of the Utilization Plan. Upon receipt of a notice of deficiency from either the MBO or EFC, the Contractor shall respond with a written remedy to such notice within seven (7) business days of receipt.
3. EFC reserves the right to request additional information and/or documentation to support the adequacy of the SDVOB Utilization Plan.
4. Within 10 days of EFC's acceptance of a SDVOB Utilization Plan, EFC will post the approved Utilization Plan on the EFC website.
5. In coordination with the MBO, EFC may issue conditional acceptance of Utilization Plans pending submission of additional documentation that demonstrates there will be an increase in SDVOB participation.

D. Eligibility for SDVOB Participation Credit

1. To receive SDVOB participation credit, Contractors or Subcontractors performing work that have been identified in an approved SDVOB Utilization Plan must be certified as an SDVOB by the Office of General Services' Division of Service-Disabled Veterans' Business Development.
2. Prime Contractors may also include second or lower tier Subcontractors (Subcontractors hired by Subcontractors) on their SDVOB Utilization Plan.
3. Credit for SDVOB participation shall be granted only for SDVOB firms performing a commercially useful business function according to custom and practice in the industry.
 - a. Factors to be used in assessing whether an SDVOB is performing a commercially useful function include:
 - i. The amount of work subcontracted;
 - ii. Industry practices;
 - iii. Whether the amount the SDVOB is to be paid under the contract is commensurate with the work it is to perform;
 - iv. The credit claimed towards SDVOB utilization goals for the performance of the work by the SDVOB; and,
 - v. Any other relevant factors.
 - b. "Commercially useful functions" normally include:
 - v. Providing technical assistance to a purchaser prior to a purchase, during installation, and after the supplies or equipment are placed in service;
 - vi. Manufacturing or being the first tier below the manufacturer of supplies or equipment;
 - vii. Providing functions other than merely accepting and referring requests for supplies or equipment to another party for direct shipment to a Contractor; or,
 - viii. Being responsible for ordering, negotiating price, and determining quality and quantity of materials and supplies.
4. No credit will be granted for SDVOBs that do not perform a commercially useful function. An SDVOB does not perform a commercially useful function if its role adds no substantive value and is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of participation.
5. A Contractor or subcontractor who is certified as both an SDVOB and MWBE may receive participation credit under both programs for its work on a contract or subcontract.

E. Requests for Waiver

1. If the Contractor's application of good faith efforts does not result in the utilization of SDVOB firms to achieve the aforementioned goals or a specialty equipment/service waiver is requested, the Contractor may request a full or partial waiver of SDVOB participation goals by completing a Request for Waiver form, attaching appropriate documentation of good faith efforts, and submitting same to the MBO. See also Required Contract Language, Section 2(IV).
2. The MBO and EFC will review each waiver request based on the good faith effort criteria presented above and the documentation submitted with the waiver request. EFC will not issue any automatic waivers from SDVOB responsibilities.
3. In cases where EFC accepts a full or partial waiver of SDVOB participation goals, the waiver request will be posted to EFC's website.
4. Specialty Equipment/Service Waiver: A specialty equipment/service waiver may be granted in cases where:
 - g. equipment is made by only one non- SDVOB manufacturer,
 - h. the technical specifications call for equipment that is not available through an SDVOB supplier;
 - i. the equipment is constructed on site by specially trained non-SDVOB labor;
 - j. the service is not available through an SDVOB (such as work done by National Grid);
 - k. the service is proprietary in nature (such as use of certain computer software necessary for control systems); or,
 - l. the service cannot be subcontracted (such as litigation services).

If the contract includes specialty equipment or services, and documentation is submitted demonstrating that there are no SDVOB firms capable of completing this portion of the contract, the specialty amount of the contract may be deducted from the total contract amount to determine the SDVOB Eligible Amount and the goals will be applied to the SDVOB Eligible Amount. This determination is made at the discretion of the MBO and EFC.

Example:

\$200,000	-	\$50,000	=	\$150,000
(Contract)		(Specialty equipment/service)		(SDVOB Eligible Amount)

The SDVOB goal is applied to the SDVOB Eligible Amount.

A request for this specialty equipment/service deduction can be completed by filling out a Request for Waiver form and submitting it to the MBO. The request must include a copy of the page from the contract where the equipment/ service is described and the cost of each item. For construction contracts, the schedule of values or bid tabulation sheet should also be submitted. Additional documentation may be requested by the MBO or EFC.

III. Subcontractor's Responsibilities

Subcontractors should:

1. Maintain their SDVOB certifications, and notify the Contractor and MBO of any change in their certification status.
2. Notify the Contractor of any SDVOB Subcontractors they hire so they may be included on the Contractor's Utilization Plan.
3. Respond promptly to solicitation requests by completing and submitting bid information in a timely manner.
4. Maintain business records that should include, but not be limited to, contracts/agreements, records of receipts, correspondence, purchase orders, and canceled checks.
5. Notify the MBO and EFC when contract problems arise, such as non-payment for services or when the Subcontractor is not employed as described in the SDVOB Utilization Plan.

IV. Protests/Complaints

Contractors or Subcontractors who have any concerns, issues, or complaints regarding the implementation of any EFC State financial assistance SDVOB Program, or wish to protest should do so in writing to the MBO and EFC. The MBO, in consultation with EFC, will review the circumstances described in the submission, investigate to develop additional information, if warranted, and determine whether action is required. If the Contractor or Subcontractor believes the issue has not been resolved to their satisfaction, they may appeal in writing to EFC for consideration.

V. Waste, Fraud and Abuse

Subcontractors, Contractors, or Recipients who know of or suspect any instances of waste, fraud, or abuse within the SDVOB Program should notify the project MBO and EFC immediately. Additionally, suspected fraud activity should be reported to the New York State Office of Inspector General at (800) 367-4448.

SECTION 3 GUIDANCE FOR APPLICABLE LABOR STANDARDS

Contractors and Subcontractors working under a public works contract are subject to labor standards under State Labor Law, including but not limited to prevailing wage requirements, and may be subject to additional labor requirements under applicable local laws. When preparing the bid for an SRF project, the Contractor, and any Subcontractors, must use the higher of the applicable prevailing State or local wage rates paid to each trade.

SECTION 4 GUIDANCE FOR REQUIREMENTS REGARDING SUSPENSION AND DEBARMENT

A list of contractors and subcontractors deemed ineligible to submit a bid on or be awarded a public contract or subcontract, pursuant to Article 8 of the State Labor Law, is available on the New York State Department of Labor's website at <http://labor.ny.gov/workerprotection/publicwork/PDFs/debarred.pdf>

A list of contractors deemed ineligible to submit a bid is maintained by Empire State Development's Division of Minority and Women's Business Development.

SECTION 5 SUMMARY OF CONTRACTOR REQUIREMENTS FOR STATE FINANCIAL ASSISTANCE PROJECTS

Forms can be found as attachments to this document or online at www.efc.ny.gov

Forms should be submitted electronically via email or through EFC's [dropbox](#)

To be submitted with this bid:

- EEO Policy Statement

**Refer to Part 3
Guidance Section
Section 1**

To be submitted prior to or upon Contract award:

- Executed Contracts, Subcontracts, agreements, and purchase orders
- MWBE Utilization Plan and/or Waiver Request
- SDVOB Utilization Plan and/or Waiver Request

Section 1
Section 2

Tasks for construction start:

- Ensure that all Subcontracts contain Part 2: Required Contract Language
- Pay the higher of applicable prevailing state or local wages including benefits

Section 3

Ongoing documentation & tasks:

- EEO Workforce Utilization Report
- Submit Monthly MWBE Reports to MBO
- Submit Monthly SDVOB Reports to MBO
- Maintain proof of payments for MWBE Subcontractors
- Maintain proof of payments for SDVOB Subcontractors

Section 1
Section 1
Section 2
Section 1
Section 2

Attachment 1
New York State Environmental Facilities Corporation
EQUAL EMPLOYMENT OPPORTUNITY POLICY STATEMENT
NEW YORK STATE FINANCIAL ASSISTANCE PROGRAMS

I, _____, am the authorized representative of _____.
Name of Representative Name of Contractor/Service Provider
I hereby certify that _____ will abide by the equal employment
Name of Contractor/Service Provider
opportunity (EEO) policy statement provisions outlined below.

- (i) The Contractor will not discriminate on the basis of race, creed, color, national origin, sex, age, disability, or marital status against any employee or applicant for employment, will undertake or continue existing programs of affirmative action to ensure that minority group members and women are afforded equal employment opportunities without discrimination and will make and document its conscientious and active efforts to employ and utilize minority group members and women in its work force on Contracts relating to Water Grant projects.
- (ii) The Contractor shall state in all solicitations or advertisements for employees that, in the performance of the Contract relating to this Water Grant project, all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status.
- (iii) The Contractor shall request each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding, to furnish a written statement that such employment agency, labor union, or representative will not discriminate on the basis of race, creed, color, national origin, sex, age, disability or marital status, and that such union or representative will affirmatively cooperate in the implementation of the Contractor's obligations herein.
- (iv) The Contractor shall comply with the provisions of the Human Rights Law (Article 15 of the Executive Law), including those relating to non-discrimination on the basis of prior criminal conviction and prior arrest, and with all other State and federal statutory and constitutional non-discrimination provisions. The Contractor and Subcontractors shall not discriminate against any employee or applicant for employment because of race, creed (religion), color, sex, national origin, sexual orientation, military status, age, disability, predisposing genetic characteristic, marital status or domestic violence victim status.
- (v) The Contractor will include the provisions of subdivisions (i) through (iv) in every Subcontract in such a manner that the requirements of these subdivisions will be binding upon each Subcontractor as to work in connection with the Contract.

X

Contractor/Service Provider Representative

Attachment 2

Instructions for Completing and Submitting the Equal Employment Opportunity Workforce Utilization Report

The Equal Employment Opportunity (“EEO”) Workforce Utilization Report (“Report”) is used by contractors and subcontractors to report the actual workforce utilized in the performance of the contract broken down by job title for a particular reporting period. When the workforce utilized in the performance of the contract can be separated out from the contractor’s and/or subcontractor’s total workforce, the contractor and/or subcontractor shall submit a Report of the workforce utilized on the contract. When the workforce to be utilized on the contract cannot be separated out from the contractor’s and/or subcontractor’s total workforce, information on the contractor’s and/or subcontractor’s total workforce shall be included in the Report.

Instructions for Completing the Report

1. **Reporting Entity.** Check off the appropriate box to indicate if the entity completing the Report is the contractor or a subcontractor.
2. **Federal Employer Identification Number (“FEIN”).** Enter the FEIN assigned by the Internal Revenue Service (“IRS”) to the contractor or subcontractor for which the Report has been prepared. If the contractor or subcontractor uses a social security number instead of a FEIN, leave this field blank. The contractors and subcontractors for recipients of a grant only (such as an Engineering Planning Grant (EPG), a Water Infrastructure Improvement Act (WIIA) grant, or an Intermunicipal Grant Program (IMG) grant) do not need to fill out this section of the Report.
3. **Name.** Enter the name of the contractor or subcontractor for which the Report has been prepared.
4. **Address.** Enter the address of the contractor or subcontractor for which the Report has been prepared.
5. **Contract Number.** Enter the number of contract that the Report applies to, if applicable.
6. **Reporting Period / Month.** Check off the box that corresponds to the applicable quarterly or monthly (not both) reporting period for this Report. The Report is to be submitted on a monthly basis for construction contracts, and a quarterly basis based on the calendar quarter for all other contracts, during the life of the contract.
7. **Workforce Identified in Report.** Check off the appropriate box to indicate if the workforce being reported is just for the contract or the contractor’s or subcontractor’s total workforce.
8. **Preparer’s Name, Preparer’s Title, Date.** Enter the name and title for the person completing the Report, enter the date upon which the Report was completed, and check the box accepting the name entered into the Report as the digital signature of the preparer.
9. **Occupation Classifications (SOC Major Group) and SOC Job Title.** First, enter the applicable Occupation Classification (SOC Major Group) so a dropdown menu appears under SOC Job Title. Choose the SOC Job Title that best describes the worker.
10. **EEO Job Title and SOC Job Code.** The EEO Job Title and the SOC Job Code will automatically populate in the spreadsheet based upon the Occupation Classifications (SOC Major Group) and SOC Job Title selected. Please do not modify the information populated in these fields.

11. **Race/Ethnic Identification.** Race/ethnic designations do not denote scientific definitions of anthropological origins. For the purposes of this Report, an employee must be included in the group to which he or she appears to belong, identifies with, or is regarded in the community as belonging. However, no person should be counted in more than one race/ethnic group. The race/ethnic categories for this Report are:
- **WHITE** (not of Hispanic origin) all persons having origins in any of the original peoples of Europe, North Africa, or the Middle East.
 - **BLACK/AFRICAN AMERICAN** a person, not of Hispanic origin, who has origins in any of the black racial groups of the original peoples of Africa.
 - **HISPANIC/LATINO** a person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race.
 - **ASIAN, NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER** a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent or the Pacific Islands.
 - **NATIVE AMERICAN/ALASKAN NATIVE** a person having origins in any of the original peoples of North America, and who maintains cultural identification through tribal affiliation or community recognition.
12. **Number of Employees and Number of Hours.** Enter the number of employees and the total number of hours worked by such employees for each SOC Job Title under the columns corresponding to the gender and racial/ethnic groups with which the employees most closely identify.
13. **Total Compensation.** Enter the total compensation paid to all employees for each SOC Job Title, each gender, and each racial/ethnic group. Contractors and subcontractors should report only compensation for work on the contract paid to employees during the period covered by the Report. Compensation should include only sums which must be reported in Box 1 of IRS Form W-2. The contractors and subcontractors for recipients of a grant only (such as an EPG, a WIIA, or an IMG grant) do not need to fill out this section of the Report.
14. **For EFC Use Only.** This section is for EFC use only and does not need to be filled out by the contractor/subcontractor.

Instructions for Submitting the Report

The Report is to be submitted on a monthly basis for construction contracts, and a quarterly basis based on the calendar quarter for all other contracts, during the life of the contract.

EFC will provide a Report form in Excel format to the Recipient's Minority Business Officer ("MBO"). The Recipient's MBO is responsible for providing the Report form to all contractors. Each contractor is responsible for providing the Report form to all subcontractors.

Reports are to be submitted electronically in Excel format, using the Report form provided, within ten (10) days of the end of each month or quarter, whichever is applicable. For example, the January monthly Report for a construction contract is due by February 10th and the January – March quarterly Report for a non-construction contract is due by April 10th.

Once the Report form has been completed, each contractor/subcontractor must submit the Report form to EFC and the Recipient's MBO. The Report form must be submitted to EFC according to the following instructions:

1. Go to www.efc.ny.gov/eeoreporting.
2. Enter the requested information pursuant to the instructions on the page. Make sure to choose the correct applicable funding program (Clean Water State Revolving Fund (SRF), Drinking Water SRF, non-SRF Grant Only (e.g. EPG, WIIA, IMG)) and the correct reporting period (reporting

quarter for non-construction OR reporting month for construction). Enter the reporting period of the data, not the date it's submitted.

3. Submit your Report(s) pursuant to the instructions on the page.
4. If you are a contractor, use the naming convention provided by EFC (in the "For EFC Use Only" section of the Report form) for naming the file for upload (i.e., Funding Program – Project Number– Contractor short name (up to fifteen characters) – MWBE ID). The funding programs include CW (clean water SRF), DW (drinking water SRF), and GO (non-SRF grant only). If you are a subcontractor, use the naming convention provided by EFC and replace the contractor's short name with the first fifteen characters of the subcontractor's name, omitting any spaces or special characters.

Questions

If you have questions about or require assistance completing or submitting the Report, please contact EFC at mwbe@efc.ny.gov or 518-402-6924.

Attachment 3
NYS Environmental Facilities Corporation
Minority- & Women- Owned Business Enterprise (MWBE) Utilization Plan

Instructions for Contractors & Service Providers:

Contractors and Service Providers must complete Sections 2 and 3. **Submit the completed, signed (electronic signature box checked and dated) form in Microsoft Word format to the Recipient's designated Minority Business Officer (MBO) no later than the date of contract execution.** Incomplete forms will be found deficient. If more than 10 subcontractors are used, additional pages for Section 3 can be found on EFC's website.

If the prime contract is being performed by the parties to a Joint Venture, Teaming Agreement, or Mentor-Protégé Agreement that includes a certified MWBE, please contact EFC for assistance.

MWBE firms must be certified by the NYS Empire State Development Corporation (ESD) in order to be counted towards satisfaction of MWBE participation goals. The utilization of certified MWBEs for non-commercially useful functions may not be counted towards utilization of certified MWBEs in the Utilization Plan. Please note whether a firm is serving as a broker or supplier on the contract. A broker is denoted by NAICS code 425120 and is designated as a broker in ESD's MWBE Directory. A supplier is denoted by a NAICS code beginning with 423 or 424, or a NIGP code that does not begin with the number 9, and is designated as a supplier in ESD's MWBE Directory. If a firm is serving as a broker, please additionally provide the percentage of the broker's commission on the contract.

See the Bid Packet at www.efc.ny.gov or consult your designated MBO for further guidance.

Instructions for Minority Business Officers (MBO):

The MBO must complete Section 1. The MBO may designate an Authorized Representative to complete and submit quarterly payment reports on its behalf, and, if so designated, the MBO's Authorized Representative must also complete Section 1. The Authorized Representative may only submit quarterly payment reports on behalf of the MBO and may not submit any other required forms or reports for the MBO. The MBO must complete Section 1 even if designating an Authorized Representative. **Submit the completed, signed (electronic signature box checked and dated) form in Microsoft Word format via e-mail to your EFC MWBE Representative.**

The subject heading of the e-mail to the EFC MWBE Representative should follow the format "UP, Project Number, Contractor." EFC will review the Utilization Plan and notify the MBO via e-mail of its acceptance or denial.

Within 10 days of EFC's acceptance of a Utilization Plan, EFC will post the approved Utilization Plan on the EFC website.

Attachment 3
NYS Environmental Facilities Corporation
Minority- & Women- Owned Business Enterprise (MWBE) Utilization Plan

SECTION 1: MUNICIPAL INFORMATION			
Recipient/Municipality:		County:	
Project No.:	GIGP/EPG No.:	Contract ID:	Registration No. (NYC only):
Minority Business Officer:		Email:	Phone #:
Address of MBO:			
Electronic Signature of MBO: <input type="checkbox"/> I certify that the information submitted herein is true, accurate and complete to the best of my knowledge and belief.			Date:
<i>Complete if applicable:</i>			
Authorized Representative:		Title:	
Authorized Rep. Company:		Email:	Phone #:
Electronic Signature of Authorized Rep.: <input type="checkbox"/> I certify that the information submitted herein is true, accurate and complete to the best of my knowledge and belief.			Date:

SECTION 2: PRIME CONTRACTOR / SERVICE PROVIDER INFORMATION				
Firm Name:			Contract Type: <input type="checkbox"/> Construction <input type="checkbox"/> Other Services	
Prime Firm is Certified as: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> N/A <input type="checkbox"/> Other: Please repeat information in the Utilization Plan below (Section 3). If dual certified, you must select either MBE or WBE.				
Address:		Phone #:	Fed. Employer ID #:	
Description of Work:				
Award Date:	Start Date:	Completion Date:	MWBE GOAL Total	PROPOSED MWBE Participation
Total Contract Amount: \$ MWBE Eligible Contract Amount: \$ (MWBE Goals are applied to this amount and includes all change orders, amendments, & waivers)			MBE: % \$	MBE: % \$
			WBE: % \$	WBE: % \$
			Total: % \$	Total: % \$

Attachment 3
NYS Environmental Facilities Corporation
Minority- & Women- Owned Business Enterprise (MWBE) Utilization Plan

SECTION 3: M/WBE SUBCONTRACTOR INFORMATION						
This Submittal is: <input type="checkbox"/> The First/Original Utilization Plan <input type="checkbox"/> Revised Utilization Plan #:						
NYS Certified M/WBE Subcontractor Info				Contract Amount:		For EFC Use:
				MBE (\$)	WBE (\$)	
Name:		Fed. Employer ID#:				
Address:		Phone #:				
Scope of Work:		Email:				
Select Only One: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Other:		Start Date:				
Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A		Completion Date:				
Full Contract Amount: \$						
Name:		Fed. Employer ID#:				
Address:		Phone #:				
Scope of Work:		Email:				
Select Only One: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Other:		Start Date:				
Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A		Completion Date:				
Full Contract Amount: \$						
Name:		Fed. Employer ID#:				
Address:		Phone #:				
Scope of Work:		Email:				
Select Only One: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Other:		Start Date:				
Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A		Completion Date:				
Full Contract Amount: \$						
Name:		Fed. Employer ID#:				
Address:		Phone #:				
Scope of Work:		Email:				
Select Only One: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Other:		Start Date:				
Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A		Completion Date:				
Full Contract Amount: \$						

Attachment 3
NYS Environmental Facilities Corporation
Minority- & Women- Owned Business Enterprise (MWBE) Utilization Plan

SECTION 3: M/WBE SUBCONTRACTOR INFORMATION continued				
Name:	Fed. Employer ID#:			
Address:	Phone #:			
Scope of Work:	Email:			
Select Only One: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Other:	Start Date:			
Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	Completion Date:			
Full Contract Amount: \$				
Name:	Fed. Employer ID#:			
Address:	Phone #:			
Scope of Work:	Email:			
Select Only One: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Other:	Start Date:			
Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	Completion Date:			
Full Contract Amount: \$				
Name:	Fed. Employer ID#:			
Address:	Phone #:			
Scope of Work:	Email:			
Select Only One: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Other:	Start Date:			
Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	Completion Date:			
Full Contract Amount: \$				
Name:	Fed. Employer ID#:			
Address:	Phone #:			
Scope of Work:	Email:			
Select Only One: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Other:	Start Date:			
Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	Completion Date:			
Full Contract Amount: \$				
SIGNATURE				

Attachment 3
NYS Environmental Facilities Corporation
Minority- & Women- Owned Business Enterprise (MWBE) Utilization Plan

Electronic Signature of Contractor: I certify that the information submitted herein is true, accurate and complete to the best of my knowledge and that all MWBE subcontractors will perform a commercially useful function.

Name (Please Type):

Date:

Attachment 4
New York State Environmental Facilities Corporation
Minority & Women Owned Business Enterprise (MWBE) Waiver Request Form

Instructions for Contractors & Service Providers:

Contractors and Service Providers must complete Sections 2, 3, and 4. **Submit the completed, signed (electronic signature box checked and dated) form in Microsoft Word format to the Recipient's designated Minority Business Officer (MBO).** Incomplete forms will be found deficient.

See the Bid Packet at www.efc.ny.gov or consult your designated MBO for further guidance.

Instructions for Minority Business Officers (MBO):

The MBO must complete Section 1. **Submit the completed, signed (electronic signature box checked and dated) form in Microsoft Word format via e-mail to your EFC MWBE Representative.** The subject heading of the e-mail to the EFC MWBE Representative should follow the format "Waiver Request, Project Number, Contractor." EFC will review and notify the MBO via e-mail of its acceptance or denial.

If a partial MWBE waiver is requested, an MWBE Utilization Plan must also be submitted for the amount of proposed MWBE participation.

SECTION 1: MUNICIPAL INFORMATION				
Recipient/Municipality:			County:	
Project No.:	GIGP/EPG No.:	Contract ID:	Registration No. (NYC only):	
Minority Business Officer (MBO):		Email:	Phone #:	
Address of MBO:				
Signature of MBO: <input type="checkbox"/> I certify that the information submitted herein is true, accurate and complete to the best of my knowledge and belief.				Date:

SECTION 2: PRIME CONTRACTOR / SERVICE PROVIDER INFORMATION				
Firm Name:			Contract Type: <input type="checkbox"/> Construction <input type="checkbox"/> Other Services	
Prime Firm is Certified as: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> N/A <input type="checkbox"/> Other:				
Address:		Phone #:	Fed. Employer ID #:	
Contact Information of Firm Representative Authorized to Discuss Waiver Request:				
Name:	Title:	Phone #:	E-mail:	
Description of Work:			EFC MWBE GOAL Total	
Award Date:	Start Date:	Completion Date:	MBE:	% \$
Total Contract Amount: \$			WBE:	% \$
MWBE Eligible Contract Amount: \$ (MWBE Goals are applied to this amount and includes all change orders, amendments, & waivers)			Total:	% \$

Attachment 4
New York State Environmental Facilities Corporation
Minority & Women Owned Business Enterprise (MWBE) Waiver Request Form

SECTION 3: TYPE OF MWBE WAIVER REQUESTED

1. **Full Waiver** (No MWBE participation)
2. **Partial Waiver** (Less than the MWBE goals; indicate below the proposed MWBE participation)

PROPOSED MWBE Participation

MBE: % \$

WBE: % \$

Total: % \$

3. **Specialty Equipment/Services Waiver** (Must be of SIGNIFICANT cost - list of equipment and cost must be attached in addition to the supporting documentation outlined below)

SECTION 4: SUPPORTING DOCUMENTATION

To be considered, the Request for Waiver Form must be accompanied by the documentation requested in items 1 – 9, as listed below. If a Specialty Equipment Waiver is requested, it must be accompanied by the documentation requested in items 1 - 13. If a Specialty Services Waiver is requested, it must be accompanied by the items requested in items 1 – 9 and item 14. Copies of the following information and all relevant supporting documentation must be submitted along with the request. Please contact EFC for assistance, including sample documentation.

1. A letter of explanation setting forth your basis for requesting a partial or total waiver and detailing the good faith efforts that were made.
2. Copies of advertisements in any general circulation, trade association, and minority- and women-oriented publications in which you solicited MWBEs for the purposes of complying with your participation goals, with the dates of publication.
3. Screenshots of search results (by business description or commodity code) from Empire State Development Corporation's (ESD) MWBE Directory of all certified MWBEs that were solicited for purposes of complying with your MWBE participation goals.
4. Copies of faxes, letters, or e-mails sent to MWBE firms to solicit participation and their responses.
5. A log of solicitation results, consisting of the list of MWBE firms solicited for the contract and the outcome of the solicitations. The log should be broken out into separate areas for each task that is solicited (e.g., trucking, materials, electricians) and clearly provide a rationale for firms included on the completed Utilization Plan as well as for those not chosen. The log should show: that each MWBE firm was contacted twice by two different methods (e.g., fax and phone); who was spoken to; what was said; and the final outcome of the solicitation.
6. A description of any contract documents, plans, or specifications made available to MWBEs for purposes of soliciting their bids and the date and manner in which these documents were made available. Specifically, include information on the scope of work in the contract and a breakout of tasks or equipment, such as

Attachment 4
New York State Environmental Facilities Corporation
Minority & Women Owned Business Enterprise (MWBE) Waiver Request Form

a schedule of values for a construction contract or a proposal or excerpt from a professional services agreement.

7. Documentation of any negotiations between you, the Contractor, and the MWBEs undertaken for purposes of complying with your MWBE participation goals.
8. Any other information you deem relevant which may help us in evaluating your request for a waiver. Examples may include sign-in sheets from any pre-bid meetings where MWBE firms were invited, attendance at MWBE forums, etc.
9. EFC and the MBO reserve the right to request additional information and/or documentation.

Additional Documentation for Requests for Specialty Equipment Waivers:

10. Copies of the appropriate pages of the technical specification related to the equipment showing the choices for manufacturers or other information that limits the choice of vendor.
11. Letter, e-mail or screenshot of website from the manufacturer listing their distributors in NYS and the locations.
12. Screenshots of ESD's MWBE Directory searches for the manufacturer and distributor showing that they are not found in the Directory.
13. An invoice or purchase order showing the value of the equipment.

Additional Documentation for Requests for Specialty Service Waivers:

14. A letter of explanation containing information about the scope of work and why no MWBE firms could be subcontracted to provide that service.

Note: Unless a Total Waiver has been granted, Firms will be required to submit all reports and documents pursuant to the provisions set forth in the procurement and/or contract, as deemed appropriate by EFC, to determine MWBE compliance. In cases where EFC accepts a full or partial waiver of MWBE participation goals, the waiver request will be posted to EFC's website.

SIGNATURE

Electronic Signature of Contractor:

I certify that the information submitted herein is true, accurate and complete to the best of my knowledge.

Name: (Please Type):

Date:

Attachment 5
New York State Environmental Facilities Corporation
Monthly Minority- & Women- Owned Business Enterprise (MWBE) Contractor Compliance Report
("Monthly MWBE-SDVOB Report")

Instructions:

- Contractors are to complete the report in Word version and email to the Recipient's Minority Business Officer ("MBO") on a monthly basis.
- If you require additional pages, you may find them on EFC's website at www.efc.ny.gov.
- **All** MWBE Subcontractors for this contract **MUST** be listed on the form regardless of whether they were paid this month.
- Please save Report as "*MRReport – (Project No). – (Municipality) – (Firm Name) – (Date)*" and send the Word version of this document.
- Proofs of payment in the amounts shown below must be transmitted to the MBO with the report.

Municipality:	County:	Contract ID:	Month:	Year:		
Project No.:	GIGP/EPG No:	Registration No. (NYC only):				
Prime Contractor/Service Provider:		Award Date:	Start Date:	Date all MWBE / SDVOB subs paid in full:		
Signature of Contractor: <input type="checkbox"/> I certify that the information submitted herein is true, accurate and complete to the best of my knowledge and belief.				Date:		
Last Month's Contract Amt: \$ Revised Contract Amt: \$ Change Order Amt: \$	MWBE Eligible Amt: \$ (Goals are applied to this amount and includes eligible change orders, amendments & waivers)	EFC MWBE Goals		Total Paid to Prime Total Paid this Month: \$ Total Paid to Date: \$		
		MBE: % WBE: % Total: %	MBE Amt: \$ WBE Amt: \$ Total Amt: \$			
	SDVOB Eligible Amount \$	EFC SDVOB Goals				
		SDVOB 6 %	SDVOB Amt: \$			
NYS Certified M/WBE / SDVOB Contractor & Subcontractor	Please Specify Any Revisions this Month.	Subcontractor Total Amount		Payments this Month	Previous Payments	Total Payments Made to Date
		Original	Revised			
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					

Attachment 5
New York State Environmental Facilities Corporation
Monthly Minority- & Women- Owned Business Enterprise (MWBE) Contractor Compliance Report
("Monthly MWBE-SDVOB Report")

NYS Certified MWBE / SDVOB Contractor & Subcontractor	Please Specify Any Revisions this Month.	Subcontractor Contract Amount		Payments this Month	Previous Payments	Total Payments Made to Date
		Original	Revised			
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker __% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker __% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker __% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker __% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker __% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					

Attachment 5
New York State Environmental Facilities Corporation
Monthly Minority- & Women- Owned Business Enterprise (MWBE) Contractor Compliance Report
("Monthly MWBE-SDVOB Report")

NYS Certified MWBE / SDVOB Contractor & Subcontractor	Please Specify Any Revisions this Month.	Subcontractor Total Amount		Payments this Month	Previous Payments	Total Payments Made to Date
		Original	Revised			
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					

Attachment 5
New York State Environmental Facilities Corporation
Monthly Minority- & Women- Owned Business Enterprise (MWBE) Contractor Compliance Report
("Monthly MWBE-SDVOB Report")

NYS Certified MWBE / SDVOB Contractor & Subcontractor	Please Specify Any Revisions this Month.	Subcontractor Total Amount		Payments this Month	Previous Payments	Total Payments Made to Date
		Original	Revised			
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					
Additional Pages can be found at www.efc.ny.gov						
TOTAL						
<p>Please explain any revisions and note the scope of work that new subcontractors will be providing. Please note that change orders over \$25K may require that good faith efforts be made to obtain additional participation:</p>						

Attachment 6
NYS Environmental Facilities Corporation
Service Disabled Veteran-Owned Business (SDVOB) Utilization Plan

Instructions for Contractors & Service Providers:

Contractors and Service Providers must complete Sections 2 and 3. **Submit the completed, signed (electronic signature box checked and dated) form in Microsoft Word format to the Recipient's designated Minority Business Officer (MBO) no later than the date of contract execution.** Incomplete forms will be found deficient. If more than 10 subcontractors are used, additional pages for Section 3 can be found on EFC's website.

If the prime contract is being performed by the parties to a Joint Venture, Teaming Agreement, or Mentor-Protégé Agreement that includes a certified SDVOB, please contact EFC for assistance.

The utilization of certified SDVOBs for non-commercially useful functions may not be counted towards utilization of certified SDVOBs in the Utilization Plan. SDVOB firms must be certified by NYS Office of General Services in order to be counted towards satisfaction of SDVOB participation goals.

See the Bid Packet at www.efc.ny.gov or consult your designated MBO for further guidance.

Instructions for Minority Business Officers (MBO):

The MBO must complete Section 1. The MBO may designate an Authorized Representative to complete and submit quarterly payment reports on its behalf, and, if so designated, the MBO's Authorized Representative must also complete Section 1. The Authorized Representative may only submit quarterly payment reports on behalf of the MBO and may not submit any other required forms or reports for the MBO. The MBO must complete Section 1 even if designating an Authorized Representative. **Submit the completed, signed (electronic signature box checked and dated) form in Microsoft Word format via e-mail to your EFC MWBE-SDVOB Representative.**

The subject heading of the e-mail to the EFC MWBE-SDVOB Representative should follow the format "UP, Project Number, Contractor." EFC will review the Utilization Plan and notify the MBO via e-mail of its acceptance or denial.

Within 10 days of EFC's acceptance of a Utilization Plan, EFC will post the approved Utilization Plan on the EFC website.

**Attachment 6
NYS Environmental Facilities Corporation
Service Disabled Veteran-Owned Business (SDVOB) Utilization Plan**

SECTION 1: MUNICIPAL INFORMATION

SECTION 1: MUNICIPAL INFORMATION				
Recipient/Municipality:			County:	
Project No.:	GIGP/EPG No.:	Contract ID:	Registration No. (NYC only):	
Minority Business Officer:		Email:	Phone #:	
Address of MBO:				
Electronic Signature of MBO: <input type="checkbox"/> I certify that the information submitted herein is true, accurate and complete to the best of my knowledge and belief.				Date:
Complete if applicable:				
Authorized Representative:		Title:		
Authorized Rep. Company:		Email:	Phone #:	
Electronic Signature of Authorized Rep.: <input type="checkbox"/> I certify that the information submitted herein is true, accurate and complete to the best of my knowledge and belief.				Date:

SECTION 2: PRIME CONTRACTOR / SERVICE PROVIDER INFORMATION

SECTION 2: PRIME CONTRACTOR / SERVICE PROVIDER INFORMATION				
Firm Name:			Contract Type: <input type="checkbox"/> Construction <input type="checkbox"/> Other Services	
Prime Firm is Certified as: <input type="checkbox"/> SDVOB Please repeat information in the Utilization Plan below (Section 3).				
Address:		Phone #:	Fed. Employer ID #:	
Description of Work:				
Award Date:	Start Date:	Completion Date:	SDVOB GOAL Total	PROPOSED SDVOB Participation
Total Contract Amount: \$ SDVOB Eligible Contract Amount: \$ (Goals are applied to this amount and includes all change orders, amendments, & waivers)			Total: 6% \$	Total: % \$

**Attachment 6
NYS Environmental Facilities Corporation
Service Disabled Veteran-Owned Business (SDVOB) Utilization Plan**

SECTION 3: SDVOB SUBCONTRACTOR INFORMATION

This Submittal is:	<input type="checkbox"/> The First/Original Utilization Plan <input type="checkbox"/> Revised Utilization Plan #:		
NYS Certified SDVOB Subcontractor Info		Participation: SDVOB (\$)	For EFC Use:
Name:	Fed. Employer ID#:		
Address:	DSDVBD Control #:		
Scope of Work:	Phone #:		
Full Subcontract Amount: \$	Email:		
Start Date:	Completion Date:		
Name:	Fed. Employer ID#:		
Address:	DSDVBD Control #:		
Scope of Work:	Phone #:		
Full Subcontract Amount: \$	Email:		
Start Date:	Completion Date:		
Name:	Fed. Employer ID#:		
Address:	DSDVBD Control #:		
Scope of Work:	Phone #:		
Full Subcontract Amount: \$	Email:		
Start Date:	Completion Date:		
Name:	Fed. Employer ID#:		
Address:	DSDVBD Control #:		
Scope of Work:	Phone #:		
Full Subcontract Amount: \$	Email:		
Start Date:	Completion Date:		
Name:	Fed. Employer ID#:		
Address:	DSDVBD Control #:		
Scope of Work:	Phone #:		
Full Subcontract Amount: \$	Email:		
Start Date:	Completion Date:		

**Attachment 6
NYS Environmental Facilities Corporation
Service Disabled Veteran-Owned Business (SDVOB) Utilization Plan**

SECTION 3: SDVOB SUBCONTRACTOR INFORMATION continued			
Name:	Fed. Employer ID#:		
Address:	DSDVBD Control #:		
Scope of Work:	Phone #:		
Full Subcontract Amount: \$	Email:		
Start Date:	Completion Date:		
Name:	Fed. Employer ID#:		
Address:	DSDVBD Control #:		
Scope of Work:	Phone #:		
Full Subcontract Amount: \$	Email:		
Start Date:	Completion Date:		
Name:	Fed. Employer ID#:		
Address:	DSDVBD Control #:		
Scope of Work:	Phone #:		
Full Subcontract Amount: \$	Email:		
Start Date:	Completion Date:		
Name:	Fed. Employer ID#:		
Address:	DSDVBD Control #:		
Scope of Work:	Phone #:		
Full Subcontract Amount: \$	Email:		
Start Date:	Completion Date:		

SIGNATURE	
Electronic Signature of Contractor: <input type="checkbox"/> I certify that the information submitted herein is true, accurate and complete to the best of my knowledge and that all SDVOB subcontractors will perform a commercially useful function. Name (Please Type):	Date:

Attachment 7
NYS Environmental Facilities Corporation
Service Disabled Veteran Owned Business (SDVOB) Waiver Request Form

Instructions for Contractors & Service Providers:

Contractors and Service Providers must complete Sections 2, 3, and 4. **Submit the completed, signed (electronic signature box checked and dated) form in Microsoft Word format to the Recipient's designated Minority Business Officer (MBO).** Incomplete forms will be found deficient.

See the Bid Packet at www.efc.ny.gov or consult your designated MBO for further guidance.

Instructions for Minority Business Officers (MBO):

The MBO must complete Section 1. **Submit the completed, signed (electronic signature box checked and dated) form in Microsoft Word format via e-mail to your EFC MWBE-SDVOB Representative.** The subject heading of the e-mail to the EFC MWBE-SDVOB Representative should follow the format "Waiver Request, Project Number, Contractor." EFC will review and notify the MBO via e-mail of its acceptance or denial.

If a partial SDVOB waiver is requested, an SDVOB Utilization Plan must also be submitted for the amount of proposed SDVOB participation.

SECTION 1: MUNICIPAL INFORMATION

Recipient/Municipality:				County:	
Project No.:	GIGP/EPG No.:	Contract ID:	Registration No. (NYC only):		
Minority Business Officer (MBO):		Email:		Phone #:	
Address of MBO:					
Signature of MBO: <input type="checkbox"/> I certify that the information submitted herein is true, accurate and complete to the best of my knowledge and belief.					Date:

SECTION 2: PRIME CONTRACTOR / SERVICE PROVIDER INFORMATION

Firm Name:			Contract Type: <input type="checkbox"/> Construction <input type="checkbox"/> Other Services		
Address:		Phone #:	Fed. Employer ID #:		
Contact Information of Firm Representative Authorized to Discuss Waiver Request:					
Name:		Title:	Phone #:	E-mail:	
Description of Work:			EFC SDVOB GOAL Total		
Award Date:	Start Date:	Completion Date:			
Total Contract Amount: \$ SDVOB Eligible Contract Amount: \$ (SDVOB Goals are applied to this amount and includes all change orders, amendments, & waivers)			Total: 6 % \$		

Attachment 7
NYS Environmental Facilities Corporation
Service Disabled Veteran Owned Business (SDVOB) Waiver Request Form

SECTION 3: TYPE OF SDVOB WAIVER REQUESTED

1. **Full Waiver** (No SDVOB participation)
2. **Partial Waiver** (Less than the SDVOB goal; indicate below the proposed SDVOB participation)

PROPOSED SDVOB Participation

Total: % \$

3. **Specialty Equipment/Services Waiver** (Must be of SIGNIFICANT cost - list of equipment and cost must be attached in addition to the supporting documentation outlined below)

SECTION 4: SUPPORTING DOCUMENTATION

To be considered, the Request for Waiver Form must be accompanied by the documentation requested in items 1 – 9, as listed below. If a Specialty Equipment Waiver is requested, it must be accompanied by the documentation requested in items 1 - 13. If a Specialty Services Waiver is requested, it must be accompanied by the items requested in items 1 – 9 and item 14. Copies of the following information and all relevant supporting documentation must be submitted along with the request. Please contact EFC for assistance, including sample documentation.

1. A letter of explanation setting forth your basis for requesting a partial or total waiver and detailing the good faith efforts that were made.
2. Copies of advertisements in any general circulation, trade association, in which you solicited SDVOBs for the purposes of complying with your participation goal, with the dates of publication.
3. A list of firms found as a result of a search (by business description or commodity code) of OGS's SDVOB Directory and solicited for purposes of complying with your SDVOB participation goal.
4. Copies of faxes, letters, or e-mails sent to SDVOB firms to solicit participation and their responses.
5. A log of solicitation results, consisting of the list of SDVOB firms solicited for the contract and the outcome of the solicitations. The log should be broken out into separate areas for each task that is solicited (e.g., trucking, materials, electricians) and clearly provide a rationale for firms included on the completed Utilization Plan as well as for those not chosen. The log should show: that each SDVOB firm was contacted twice by two different methods (e.g., fax and phone); who was spoken to; what was said; and the final outcome of the solicitation.
6. A description of any contract documents, plans, or specifications made available to SDVOBs for purposes of soliciting their bids and the date and manner in which these documents were made available. Specifically, include information on the scope of work in the contract and a breakout of tasks or equipment, such as a schedule of values for a construction contract or a proposal or excerpt from a professional services agreement.

Attachment 7
NYS Environmental Facilities Corporation
Service Disabled Veteran Owned Business (SDVOB) Waiver Request Form

7. Documentation of any negotiations between you, the Contractor, and the SDVOBs undertaken for purposes of complying with your SDVOB participation goal.
8. Any other information you deem relevant which may help us in evaluating your request for a waiver. Examples may include sign-in sheets from any pre-bid meetings where SDVOB firms were invited, attendance at SDVOB forums, etc.
9. EFC and the MBO reserve the right to request additional information and/or documentation.

Additional Documentation for Requests for Specialty Equipment Waivers:

10. Copies of the appropriate pages of the technical specification related to the equipment showing the choices for manufacturers or other information that limits the choice of vendor.
11. Letter, e-mail or screenshot of website from the manufacturer listing their distributors in NYS and the locations.
12. The name and federal employee identification number of the manufacturer and distributor for EFC to search the SDVOB Directory.
13. An invoice or purchase order showing the value of the equipment.

Additional Documentation for Requests for Specialty Service Waivers:

14. A letter of explanation containing information about the scope of work and why no SDVOB firms could be subcontracted to provide that service.

Note: Unless a Total Waiver has been granted, Firms will be required to submit all reports and documents pursuant to the provisions set forth in the procurement and/or contract, as deemed appropriate by EFC, to determine SDVOB compliance. In cases where EFC accepts a full or partial waiver of SDVOB participation goals, the waiver request will be posted to EFC's website.

SIGNATURE

Electronic Signature of Contractor:

I certify that the information submitted herein is true, accurate and complete to the best of my knowledge.

Name: (Please Type):

Date:

Appendix F

National Grid Requirements

Note: Contractor shall be required to coordinate with National Grid and other utility owners within the project corridor and comply with all current requirements for operating in close proximity to their facilities.

**National Grid Construction Requirements for
ECWA Transmission Waterline Replacement Contract W-027
Millersport Highway to Sheridan Drive**

1) At no time shall any equipment (mechanical or otherwise) or materials be used, operated or moved over, across or along the Huntley-Gardenville 79 & 80 230kV transmission line where any part thereof is within seventeen (17) feet of the electric conductors, within 14 feet of any 115kV transmission line electric conductor or 10 feet from any 34.5kV or less electric conductor.

2) Compliance/Safety

- a. All activities conducted by the Contractor shall comply with all applicable Federal, state, and local laws, statutes, rules, regulations, and codes. In particular, the requirements of the following statutes, regulations, and safety codes and guidelines, appropriate for the voltage(s) of the transmission line(s) within the right-of-way, must be met:
 - i. National Electrical Safety Code
 - ii. In New York, Part 57 of the New York State Industrial Codes Rules (also known as the “High-Voltage Proximity Act”) (<http://www.labor.ny.gov/workerprotection/safetyhealth/sh57.shtm>)
 - iii. All OSHA regulations governing working clearances to electric distribution and transmission lines shall be followed. Although regulations 29 CFR 1926 Subpart CC and 29 CFR 1926.1501 may be specific to equipment that can hoist, lower, and horizontally move a suspended load, all equipment operating within a right-of-way shall maintain the clearances specified in these regulations, including but not limited to cranes, backhoes, excavators, forklifts, pile drivers, and drill-rigs.
- b. Contractor shall not place or store or any items within the right-of-way including, but not limited to vehicles, construction materials, equipment, or debris, excavated soil, trailers, laydown area or storage containers other than at the designated staging areas.
- c. Contractor shall adequately ground vehicles, equipment, fences and gates, at all times and in accordance with applicable Federal, State, and local laws, statutes, rules, regulations, and design codes, including, but not limited to, those listed in paragraph A above and IEEE Standard 80.

3) Protection of Transmission Line Facilities

- a. Contractor shall, at all times, protect all National Grid assets from damage. In addition to compliance with safety codes as described in Section 2, protection of transmission facilities shall, as a minimum, include the following:

- i. Should the Contractor operate equipment and vehicles within 15 feet horizontally away from any transmission line pole, tower, guy wire, or guy anchor jersey barriers will need to be installed to protect the facilities.
- ii. Contractor shall not store or use explosives within the right-of-way.
- iii. Contractor shall locate all ground wires buried in areas to be excavated and shall protect them against damage. If a buried ground wire is broken, the Requestor shall prevent anyone from touching it and shall notify National Grid's representative assigned to the project.

4) Access to Right-of-way

- a. Contractor shall not at any time block or impede access to or along the right-of-way.
- b. Contractor shall not damage roads or trails used to gain access to or along the right-of-way.
- c. All underground utilities, pipes, conduits, and all proposed bituminous and/or concrete drive surfaces and underground utilities shall be designed to minimally withstand AASHTO *Standard Specifications for Bridges and Highways* HS-25 highway class design criteria for vehicular loading when located within the utility corridor unless otherwise accepted by Transmission Engineering. Certain crossing locations at the discretion of National Grid shall be designed to withstand 100,000 lbs (loaded concrete truck). Details and designs shall be certified by a qualified Professional Engineer.

5) Protection of Interests

- a. Contractor shall pay all costs associated with modifications or repairs made necessary to National Grid's facilities as a result of activities by the Contractor, including the cost of repairs or modifications to buried ground wires. Repairs and/or modifications shall be performed by National Grid. Contractor shall notify National Grid's transmission representative assigned to the project when a buried wire is damaged.
- b. Contractor shall notify National Grid in writing at least 24 hours before the start of the work. In New York the notification shall also be made in accordance with the requirements of the High Voltage Proximity Act (Section 57.7).
- c. Electrostatic currents may occur in proximity to electric transmission lines under certain circumstances. Although people may experience annoying shocks due to these currents when touching conductive objects, National Grid is not able to eliminate the currents.

6) General Requirements

- a. Contractor shall have an electrically qualified person on site at all times when work is being performed in the National Grid corridor.

CODE RULE

57

HIGH - VOLTAGE PROXIMITY

**Part 57 of Title 12 of the Official Compilation of Codes,
Rules and Regulations of the State of New York
(Cited as 12 NYCRR 57)**

Effective September 30, 1992



**State of New York
Department of Labor**

**STATE OF NEW YORK
MARIO M. CUOMO
Governor**

**DEPARTMENT OF LABOR
JOHN F. HUDACS
Commissioner of Labor**

**DIVISION OF SAFETY AND HEALTH
MARIA L. COLAVITO
Director**

Copies of this rule may be obtained, free of charge, by individuals and groups when, in the judgment of the Commissioner, such distribution will further safety education and compliance with the Code Rule.

Requests for copies by mail should be directed to State of New York, Department of Labor, Office of Communications, State Office Building Campus, Albany, N.Y. 12240. However, single copies may be obtained by applying in person at the Albany Office, Room 511, and in New York City at the Department of Labor, One Main Street, Room 1107, Brooklyn, N.Y. 11201.

CERTIFICATION

STATE OF NEW YORK)
DEPARTMENT OF LABOR) SS.:

I, JOHN F. HUDACS, Commissioner of Labor of the State of New York, hereby certify that the copy of Part 57 of Title 12 of the Official Compilation of Codes, Rules and Regulations of the State of New York (12 NYCRR 57) contained in this booklet is a correct transcript of said Part relating to High Voltage Proximity. Said Part was filed on September 15, 1992 in the office of the Secretary of State of the State of New York to take effect on September 30, 1992.



Given under my hand and
the seal of the Department
of Labor on the 5th day of
January, 1993

JOHN F. HUDACS
Commissioner of Labor

EXTRACTS FROM THE LABOR LAW

SECTION 202-h. High-voltage proximity.

1. This section may be known as the "high-voltage proximity act".

2. Definitions. For the purpose of this section:

(a) "High-voltage lines" means electrical conductors installed above ground and having a voltage differential in excess of six hundred volts between any pair of conductors or between any conductor and ground. In the case of alternating current, the voltage shall be measured in R.M.S. value. This definition shall not include approved armored cable used to supply power to portable equipment and insulated power cables enclosed in approved metallic raceways.

(b) "Dangerous proximity" means a distance within ten feet of high-voltage lines, or within such greater distances as are set forth in the current editions and any subsequent revisions of the regulations of the United States Occupational Safety and Health Administration (29 CFR parts 1910 and 1926), the New York industrial code (12 NYCRR part 23) and the national electrical safety code.

3. Prohibited activity.

(a) No employer or supervising agent of an employer shall require or permit an employee to, and no self-employed individual, independent contractor having no employees or homeowner shall, participate in the operation, erection, transportation, handling, or storage of any tools, machinery, equipment, supplies, materials or apparatus, or the moving of any building, if in the course of such operation, erection, transportation, handling, storage or moving it is possible for such tools, machinery, equipment, supplies, materials, apparatus or building, to come within dangerous proximity of a high-voltage line; or participate in any activity which would cause the employee, self-employed individual, independent contractor or homeowner to come within dangerous proximity of a high-voltage line; unless precautionary action has been taken to protect against the danger from contact with such high-voltage line, either by de-energizing such high-voltage line and grounding it where necessary, or other effective methods or devices which have been approved in advance by the owner or person in charge of such high-voltage lines for the particular case and for the particular location.

(b) Employers whose employees operate, erect, transport, handle or store any tools, machinery, equipment, supplies, materials or apparatus, or move any building, which in the course of such operation, erection, transportation, handling, storing or moving might come within dangerous proximity of a high-voltage line, shall advise such employees of the dangers inherent in such work, highlight precautions which are to be taken under such circumstances and encourage employees to communicate with and advise employers or their supervising agents of conditions which would require precautionary action by the employer as required by paragraph (a) of this subdivision.

(c) In no case shall the required clearance be provided by moving or displacing any conductor, except where the same is temporarily relocated pursuant to arrangements made with the owner or person in charge of the high-voltage line, and such actions are performed by such owner or person in charge.

(d) All high-voltage lines shall be considered as energized high-voltage lines until assurance has been given that they are otherwise by qualified representatives of the owners or persons in charge of such lines.

4. Warning sign required.

(a) The owner, agent, lessee, bailee, user, or employer responsible for the operations of equipment capable of coming within dangerous proximity of a high-voltage line in the course of its operation, shall post and maintain in plain view of the operator on each piece of such equipment an approved durable warning sign legible at a distance of twelve feet reading "Danger Unlawful To Operate Any Part Of This Equipment Within 10 Feet of High-Voltage Lines". Additional warning signs shall be placed on various parts of the equipment providing similar warnings to others in the vicinity of the high-voltage lines.

Notwithstanding the foregoing, all such posted warnings shall specify the actual distance by which the term "dangerous proximity" is defined by paragraph (b) of subdivision two of this section. The owner, agent, lessee, bailee, user, or employer responsible for the operations of equipment shall provide such other warning signs on equipment or at the work site as may be required by regulations promulgated hereunder. The requirement that warning signs be posted shall not apply to railway equipment operating on railway right-of-way in relation to high-voltage conductors of such railway system under conditions for which exemption is granted under subdivision eight of this section.

(b) If for any reason and for any time period, the operator of the equipment is unable to assess visually the clearance of the equipment from overhead high-voltage lines, a second person shall be designated to observe the clearance and provide timely warning to the equipment operator.

5. Notification to power company and responsibility for safeguards. Whenever any activity is to be performed requiring precautionary action under this section, the employer, contractor or other person responsible for the activity shall promptly notify the owner or person in charge of the high-voltage line of the intended activity, such notification to be submitted at least five normal work days before the activity is to be performed. The owner or person responsible for the high-voltage line shall perform all necessary precautionary actions, and the employer, contractor or other person responsible for the activity shall be responsible for all costs of such precautionary actions. Under no circumstances shall activities requiring precautionary actions be undertaken before such precautionary actions have been completed.

6. Enforcement. The commissioner shall administer and enforce the provisions of this section and is hereby empowered to prescribe and promulgate rules and regulations consistent herewith. Such regulations shall

include a requirement that clearances greater than the dangerous proximity distance must be maintained where, in the judgment of the board, safety so requires.

7. Civil penalty.

(a) Any person violating any of the provisions of this section shall be liable for a penalty of not less than one hundred dollars nor more than one thousand dollars to be collected in a civil action by a summary proceeding. Any violation of this section by an officer, agent or employee shall be a violation by the employer if such employer had knowledge of and actual control over the cause of such violation. Where the violation is of a continuing nature, each day during which it continues shall constitute an additional, separate and distinct offense.

(b) The commissioner is hereby authorized and empowered to compromise and settle any claim for a penalty under this section in such amount in the discretion of the commissioner as may appear appropriate and equitable under the circumstances.

8. Exceptions.

(a) This section shall not be construed as applying to, shall not apply to, and is not

intended to apply to, the construction, reconstruction, operations, and maintenance of overhead electrical conductors and their supporting structures and associated equipment by authorized and qualified electrical workers; nor to the authorized and qualified employees of any person engaged in the construction, reconstruction, operation, and maintenance of overhead electrical circuits or conductors and their supporting structures and associated equipment of rail transportation systems, or electrical generating, transmission, distribution, and communication systems. This exception when applied to railway systems shall be construed as permitting operation of standard rail equipment, which is normally used in the transportation of freight or passengers or both and the operation of relief trains, or other equipment in emergencies, or in maintenance of way service, within dangerous proximity of and high-voltage conductor of such railway system; but this section shall be construed as prohibiting normal repair or construction operations within dangerous

proximity of any high-voltage conductor by other than properly qualified and authorized persons or employees under the direct supervision of an authorized person who is familiar with the hazards involved, unless there has been compliance with the safety provisions hereof.

(b) This section shall not be construed as applying to motor vehicle transportation across or along a public road or highway where the combined vehicle and load shall not be in excess of thirteen and one-half feet high and thirteen feet wide. Nevertheless, this section shall apply to motor vehicle transportation across or along a public road or highway during such time as the combined vehicle and load shall for any reason and for any period of time be in excess of thirteen and one-half feet high and thirteen feet wide.

9. Severability. In case any provisions of this section shall be adjudged unconstitutional or void for any reason, such adjudication shall not affect any of the other provisions of this section.

PART 57

HIGH-VOLTAGE PROXIMITY

(Statutory Authority: Labor Law Section 202-h)

Sec.	57.1	Title and citation
	57.2	Purpose and intent of Part (rule)
	57.3	Application
	57.4	Definitions
	57.5	Precautionary action
	57.6	Employee information
	57.7	High-voltage line proximity procedure
	57.8	Warning signs
	57.9	Civil penalty
	57.10	Severability

Section 57.1 Title and citation. Within and for the purposes of the Department of Labor, this Part (rule) may be known as Industrial Code Rule No. 57, relating to hazards to untrained persons working or moving materials or equipment in proximity to

high-voltage power lines. It may be cited as Code Rule 57 High Voltage Proximity as an alternative and without prejudice to its designation and citation established by the Secretary of State.

57.2 Purpose and Intent of Part (rule).

(a) Legislative findings. The Legislature has found that untrained persons working or moving materials or equipment in proximity to high-voltage power lines are endangered in the absence of suitable precautions, and that the quality of electrical service is likewise endangered by the absence of such precautions.

(b) Purpose and intent. It is the purpose and intent of this Part (rule) to reduce the risks to untrained persons working or moving materials or equipment in proximity to high-voltage power lines, and to help insure the quality of electrical service by requiring compliance by said persons with certain procedures that will insure reasonable

with certain procedures that will insure reasonable protection to said persons and to the high-voltage power lines in proximity to work locations or where materials or equipment are moved.

57.3 Application. (a) This Part (rule) shall apply throughout the State of New York to any employer, any agent of an employer who supervises employees, self-employed individuals, independent contractors having no employees and homeowners, subject to the exceptions set forth in subdivision (b) of this section.

(b) The provisions of this Part (rule) shall not apply to:

(1) the construction, reconstruction, operations, and maintenance of overhead electrical conductors and their supporting structures and associated equipment by authorized and qualified electrical workers;

(2) the authorized and qualified employees of any person engaged in the construction,

reconstruction, operation, and maintenance of overhead electrical circuits or conductors and their supporting structures and associated equipment of rail transportation systems or electrical generating, transmission, distribution, and communication systems; and

(3) motor vehicle transportation across or along a public road or highway where the combined vehicle and load is not at such time in excess of 13 1/2 feet high and 13 feet wide.

NOTE: The exception set forth in paragraph (b)(2) of this section, when applied to railway systems, shall be construed as permitting operation of standard rail equipment, which is normally used in the transportation of freight or passengers or both and the operation of relief trains, or other equipment in emergencies, or in maintenance of way service, within dangerous proximity of any high-voltage conductor of such railway system. Normal repair or construction operations within dangerous proximity of any high-voltage conductor shall be prohibited under this Part unless performed by properly qualified and authorized persons or employees under the direct supervision of an authorized person familiar with the hazards involved, unless there has been compliance with the safety provisions set forth in this Part.

57.4 Definitions. As used in or in connection with this Part (rule) the following terms shall mean:

(a) High-voltage lines. Electrical conductors installed aboveground and having a voltage differential in excess of 600 volts between any pair of conductors or between any conductor and ground. In the case of alternating current, the voltage shall be measured in R.M.S. value. All high-voltage lines shall be considered as energized high-voltage lines until assurance has been given that they are otherwise by qualified representatives of the owners or persons in charge of such lines.

Exception: This definition shall not include approved armored cable used to supply power to portable equipment and insulated power cables enclosed in approved metallic raceways.

(b) Dangerous proximity. As defined in Labor Law, section 202-h, dangerous proximity shall be the distance within 10 feet of high-voltage lines,

or within such greater distances as are set forth in the 1990 edition of the regulations of the United States Occupational Safety and Health Administration (29 CFR parts 1910 and 1926), the New York Industrial Code (12 NYCRR Part 23) and the National Electrical Safety Code, 1990 edition, published by the American National Standards Institute, 11 West 42nd Street, New York, New York 10036.

(c) R.M.S. value. The greatest effective difference of potential between any two conductors of the circuit concerned.

(d) Prohibited activity. The operation, erection, transportation, handling, or storage of any tools, machinery, equipment, supplies, material or apparatus, or the moving of any building, if in the course of such operation, erection, transportation, handling, storage or moving of such objects it is possible to come within dangerous proximity of a high-voltage line.

57.5 Precautionary Action. No individual covered by the provisions of this Part (rule) shall engage in, or require a person employed by him/her to engage in any prohibited activity unless precautionary action has been taken to protect against the danger from contact with a high-voltage line, either by de-energizing such high-voltage line and grounding it where necessary, or by other effective methods or devices which have been approved in advance for the particular case and for the particular location by the owner or persons in charge of such high-voltage lines.

57.6 Employee Information.

(a) Before allowing any employee to engage in prohibited activity, employers subject to the provisions of this Part (rule) shall:

(1) advise such employee of the dangers inherent in the operation, erection, transportation, handling, storage or moving of any tools, machinery, equipment, supplies, materials, apparatus or building in dangerous proximity to high-voltage lines;

(2) highlight precautions which are to be taken prior to or in conjunction with engaging in such prohibited activity;

(3) encourage employees to communicate with and advise employers or their supervising agents of conditions which would involve precautionary action by the employer as required under section 57.5 of this Part (rule).

(b) The information required under paragraphs (a)(1) and (3) of this section shall be provided to the employee in writing and shall be clear, concise and easily understood. Such written information shall contain the location and phone number where the employer or his/her supervising agent may be reached for the purpose of reporting conditions which would involve precautionary action.

(c) The information required under paragraph (a)(2) of this section shall be provided to the employee verbally or in writing and shall be related to the specific circumstances of the prohibited activity involved.

57.7 High-voltage line proximity procedure.

(a) At any site where any person or equipment may possibly come within dangerous proximity of a high-voltage line, such approach shall not be made until the following procedure has been complied with:

(1) The employer, contractor or other person making such approach or who is responsible for such activity, shall promptly notify the owner or person in charge of such high-voltage line in writing at least five normal work days before such approach is to be made. If the notification is made by regular mail, three extra days notice shall be given.

Exception: In any emergency situation involving imminent danger to the life, health or safety of any person, the person responsible for such activity is not required to comply with this provision.

(2) Within three normal working days following the receipt of such written notice, the owner or person in charge of the high-

voltage line shall respond to the person making such approach or who is responsible for such activity of the procedure to be followed prior to performing any work in dangerous proximity to such high-voltage line.

(3) The owner or person responsible for the high-voltage line shall perform all necessary precautionary actions to be taken to protect against the danger from contact with such high-voltage line, either by de-energizing such high-voltage line and grounding it where necessary, or by approving in advance other effective methods or devices for the particular cases and for the particular locations.

(4) The employer, contractor or other person responsible for the activity within dangerous proximity of such high-voltage line shall be responsible for all costs incurred in connection with such precautionary action including determining what precautionary measures are

necessary and preparations for implementing them whether or not such precautionary measures are actually implemented.

57.8 Warning signs.

(a) The owner, agent, lessee, bailee, user, or employer responsible for the operations of equipment capable of coming within dangerous proximity of a high-voltage line in the course of its operation, shall post and maintain in plain view of the operator on each piece of such equipment, an approved durable warning sign legible at a distance of 12 feet. Every such warning sign shall bear the following legend in black letters on a yellow background:

DANGER

Unlawful To Operate Any Part

Of This Equipment Within 10 Feet Of

High-Voltage Lines

(b) All posted warning signs shall specify the actual distance by which the term "dangerous proximity" is defined for the particular case and location to which this Part (rule) applies.

(c) Additional warning signs shall be placed on various parts of the equipment and at the work site providing similar warnings to others in the vicinity of the high-voltage lines.

(d) If for any reason and for any time period, the operator of the equipment is unable to assess visually the clearance of the equipment from overhead high-voltage lines, a second person shall be designated to observe the clearance and provide timely warning to the equipment operator.

57.9 Civil penalty. Any person violating any of the provisions of this section shall be liable for a penalty of not less than \$100 nor more than \$1000 to be collected in a civil action by a summary proceeding. Any violation of this section by an officer, agent or

employee shall be a violation by the employer if such employer had knowledge of and actual control over the cause of such violation. Where the violation is of a continuing nature, each day during which it continues shall constitute an additional, separate and distinct offense.

57.10 Severability. If any provision of this Part (rule) or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of this Part (rule) which can be given effect without the invalid provisions or applications and to this end the provisions of this Part (rule) are declared to be severable.

(b) None of the pins (top or bottom) on boom sections located between the pendant attachment points and the crane/derrick body are to be removed (partly or completely) when the pendants are in tension.

(c) None of the pins (top or bottom) on boom sections located between the uppermost boom section and the crane/derrick body are to be removed (partly or completely) when the boom is being supported by the uppermost boom section resting on the ground (or other support).

(d) None of the top pins on boom sections located on the cantilevered portion of the boom being removed (the portion being removed ahead of the pendant attachment points) are to be removed (partly or completely) until the cantilevered section to be removed is fully supported.

§ 1926.1406 Assembly/Disassembly—employer procedures—general requirements.

(a) When using employer procedures instead of manufacturer procedures for assembly/disassembly, the employer must ensure that the procedures:

(1) Prevent unintended dangerous movement, and prevent collapse, of any part of the equipment.

(2) Provide adequate support and stability of all parts of the equipment.

(3) Position employees involved in the assembly/disassembly operation so that their exposure to unintended movement or collapse of part or all of the equipment is minimized.

(b) *Qualified person.* Employer procedures must be developed by a qualified person.

§ 1926.1407 Power line safety (up to 350 kV)—assembly and disassembly.

(a) Before assembling or disassembling equipment, the employer must determine if any part of the equipment, load line, or load (including rigging and lifting accessories) could get, in the direction or area of assembly/disassembly, closer than 20 feet to a power line during the assembly/disassembly process. If so, the employer must meet the requirements in Option (1), Option (2), or Option (3) of this section, as follows:

(1) *Option (1)—Deenergize and ground.* Confirm from the utility owner/operator that the power line has been deenergized and visibly grounded at the worksite.

(2) *Option (2)—20 foot clearance.* Ensure that no part of the equipment, load line or load (including rigging and lifting accessories), gets closer than 20 feet to the power line by implementing the measures specified in paragraph (b) of this section.

(3) *Option (3)—Table A clearance.*

(i) Determine the line's voltage and the minimum clearance distance permitted under Table A (see § 1926.1408).

(ii) Determine if any part of the equipment, load line, or load (including rigging and lifting accessories), could get closer than the minimum clearance distance to the power line permitted under Table A (see § 1926.1408). If so, then the employer must follow the requirements in paragraph (b) of this section to ensure that no part of the equipment, load line, or load (including rigging and lifting accessories), gets closer to the line than the minimum clearance distance.

(b) *Preventing encroachment/electrocution.* Where encroachment precautions are required under Option (2), or Option (3) of this section, all of the following requirements must be met:

(1) Conduct a planning meeting with the Assembly/Disassembly director (A/D director), operator, assembly/disassembly crew and the other workers who will be in the assembly/disassembly area to review the location of the power line(s) and the steps that will be implemented to prevent encroachment/electrocution.

(2) If tag lines are used, they must be nonconductive.

(3) At least one of the following additional measures must be in place. The measure selected from this list must be effective in preventing encroachment.

The additional measures are:

(i) Use a dedicated spotter who is in continuous contact with the equipment operator. The dedicated spotter must:

(A) Be equipped with a visual aid to assist in identifying the minimum clearance distance. Examples of a visual aid include, but are not limited to: A clearly visible line painted on the ground; a clearly visible line of stanchions; a set of clearly visible line-of-sight landmarks (such as a fence post behind the dedicated spotter and a building corner ahead of the dedicated spotter).

(B) Be positioned to effectively gauge the clearance distance.

(C) Where necessary, use equipment that enables the dedicated spotter to communicate directly with the operator.

(D) Give timely information to the operator so that the required clearance distance can be maintained.

(ii) A proximity alarm set to give the operator sufficient warning to prevent encroachment.

(iii) A device that automatically warns the operator when to stop movement, such as a range control warning device. Such a device must be set to give the

operator sufficient warning to prevent encroachment.

(iv) A device that automatically limits range of movement, set to prevent encroachment.

(v) An elevated warning line, barricade, or line of signs, in view of the operator, equipped with flags or similar high-visibility markings.

(c) *Assembly/disassembly below power lines prohibited.* No part of a crane/derrick, load line, or load (including rigging and lifting accessories), whether partially or fully assembled, is allowed below a power line unless the employer has confirmed that the utility owner/operator has deenergized and (at the worksite) visibly grounded the power line.

(d) *Assembly/disassembly inside Table A clearance prohibited.* No part of a crane/derrick, load line, or load (including rigging and lifting accessories), whether partially or fully assembled, is allowed closer than the minimum approach distance under Table A (see § 1926.1408) to a power line unless the employer has confirmed that the utility owner/operator has deenergized and (at the worksite) visibly grounded the power line.

(e) *Voltage information.* Where Option (3) of this section is used, the utility owner/operator of the power lines must provide the requested voltage information within two working days of the employer's request.

(f) *Power lines presumed energized.*

The employer must assume that all power lines are energized unless the utility owner/operator confirms that the power line has been and continues to be deenergized and visibly grounded at the worksite.

(g) *Posting of electrocution warnings.* There must be at least one electrocution hazard warning conspicuously posted in the cab so that it is in view of the operator and (except for overhead gantry and tower cranes) at least two on the outside of the equipment.

§ 1926.1408 Power line safety (up to 350 kV)—equipment operations.

(a) *Hazard assessments and precautions inside the work zone.*

Before beginning equipment operations, the employer must:

(1) *Identify the work zone by either:*

(i) Demarcating boundaries (such as with flags, or a device such as a range limit device or range control warning device) and prohibiting the operator from operating the equipment past those boundaries, or

(ii) Defining the work zone as the area 360 degrees around the equipment, up to the equipment's maximum working radius.

(2) Determine if any part of the equipment, load line or load (including rigging and lifting accessories), if operated up to the equipment's maximum working radius in the work zone, could get closer than 20 feet to a power line. If so, the employer must meet the requirements in Option (1), Option (2), or Option (3) of this section, as follows:

(i) *Option (1)—Deenergize and ground.* Confirm from the utility owner/operator that the power line has been deenergized and visibly grounded at the worksite.

(ii) *Option (2)—20 foot clearance.* Ensure that no part of the equipment, load line, or load (including rigging and lifting accessories), gets closer than 20 feet to the power line by implementing the measures specified in paragraph (b) of this section.

(iii) *Option (3)—Table A clearance.*

(A) Determine the line's voltage and the minimum approach distance permitted under Table A (see § 1926.1408).

(B) Determine if any part of the equipment, load line or load (including rigging and lifting accessories), while operating up to the equipment's maximum working radius in the work zone, could get closer than the minimum approach distance of the power line permitted under Table A (see § 1926.1408). If so, then the employer must follow the requirements in paragraph (b) of this section to ensure that no part of the equipment, load line, or load (including rigging and lifting accessories), gets closer to the line than the minimum approach distance.

(b) *Preventing encroachment/electrocution.* Where encroachment precautions are required under Option (2) or Option (3) of this section, all of the following requirements must be met:

(1) Conduct a planning meeting with the operator and the other workers who will be in the area of the equipment or load to review the location of the power line(s), and the steps that will be implemented to prevent encroachment/electrocution.

(2) If tag lines are used, they must be non-conductive.

(3) Erect and maintain an elevated warning line, barricade, or line of signs, in view of the operator, equipped with flags or similar high-visibility markings, at 20 feet from the power line (if using Option (2) of this section) or at the minimum approach distance under Table A (see § 1926.1408) (if using Option (3) of this section). If the operator is unable to see the elevated warning line, a dedicated spotter must be used as described in § 1926.1408(b)(4)(ii) in addition to

implementing one of the measures described in §§ 1926.1408(b)(4)(i), (iii), (iv) and (v).

(4) Implement at least one of the following measures:

(i) A proximity alarm set to give the operator sufficient warning to prevent encroachment.

(ii) A dedicated spotter who is in continuous contact with the operator. Where this measure is selected, the dedicated spotter must:

(A) Be equipped with a visual aid to assist in identifying the minimum clearance distance. Examples of a visual aid include, but are not limited to: A clearly visible line painted on the ground; a clearly visible line of stanchions; a set of clearly visible line-of-sight landmarks (such as a fence post behind the dedicated spotter and a building corner ahead of the dedicated spotter).

(B) Be positioned to effectively gauge the clearance distance.

(C) Where necessary, use equipment that enables the dedicated spotter to communicate directly with the operator.

(D) Give timely information to the operator so that the required clearance distance can be maintained.

(iii) A device that automatically warns the operator when to stop movement, such as a range control warning device. Such a device must be set to give the operator sufficient warning to prevent encroachment.

(iv) A device that automatically limits range of movement, set to prevent encroachment.

(v) An insulating link/device, as defined in § 1926.1401, installed at a point between the end of the load line (or below) and the load.

(5) The requirements of paragraph (b)(4) of this section do not apply to work covered by subpart V of this part.

(c) *Voltage information.* Where Option (3) of this section is used, the utility owner/operator of the power lines must provide the requested voltage information within two working days of the employer's request.

(d) *Operations below power lines.*

(1) No part of the equipment, load line, or load (including rigging and lifting accessories) is allowed below a power line unless the employer has confirmed that the utility owner/operator has deenergized and (at the worksite) visibly grounded the power line, except where one of the exceptions in paragraph (d)(2) of this section applies.

(2) *Exceptions.* Paragraph (d)(1) of this section is inapplicable where the employer demonstrates that one of the following applies:

(i) The work is covered by subpart V of this part.

(ii) For equipment with non-extensible booms: The uppermost part of the equipment, with the boom at true vertical, would be more than 20 feet below the plane of the power line or more than the Table A of this section minimum clearance distance below the plane of the power line.

(iii) For equipment with articulating or extensible booms: The uppermost part of the equipment, with the boom in the fully extended position, at true vertical, would be more than 20 feet below the plane of the power line or more than the Table A of this section minimum clearance distance below the plane of the power line.

(iv) The employer demonstrates that compliance with paragraph (d)(1) of this section is infeasible and meets the requirements of § 1926.1410.

(e) *Power lines presumed energized.* The employer must assume that all power lines are energized unless the utility owner/operator confirms that the power line has been and continues to be deenergized and visibly grounded at the worksite.

(f) When working near transmitter/communication towers where the equipment is close enough for an electrical charge to be induced in the equipment or materials being handled, the transmitter must be deenergized or the following precautions must be taken:

(1) The equipment must be provided with an electrical ground.

(2) If tag lines are used, they must be non-conductive.

(g) *Training.*

(1) The employer must train each operator and crew member assigned to work with the equipment on all of the following:

(i) The procedures to be followed in the event of electrical contact with a power line. Such training must include:

(A) Information regarding the danger of electrocution from the operator simultaneously touching the equipment and the ground.

(B) The importance to the operator's safety of remaining inside the cab except where there is an imminent danger of fire, explosion, or other emergency that necessitates leaving the cab.

(C) The safest means of evacuating from equipment that may be energized.

(D) The danger of the potentially energized zone around the equipment (step potential).

(E) The need for crew in the area to avoid approaching or touching the equipment and the load.

(F) Safe clearance distance from power lines.

(ii) Power lines are presumed to be energized unless the utility owner/

operator confirms that the power line has been and continues to be deenergized and visibly grounded at the worksite.

(iii) Power lines are presumed to be uninsulated unless the utility owner/operator or a registered engineer who is a qualified person with respect to electrical power transmission and distribution confirms that a line is insulated.

(iv) The limitations of an insulating link/device, proximity alarm, and range control (and similar) device, if used.

(v) The procedures to be followed to properly ground equipment and the limitations of grounding.

(2) Employees working as dedicated spotters must be trained to enable them to effectively perform their task, including training on the applicable requirements of this section.

(3) Training under this section must be administered in accordance with § 1926.1430(g).

(h) Devices originally designed by the manufacturer for use as: A safety device (see § 1926.1415), operational aid, or a means to prevent power line contact or electrocution, when used to comply with this section, must meet the manufacturer's procedures for use and conditions of use.

TABLE A—MINIMUM CLEARANCE DISTANCES

Voltage (nominal, kV, alternating current)	Minimum clearance distance (feet)
up to 50	10
over 50 to 200	15
over 200 to 350	20
over 350 to 500	25
over 500 to 750	35
over 750 to 1,000	45
over 1,000	(as established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution).

Note: The value that follows "to" is up to and includes that value. For example, over 50 to 200 means up to and including 200kV.

§ 1926.1409 Power line safety (over 350 kV).

The requirements of § 1926.1407 and § 1926.1408 apply to power lines over 350 kV except:

(a) For power lines at or below 1000 kV, wherever the distance "20 feet" is specified, the distance "50 feet" must be substituted; and

(b) For power lines over 1000 kV, the minimum clearance distance must be established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution.

§ 1926.1410 Power line safety (all voltages)—equipment operations closer than the Table A zone.

Equipment operations in which any part of the equipment, load line, or load (including rigging and lifting accessories) is closer than the minimum approach distance under Table A of § 1926.1408 to an energized power line is prohibited, except where the employer demonstrates that all of the following requirements are met:

(a) The employer determines that it is infeasible to do the work without breaching the minimum approach distance under Table A of § 1926.1408.

(b) The employer determines that, after consultation with the utility owner/operator, it is infeasible to deenergize and ground the power line or relocate the power line.

(c) *Minimum clearance distance.*

(1) The power line owner/operator or registered professional engineer who is

a qualified person with respect to electrical power transmission and distribution determines the minimum clearance distance that must be maintained to prevent electrical contact in light of the on-site conditions. The factors that must be considered in making this determination include, but are not limited to: Conditions affecting atmospheric conductivity; time necessary to bring the equipment, load line, and load (including rigging and lifting accessories) to a complete stop; wind conditions; degree of sway in the power line; lighting conditions, and other conditions affecting the ability to prevent electrical contact.

(2) Paragraph (c)(1) of this section does not apply to work covered by subpart V of this part; instead, for such work, the minimum clearance distances specified in § 1926.950 Table V-1 apply. Employers engaged in subpart V work are permitted to work closer than the distances in § 1926.950 Table V-1 where both the requirements of this section and § 1926.952(c)(3)(i) or (ii) are met.

(d) A planning meeting with the employer and utility owner/operator (or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution) is held to determine the procedures that will be followed to prevent electrical contact and electrocution. At a minimum these procedures must include:

(1) If the power line is equipped with a device that automatically reenergizes the circuit in the event of a power line

contact, before the work begins, the automatic reclosing feature of the circuit interrupting device must be made inoperative if the design of the device permits.

(2) A dedicated spotter who is in continuous contact with the operator. The dedicated spotter must:

(i) Be equipped with a visual aid to assist in identifying the minimum clearance distance. Examples of a visual aid include, but are not limited to: A line painted on the ground; a clearly visible line-of-sight landmarks (such as a fence post behind the dedicated spotter and a building corner ahead of the dedicated spotter).

(ii) Be positioned to effectively gauge the clearance distance.

(iii) Where necessary, use equipment that enables the dedicated spotter to communicate directly with the operator.

(iv) Give timely information to the operator so that the required clearance distance can be maintained.

(3) An elevated warning line, or barricade (not attached to the crane), in view of the operator (either directly or through video equipment), equipped with flags or similar high-visibility markings, to prevent electrical contact. However, this provision does not apply to work covered by subpart V of this part.

(4) *Insulating link/device.*

(i) An insulating link/device installed at a point between the end of the load line (or below) and the load.

(ii) For work covered by subpart V of this part, the requirement in paragraph

(d)(4)(i) of this section applies only when working inside the § 1926.950 Table V-1 clearance distances.

(iii) For work covered by subpart V of this part involving operations where use of an insulating link/device is infeasible, the requirements of § 1910.269(p)(4)(iii)(B) or (C) may be substituted for the requirement in (d)(4)(i) of this section.

(iv) Until November 8, 2011, the following procedure may be substituted for the requirement in paragraph (d)(4)(i) of this section: All employees, excluding equipment operators located on the equipment, who may come in contact with the equipment, the load line, or the load must be insulated or guarded from the equipment, the load line, and the load. Insulating gloves rated for the voltage involved are adequate insulation for the purposes of this paragraph.

(v) Until November 8, 2013, the following procedure may be substituted for the requirement in (d)(4)(i) of this section:

(A) The employer must use a link/device manufactured on or before November 8, 2011, that meets the definition of an insulating link/device, except that it has not been approved by a Nationally Recognized Testing Laboratory, and that is maintained and used in accordance with manufacturer requirements and recommendations, and is installed at a point between the end of the load line (or below) and the load; and

(B) All employees, excluding equipment operators located on the equipment, who may come in contact with the equipment, the load line, or the load must be insulated or guarded from the equipment, the load line, and the load through an additional means other than the device described in paragraph (d)(4)(v)(A) of this section. Insulating gloves rated for the voltage involved are adequate additional means of protection for the purposes of this paragraph.

(5) Nonconductive rigging if the rigging may be within the Table A of § 1926.1408 distance during the operation.

(6) If the equipment is equipped with a device that automatically limits range of movement, it must be used and set to prevent any part of the equipment, load line, or load (including rigging and lifting accessories) from breaching the minimum approach distance established under paragraph (c) of this section.

(7) If a tag line is used, it must be of the nonconductive type.

(8) Barricades forming a perimeter at least 10 feet away from the equipment

to prevent unauthorized personnel from entering the work area. In areas where obstacles prevent the barricade from being at least 10 feet away, the barricade must be as far from the equipment as feasible.

(9) Workers other than the operator must be prohibited from touching the load line above the insulating link/device and crane. Operators remotely operating the equipment from the ground must use either wireless controls that isolate the operator from the equipment or insulating mats that insulate the operator from the ground.

(10) Only personnel essential to the operation are permitted to be in the area of the crane and load.

(11) The equipment must be properly grounded.

(12) Insulating line hose or cover-up must be installed by the utility owner/operator except where such devices are unavailable for the line voltages involved.

(e) The procedures developed to comply with paragraph (d) of this section are documented and immediately available on-site.

(f) The equipment user and utility owner/operator (or registered professional engineer) meet with the equipment operator and the other workers who will be in the area of the equipment or load to review the procedures that will be implemented to prevent breaching the minimum approach distance established in paragraph (c) of this section and prevent electrocution.

(g) The procedures developed to comply with paragraph (d) of this section are implemented.

(h) The utility owner/operator (or registered professional engineer) and all employers of employees involved in the work must identify one person who will direct the implementation of the procedures. The person identified in accordance with this paragraph must direct the implementation of the procedures and must have the authority to stop work at any time to ensure safety.

(i) [Reserved.]

(j) If a problem occurs implementing the procedures being used to comply with paragraph (d) of this section, or indicating that those procedures are inadequate to prevent electrocution, the employer must safely stop operations and either develop new procedures to comply with paragraph (d) of this section or have the utility owner/operator deenergize and visibly ground or relocate the power line before resuming work.

(k) Devices originally designed by the manufacturer for use as a safety device (see § 1926.1415), operational aid, or a means to prevent power line contact or electrocution, when used to comply with this section, must comply with the manufacturer's procedures for use and conditions of use.

(l) [Reserved.]

(m) The employer must train each operator and crew member assigned to work with the equipment in accordance with § 1926.1408(g).

§ 1926.1411 Power line safety—while traveling under or near power lines with no load.

(a) This section establishes procedures and criteria that must be met for equipment traveling under or near a power line on a construction site with no load. Equipment traveling on a construction site with a load is governed by §§ 1926.1408, 1926.1409 or 1926.1410, whichever is appropriate, and § 1926.1417(u).

(b) The employer must ensure that:

(1) The boom/mast and boom/mast support system are lowered sufficiently to meet the requirements of this paragraph.

(2) The clearances specified in Table T of this section are maintained.

(3) The effects of speed and terrain on equipment movement (including movement of the boom/mast) are considered so that those effects do not cause the minimum clearance distances specified in Table T of this section to be breached.

(4) *Dedicated spotter.* If any part of the equipment while traveling will get closer than 20 feet to the power line, the employer must ensure that a dedicated spotter who is in continuous contact with the driver/operator is used. The dedicated spotter must:

(i) Be positioned to effectively gauge the clearance distance.

(ii) Where necessary, use equipment that enables the dedicated spotter to communicate directly with the operator.

(iii) Give timely information to the operator so that the required clearance distance can be maintained.

(5) *Additional precautions for traveling in poor visibility.* When traveling at night, or in conditions of poor visibility, in addition to the measures specified in paragraphs (b)(1) through (4) of this section, the employer must ensure that:

(i) The power lines are illuminated or another means of identifying the location of the lines is used.

(ii) A safe path of travel is identified and used.

TABLE T—MINIMUM CLEARANCE DISTANCES WHILE TRAVELING WITH NO LOAD

Voltage (nominal, kV, alternating current)	While traveling—minimum clearance distance (feet)
up to 0.75	4
over .75 to 50	6
over 50 to 345	10
over 345 to 750	16
Over 750 to 1,000	20
Over 1,000	(as established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution).

§ 1926.1412 Inspections.**(a) Modified equipment.**

(1) Equipment that has had modifications or additions which affect the safe operation of the equipment (such as modifications or additions involving a safety device or operational aid, critical part of a control system, power plant, braking system, load-sustaining structural components, load hook, or in-use operating mechanism) or capacity must be inspected by a qualified person after such modifications/additions have been completed, prior to initial use. The inspection must meet all of the following requirements:

(i) The inspection must assure that the modifications or additions have been done in accordance with the approval obtained pursuant to § 1926.1434 (Equipment modifications).

(ii) The inspection must include functional testing of the equipment.

(2) Equipment must not be used until an inspection under this paragraph demonstrates that the requirements of paragraph (a)(1)(i) of this section have been met.

(b) Repaired/adjusted equipment.

(1) Equipment that has had a repair or adjustment that relates to safe operation (such as: A repair or adjustment to a safety device or operator aid, or to a critical part of a control system, power plant, braking system, load-sustaining structural components, load hook, or in-use operating mechanism), must be inspected by a qualified person after such a repair or adjustment has been completed, prior to initial use. The inspection must meet all of the following requirements:

(i) The qualified person must determine if the repair/adjustment meets manufacturer equipment criteria (where applicable and available).

(ii) Where manufacturer equipment criteria are unavailable or inapplicable, the qualified person must:

(A) Determine if a registered professional engineer (RPE) is needed to develop criteria for the repair/adjustment. If an RPE is not needed, the

employer must ensure that the criteria are developed by the qualified person. If an RPE is needed, the employer must ensure that they are developed by an RPE.

(B) Determine if the repair/adjustment meets the criteria developed in accordance with paragraph (b)(1)(ii)(A) of this section.

(iii) The inspection must include functional testing of the repaired/adjusted parts and other components that may be affected by the repair/adjustment.

(4) Equipment must not be used until an inspection under this paragraph demonstrates that the repair/adjustment meets the requirements of paragraph (b)(1)(i) of this section (or, where applicable, paragraph (b)(1)(ii) of this section).

(c) Post-assembly.

(1) Upon completion of assembly, the equipment must be inspected by a qualified person to assure that it is configured in accordance with manufacturer equipment criteria.

(2) Where manufacturer equipment criteria are unavailable, a qualified person must:

(i) Determine if a registered professional engineer (RPE) familiar with the type of equipment involved is needed to develop criteria for the equipment configuration. If an RPE is not needed, the employer must ensure that the criteria are developed by the qualified person. If an RPE is needed, the employer must ensure that they are developed by an RPE.

(ii) Determine if the equipment meets the criteria developed in accordance with paragraph (c)(2)(i) of this section.

(3) Equipment must not be used until an inspection under this paragraph demonstrates that the equipment is configured in accordance with the applicable criteria.

(d) Each shift.

(1) A competent person must begin a visual inspection prior to each shift the equipment will be used, which must be completed before or during that shift. The inspection must consist of observation for apparent deficiencies.

Taking apart equipment components and booming down is not required as part of this inspection unless the results of the visual inspection or trial operation indicate that further investigation necessitating taking apart equipment components or booming down is needed. Determinations made in conducting the inspection must be reassessed in light of observations made during operation. At a minimum the inspection must include all of the following:

(i) Control mechanisms for maladjustments interfering with proper operation.

(ii) Control and drive mechanisms for apparent excessive wear of components and contamination by lubricants, water or other foreign matter.

(iii) Air, hydraulic, and other pressurized lines for deterioration or leakage, particularly those which flex in normal operation.

(iv) Hydraulic system for proper fluid level.

(v) Hooks and latches for deformation, cracks, excessive wear, or damage such as from chemicals or heat.

(vi) Wire rope reeving for compliance with the manufacturer's specifications.

(vii) Wire rope, in accordance with § 1926.1413(a).

(viii) Electrical apparatus for malfunctioning, signs of apparent excessive deterioration, dirt or moisture accumulation.

(ix) Tires (when in use) for proper inflation and condition.

(x) Ground conditions around the equipment for proper support, including ground settling under and around outriggers/stabilizers and supporting foundations, ground water accumulation, or similar conditions. This paragraph does not apply to the inspection of ground conditions for railroad tracks and their underlying support when the railroad tracks are part of the general railroad system of transportation that is regulated pursuant to the Federal Railroad Administration under 49 CFR part 213.

(xi) The equipment for level position within the tolerances specified by the

nationalgrid	ELECTRIC OPERATING PROCEDURE	Doc. # NG-EOP G026
	GENERAL	Page 1 of 14
	MECHANIZED EQUIPMENT GROUNDING	Version 3.0 – 05/24/13

INTRODUCTION

Operation of vehicles or equipment near energized lines and equipment may create hazards due to electric field induction, magnetic field induction, and direct contact with energized lines or equipment. These effects may be reduced by grounding and/or isolating the vehicle or equipment.

PURPOSE

The purpose of this procedure is to provide the appropriate methods required for grounding and/or barricading before working on or near energized overhead and underground distribution, sub-transmission and transmission lines. The procedure addresses all mechanized equipment working in or near an energized source where the hazards due to electric or magnetic field inductions exist or the potential of an accidental contact with energized equipment / wire may occur.

ACCOUNTABILITY

1. Standards, Policies and Codes
 - A. Update procedure as necessary.
 - B. Provide T&D personnel guidance when requested.
2. Customer Operations
 - A. Ensure the components of the procedure are implemented.
 - B. Ensure T&D personnel are trained in this procedure.
 - C. Provide revision input as necessary.
3. Employee
 - A. Demonstrate the understanding of the procedure.
 - B. Comply with the requirements of the procedure.

REFERENCES

National Grid Employee Safety Handbook
 OSHA 1910.269 (p) 4 Operations Near Energized Lines or Equipment.
 OSHA 1926.416
 OSHA 1910.333
 NESC 2012 edition
 IEEE Standard 1048 2003 IEEE Guide for Protective Grounding of Power Lines
 ANSI Z535.5-2002
 ASTM Designation: F855-97
 NG-EOP G013 Excavation Notification Requirements
 NG-EOP UG011 Underground Electric

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nationalgrid	ELECTRIC OPERATING PROCEDURE	Doc. # NG-EOP G026
	GENERAL	Page 2 of 14
	MECHANIZED EQUIPMENT GROUNDING	Version 3.0 – 05/24/13

DEFINITIONS

Qualified Person: A person knowledgeable in the construction and operation of electric power generation, transmission, substation, and/or distribution apparatus involved along with the associated hazards in specific duties pertaining to electric operations.

Barricade: A physical obstruction such as tapes, screens or cones intended to warn and limit access to a hazardous area.

Barrier: A physical obstruction that is intended to prevent contact with energized lines and equipment.

Effectively Grounded: Being connected to the earth through a ground connection or connections of sufficiently low impedance and having sufficient current-carrying capacity to prevent the building up of voltages that may result in undue hazard to connected equipment or to persons.

Energized (alive, live): Electrically connected to a source of potential difference or electrically charged so as to have a potential significantly different from that of earth in the vicinity.

Touch Potential: The voltage difference between an object which the worker may touch and the earth upon which the worker is standing. This voltage difference could be hazardous and could result from energizations, induction or faults.

Step Potential: The voltage difference between two points on earth's surface, separated by a distance of one pace (assumed to be one meter/approximately 3 feet) in the direction of the maximum voltage gradient. This potential difference, if great enough, could be dangerous to a worker.

Exposed – Not isolated or guarded.

Isolated: An object that is not readily accessible to persons unless special means of access are used.

Guarded: Protected by personnel, covered, fenced, or enclosed by means of suitable covers or casings, barrier rails, screens, mats, platforms, or other suitable devices in accordance with standard barricading techniques designed to prevent dangerous approach or contact by persons or objects.

Tolerance Zone: - If the diameter of the underground facility is known, the distance of one-half of the known diameter plus two feet, on either side of the designated center line or, if the diameter of the underground facility is not known, two feet on either side of the designated center line.

TRAINING

Provided by appropriate National Grid training program.

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nationalgrid	ELECTRIC OPERATING PROCEDURE	Doc. # NG-EOP G026
	GENERAL	Page 3 of 14
	MECHANIZED EQUIPMENT GROUNDING	Version 3.0 – 05/24/13

DOCUMENT CONTENTS

Table of Contents

1.0 SAFETY REQUIREMENTS 4

2.0 GENERAL GUIDELINES FOR ALL APPLICATIONS (OVERHEAD AND UNDERGROUND) 4

3.0 OVERHEAD EQUIPMENT APPLICATION..... 4

4.0 OVERHEAD GROUNDING ELEMENTS 6

5.0 GROUNDING OF OVERHEAD EQUIPMENT 7

6.0 UNDERGROUND EQUIPMENT APPLICATION 10

7.0 UNDERGROUND GROUNDING ELEMENTS 11

8.0 GROUNDING OF UNDERGROUND EQUIPMENT..... 11

9.0 BARRICADING 12

10.0 EXCAVATING EQUIPMENT 14

11.0 ELECTRIC AND MAGNETIC FIELD INDUCTION..... 14

12.0 REVISION HISTORY 14

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File: NG-EOP G026 Mechanized Equipment Grounding JMM	Originating Department: Standards, Policies and Codes	Sponsor: Susan Fleck

nationalgrid	ELECTRIC OPERATING PROCEDURE	Doc. # NG-EOP G026
	GENERAL	Page 4 of 14
	MECHANIZED EQUIPMENT GROUNDING	Version 3.0 – 05/24/13

1.0 SAFETY REQUIREMENTS

- 1.1 All appropriate Personal Protective Equipment, which includes, but is not limited to hard hat, safety glasses/eye protection, rubber protective equipment, appropriate footwear and FR clothing, shall be worn when performing work as required by the National Grid Employee Safety Handbook and applicable work procedures.
- 1.2 The employee in charge of the work shall conduct a written job brief with the employees involved before they start each job. The briefing shall cover at least the following subjects: hazards associated with the job, work procedures involved, special precautions, Clearance and Control Procedures, atmospheric testing and ventilation and personal protective equipment requirements.
- 1.3 During work, barriers or other appropriate protection shall be installed to protect adjacent conductors.
- 1.4 All the procedures shall be worked in accordance with accepted safe work practices using approved tools and equipment. Refer to the tool catalog for a listing of approved equipment.

2.0 GENERAL GUIDELINES FOR ALL APPLICATIONS (OVERHEAD AND UNDERGROUND)

- 2.1 All ground connections shall be made on a bare metal surface and shall be clean and wire brushed before installing connection.
- 2.2 All ground leads shall be fully extended or uncoiled.
- 2.3 All ground connections shall be checked prior to each use.
- 2.4 When installing a ground clamp or grounding mechanized equipment to a grounding element, the use of Class 2 rubber gloves is required. And, if the relevant minimum approach distances cannot be maintained for a particular voltage, the use of live line tools shall be used.
- 2.5 Temporary driven grounds shall be installed and barricaded at a location away from the workers on the ground.
- 2.6 Follow procedure NG-EOP G013 Excavation Notification Requirements when installing any ground rods.

3.0 OVERHEAD EQUIPMENT APPLICATION

- 3.1 When a qualified employee needs to operate mechanized equipment near energized lines or apparatus, the equipment shall be operated so that the minimum approach distances listed in the tables below are maintained from exposed energized lines/apparatus. This can be accomplished in most cases by repositioning the mechanized equipment or by displacement or relocation of the affected energized lines or apparatus. Insulated aerial equipment being used within its dielectric rating and operated by a qualified employee is exempt from this requirement.

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File: NG-EOP G026 Mechanized Equipment Grounding JMM	Originating Department: Standards, Policies and Codes	Sponsor: Susan Fleck

nationalgrid	ELECTRIC OPERATING PROCEDURE GENERAL	Doc. # NG-EOP G026 Page 5 of 14
	MECHANIZED EQUIPMENT GROUNDING	Version 3.0 – 05/24/13

**MINIMUM WORKING APPROACH DISTANCES FOR
VEHICULAR AND MECHANICAL EQUIPMENT**

NEW ENGLAND (OSHA)

Nominal Voltage in kilovolts	Distance: Phase to ground exposure
0.05 to 1.0	Avoid contact
1.1 to 15.0	2'-1" (0.64m)
15.1 to 36.0	2'-4" (0.72m)
36.1 to 46.0	2'-7" (0.77m)
46.1 to 72.5	3'-0" (0.90m)
72.6 to 121	3'-2" (0.95m)
138 to 145	3'-7" (1.09m)
161 to 169	4'-0" (1.22m)
230 to 242	5'-3" (1.59m)
345 to 362	8'-6" (2.59m)
500 to 550	11'-3" (3.42m)
764 to 800	14'-11" (4.53m)

NEW YORK IBEW LOCAL 97 ONLY

Voltage	Electrically Qualified	OSHA General
50-1000v	Avoid Contact	Avoid Contact
1000V – 15kv	2 ft. 2 in.	10 ft.
23-34.5kV	3 ft.	10 ft.
46-69kV	4 ft.	10 ft. 8 in.
115kV	5 ft.	12 ft. 4 in.
230kV	7 ft.	16 ft.
345kV	9 ft.	20 ft.

New York Transmission Line Services:

The National Grid Employee Safety Handbook rules apply. Where the distances allow, the Minimum Approach Distances listed in Appendix A of the National Grid Employee Safety Handbook will be utilized. If such work cannot be performed, OSHA minimum approach distances will apply. (Reference OSHA 1910.269 tables R6 – R10). Per OSHA 1926.1408 (b)(3) a spotter is required within 20 ft zone.

- 3.2 A designated qualified employee other than the equipment operator shall observe the approach distance to exposed lines and apparatus and give timely warnings before the minimum approach distance, shown in the relevant table above, is reached. When the

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nationalgrid	ELECTRIC OPERATING PROCEDURE	Doc. # NG-EOP G026
	GENERAL	Page 6 of 14
	MECHANIZED EQUIPMENT GROUNDING	Version 3.0 – 05/24/13

minimum approach distance cannot be maintained, in order to accomplish the work, the written job brief shall document the reasons for the encroachment on the minimum approach distances and the operation shall comply with at least one of the following:

- 3.2.1 The energized lines exposed to contact shall be covered with approved Insulating products/barriers that will withstand the type of contact that might be made.
- 3.2.2 The equipment shall be insulated for the voltage involved and repositioned so that its uninsulated portions cannot approach the lines or equipment any closer than the minimum approach distances.
- 3.2.3 Each employee shall be protected from hazards that might arise from equipment contact with energized lines. The measures used shall ensure that employees will not be exposed to hazardous differences in potential by:
 - a. Using the best available ground to minimize the time the line remains energized.
 - b. Bonding equipment together to minimize or eliminate potential differences.
 - c. Providing temporary protective equipotential bond mats to extend areas of equipotential.
 - d. Employing portable insulating protective equipment or barricades to guard against any remaining hazardous potential differences.

4.0 OVERHEAD GROUNDING ELEMENTS

- 4.1 Ground element choices in order of priority are:
 - 4.1.1 System neutral conductor or cable
 - 4.1.2 Substation ground, structure ground
 - 4.1.3 Ground wire connected to ground rod and bonded to system neutral (down ground)
 - 4.1.4 An existing guy anchor rod under tension and that is not newly installed.
 - 4.1.5 Temporary driven ground rod (8' length driven fully into the soil)

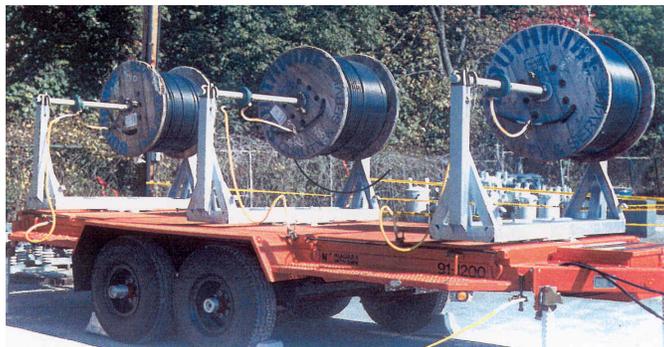
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nationalgrid	ELECTRIC OPERATING PROCEDURE	Doc. # NG-EOP G026
	GENERAL	Page 7 of 14
	MECHANIZED EQUIPMENT GROUNDING	Version 3.0 – 05/24/13

5.0 GROUNDING OF OVERHEAD EQUIPMENT

5.1 All wire trailers and pulling/tensioning equipment

5.1.1 When operating this equipment near energized lines, the equipment shall be grounded to a ground element. The equipment/work area shall be barricaded to protect the workers and the public from dangerous touch and step potentials. Appropriate rated rubber gloves and EH rated overshoes shall be worn by the operators.



Three reel spacer cable trailer with axle grounds



Single reel trailer 2/0 grounding set

AB Chance Cat # SA600-3147 or
MacLean Power Systems



Three reel trailer 2/0 grounding set

AB Chance Cat # SA600-3149 or
MacLean Power Systems

***All new grounds ordered will come with clear jacket
See tool catalog for ordering information***

5.2 Three reel trailer grounding set installation:

5.2.1 The three rotators are put onto the arbors as the wire reels are being mounted located approximately two feet from each wire reel. Each three foot ground cable should be connected from the bare wire tail (stripping of conductor may be necessary) of each wire reel to one of the ball studs on the rotator installed on each arbor. Next, connect the ten foot ground cable lead to the second ball stud on the rotators to whichever bus bar is chosen depending on where the grounding element is located. Then connect the fifty foot ground cable lead from

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nationalgrid	ELECTRIC OPERATING PROCEDURE	Doc. # NG-EOP G026
	GENERAL	Page 8 of 14
	MECHANIZED EQUIPMENT GROUNDING	Version 3.0 – 05/24/13

the bus bar to the ground source. The single reel trailer grounding should be done in a similar fashion utilizing the approved single reel trailer grounding set.

- 5.2.2 Running or stringing grounds can be used in place of arbor reel grounds when installing new conductors. These grounds connect the new conductor to the trailer which connects to a ground element. **The preferred method is the arbor rotating ground method.**

5.3 Digger Derrick Trucks:

- 5.3.1 If it has been determined that adequate insulate/isolate products could not be installed to withstand the type of contact that might be made during the operation of the digger derrick with any uninsulated portions (winch line is not tested and cannot be considered insulated for voltages involved) operating within the relevant minimum approach distances, a written job brief shall detail the reasons for the encroachment on minimum approach distances and the following requirements shall be done:

- a. The digger derrick shall be attached to the best available ground element at the work site. (See Section 3 Grounding Elements)
- b. Bond equipment together to minimize or eliminate potential differences and provide temporary protective equipotential bond mats to extend areas of equipotential.
- c. If there is exposure to the public (near a sidewalk or in a parking lot for example) the vehicle shall be barricaded.
- d. It is strongly recommended that the equipment should always be barricaded to prevent ground personnel from making inadvertent contact with the equipment.

- 5.3.2 Contact with the vehicle while the boom or suspended load is in the energized area shall be avoided while standing on the ground. However, when situations require contact with the digger derrick from the ground, class 2 rubber gloves and EH rated overshoes shall be worn. Added safeguards such as insulating pole guards shall be used when setting poles within the relevant minimum approach distances.

- 5.3.3 The operator of the digger derrick shall utilize the following methods to protect themselves in case of accidental contact with energized lines:

- a. Operate controls from the truck platform of the digger derrick.
- b. If controls are not being operated from the truck platform the operator shall wear Class 2 rubber gloves and EH rated overshoes.
- c. Stand on a temporary protective equipotential bond mat bonded to the truck.
- d. Avoid contact to equipment with unprotected portions of their body.

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File: NG-EOP G026 Mechanized Equipment Grounding JMM	Originating Department: Standards, Policies and Codes	Sponsor: Susan Fleck

nationalgrid	ELECTRIC OPERATING PROCEDURE	Doc. # NG-EOP G026
	GENERAL	Page 9 of 14
	MECHANIZED EQUIPMENT GROUNDING	Version 3.0 – 05/24/13

Grounding of Digger Derrick



Ground Ball Stud
Located rear of digger derrick



Ball Socket Ground Clamp



Ground Cable Assembly Located in front till on passenger side of vehicle.
A visual inspection of the ground connection to the frame on this style of ground is required to ensure the integrity of the ground connection.

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File: NG-EOP G026 Mechanized Equipment Grounding JMM	Originating Department: Standards, Policies and Codes	Sponsor: Susan Fleck

nationalgrid	ELECTRIC OPERATING PROCEDURE	Doc. # NG-EOP G026
	GENERAL	Page 10 of 14
	MECHANIZED EQUIPMENT GROUNDING	Version 3.0 – 05/24/13



Use a National Grid approved 2/0 Cu Ground Cable Assembly 50' length - AB Chance Assembly # SA600-3027 or MacLean Power Systems part #BT-Q-2/0Y-50 to connect from the ball stud ground connection on the vehicle to the chosen ground element.

All new grounds purchased will have a clear silicone jacket to allow for a visual inspection of the ground conductors and connections.

(See Bulletin #09-26 and Tool Catalog for specific sets and catalog #'s)

http://us3infonet/sites/eng_delivery_svcs/Pages/StdswkMthds.aspx

5.4 Additional mechanized equipment

5.4.1 The following mechanized equipment when operating within the relevant minimum approach distances shall follow the approved methods described in this procedure; insulated aerial equipment rated below the circuit voltage level, cranes with booms, trucks with derricks, loaders, uninsulated telescopic and articulating aerial lifts, personnel lifts, scissor lifts, high reach forklifts, tractors with side booms and any other similar equipment.

6.0 UNDERGROUND EQUIPMENT APPLICATION

6.1 While pulling Cable with a conductive steel winch line and the steel winch line will be within reasonable proximity and a possibility of contact exists with an energized shielded cable, above 1000V up to 46kV and energized unshielded cables below 1000V, the cable pulling equipment shall be grounded and barricaded. This requirement applies when pulling cable in a manhole & conduit, URD or UCD systems.

6.2 Each employee shall be protected from hazards that might arise from equipment contact with energized cables. The measures used shall ensure that employees will not be exposed to hazardous differences in potential by:

6.2.1 Using the best available ground to minimize the time the line remains energized.

6.2.2 Bonding equipment together to minimize or eliminate potential differences.

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File: NG-EOP G026 Mechanized Equipment Grounding JMM	Originating Department: Standards, Policies and Codes	Sponsor: Susan Fleck

nationalgrid	ELECTRIC OPERATING PROCEDURE	Doc. # NG-EOP G026
	GENERAL	Page 11 of 14
	MECHANIZED EQUIPMENT GROUNDING	Version 3.0 – 05/24/13

- 6.2.3 Providing temporary protective equipotential bond mats to extend areas of equipotential.
- 6.2.4 Employing portable insulating protective equipment or barricades to guard against any remaining hazardous potential differences.

7.0 UNDERGROUND GROUNDING ELEMENTS

- 7.1 Underground Grounding Element Choices in order of priority:
 - 7.1.1 Manhole ground grid (has ground rod)
 - 7.1.2 Primary neutral in manhole
 - 7.1.3 Secondary neutral in manhole
 - 7.1.4 Substation / structure ground grid
 - 7.1.5 Ground rod with down ground - which is connected to system neutral (non delta distribution area)
 - 7.1.6 Street light ground rod (connected to the rod)
 - 7.1.7 Anchor rod under tension, not new, not rusty (or clean off rust)
 - 7.1.8 Temp ground rod (driven - 8' min)



Manhole Ground Grid (7.1.1)



Cable Truck Grounded to Ground Grid

8.0 GROUNDING OF UNDERGROUND EQUIPMENT

- 8.1 Underground Lines Pulling Equipment and Powered Reel Trailers
 - 8.1.1 Cable Winch Trucks and powered reel trailers shall be attached to the best available ground element at the work site. (See section 7 Grounding Elements) Bond equipment together to minimize or eliminate potential differences. The equipment/work area shall be barricaded to protect the workers and the public from dangerous touch and step potentials. Appropriate rated rubber gloves and EH rated overshoes shall be worn by the operators.

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File: NG-EOP G026 Mechanized Equipment Grounding JMM	Originating Department: Standards, Policies and Codes	Sponsor: Susan Fleck

nationalgrid	ELECTRIC OPERATING PROCEDURE	Doc. # NG-EOP G026
	GENERAL	Page 12 of 14
	MECHANIZED EQUIPMENT GROUNDING	Version 3.0 – 05/24/13

- 8.1.2 Avoid contact with the winch truck or powered reel trailer while grounded. However, when situations require contact with the winch truck or reel trailer from the ground, class 2 rubber gloves and EH rated overshoes shall be worn.
- 8.1.3 The operator of the cable winch truck or the reel trailer shall utilize the following methods to protect themselves in case of accidental contact with energized cables:
 - a. Where possible use wireless remote controls to operate the equipment.
 - b. If using hard wired controls (including foot pedals) or operating the controls on the truck the operator shall wear Class 2 rubber gloves and EH rated overshoes or stand on a temporary protective equipotential bond mat bonded to the truck. The operator shall avoid contact to the equipment with unprotected portions of their body.



Wired Pendant Using Rubber Gloves

9.0 BARRICADING

- 9.1 Barricading a vehicle or equipment provides a physical and visual obstruction, warning the public and workers of possible danger. The barricade should be positioned so that no hazardous voltage exists outside the barricade and will prevent unauthorized entrance into the potentially hazardous area. No one should enter the barricaded area while the vehicle or equipment is operating and has a risk of contacting energized lines or apparatus. A barricade should be set up using a minimum six foot perimeter, if possible, around the vehicle or equipment providing isolation from the vehicle or equipment for the public and workers. If the six foot perimeter would impede traffic flow or create a greater hazard for the pedestrians, then a lesser perimeter is allowable, but a worker shall be positioned to ensure that contact is avoided. The use of safety cones, safety flags, red barricade tape, and/or retractable barriers shall be used to construct this barricade. The following is an example of a method of barricading:

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File: NG-EOP G026 Mechanized Equipment Grounding JMM	Originating Department: Standards, Policies and Codes	Sponsor: Susan Fleck

nationalgrid	ELECTRIC OPERATING PROCEDURE	Doc. # NG-EOP G026
	GENERAL	Page 13 of 14
	MECHANIZED EQUIPMENT GROUNDING	Version 3.0 – 05/24/13



Danger Barrier Tape - #9301672



Flags - #9321942

Safety Cones - #9319384

Retractable barrier - #9310511

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File: NG-EOP G026 Mechanized Equipment Grounding JMM	Originating Department: Standards, Policies and Codes	Sponsor: Susan Fleck

nationalgrid	ELECTRIC OPERATING PROCEDURE GENERAL	Doc. # NG-EOP G026 Page 14 of 14
	MECHANIZED EQUIPMENT GROUNDING	Version 3.0 – 05/24/13

10.0 EXCAVATING EQUIPMENT

- 10.1 Prior to excavating, cables and other buried utilities in the immediate vicinity shall be located, per NG-EOP G013 Excavation Notification Requirements. Mechanized equipment shall not be used to excavate in close proximity, within the tolerance zone (2 feet either side of center line), of energized buried lines and other buried utilities. Before excavating in close proximity of energized cables within the tolerance zone refer to NG-EOP UG011 Underground Electric.
- 10.2 Uninsulated mechanized excavating equipment (backhoes, earth borers, excavators, vacuum trucks, trenchers, diggers, and any other similar equipment) that could possibly contact an energized underground cable or apparatus shall be grounded and barricaded utilizing approved methods described in this procedure.

11.0 ELECTRIC AND MAGNETIC FIELD INDUCTION

- 11.1 Voltages can be induced on vehicles and equipment that are in proximity to energized lines due to electric and magnetic field induction. If these vehicles and equipment are not in the work area and cannot possibly make contact with energized lines or equipment, they may be grounded with a discharge (static) ground cable to drain off these induced voltages.

12.0 REVISION HISTORY

<u>Version</u>	<u>Date</u>	<u>Description of Revision</u>
1.0	05/03/11	This document supersedes document dated 08/27/07.
2.0	12/04/12	This document supersedes document dated 05/03/11.
3.0	05/24/13	This document supersedes document dated 12/04/12.

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File: NG-EOP G026 Mechanized Equipment Grounding JMM	Originating Department: Standards, Policies and Codes	Sponsor: Susan Fleck

2. Guarding trolley-contact conductors located under bridges
 - a. Where guarding is required

Guarding is required where the trolley-contact conductor is located so that a trolley pole leaving the conductor can make simultaneous contact between it and the bridge structure.
 - b. Nature of guarding

Guarding shall consist of a substantial inverted trough of nonconducting material located above the contact conductor, or of other suitable means of limiting the likelihood of contact between the trolley support and the bridge structure.
- E. Clearance of wires, conductors, cables, or unguarded rigid live parts installed over or near swimming areas with no wind displacement
1. Swimming pools

Where wires, conductors, cables, or unguarded rigid live parts are over a swimming pool or the surrounding area, the clearances in any direction shall be not less than those shown in Table 234-3 and illustrated in Figure 234-3.

EXCEPTION 1: This rule does not apply to a pool fully enclosed by a solid or screened permanent structure.

EXCEPTION 2: This rule does not apply to communication conductors and cables, effectively grounded surge-protection wires, neutral conductors meeting Rule 230E1, guys and messengers, supply cables meeting Rule 230C1, and supply cables of 0 to 750 V meeting Rule 230C2 or 230C3 when these facilities are 3 m (10 ft) or more horizontally from the edge of the pool, diving platform, diving tower, water slide, or other fixed, pool-related structures.
 2. Beaches and waterways restricted to swimming

Where rescue poles are used by lifeguards at supervised swimming beaches, the vertical and horizontal clearances shall be not less than those shown in Table 234-3. Where rescue poles are not used, the clearances shall be as specified in Rule 232.
 3. Waterways subject to water skiing

The vertical clearance shall be the same as that specified in Rule 232.
- F. Clearances of wires, conductors, cables, and rigid live parts from grain bins
1. Grain bins loaded by permanently installed augers, conveyers, or elevator systems

All portions of grain bins that are expected to be loaded by the use of a permanently installed auger, conveyer, or elevator system shall be considered as a building or other installation under Rule 234C for the purpose of determining appropriate clearances of wires, conductors, cables, and rigid live parts. In addition, the following clearances shall also apply without wind displacement. See Figure 234-4(a).

 - a. A clearance of not less than 5.5 m (18 ft) in all directions above the grain bin shall be maintained from each probe port in the grain bin roof for all wires, conductors, and cables.
 - b. A horizontal clearance of not less than 4.6 m (15 ft) shall be maintained between grain bins and open supply conductors, 0 to 22 kV. This clearance does not apply to a neutral conductor meeting Rule 230E1.
 2. Grain bins loaded by portable augers, conveyers, or elevators (with no wind displacement)
 - a. The clearance of wires, conductors, cables, and rigid live parts from grain bins that are expected to be loaded by the use of a portable auger, conveyer, or elevator shall be not less than the values illustrated in Figure 234-4b.

EXCEPTION: Clearances of the following items on the nonloading side of grain bins shall be not less than those required by Rule 234C for clearances from buildings:

 - (a) Support arms; effectively grounded equipment cases
 - (b) Insulated communication conductors and cables, messengers, surge-protection wires, grounded guys, neutral conductors meeting Rule 230E1, and supply cables meeting Rule 230C1
 - (c) Supply cables of 0 to 750 V meeting Rule 230C2 or 230C3

- b. Any side of a grain bin is considered to be a nonloading side if it is so designated, or if it is so closely abutting another structure or obstruction, or so close to a public road or other right-of-way that a portable auger, conveyor, or elevator is not reasonably anticipated to be used over that side or portion to fill the grain bin.
 - c. Where an agreement excludes the use of portable augers, conveyors, or elevators from a designated portion of a grain bin, such portion is considered to be a nonloading side.
- G. Additional clearances for voltages exceeding 22 kV for wires, conductors, cables, and unguarded rigid live parts of equipment

Greater clearances than specified in Rules 234B, 234C, 234D, 234E, 234F, and 234J shall be provided where required as follows:

1. For voltages between 22 and 470 kV, the clearance specified in Rules 234B, 234C, 234D, 234E, 234F, and 234J shall be increased at the rate of 10 mm (0.4 in) per kV in excess of 22 kV. For voltages exceeding 470 kV, the clearance shall be determined by the method given in Rule 234H. All clearances for lines over 50 kV shall be based on the maximum operating voltage.

EXCEPTION 1: Where a clearance value is given for the 22 kV to 50 kV range, the voltage adder of Rule 234G1 applies to the voltage in excess of 50 kV.

EXCEPTION 2: For voltages exceeding 98 kV ac to ground or 139 kV dc to ground, clearances less than those required above are permitted for systems with known maximum switching-surge factor. (See Rule 234H.)

2. For voltages exceeding 50 kV, the additional clearance specified in Rule 234G1 shall be increased 3% for each 300 m (1000 ft) in excess of 1000 m (3300 ft) above mean sea level.
 3. For voltages exceeding 98 kV ac to ground, either the clearances shall be increased or the electric field, or the effects thereof, shall be reduced by other means, as required, to limit the steady-state current due to electrostatic effects to 5 mA, rms, if an ungrounded metal fence, building, sign, billboard, chimney, radio or television antenna, tank or other installation, or any ungrounded metal attachments thereto, were short-circuited to ground. For this determination, the conductor shall be at a final unloaded sag at 50 °C (120 °F).
- H. Alternate clearances for voltages exceeding 98 kV ac to ground or 139 kV dc to ground

The clearances specified in Rules 234B, 234C, 234D, 234E, 234F, 234G, and 234J may be reduced for circuits with known switching-surge factors, but shall be not less than the alternate clearance, which is computed by adding the reference distance from Rule 234H2 to the electrical component of clearance from Rule 234H3.

1. Sag conditions of line conductors

The vertical, horizontal, and diagonal clearances shall be maintained under the conductor temperature and loading conditions given in Rule 234A.

2. Reference distances

The reference distance shall be selected from Table 234-5.

3. Electrical component of clearance

- a. The electrical component (D) shall be computed using the following equations. Selected values of D are listed in Table 234-4.

$$D = 1.00 \left[\frac{V \cdot (PU) \cdot a}{500K} \right]^{1.667} bc \quad (\text{m})$$

$$D = 3.28 \left[\frac{V \cdot (PU) \cdot a}{500K} \right]^{1.667} bc \quad (\text{ft})$$

Table 234-3—Clearance of wires, conductors, cables, or unguarded rigid live parts over or near swimming pools ^①

(Voltages are phase to ground for effectively grounded circuits and those other circuits where all ground faults are cleared by promptly de-energizing the faulted section, both initially and following subsequent breaker operations. See the definitions section for voltages of other systems.)

Clearances are with no wind displacement.

See Rules 234E1, 234E2, and 234H4.)

	Insulated communication conductors and cables; messengers; surge-protection wires; grounded guys; ungrounded guys exposed to 0 to 300 V ^① ; neutral conductors meeting Rule 230E1; supply cables meeting Rule 230C1 (ft)	Unguarded rigid live parts, 0 to 750 V; noninsulated communication conductors; supply cables of 0 to 750 V meeting Rule 230C2 or 230C3; ungrounded guys exposed to open supply conductors of over 300 V to 750 V ^② (ft)	Supply cables over 750 V meeting Rule 230C2 or 230C3; open supply conductors, 0 to 750 V (ft) ^④	Unguarded rigid live parts over 750 V to 22 kV; ungrounded guys exposed to over 750 V to 22 kV ^② (ft)	Open supply conductors, over 750 V to 22 kV (ft)
A. Clearance in any direction from the water level, edge of pool, base of diving platform, or anchored raft	22.0	22.5	23.0	24.5	25.0
B. Clearance in any direction to the diving platform, tower, water slide, or other fixed, pool-related structures	14.0	14.5	15.0	16.5	17.0
V. Vertical clearance over adjacent land	Clearance shall be as required by Rule 232.				

NOTE: A, B, and V are shown in Figure 234-3.

①The clearance values shown in this table are computed by adding the applicable Mechanical and Electrical (M & E) value of Table A-1 to the applicable Reference Component of Table A-2b of Appendix A.

②Ungrounded guys and ungrounded portions of guys between insulators shall have clearances based on the highest voltage to which they may be exposed due to a slack conductor or guy.

③Anchor guys insulated in accordance with Rule 279 may have the same clearance as grounded guys.

④Does not include neutral conductors meeting Rule 230E1.

Subject: Niagara Mohawk - Gas Standards Manual
Section: Chapter 3 - Procedures

Doc No.: 31
Page: Page 12 of 20
Date: January 2004

Authorized By:
Approved By:
Supersedes: August 2002

31.3 Pipeline High Voltage Protection During Construction

31.31 Introduction

When coated metallic piping is run parallel to overhead A.C. electric lines, the pipe is subject to picking up induced voltages and currents that are the result of electromagnetic and electrostatic coupling. These induced voltages and currents may cause coating damage, as well as damage to cathodic protection and electronic monitoring equipment. They can also be a hazard to personnel working on the pipeline, particularly during the construction period when long sections of pipe are exposed above-ground.

31.32 Purpose

The purpose of this specification is to cover the procedures and construction techniques which shall be used during the construction period to reduce potentials on the pipe and construction equipment to a level less than 15 volts (RMS) measured between the structure and ground. These specifications represent minimum requirements only. All possible actions to protect individuals during construction and maintenance should be reviewed to assure the safety of all persons and equipment affected. A qualified person shall be designated as the one in charge of electrical safety on all construction projects on electric rights-of-way. NMPC shall review this individual's experience and qualifications and approve his/her designation as the Supervisor of Electrical Safety. This person shall not be replaced without the Corporation's approval. When this person is not on site or available to give direction, another individual shall be designated responsible. This person shall be identified and approved by NMPC prior to his/her being assigned this function. At no time shall any work relating to electrical safety take place on the job without the qualified individual present.

31.33 Qualifications of the Supervisor of Electrical Safety

This person shall be fully aware of proper grounding procedures and the dangers associated with inductive and electrolytic coupling, power arc, lightning, faults, currents, etc. This person shall know of the proper safeguards for the construction equipment being used and the safe distance from overhead conductors required. This person shall be furnished with the instrumentation, equipment and authority required to maintain safe working conditions. In all cases, tests to detect A.C. and D.C. potentials shall be performed first--all systems shall be treated as a live electrical conductor, until proven otherwise. He should communicate at least daily with the dispatcher controlling the involved electric lines to ascertain any changes in loading or switching, scheduled that day which might be expected during the work period.

31.34 Grounding of Construction Equipment & Material

Each piece of equipment utilized to handle pipe in any way such as unloading, picking up, transporting, bending or setting-in shall be grounded and shall be equipped with a cable assembly capable of grounding the sections of pipe to the piece of equipment handling that pipe. (See Exhibit No. 3, Sheets #1, #2, #3 and #4.)

Subject: Niagara Mohawk - Gas Standards Manual
Section: Chapter 3 - Procedures

Doc No.: 31
Page: Page 13 of 20
Date: January 2004

Authorized By:
Approved By:
Supersedes: August 2002

Before any section of pipe is picked up or moved in any way, the ground shall be completed between the section of pipe and the equipment moving that pipe. "Setting-in" booms shall be equipped with ground cable and the ground shall be maintained at least until the stringer bead is completed.

Pipe shall be unloaded from stringing trucks by a sideboom equipped with grounding cable, as described above. A ground shall be completed between all sections of pipe to be unloaded and the sideboom before unloading cable or slings are attached to the pipe.

During construction, long strips of welding, ungrounded and/or unbackfilled pipe shall not be allowed to accumulate along the right-of-way in the ditch parallel to and within 200 feet of the center line of the nearest electric line.

Pipe shall be hauled to the right-of-way and stored in stacks (perpendicular to the alignment of the electric lines) of ten sections or less. Each section of pipe in the stack shall be grounded with a 5/8" minimum diameter ground rod driven into the ground at least four (4) feet. (See Exhibit No. 4) This ground shall be maintained until each individual section of pipe has been removed from the stack. When grounding sections of pipe, the ground rod shall be driven and the grounding cable connected to the ground rod first. The grounding cable shall then be connected to the pipe. Cables used for temporary grounding attachments shall have good mechanical strength as well as high conductivity. The cable shall be single conductor #2 A.W.G. 1715 stranded welding cable or equivalent. Cable attachments to temporary grounding systems shall be made by a method that assures good electrical contact, while applying firm pressure to the pipe metal. This method of attachment should have a current carrying capacity of at least 200 amperes. When removing grounding cable, the cable shall be removed from the pipe or equipment first and then from the ground rod.

All grounding attachments and removals shall be made by or under the direct supervision of the persons described above who is in charge of electrical safety.

Each string of welded pipe not yet welded to the completed portion of the pipeline shall be temporarily connected to a ground rod having a minimum diameter of 5/8" and driven to a depth of at least four (4) feet. (See Exhibit No. 5) Any string of pipe no longer than 1,000 feet shall be grounded in at least two (2) places. Grounds shall be no more than 1,000 feet apart. Strings of pipe shall be limited to 3,000 feet in length unless longer lengths are authorized by the Company's authorized representative. Temporary grounds shall be maintained on new sections of main until they are tied into that portion of the line which has been buried and permanently grounded with magnesium anodes. When tie-ins are being made, both sections of pipe shall be bonded together and tested to assure that each is effectively grounded by measuring the potential between each loose end and ground. If this potential exceeds 20 volts, work shall not proceed until supplementary grounding is installed to reduce the potential to less than 15 volts.

Bare road casings may be utilized for additional grounding during construction. This may be done by attaching a bond cable between any exposed metallic surface of the pipeline and the bare casing. This bond shall be removed only after zinc grounding cells have been installed between the pipe and casing but before the casing and pipe have been buried.

31.35 Safe Voltage Requirements

The voltage to ground of any string of pipe exposed to contact by personnel shall be measured periodically by reading the voltage between the pipe and a clean steel pin driven in the ground. If the

Subject: Niagara Mohawk - Gas Standards Manual
Section: Chapter 3 - Procedures

Doc No.: 31
Page: Page 14 of 20
Date: January 2004

Authorized By:
Approved By:
Supersedes: August 2002

voltage exceeds 15 volts above ground, supplementary grounds shall be used to reduce this voltage to less than 15 volts. In the event that measured voltage above ground exceeds 20 volts, the person in charge of electrical safety shall issue appropriate warnings, and all work on the pipe string shall be suspended until potential is reduced to less than 15 volts.

31.36 Insulating Joints During Construction

Insulating joints shall be installed with a bond cable shorting out the insulating material. This bond cable shall remain in place until the insulating joint has been welded into the pipeline and a zinc grounding cell has been connected across the insulating flange. The zinc grounding cell with test stations must be in service and the bond cable removed before the insulating joint is buried.

31.37 Refueling on Electric Right-of-Ways

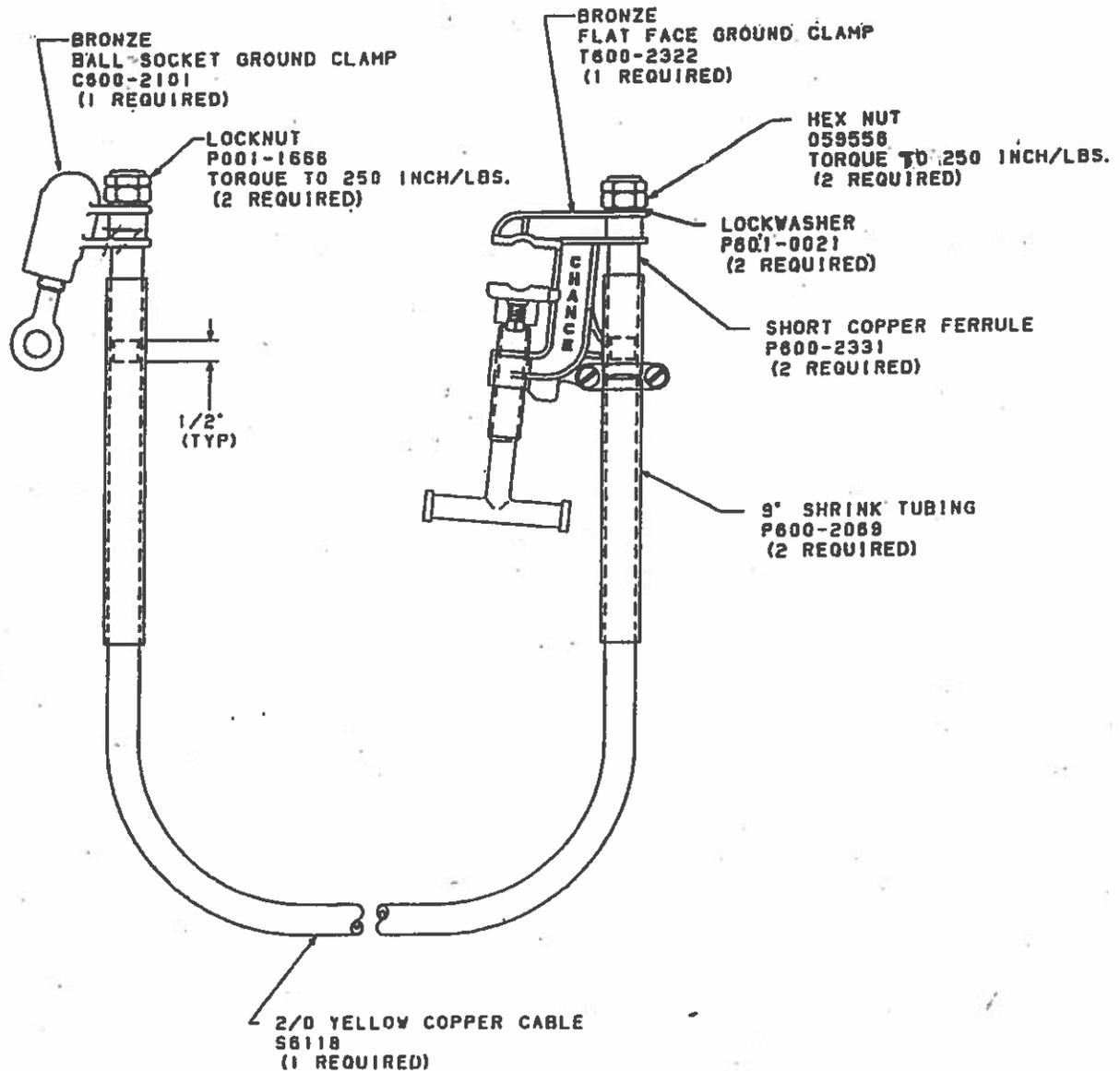
Each fuel truck shall be grounded and shall be equipped with a cable assembly capable of completing an electrical bond between the truck and any piece of equipment to be fueled. This bond shall be made each and every time prior to any part of refueling operation. This bond shall not be removed until all refueling operations are completed. Care shall be taken where cable attachments are made so that good electrical continuity is established.

31.38 Rubber-Tired Equipment on Electric Right-of-Ways

Rubber-tired equipment parked for any appreciable time on a power line right-of-way collects a considerable charge of static electricity. Refer to the Niagara Mohawk Accident Prevention Rules book (2.13 GROUNDING OF CRANES AND SIMILAR MOBILE EQUIPMENT WHEN OPERATED IN THE VICINITY OF ELECTRICAL CONDUCTORS) for requirements for equipment grounding.

Vehicles should be parked no closer than 200 feet from the base of electric line towers. Rubber-mounted heavy equipment, while parked or in use on the power line right-of-way, shall be grounded to a driven ground at least 1/2" in diameter. The ground shall be driven to a depth of at least four (4) feet. All vehicles which might be parked on the right-of-way shall be equipped with a 1/2" copper ground rod and connecting cable assembly. Cable should be at least No. 2/0 AWG and have insulated clips capable of completing an electrical bond between the ground rod and the vehicle. Each time a vehicle is parked on the power line right-of-way, the ground rod shall be pushed as far as possible into the ground to make an electrical connection between the rod and the vehicle. This bond shall remain in place as long as the vehicle is parked on the power line right-of-way.

Grounding cables shall be 25 ft. minimum and meet the requirements specified in drawing below.



31.39 Electric Grounds

All bonding connections shall be made to driven ground rods as described above. Bonding connections shall not be made between the pipeline and the electric transmission line ground. Such a connection can result in high pipeline potentials during power line faults with current flow through the pipeline which could damage the steel as well as the coating.

31.40 Construction During Thunder Storm

Work shall be suspended in the area of overhead high voltage power lines during any thunderstorm activity.

Subject: Niagara Mohawk - Gas Standards Manual
Section: Chapter 3 - Procedures

Doc No.: 31
Page: Page 16 of 20
Date: January 2004

Authorized By:
Approved By:
Supersedes: August 2002

31.41 Safe Working Clearances on Electric Right-of-Ways

Whenever working within an electric right-of-way, the following guidelines shall be applied to ensure both personnel and equipment safety:

1. Except where electrical distribution and transmission lines have been de-energized and visibly grounded at the point of work or where insulating barriers, not a part of or an attachment to the equipment or machinery have been erected to prevent physical contact with the lines, equipment or machines shall be operated proximate to power lines only in accordance with the following:
 - For lines rated 50 KV or below, minimum clearance between the lines and any part of the crane or load shall be 10 feet.
 - ▶ -For lines rated over 50 KV, minimum clearance between the lines and any part of the crane or load shall be 10 feet plus .4 inches for each 1 KV over 50 KV but not less than 15 feet.
 - In transit, with no load and boom lowered, the equipment clearance shall be a minimum of 4 feet for voltages less than 50 KV and 10 feet for voltages over 50 KV up to and including 345 KV and 16 feet for voltages up to and including 750 KV.
 - The above criteria applies to personnel and equipment including loaded and unloaded cranes, vehicles and cranes in transit, men and machines and combinations, thereof.
 - All lines shall be considered energized unless on-site personnel have verified it de-energized in accordance with NMPC Accident and Prevention Rules.
2. Equipment which has the capability of extending within the wire clear zone established above shall have a warning sign attached in clear view of the operator identifying the potential hazard.
3. At each access to the right-of-way, where the potential for electrical hazards exists, signs shall be posted warning of the electric danger.
4. No equipment actively employed in site preparation, grading, excavating, etc., shall be operated within (10) feet of any transmission line supporting structure unless otherwise approved by Niagara Mohawk.
5. There shall be no excavation under the overhead lines within 15 feet of the nearest wood member of guy anchor and/or 25 feet of the nearest steel member of a transmission line supporting structure, unless otherwise approved by NMPC.
6. The Regional Electric Superintendent Transmission & Distribution shall be notified at least 1 week before any work is started on the right-of-way. Reference this individual to EOP 214, "High Voltage Proximity Act" in the notification.
7. Equipment which is operated in the direct vicinity (within 200 feet of an electrical high voltage line) must be effectively grounded.

Subject: Niagara Mohawk - Gas Standards Manual
Section: Chapter 3 - Procedures

Doc No.: 31
Page: Page 17 of 20
Date: January 2004

Authorized By:
Approved By:
Supersedes: August 2002

31.42 Additional Safety Precautions for Electric ROW Construction

A pre-job brief shall be conducted with all site personnel prior to work commencement in the electric right-of-way, with a focus on electrical safety. Topics of discussion to ensure personnel and equipment safety shall include:

- Survey information and points of concern.
- Dangers associated with electrical hazards.
- Warning signs and postings.
- Minimum clearances.
- Safety equipment.
- Equipment and personnel positioning.
- Potential for cable whip and associated safety precautions.

The Contractor and Niagara Mohawk representatives shall consider further safety precautions, including the following:

- Designating an individual to observe equipment clearances and provide timely notification to equipment operators.
- Cage-type boom guards, insulating links, proximity warning devices and trapeze lines.
- Use of rubber gloves and boots.
- Additional machine and load grounding.
- Stored, construction, and installed grounds.
- Requests to Regional Control Room to remove auto reclose circuitry.
- Use of nylon straps, ropes and other insulating devices, rather than cables and conductive equipment.
- Continuous on-site supervision during construction activities, in addition to the "Supervisor of Electrical Safety."

31.43 References

The above criteria is established based on the current requirements of:

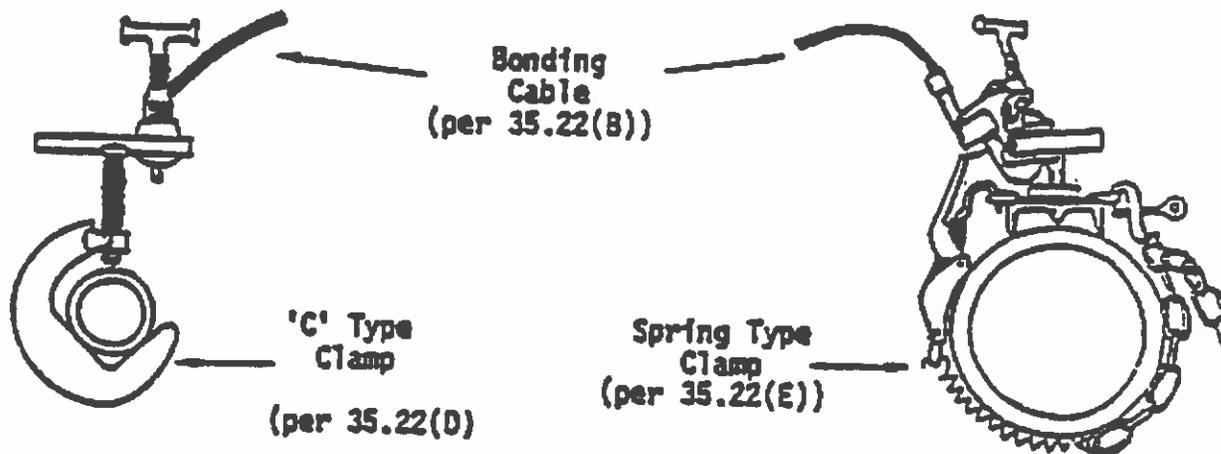
- 29 CFR Part 1926.550 Subpart N
- NEC 110-34

- NESC Part 4
- NMPC Doc. No. CR.03.039, High Voltage Proximity Act
- NYSCRR Chapter 469, High Voltage Proximity Act - Safety Measures
- NMPC Accident Prevention Rules Part 124 - Working Clearances
- EOP 214, Electric Operating Procedures, "High Voltage Proximity Act"

Deviations to the above criteria are allowed, provided approval from responsible parties of both the Contractor and NMPC is obtained and New York State and Federal Regulations are not violated. EOP-214 should be consulted.

31.44 Installation of Grounding Bonds

1. The bond must be installed so as to bridge the entire distance of the existing gap or proposed void between the metallic structure and the grounding device.
2. The area where the contact point of the clamp engages the structure being grounded must be free of rust, dirt, coating, scale, oil and grease (bare metal).
3. The proper type clamp, as illustrated below, must be selected. Piping in sizes up to 2 1/2" IPS should utilize the "C"-type clamp, while 4" and over are accommodated by the spring type.



4. The "C" clamp is engaged when the contact point has been tightened down so as to be in solid contact with the pipe or equipment to be grounded.

Spring clamps must be secured to the pipe by connecting the lever spring and properly adjusted chain to the stabilizer piece, then securing the contact point as stated previously.

Subject: Niagara Mohawk - Gas Standards Manual
Section: Chapter 3 - Procedures

Doc No.: 31
Page: Page 19 of 20
Date: January 2004

Authorized By:
Approved By:
Supersedes: August 2002

5. A bonding cable must be attached to the clamp handle on each side of the proposed work site. Be sure that the cable is safely routed around the work area.

Fabricated Components for Bonding

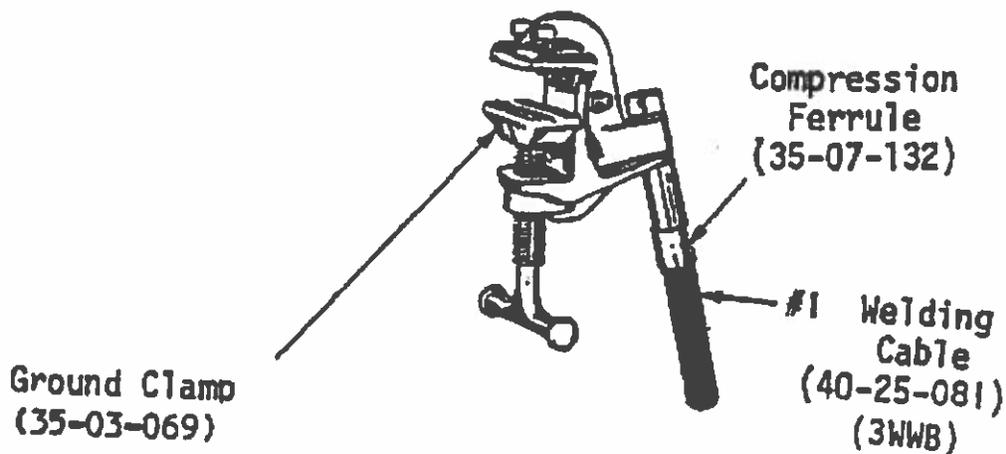
A. General

The following components should be fabricated and available to be assembled into bonding cables and clamps for use as described in Sheet No. 1.

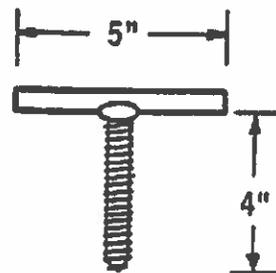
B. Bonding Cables

Bonding Cables should be made up from two ground clamps, two compression ferrules that are connected by a section of #1 welding cable. These cables are used to connect either spring or "C" type clamps together.

Note: #2 A.W.G. 1715 stranded welding cable or equivalent and the appropriate size spring clamp (jumper cable ends) may be substituted for the #1 welding cable and ground clamps (35-03-069) when being used as a bonding cable during metallic pipe cutouts.



C. Fabricated Handle



This section is fabricated from a 1/2" hard steel stud bolt cut approximately 4" long; machined to a sharp point on one end and welded to a 5" handle piece of 1/2" steel rod.

D. "C" Type Pipe Clamps

Piping in sizes up to 2 1/2" IPS may be ground connected with a "C" type clamp. The jaws of these clamps may be fabricated from 1/2" boiler plate utilizing the pattern drawing A-33712-S, index 4.0-2-G24. This jaw piece together with a fabricated handle, per paragraph (C) will complete this clamp.

E. Spring Type Pipe Clamps

This type clamp is used on 4" through 24" IPS piping. It is assembled using a fabricated handle, per paragraph (C), together with the fabricated stabilizer piece, illustrated below. The appropriate sized lever spring will complete this clamp.

1. Lever Spring

Available from the H & M Pipe Beveling Machine Co. as a Boomer Assembly, model number per following chart.

Model No.	Pipe Range
#1	4" - 8"
#2	8" - 12"
#3	14" - 20"
#4	22" - 26"



2. Fabricated Stabilizer Piece

This is fabricated from a 3" piece of 3" channel iron. A 5/8" hole is cut in the center and a 1/2" square nut welded into place over the hole.