

**PROJECT MANUAL
FOR
WATER AND SEWER UPGRADES**

DECEMBER 2019

MJ PROJECT #1075.03

PREPARED FOR:

TOWN OF MORIAH

ESSEX COUNTY, NEW YORK



PREPARED BY:



**Engineering and
Land Surveying, P.C.**

1533 Crescent Road - Clifton Park, NY 12065

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TOWN OF MORIAH

NOTICE TO BIDDERS

Water and Sewer Upgrades Town of Moriah Essex County, New York

As published in the December 21, 2019 bid publication, sealed bids will be received by the Town of Moriah, New York until 10 a.m. on Wednesday, January 22, 2020, in the Town Office, Town Hall, 38 Park Place, Port Henry, NY 12974, after which time they will be publicly opened and read.

The work site is located on Ridge Lane, Oak Lane, College Street, 1st Street, Elizabeth Street in the Hamlet of Port Henry in the Town of Moriah, Essex County, New York.

The work includes providing all labor, materials, machinery, tools, equipment and other means of construction necessary and incidental to the completion of the work shown on the plans and described in these specifications including but not necessarily limited to the following:

- Rehabilitation of approximately 490 linear feet of 12-inch clay and steel gravity sanitary sewer piping via cured-in-place pipe (CIPP) lining.
- Rehabilitation of one (1) manholes including, but not limited to, bench repairs, and complete rehabilitation using crack fillers and lining system, as specified.
- Replacement of approximately 440 linear feet of 6-inch diameter clay gravity sanitary sewer with 8-inch diameter PVC, including installation of three (3) manholes.
- Replacement of approximately 275 linear feet of 8-inch diameter clay gravity sanitary sewer with 8-inch PVC, including installation of two (2) manholes.
- Replacement of sewer laterals to property line and connection to existing laterals.
- Replacement of approximately 700 linear feet of 6-inch diameter cast iron water main with 8-inch diameter ductile water main, valves, fittings, water main connections, and associated appurtenances.
- Water main testing and disinfection.
- Replacement of water services to property line and connection to existing water services.
- Abandonment of the existing cast iron water main.
- Site restoration including asphalt pavement replacement, concrete sidewalk replacement, topsoil, and seeding.
- Erosion and sediment control of the project site during construction.
- Work zone traffic control of the project site.

Drawings and Specifications may be examined at the Town Hall, 38 Park Place, Port Henry, NY 12974.

Complete sets of the drawings, specifications and bid forms may be obtained from M.J. Engineering and Land Surveying P.C., 21 Corporate Drive, Halfmoon, NY 12065, in accordance with the Instruction To Bidders. Contract Documents will be provided electronically on compact disc (CD) in PDF format and may be obtained by emailing a request to mbrower@mjels.com.

There will be no cost for the CD or shipping via USPS mail. Also, the CD does not need to be returned.

All bids must be made on the official Bid Form or an exact copy by reproduction thereof and enclosed in a sealed envelope. This is a unit price bid as described in the Instructions To Bidders. No Bidder may withdraw his bid within forty-five (45) calendar days after the actual date of the opening thereof. Each bid must be accompanied by a bid security in the amount of five percent (5%) of the base bid in accordance with the Instructions To Bidders.

The successful bidder will be required to furnish construction performance and payment bonds in the full amount of the contract price.

Owner reserves the right to reject any and all Bids, to waive any and all informalities and the right to disregard all nonconforming, non-responsive or Conditional Bids.

A pre-bid conference will be held on Thursday, January 9, 2020 at 10 am for the purpose of considering questions posed by bidders. The conference will be located at the Town of Moriah Court House, 42 Park Place, Port Henry, NY 12974.

This project is wholly or partially funded through a federal Community Development Block Grant (CDBG) awarded to the Town of Moriah and administered by the NYS Office of Community Renewal.

The successful bidder will be required to comply with all applicable federal, state and local laws and regulations, including but not limited to 24 CFR 85 and 570, Section 3 of the Housing and Urban Development Act of 1968 (12 U.S.C. 1701u) and applicable Women and Minority Owned Business Enterprise provisions.

This is a **public works** project and **both federal and state** prevailing wages as determined by the U.S. Department of Labor and the New York State Department of Labor must be paid (the higher of the two, as applicable). Provisions for prevailing wages are set forth in this Project Manual.

Certified Minority and Women-Owned Business Enterprises (M/WBE) and Section 3 - eligible contracting firms are encouraged to apply for this project.

Section 3: To the greatest extent feasible, opportunities for training and employment will be given to lower income residents of the project area where activities are being conducted. All contracts for work in connection with those project activities should be awarded to business concerns located in or owned in substantial part by residents of that project area.

Owner:

Town of Moriah
38 Park Place
Port Henry, NY 12974
Phone: (518) 546-8631
Fax: (518) 546-3342

Engineer:

MJ Engineering and Land Surveying, P.C.
21 Corporate Drive
Halfmoon, NY 12065
Phone: (518) 371-0799
Fax: (518) 371-0822

INSTRUCTIONS TO BIDDERS

Project Title: Water and Sewer Upgrades

Owner: Town of Moriah
38 Park Place
Port Henry, NY 12974
Phone: (518) 546-8631

Engineer: M.J. Engineering and Land Surveying, P.C.
1533 Crescent Road
Clifton Park, New York 12065
Phone: (518) 371-0799

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1. Defined Terms

Terms used in these Instructions to Bidders which are defined in the Standard General Conditions of the Project Manual have the meanings assigned to them in the General Conditions. Certain additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof.

1.1 Bidder - one who submits a Bid directly to Owner as distinct from sub-bidder, who submits a bid to a Bidder.

1.2 Issuing Office - the office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

1.3 Successful Bidder - the lowest, responsible and responsive Bidder to whom Owner (on the basis of Owner's evaluation as hereinafter provided) makes an award.

2. Copies of Bidding Documents

2.1 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the Advertisement or Notice to Bidders may be obtained from the Issuing Office. For other than the successful Bidder, if one complete copy of the Bidding Documents is returned within thirty days following the award of the contract or the rejection of the bid of a Bidder, the full amount of the deposit will be returned to the Bidder. Partial reimbursement, in an amount equal to the full amount of the deposit sum for one set of Bidding Documents less the actual cost of reproduction of the Bidding Documents, shall be made for all other copies of the Bidding Documents returned in good condition within 30 days of the award of the contract or the rejection of the bids.

2.2 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.

2.3 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 for any other use.

3. Qualification of Bidders

To demonstrate qualifications to perform the Work, each Bidder must be prepared to submit within five days after Bid opening upon Owner's request detailed written evidence such as financial data, previous experience, present commitments and other such data as may be called for below (or in the Supplementary Instructions). Each Bid must contain evidence of Bidder's qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the contract.

4. Examination of Contract Documents and Site

4.1 It is the responsibility of each bidder before submitting a Bid:

4.1.1 To examine thoroughly the Contract Documents and other related data identified in the Bidding Documents (including "technical data" referred to below);

4.1.2 To visit the site to become familiar with and satisfy Bidder as to the general, local and site conditions that may affect cost, progress, performance, or furnishing of the Work;

4.1.3 To consider federal, state, and local Laws and Regulations that may affect cost, progress, performance or furnishing of the Work;

4.1.4 To study and carefully correlate Bidder's knowledge and observations with the Contract Documents and such other related data; and

4.1.5 To promptly notify Engineer of all conflicts, errors, ambiguities or discrepancies which Bidder has discovered

in or between the Contract Documents and such other related documents.

4.2 Reference is made to the Supplementary Conditions for identification of:

4.2.1 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 Contract Documents. Bidder may rely upon the general accuracy of the "technical data" contained in such reports but not upon other data, interpretations, opinions or information contained in such reports or otherwise relating to the subsurface conditions at the site, nor upon the completeness thereof for the purposes of bidding or construction.

4.2.2 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 Contract Documents. Bidder may rely upon the general accuracy of the "technical data" contained in such drawings but not upon other data, interpretations, opinions, or information shown or indicated in such drawings or otherwise relating to such structures, nor upon the completeness thereof for the purposes of bidding or construction. Copies of such reports and drawings will be made available by Owner 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 4.2 of the General Conditions has been identified and established in Paragraph SC-4.2 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion drawn from any "technical data" or any such data, interpretations, opinions, or information.

4.3 Information and data shown or indicated in the Contract 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 or others, and the Owner and Engineer do not assume responsibility for the accuracy or completeness thereof unless it is expressly provided otherwise in the Supplementary Conditions.

4.4 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions and Underground Facilities, and possible changes in the Contract Documents due to differing or unanticipated conditions appear in Paragraphs 4.2 and 4.3 of the General Conditions.

4.5 Before submitting a Bid each Bidder will be responsible to obtain such additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the site or otherwise, which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto or performing and furnishing the Work in accordance with the time, price, and other terms and conditions of the Contract Documents.

4.6 On request, OWNER will provide each 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 must fill all holes and clean up and restore the site to its former conditions upon completion of such explorations, investigations, tests, and studies.

4.7 Reference is made to the Supplementary Conditions for the identification of the general nature of 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, OWNER will provide to each Bidder for examination access to or copies of Contract Documents (other than portions thereof related to price) for such work.

4.8 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception of the Bid is premised upon performing and furnishing the Work required by the Contract Documents and applying the specific means, methods, techniques, sequences, or procedures for construction (if any) that may be shown or indicated or expressly required by the Contract Documents, the Bidder has given Engineer written notice of all conflicts, errors, ambiguities and discrepancies that Bidder has discovered in the Contract Documents, and the Contract documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

4.9 The provisions of 1-4.1 through 4.8, inclusive, do not apply to Asbestos, Polychlorinated biphenyls (PCBs), Petroleum, Hazardous Waste, or Radioactive Material covered by Paragraph 4.5 of the General Conditions.

5. Availability of Lands for Work, etc.

The lands upon which the Work is to be performed, rights-of-way and easements for access thereto and other lands designated for use by Contractor in performing the Work are identified in the Contract Documents. All additional land and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in 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 Contract Documents.

6. Interpretations and Addenda

6.1 All questions about the meaning or intent of the Bidding Documents are to be directed to Engineer. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Engineer as having received the Bidding Documents. Questions received less than ten days prior to the date for opening of Bids may not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

6.2 Addenda may also be issued to modify the Bidding Documents as deemed advisable by OWNER or ENGINEER.

7. Bid Security

7.1 Each bid must be accompanied by Bid security made payable to OWNER in an amount of five percent of Bidder's maximum Bid Price and in the form of a certified or bank check or a Bid Bond (on form attached, if a form is prescribed) issued by a surety meeting the requirements of Paragraph 5.1 of the General Conditions.

7.2 The Bid security of Successful Bidder will be retained until such Bidder has executed the Agreement, 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 execute and deliver the Agreement and furnish the required contract security within fifteen days after the Notice of Award, OWNER may annul the Notice of Award and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders whom OWNER believes to have a reasonable chance of receiving the award may be retained by OWNER until the earlier of the seventh day after the Effective Date of the Agreement or the thirty-sixth day after the Bid opening, whereupon Bid security furnished by such Bidders will be returned. Bid security with Bids which are not competitive will be

returned within seven days after the Bid opening.

8. Contract Times

The number of days within which, or the dates by which, the Work is to be substantially completed and also completed and ready for final payment (the term "Contract Times" is defined in paragraph 1.12 of the General Conditions) are set forth in the Agreement (or incorporated therein by reference to the attached Bid Form).

9. Liquidated Damages

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

10. Substitute and "Or-Equal" Items

The Contract, if awarded, will be on the basis of materials and equipment described in the Drawings or specified and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or "or-equal" items. Whenever it is indicated in the Drawings or specified in the Specifications 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 submission of any such application by CONTRACTOR and consideration by ENGINEER is set forth in Paragraphs 6.7.1, 6.7.2 and 6.7.3 of the General Conditions and may be supplemented in the General Requirements.

11. Subcontractors, Suppliers, and Others

11.1 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers and other persons and organizations (including those who are to furnish the principal items of material and equipment) to be submitted to OWNER in advance of a specified date prior to the Effective Date of the Agreement, apparent Successful Bidder, and any other Bidder so

requested, shall within five days of Notice of Award submit to OWNER a list of all such Subcontractors, Suppliers, and other persons and organizations proposed for those portions of the Work for which such identification is required. An OWNER or ENGINEER who after due investigation reasonably believes that a Subcontractor, Supplier, other person or organization is suspended, debarred or has otherwise been declared ineligible to perform this contract, may request that the Successful Bidder submit an acceptable substitute Subcontractor, Supplier, person or organization. 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 persons and organizations.

11.2 In contracts where the Contract Price is on the basis of Cost-of-the-Work Plus a Fee, apparent Successful Bidder, prior to the Notice of Award, shall identify in writing to OWNER those portions of the Work that such Bidder proposes to subcontract and after the Notice of Award may only subcontract other portions of the Work with OWNER's written consent.

11.3 No CONTRACTOR shall be required to employ any Subcontractor, Supplier, other person or organization against who CONTRACTOR has reasonable objection.

12. Bid Form and Bid Summary Form

12.1 The Bid Form and Bid Summary Form (where applicable) are included with the Bidding Documents; additional copies may be obtained from Engineer (or the Issuing Office).

12.2 All blanks on the Bid Form must be completed by printing in black ink or by typewriter.

12.3 Bids by corporations must be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal

must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation must be shown below the signature.

12.4 Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature and the official address of the partnership must be shown below the signature.

12.5 All names must be typed or printed in black ink below the signature.

12.6 The Bid shall contain an acknowledgment of receipt of all Addenda (the numbers of which must be filled in on the Bid Form).

12.7 The address and telephone number for communications regarding the Bid must be shown.

12.8 Evidence of authority to conduct business as an out-of-state business entity in the state where the Work is to be performed shall be provided in accordance with Paragraph 3 above. State contractor license number, if any, must also be shown.

13. Submission of Bids

Bids shall be submitted at the time and place indicated in the Advertisement or Notice to Bidders and shall be enclosed in an opaque sealed envelope, marked with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted) and name and address of Bidder and accompanied by the Bid security and other required documents. If the Bid is sent through the mail or other delivery system the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face of it.

14. Modification and Withdrawal of Bids

14.1 Bids may be modified or 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

submitted at any time prior to the opening of Bids.

14.2 Where an unilateral error or mistake is discovered in a Bid, such Bid may be withdrawn after a showing of the following: (1) the mistake is known or made known to the OWNER and ENGINEER prior to the awarding of the contract or within three days after the opening of the Bid, whichever period is shorter; and (2) the price Bid was based on an error of such magnitude that enforcement would be unconscionable; and (3) the Bid was submitted in good faith and the Bidder submits credible evidence that the mistake was a clerical error as opposed to a judgment error; and (4) the error in the Bid is actually due to an unintentional and substantial arithmetic error or an unintentional omission of a substantial quantity of work, labor, material, goods or services made directly in the compilation of the Bid, which unintentional arithmetic error or unintentional omission can be clearly shown by objective evidence drawn from inspection of the original work papers, documents, or materials used in the preparation of the Bid sought to be withdrawn; and (5) it is possible to place the OWNER in status quo ante.

15. Opening of Bids

Bids will be opened and (unless obviously nonresponsive) read aloud publicly at the place where Bids are to be submitted. An abstract of the amounts of the base Bids and major alternates (if any) may be made available to Bidders after the opening of Bids.

16. Bids to Remain Subject to Acceptance

All Bids will remain subject to acceptance for forty-five (45) 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.

17. Award of Contract

17.1 To the fullest extent permitted by law OWNER reserves the right to reject any or all

Bids, including without limitation the rights to reject any or all nonconforming, non-responsive, unbalanced, or conditional Bids and to reject the Bid of any Bidder if OWNER believes that it would not be in the best interest of the Project to make an award to that Bidder, whether because the Bid is not responsible or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by OWNER. OWNER also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate, to the extent permitted by law, contract terms with the Successful Bidder. 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. Discrepancies between words and figures will be resolved in favor of the words.

17.2 In evaluating Bids, OWNER will consider the qualifications of Bidders, whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

17.3 OWNER may consider the operating costs, maintenance requirements, performance data and guarantees of major item of materials and equipment proposed for incorporation in the Work when such data is required to be submitted prior to the Notice of Award.

17.4 Owner may conduct such investigations as OWNER deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications, and financial ability of Bidders, to perform and furnish the Work in accordance with the Contract Documents to OWNER's satisfaction within the prescribed time.

17.5 If the contract is to be awarded, it will be awarded to lowest responsible Bidder whose evaluation by OWNER indicates to

OWNER that the award will be in the best interests of the Project.

17.6 If the contract is to be awarded, OWNER will give Successful Bidder a Notice of Award within forty-five (45) days after the day of the Bid opening.

18. Contract Security

Paragraph 5.1 of the General Conditions and the Supplementary Conditions set forth OWNER's requirements as to performance and payment Bonds. When the Successful Bidder delivers the executed Agreement to OWNER, it must be accompanied by the required performance and payment Bonds.

19. Signing of Agreement

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 all other written Contract Documents attached. Within fifteen days thereafter CONTRACTOR shall sign and deliver the required number of counterparts of the Agreement and attached documents to OWNER with the required Bonds. Within ten days thereafter OWNER shall deliver one fully signed counterpart to CONTRACTOR. Each counterpart is to be accompanied by a complete set of the Drawings with appropriate identification.

20. Sales and Use Taxes

OWNER is exempt from New York State Sales and Use Taxes on materials and equipment to be incorporated in the Work (exemption No. A15881). Said taxes should not be included in the Contract Price. Refer to Supplementary Conditions SC-6.15 for additional information.

21. Retainage

Provisions concerning retainage and CONTRACTOR'S rights to deposit securities in lieu of retainage are set forth in the Agreement.

22. Equal Employment Opportunity Policy Goals

Refer to the Equal Employment Opportunity Policy Statement in the Bid Form for the MBE/WBE goals for the project.

23. Pre-Bid Conference

A pre-bid conference will be held on Thursday, January 9, 2020 at 10 am for the purpose of considering questions posed by bidders. The conference will be located at the Town of Moriah Court House, 42 Park Place, Port Henry, NY 12974.

INFORMATION AVAILABLE TO BIDDERS

(Note: Information placed in this section is not part of the Contract Documents)

July 19, 2019
QCQA Project No. SE19-033

Carrie Dooley, P.E.
M.J. Engineering and Land Surveying, P.C.
1533 Crescent Road
Clifton Park, New York 12065

Re: Infiltration Testing Summary Report
Proposed Water & Sewer Replacement Rehabilitation Project
Ridge Lane, Oak Lane & 1st Street
Port Henry, Town of Moriah, New York
MJ Project No. 1075.03

Dear Mrs. Dooley,

Pursuant to your request and authorization, QC/QA Laboratories, Inc. (QCQA Labs) completed a subsurface exploration at the above project site. Work was performed on Ridge Lane, Oak Lane/1st Street in Port Henry, New York.

The subsurface exploration consisted of a total of four (4) test borings. The test borings were drilled at the site on July 2, 2019 using a Central Mine Equipment model 550X drill rig. The test borings were designated as B-1 through B-4 and were each advanced to a depth of 8.0 feet. Split spoon sampling and standard penetration testing (SPT) was performed continuously in the test borings to the termination depth. A drawing showing the approximate test boring locations is attached to this report.

The soil samples recovered from the test borings were visually classified by a geotechnical engineer. The subsurface profile encountered in test borings B-1 through B-3 generally consisted of a surficial asphalt pavement section underlain by indigenous clay soils, which extended to the boring termination depths. The subsurface profile encountered in test boring B-4 consisted of existing fill type soils extending to the boring termination depth. The existing fill type soils consisted of an upper layer of brown-gray sand with intermixed gravel, silt, and ash extending to a depth of approximately 4 feet. The upper fill layer was underlain by brown clay with intermixed sand, gravel, and ash extending to the boring termination depth.

Standard penetration test (SPT) “N” values obtained in the indigenous clay soils ranged from 2 to 14 indicating the consistency of these soils varied from “very soft” to “stiff”. SPT “N” values obtained in the cohesionless existing fill type soils ranged from 4 to 13 indicating the relative density of these soils varied from “loose” to “firm”. SPT “N” values of 2 were obtained in the cohesive existing fill soils indicating a “very soft” consistency.

Town of Moriah Water & Sewer Project

July 19, 2019

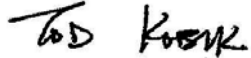
Page 2

We appreciate the opportunity to work with you on this project. Please let me know if you have any questions or need any additional information.

Respectfully Submitted:

QC/QA Laboratories, Inc.,

Service-Disabled Veteran-owned Small Business

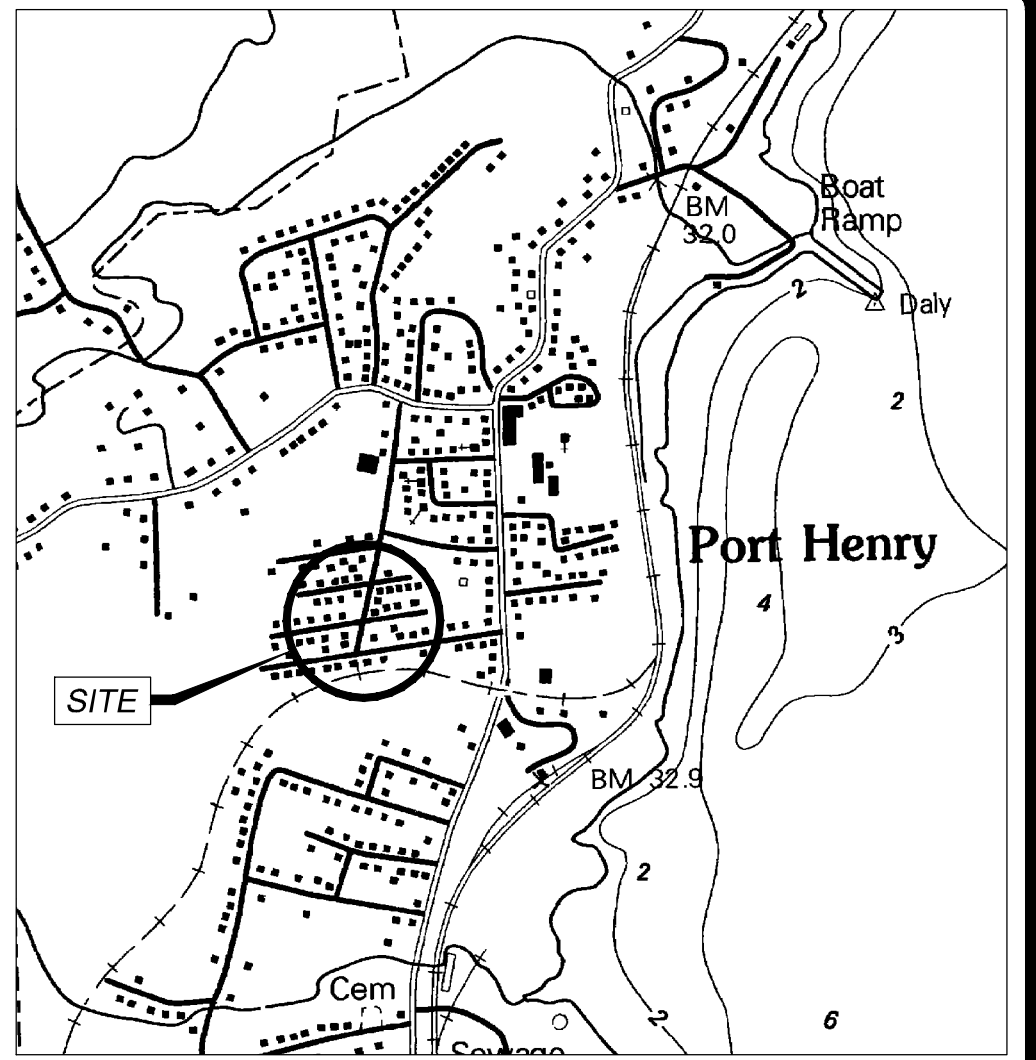
A handwritten signature in black ink that reads "Tod Kobik". The signature is written in a cursive, slightly slanted style.

Tod M. Kobik, P.E.

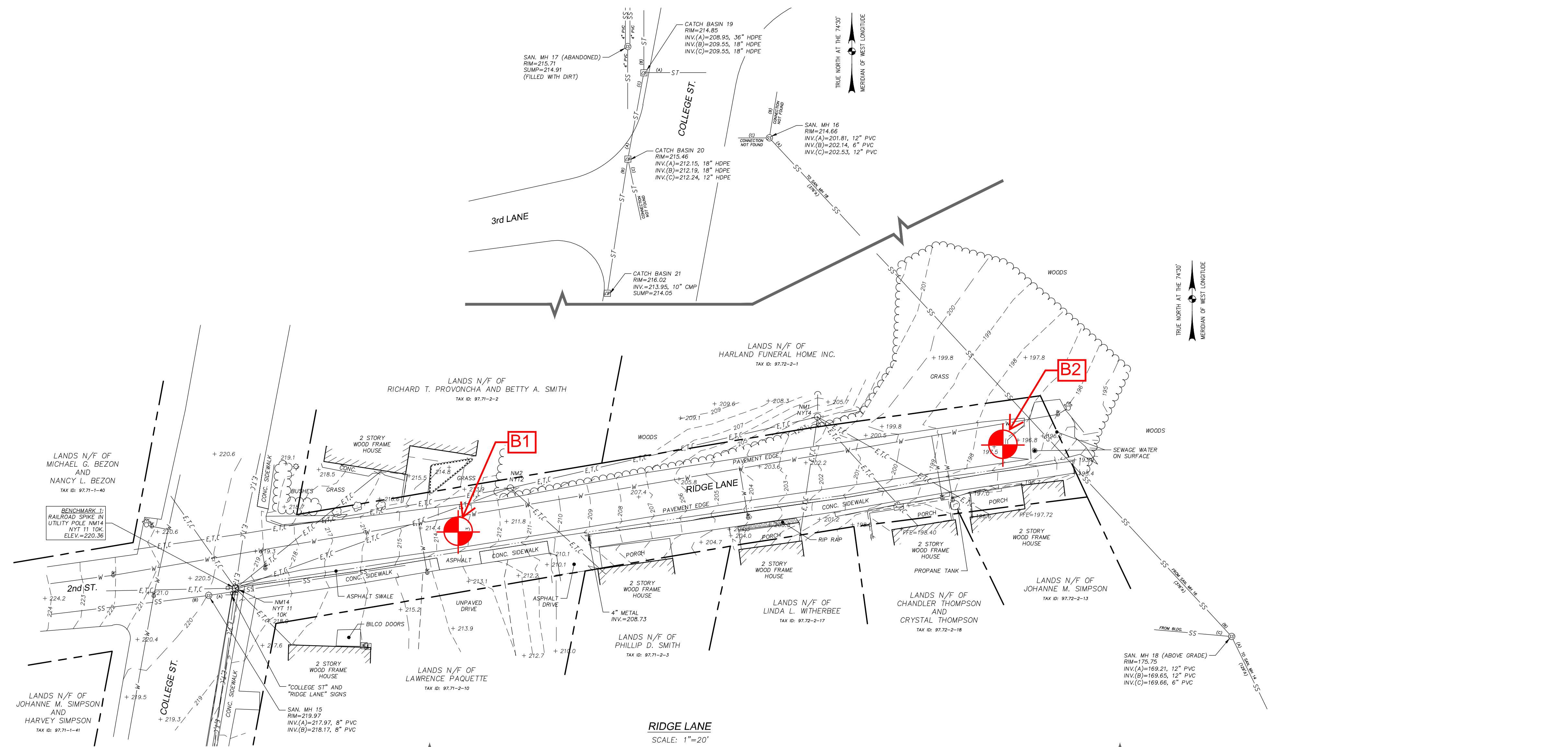
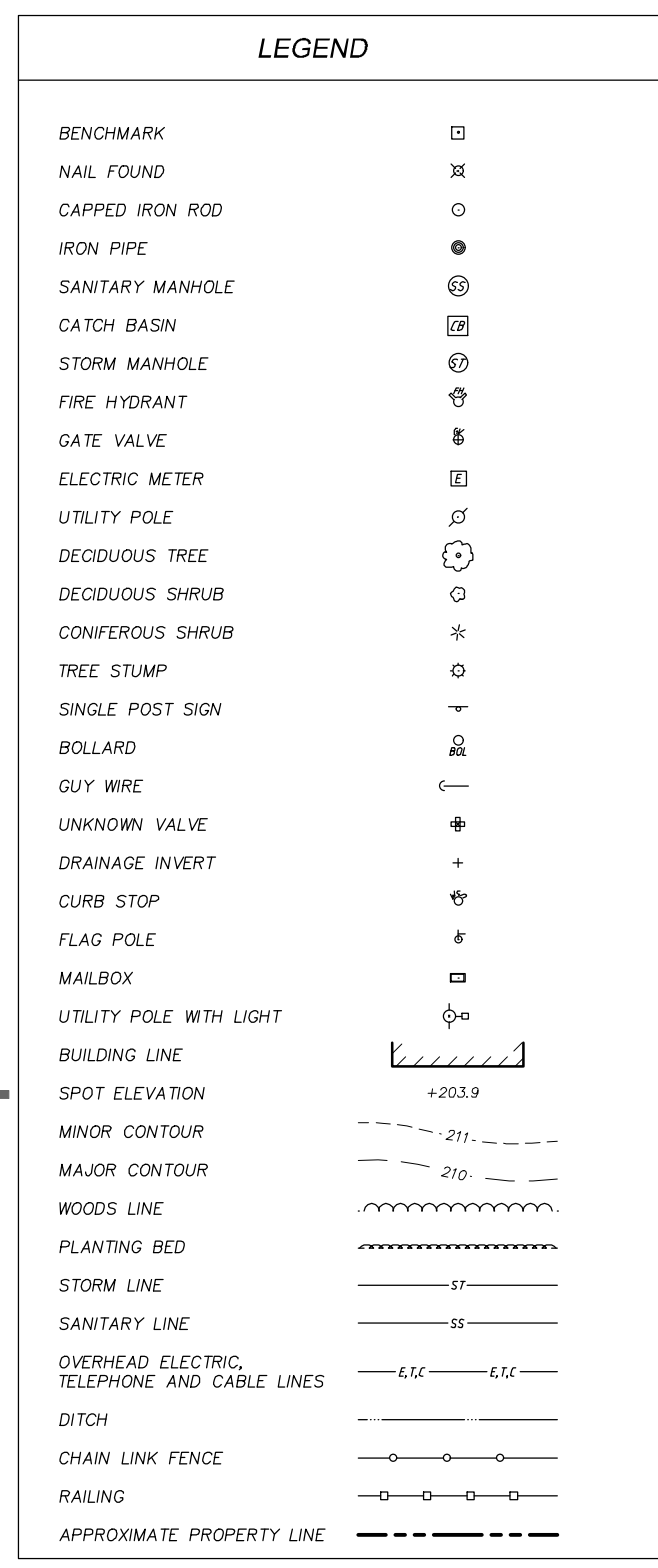
Vice President

Encl.: Test Boring Location Plan
Test Boring Logs

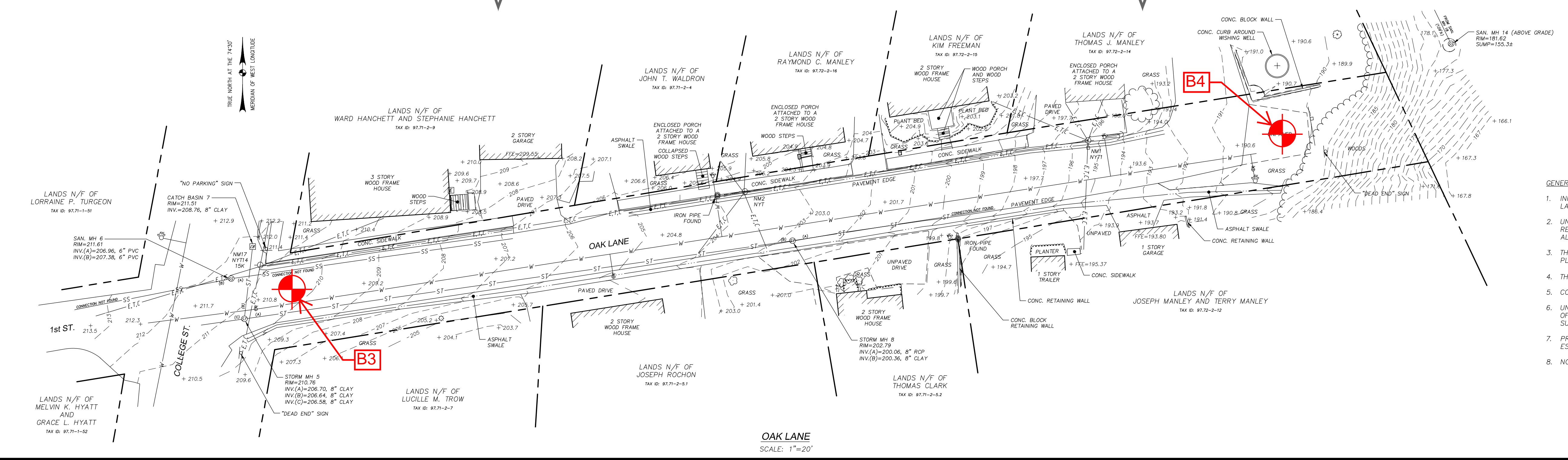
TEST BORING LOCATION PLAN



SITE LOCATION MAP
SCALE: N.T.S.

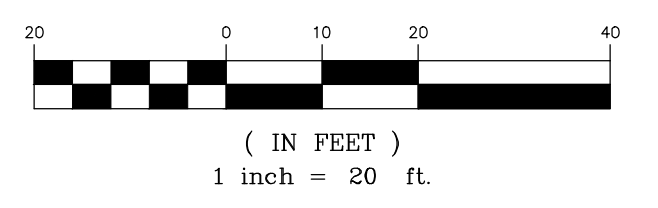


RIDGE LANE
SCALE: 1"=20'



OAK LANE
SCALE: 1"=20'

- GENERAL NOTES:**
1. INFORMATION SHOWN HEREON IS FROM A FIELD SURVEY CONDUCTED BY MJ ENGINEERING AND LAND SURVEYING, PC ON MAY 31, 2019 AND JUNE 4, 2019.
 2. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON SURFACE EVIDENCE AND INFORMATION RECORDED DURING CONVENTIONAL SURVEY METHODS. THIS MAPPING DOES NOT PURPORT TO SHOW ALL UNDERGROUND UTILITIES ON SITE AND IS SUBJECT TO FIELD VERIFICATION.
 3. THE HORIZONTAL DATUM IS REFERENCED TO NORTH AMERICAN DATUM OF 1983, NEW YORK STATE PLANE EAST ZONE 3101.
 4. THE VERTICAL DATUM IS REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
 5. CONTOUR INTERVAL = 1 FOOT.
 6. UNAUTHORIZED ALTERATIONS OR ADDITION TO THIS SURVEY MAP IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW. COPIES OF THIS SURVEY MAP NOT BEARING THE LAND SURVEYORS SEAL AND SIGNED WITH INK SHALL NOT BE CONSIDERED TO BE VALID COPIES.
 7. PROPERTY LINES SHOWN ARE APPROXIMATE USING AVAILABLE SECTION MAPS AND TAX MAPS FROM ESSEX COUNTY DEPARTMENT OF ASSESSMENT.
 8. NORTH IS ORIENTED TO GRID NORTH FROM GPS OBSERVATION.



File Name: G:\MJ1075.03 Town of Moriah Water and Sewer\Cad\MJ1075.03_XSRVY.dwg (Layout: Layout1)
Date: Tue, Jun 18, 2019, 3:11 PM (Name: cred)

| SUBMITTAL / REVISIONS | | | | |
|-----------------------|------|-------------|----|-------------------|
| No. | DATE | DESCRIPTION | BY | REVIEWED BY: DATE |
| | | | | |
| | | | | |
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| | |
|--------------------|------|
| PROJ. MANAGER: CWR | DATE |
| CHIEF DESIGNER: | DATE |
| DESIGNED BY: | |
| DRAWN BY: PEM | |
| CHECKED BY: CWR | |

THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A REGISTERED PROFESSIONAL, (I.E.) ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LAND SURVEYOR FOR LAND SURVEYING, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS 'A' MISDEMEANOR.

Engineering and Land Surveying, P.C.
1533 Crescent Road - Clifton Park, NY 12065

PROPOSED WATER & SEWER REPLACEMENT REHABILITATION PROJECT
**EXISTING CONDITIONS PLAN OF
RIDGE LANE, OAK LANE, 1st STREET
AND ELIZABETH STREET**
TOWN OF MORIAH
ESSEX COUNTY STATE OF NEW YORK

SCALE: 1" = 20'
CONTRACT No.: MJ PROJ. No.: MJ1075.03
DATE: JUNE 18, 2019
1 OF 2

TEST BORING LOGS

DATE
 START: 7/2/2019
 FINISH: 7/2/2019
 SHEET 1 OF 1



BORING NO. B-1
 PROJ. NO. SE19-033
 SURF. ELEV. G.S.
 G.W. DEPTH See Notes

PROJECT: Water & Sewer Replacement Rehabilitation Project LOCATION: Ridge Lane
Town of Moriah Port Henry, New York

| DEPTH (ft.) | SAMPLES | SAMPLE NO. | BLOWS ON SAMPLER | | | | | REC. (ft.) | SOIL OR ROCK CLASSIFICATION | NOTES |
|-------------|---------|------------|------------------|------|-------|-------|----|------------|-------------------------------------------|----------------------------------------------------------------------|
| | | | 0/6 | 6/12 | 12/18 | 18/24 | N | | | |
| | / | 1 | 25 | 12 | 2 | 1 | 14 | 0.6 | Asphalt Pavement over Subbase Stone | |
| | / | 2 | 1 | 2 | 2 | 4 | 4 | 1.5 | Brown Medium CLAY, Moist | |
| 5 | / | 3 | 4 | 4 | 4 | 6 | 8 | 1.8 | Varved | |
| | / | 4 | 5 | 5 | 5 | 4 | 10 | 1.7 | Stiff | |
| | | | | | | | | | Boring terminated at a depth of 8.0 feet. | Free standing water was not encountered upon completion of drilling. |
| 10 | | | | | | | | | | |
| 15 | | | | | | | | | | |
| 20 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 35 | | | | | | | | | | |
| 40 | | | | | | | | | | |

N = NO. BLOWS TO DRIVE 2-INCH SPLIT SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW
 DRILLER: J. Leonhardt DRILL RIG TYPE: CME 550X CLASSIFICATION: Visual by T. Kobik
 METHOD OF INVESTIGATION: ASTM D1586 using 3.25" I.D. Hollow Stem Augers

DATE
 START: 7/2/2019
 FINISH: 7/2/2019
 SHEET 1 OF 1



BORING NO. B-2
 PROJ. NO. SE19-033
 SURF. ELEV. G.S.
 G.W. DEPTH See Notes

PROJECT: Water & Sewer Replacement Rehabilitation Project LOCATION: Ridge Lane
Town of Moriah Port Henry, New York

| DEPTH (ft.) | SAMPLES | SAMPLE NO. | BLOWS ON SAMPLER | | | | | REC. (ft.) | SOIL OR ROCK CLASSIFICATION | NOTES |
|-------------|---------|------------|------------------|------|-------|-------|---|------------|-------------------------------------------|----------------------------------------------------------------------|
| | | | 0/6 | 6/12 | 12/18 | 18/24 | N | | | |
| | / | 1 | 18 | 4 | 2 | 2 | 6 | 1.3 | Asphalt Pavement over Subbase Stone | |
| | / | 2 | 2 | 2 | 2 | 2 | 4 | 1.6 | Brown Medium CLAY, Moist | |
| 5 | / | 3 | WH | 1 | 1 | 2 | 2 | 1.5 | Very Soft | |
| | / | 4 | 2 | 4 | 4 | 3 | 8 | 1.6 | Medium, Varved | |
| | | | | | | | | | Boring terminated at a depth of 8.0 feet. | Free standing water was not encountered upon completion of drilling. |
| 10 | | | | | | | | | | |
| 15 | | | | | | | | | | |
| 20 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 35 | | | | | | | | | | |
| 40 | | | | | | | | | | |

N = NO. BLOWS TO DRIVE 2-INCH SPLIT SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW
 DRILLER: J. Leonhardt DRILL RIG TYPE: CME 550X CLASSIFICATION: Visual by T. Kobik
 METHOD OF INVESTIGATION: ASTM D1586 using 3.25" I.D. Hollow Stem Augers

DATE
 START: 7/2/2019
 FINISH: 7/2/2019
 SHEET 1 OF 1



BORING NO. B-3
 PROJ. NO. SE19-033
 SURF. ELEV. G.S.
 G.W. DEPTH See Notes

PROJECT: Water & Sewer Replacement Rehabilitation Project LOCATION: Ridge Lane
Town of Moriah Port Henry, New York

| DEPTH (ft.) | SAMPLES SAMPLE NO. | BLOWS ON SAMPLER | | | | | REC. (ft.) | SOIL OR ROCK CLASSIFICATION | NOTES |
|-------------|--------------------|------------------|------|-------|-------|----|------------|-------------------------------------------|----------------------------------------------------------------------|
| | | 0/6 | 6/12 | 12/18 | 18/24 | N | | | |
| | 1 | 17 | 3 | 6 | 6 | 9 | 1.6 | Asphalt Pavement over Subbase Stone | |
| | 2 | 3 | 5 | 6 | 9 | 11 | 1.6 | Brown Stiff CLAY, Moist | |
| 5 | 3 | 4 | 6 | 7 | 8 | 13 | 1.8 | Varved | |
| | 4 | 7 | 8 | 6 | 7 | 14 | 1.6 | Similar | |
| | | | | | | | | Boring terminated at a depth of 8.0 feet. | Free standing water was not encountered upon completion of drilling. |
| 10 | | | | | | | | | |
| 15 | | | | | | | | | |
| 20 | | | | | | | | | |
| 25 | | | | | | | | | |
| 30 | | | | | | | | | |
| 35 | | | | | | | | | |
| 40 | | | | | | | | | |

N = NO. BLOWS TO DRIVE 2-INCH SPLIT SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW
 DRILLER: J. Leonhardt DRILL RIG TYPE: CME 550X CLASSIFICATION: Visual by T. Kobik
 METHOD OF INVESTIGATION: ASTM D1586 using 3.25" I.D. Hollow Stem Augers

DATE
 START: 7/2/2019
 FINISH: 7/2/2019
 SHEET 1 OF 1



BORING NO. B-4
 PROJ. NO. SE19-033
 SURF. ELEV. G.S.
 G.W. DEPTH See Notes

PROJECT: Water & Sewer Replacement Rehabilitation Project LOCATION: Ridge Lane
Town of Moriah Port Henry, New York

| DEPTH (ft.) | SAMPLES | SAMPLE NO. | BLOWS ON SAMPLER | | | | | REC. (ft.) | SOIL OR ROCK CLASSIFICATION | NOTES |
|-------------|---------|------------|------------------|------|-------|-------|----|------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| | | | 0/6 | 6/12 | 12/18 | 18/24 | N | | | |
| | / | 1 | 3 | 5 | 8 | 6 | 13 | 0.9 | FILL: Brown-Gray Firm Fine-Coarse SAND, Little Gravel, Little Silt, Dry | |
| | / | 2 | 3 | 2 | 2 | 1 | 4 | 1.1 | Loose, Grades to "Trace" Ash | |
| 5 | / | 3 | 1 | 1 | 1 | 1 | 2 | 1.4 | FILL: Brown Very Soft CLAY, Little Fine-Medium Sand, Trace Gravel, Trace Ash, Moist | |
| | / | 4 | 1 | 1 | 1 | 1 | 2 | 0.8 | Similar | |
| | | | | | | | | | Boring terminated at a depth of 8.0 feet. | Free standing water was not encountered upon completion of drilling. |
| 10 | | | | | | | | | | |
| 15 | | | | | | | | | | |
| 20 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 35 | | | | | | | | | | |
| 40 | | | | | | | | | | |

N = NO. BLOWS TO DRIVE 2-INCH SPLIT SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW
 DRILLER: J. Leonhardt DRILL RIG TYPE: CME 550X CLASSIFICATION: Visual by T. Kobik
 METHOD OF INVESTIGATION: ASTM D1586 using 3.25" I.D. Hollow Stem Augers

EXAMPLE KEY TO SUBSURFACE EXPLORATION LOGS

| | | |
|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| DATE START: <u>XX/XX/XX</u> FINISH: <u>XX/XX/XX</u> SHEET <u>X</u> OF <u>X</u> |  <p style="font-size: small;">QC/QA LABORATORIES, INC. GEOTECHNICAL ENGINEERING SERVICES</p> | PROJ. NO. <u>XX-XXXX</u> HOLE NO. <u>X-X</u> SURF. ELEV. <u>XXX.X'</u> G.W. DEPTH <u>X.X'</u> |
|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|

| | |
|------------------------------|-----------------------------------|
| PROJECT: <u>PROJECT NAME</u> | LOCATION: <u>PROJECT LOCATION</u> |
| <u>PROJECT NAME</u> | <u>PROJECT LOCATION</u> |

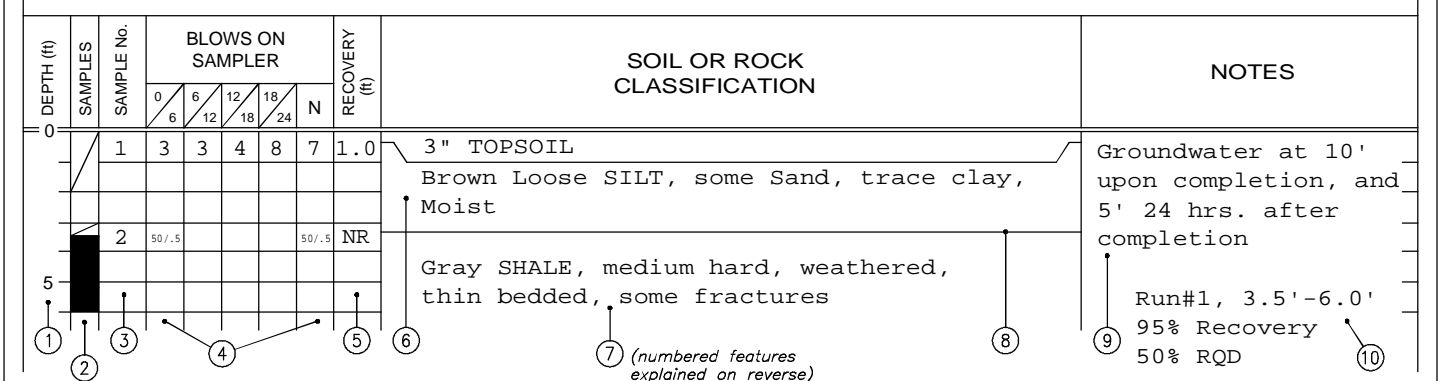


TABLE I






| | |
|-------------------------------------------------------------------------------------|--------------------------|
|  | Split Spoon Sample |
|  | Shelby Tube Sample |
|  | Geoprobe Macro-Core |
|  | Auger or Test Pit Sample |
|  | Rock Core |

TABLE II

Identification of soil type is made on basis of an estimate of particle sizes, and in the case of fine grained soils also on basis of plasticity.

| Soil Type | Soil Particle Size | |
|-------------------------------|--------------------|---------------------------|
| Boulder | >12" | Coarse Grained (Granular) |
| Cobble | 3" - 12" | |
| Gravel - Coarse | 3" - 3/4" | |
| - Fine | 3/4" - #4 | |
| Sand - Coarse | #4 - #10 | |
| - Medium | #10 - #40 | Fine Grained |
| - Fine | #40 - #200 | |
| Silt - Non Plastic (Granular) | <#200 | |
| Clay - Plastic (Cohesive) | | |

TABLE III

The following terms are used in classifying soils consisting of mixtures of two or more soil types. The estimate is based on weight of total sample.

| Term | Percent of Total Sample |
|----------|-------------------------|
| "and" | 35 - 50 |
| "some" | 20 - 35 |
| "little" | 10 - 20 |
| "trace" | less than 10 |

(When sampling gravelly soils with a standard split spoon, the true percentage of gravel is often not recovered due to the relatively small sampler diameter.)

TABLE IV

The relative compactness or consistency is described in accordance with the following terms:

| Granular Soils | | Cohesive Soils | |
|----------------|-------------------|----------------|-------------------|
| Term | Blows per Foot, N | Term | Blows per Foot, N |
| Very Loose | 0 - 4 | Very Soft | 0 - 2 |
| Loose | 4 - 10 | Soft | 2 - 4 |
| Firm | 10 - 30 | Medium | 4 - 8 |
| Compact | 30 - 50 | Stiff | 8 - 15 |
| Very Compact | >50 | Very Stiff | 15 - 30 |
| | | Hard | >30 |

(Large particles in the soils will often significantly influence the blows per foot recorded during the penetration test)

TABLE V

| | |
|------------------|-----------------------------------------------------------------|
| Varved | Horizontal uniform layers or seams of soil(s). |
| Layer | Soil deposit more than 6" thick. |
| Seam | Soil deposit less than 6" thick. |
| Parting | Soil deposit less than 1/8" thick. |
| Laminated | Irregular, horizontal and angled seams and partings of soil(s). |

TABLE VI

| Rock Classification Term | Meaning | Rock Classification Term | Meaning |
|--------------------------|------------------|---------------------------------------------------------------------------------------------|----------------------------|
| Hardness | - Soft | Bedding | - Laminated (<1") |
| | - Medium Hard | | - Thin Bedded (1" - 4") |
| | - Hard | | - Bedded (4" - 12") |
| | - Very Hard | | - Thick Bedded (12" - 36") |
| | - Massive (>36") | | |
| Weathering | - Very Weathered | (Fracturing refers to natural breaks in the rock oriented at some angle to the rock layers) | |
| | - Weathered | | |
| | - Sound | | |

Scatched by fingernail
 Scatched easily by penknife
 Scatched with difficulty by penknife
 Cannot be scatched by penknife
 Judged from the relative amounts of disintegration, iron staining, core recovery, clay seams, etc.

GENERAL INFORMATION & KEY TO SUBSURFACE LOGS

The Subsurface Logs attached to this report present the general observations and mechanical data collected by the driller at the site, supplemented by classification of the material removed from the borings as determined through visual identification by technicians in the laboratory. It is cautioned that the materials removed from the borings represent only a small fraction of the soils at the site and may not be representative of subsurface conditions between and/or away from the boring locations or between the sampled intervals. The data presented on the Subsurface Logs along with the recovered samples provide a basis for estimating the engineering characteristics of the soils at the site. The evaluation must consider all the recorded details and their relative significance to the project. It is common that evaluation of standard subsurface data indicates the need for additional testing and/or sampling to more accurately evaluate the subsurface conditions. Any evaluation of the data presented on the Subsurface Logs must be performed by qualified professionals. The following information defines some of the procedures and terms used on the Subsurface Logs to describe the conditions encountered. The paragraph numbers below correspond to the numbered features identified on the opposite page.

1. The figures in the Depth column define the scale of the Subsurface Log.
2. The Samples column shows a graphical representation of the depth and type of sampling performed. See Table I for descriptions of the symbols used to represent the various types of samples.
3. The Sample No. is used for identification on sample containers and laboratory test reports.
4. Blows on Sampler - shows the results of the "Standard Penetration Test" (SPT), recording the number of blows required to drive a split spoon sampler into the soil. The number of blows required to drive the sampler for each six inch increment is recorded. The first six inches of penetration is considered a seating drive. The sum of the number of blows required for the second and third six inch increments is termed the penetration resistance, N. The outside diameter of the sampler, hammer weight and length of drop are noted at the bottom of the Subsurface Log.
5. Recovery - Shows the length of the recovered sample.
6. All recovered soil samples are reviewed in the laboratory by an engineering technician or geotechnical engineer, unless noted otherwise. Visual descriptions are made on the basis of a combination of the driller's field descriptions and noted observations together with the sample as received in the laboratory. The method of visual classification is based primarily on the Unified Soil Classification System (ASTM D 2487) with regard to the particle size and plasticity (See Table No. II), and the Unified Soil Classification group symbols for the soil types are sometimes included with the soil classification. Additionally, the relative portion, by weight, of two or more granular soil types is described in accordance with "Suggested Methods of Test for Identification of Soils" by D.M. Burmister, ASTM Special Technical Publication 479, June 1970, (See Table No. III). Description of the relative soil density or consistency is based upon the penetration records as defined in Table No. IV. The description of the soil moisture is based upon the relative wetness of the soil as recovered and is described as dry, moist, wet or saturated. Water introduced into the boring either naturally or during drilling may have affected the moisture condition of the recovered samples. Special terms are used as required to describe soil deposition in greater detail; several such terms are listed in Table V. When sampling gravelly soils with a standard two inch diameter split spoon sampler, the true percentage of gravel is often not recovered due to the relatively small sampler diameter. The presence of boulders and large gravel is sometimes, but not necessarily, detected by an evaluation of the sampler blows or through the action of the drill rig as reported by the driller.
7. Rock descriptions are based on review of the recovered rock core samples and the driller's notes. Typical rock classification terms are included in Table VI.
8. The stratification lines represent the approximate boundary between soil types and the transition may be gradual. Solid stratification lines delineate apparent changes in soil type, based upon review of recovered soil samples and the driller's notes. Dashed lines indicate a lesser degree of certainty with respect to either a change in soil type or where such a change may occur.
9. Miscellaneous observations and procedures noted by the driller are shown in this column, including water level observations. It is important to understand that the reliability of the water observations depends upon the soil type (water level does not readily stabilize in a bore hole through fine grained soils), and that any drill water used to advance the boring may have influenced the observations. Typically, the ground water level will fluctuate with seasonal changes in precipitation patterns. One or more perched or trapped water levels may exist in the ground seasonally. Generally, it is prudent to install a groundwater observation well to better define water levels.
10. The length of core run is defined as the length of penetration of the core barrel. Core recovery is the length of core recovered divided by the core run length. The Rock Quality Designation (RQD) is the total length of pieces of recovered core exceeding 4 inches divided by the core run length. The size of the core barrel used is also noted.

BID FORM

PROJECT IDENTIFICATION: Water and Sewer Upgrades
Town of Moriah
Port Henry, New York 12974

THIS BID IS SUBMITTED TO: Town of Moriah
38 Park Place
Port Henry, NY 12974
Phone: (518) 546-8631

1. The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an agreement with OWNER in the form included in the Contract Documents to perform and furnish all Work as specified or indicated in the Contract Documents for the Bid Price and within the Bid Times indicted in this Bid and in accordance with the other terms and conditions of the Contract Documents.
2. BIDDER accepts all of the terms and conditions of the Advertisement or Notice to Bidders and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for forty-five (45) days after the day of Bid opening. BIDDER will sign and deliver the required number of counterparts of the Agreement with the Bonds and other documents required by the Bidding Requirements within fifteen days after the date of OWNER's Notice of Award.
3. In submitting this Bid, BIDDER represents as more fully set forth in the Agreement, that:
 - a. BIDDER has examined and carefully studied the Bidding Documents and the following Addenda receipt of all which is hereby acknowledged: (List Addenda by Addendum Number and Date)

 - 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, performance, and furnishing of 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, performance, and furnishing of the Work.
 - d. BIDDER has carefully studied 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 4.2.1 of the General Conditions. BIDDER accepts the determination set forth in paragraph SC-4.2 of the Supplementary Conditions of the extent of the "technical data" contained in such reports and drawings upon which BIDDER is entitled to rely as provided in paragraph 4.2 of the General Conditions. BIDDER acknowledges that such reports and drawings are not Contract Documents and may not be complete for BIDDER's purposes. BIDDER acknowledges that OWNER and

ENGINEER do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Bidding Documents with respect to underground facilities at or contiguous to the site. BIDDER has obtained and carefully studied (or assumes responsibility for having done so) all such additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and underground facilities) at or contiguous to the site or otherwise which may affect cost progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by BIDDER and safety precautions and programs incident thereto. BIDDER does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the determination of this Bid for performance and furnishing of the Work in accordance with the times, price, and other terms and conditions of the Contract Documents.

- e. BIDDER is aware of the general nature of Work to be performed by OWNER and others at the site that relates to Work for which this Bid is submitted as indicated in the Contract Documents.
 - f. BIDDER has correlated the information known to BIDDER, information and observation 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.
 - g. BIDDER has given ENGINEER written notice of all conflicts, errors, ambiguities or discrepancies that BIDDER has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to BIDDER, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work for which this Bid is submitted.
 - h. This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm, or corporation 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 person, firm or corporation to refrain from bidding; and BIDDER has not sought by collusion to obtain for itself any advantage over any other BIDDER or over OWNER.
4. BIDDER will complete the Work in accordance with the Contract Documents for the following price:

For all Unit Price Work, an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the quantity of that item as indicated on the Bid Summary Form.

Total Bid of All Unit Prices (Base Bid Only):

_____ (\$ _____)
 (use words) (use figures)

Total Bid of All Unit Prices (Add Alternate No. 1):

_____ (\$ _____)
 (use words) (use figures)

Unit Prices have been computed in accordance with paragraph 11.9 of the General Conditions. All specific cash allowances are included in price(s) set forth above and have been computed in accordance with paragraph 11.8 of the General Conditions.

5. BIDDER agrees that the Work will be substantially completed on or before July 3, 2020 and completed and ready for final payment in accordance with paragraph 14.13 of the General Conditions on or before August 3, 2020.
6. The following documents are attached to and made a condition of this Bid:
 - a. Required Bid Security in the form of a Bid Bond.
 - b. Required BIDDER's Qualification Statement with supporting data.
 - c. Resolution of Board of Directors
 - d. General Municipal Law Form
 - e. Equal Employment Opportunity Policy Statement
7. Communications concerning this Bid shall be addressed to:

The address of BIDDER indicated below.

The following address:
8. Terms used in this Bid which are defined in the General Conditions or Instructions will have the meanings indicated in the General Conditions or Instructions.

SUBMITTED on _____ 2020

State Contractor License No. _____

If BIDDER is:

An Individual

By _____ (SEAL)

(Individual's Name)

doing business as _____

Business address: _____

Phone No.: _____

A Partnership

By _____ (SEAL)

(Firm Name)

_____ (general partner)

Business address: _____

Phone No.: _____

A Corporation

By _____ (SEAL)

(Corporation Name)

_____ (state of incorporation)

By _____ (SEAL)

(name of person authorized to sign)

_____ (Title)

(Corporate Seal)

Attest _____

(Secretary)

Business address: _____

Phone No.: _____

Date of Qualification to do business is _____

A Joint Venture

By _____ (SEAL)

(Name)

_____ (Address)

By _____ (SEAL)

(Name)

_____ (Address)

Phone Number and Address for receipt of official communications _____

(Each joint venturer must sign. the manner of signing for each individual, partnership and corporation that is a party to the joint venture should be in the manner indicated above).

CERTIFIED COPY OF RESOLUTION OF BOARD OF DIRECTORS

(NAME OF CORPORATION)

“RESOLVED that _____,
(Person Authorized to Sign) (Title)

of _____ authorized to sign and submit the Bid of this corporation for
(NAME OF CORPORATION)

the following Project:

and to include in such bid the certificate as to non-collusion, and for any inaccuracies or misstatements in such certificate this corporate Bidder shall be liable under the penalties of perjury.

The foregoing is a true and correct copy of the resolution adopted by

(NAME OF CORPORATION)

at a meeting of its Board of Directors held on the _____ day of _____ 20_____.

By _____

Title _____

(SEAL)

The above form must be completed if the Bidder is a Corporation.

GENERAL MUNICIPAL LAW CHAPTER 675

(Amending 103-d - General Municipal Law)

- (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.”

FIRM

BY

DATE

CONTRACT NO.(S)_____

CONTRACT NAMES_____

WATER AND SEWER UPGRADES - BASE BID

| Item No. | Item Description | Estimated Quantity | Unit | Amount in Figures | Amount in Words |
|----------|-----------------------------------------------------------------|--------------------|------|-------------------|-----------------|
| 1 | Mobilization & Demobilization | 1 | LS | \$ | \$ |
| 2 | Work Zone Traffic Control General | 20 | DAYS | \$ | \$ |
| 3 | Erosion and Sediment Control | 1 | LS | \$ | \$ |
| 4A | Utility Locating - Level A | 20 | EA | \$ | \$ |
| 4B | Utility Locating - Level B | 2 | DAYS | \$ | \$ |
| 5 | Existing Hydrant Removal and Reinstallation | 2 | EA | \$ | \$ |
| 6 | Existing 6" Gate Valve Box Removal | 2 | EA | \$ | \$ |
| 7A | 8-Inch Sanitary Sewer Main (Gravity) CIPP Lining | 205 | LF | \$ | \$ |
| 7B | 12-Inch Sanitary Sewer Main (Gravity) CIPP Lining | 285 | LF | \$ | \$ |
| 8 | Bypass Pumping | 20 | DAYS | \$ | \$ |
| 9 | Sanitary Sewer Manhole Rehabilitation | 1 | EA | \$ | \$ |
| 10A | Sanitary Sewer Manhole Installation | 4 | EA | \$ | \$ |
| 10B | Sanitary Sewer Manhole Installation (Doghouse) | 1 | EA | \$ | \$ |
| 10C | Drop Pipe Installation | 30 | LF | \$ | \$ |
| 11 | 8-Inch Sanitary Sewer Main Replacement | 715 | LF | \$ | \$ |
| 12 | Sanitary Sewer Lateral Replacement | 275 | LF | \$ | \$ |
| 13 | 6-Inch Gate Valves | 1 | EA | \$ | \$ |
| 14A | Furnishing And Installing 8" Ductile Iron Pipe (DIP) Water Main | 680 | LF | \$ | \$ |
| 14B | Furnishing And Installing 6" Ductile Iron Pipe (DIP) Water Main | 20 | LF | \$ | \$ |
| 15 | Connection To College Street 6" Water Main At Oak Lane | 1 | LS | \$ | \$ |
| 16 | Connection To College Street 6" Water Main At Ridge Lane | 1 | LS | \$ | \$ |
| 17A | Replace Existing Water Service (Same Side) | 6 | EA | \$ | \$ |
| 17B | Replace Existing Water Service (Opposite Side) | 8 | EA | \$ | \$ |
| 18 | Asphalt Pavement Removal and Replacement | 425 | TONS | \$ | \$ |
| 19 | Concrete Sidewalk Removal and Replacement | 1,250 | SF | \$ | \$ |

| | | | | | |
|----|----------------------|-----|----|----------|--------------------------|
| 20 | Topsoil and Seeding | 350 | SY | \$ | \$ |
| 21 | Record Documentation | 1 | LS | \$ | \$ |
| 22 | Allowance No. 1 | 1 | LS | \$27,000 | \$ Twenty-seven thousand |

TOTAL CONTRACT BID SUMMARY

TOTAL CONTRACT BASE BID PRICE IN FIGURES

\$ _____

TOTAL CONTRACT BASE BID PRICE IN WORDS

WATER AND SEWER UPGRADES - ADD ALTERNATE NO. 1

| Item No. | Item Description | Estimated Quantity | Unit | Amount in Figures | Amount in Words |
|-----------------|-------------------------------------------------------------------|---------------------------|-------------|--------------------------|------------------------|
| 23 | Replace Existing 4" Sewer Lateral (From Property Line To House) | 50 | LF | \$ | \$ |
| 24A | Replace Existing Lead Service (From Property Line To House) | 2 | EA | \$ | \$ |
| 24B | Replace Existing Galvanized Service (From Property Line To House) | 2 | EA | \$ | \$ |

TOTAL CONTRACT BID SUMMARY

TOTAL CONTRACT ADD ALTERNATE NO. 1 PRICE IN FIGURES

\$ _____

TOTAL CONTRACT ADD ALTERNATE NO. 1 PRICE IN WORDS

BID BOND

BIDDER *(Name and Address):*

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

OWNER *(Name and Address):*

Town of Moriah
Town Hall, 38 Park Place
Port Henry, NY 12974
Phone: (518) 546-8631

BID

BID DUE DATE: _____

PROJECT *(Brief Description Including Location):*

BOND

BOND NUMBER: _____

DATE: *(Not later than Bid Due Date):* _____

PENAL SUM: _____

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 _____ (seal) SURETY _____ (seal)
Bidder's Name and Corporate Seal Surety's Name and Corporate Seal

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

Attest: _____ Attest: _____
Signature and Title Signature and Title

Note: (1) Above addresses are to used for giving required notice. (2) Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable. EJCDC No. 1910-28-C (1990 Edition) EJCDC NO. 1910-28-C (1990 Edition)

1. 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. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents and Contract Documents.
3. This obligation shall be null and void if:
 - 3.1 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 and Contract Documents, or
 - 3.2 All bids are rejected by OWNER, or
 - 3.3 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 hereof).
4. Payment under this Bond will be due and payable upon default of 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. 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 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. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in paragraph 4 above is received by Bidder and Surety, and in no case later than one year after Bid Due Date.
7. 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. Notice 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. 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. 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 any Bond conflicts with any applicable provision of 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. The term "bid" as used herein includes a bid, offer, or proposal as applicable.

BIDDERS QUALIFICATION QUESTIONNAIRE

The undersigned guarantees the accuracy of all statements and answers herein contained.
(Please print in ink).

1. How many years has your firm been in business as a Contractor?
_____ years.

2. List projects of this nature that you have completed in the last three (3) years, and give the name, address and telephone number of a reference from each. Also give the completion date, the original contract bid price and the completed cost of each project listed (use additional sheet if necessary).

3. List projects presently under construction by your firm the dollar volume of the contract and the percentage completion of the contract.

4. Have you ever failed to complete work awarded to you; if so, state where and why.

5. Do you plan to sublet any part of this work? If so, give details.

6. What equipment do you own that is available for this work?

7. What equipment do you plan to rent or purchase for this work?

8. Have you ever performed work under the direction of a Professional Engineer or Registered Architect? If so, list up to three (3) such firms giving the name of the firm, its address, telephone number and the name of the project. (List most recent projects).

9. Give the name, address and telephone number of an individual who represents each of the following and whom the Owner may contact to investigate your financial responsibility: a surety, a bank, and a major material supplier.

10. Provide a financial statement for your company. This should include a balance and income statement for your most recent fiscal year. A certified audit is preferred but not required. Use an insert sheet, if needed. Only three (3) lowest bidders shall submit this information (if requested by Owner) to the Owner within forty-eight (48) hours of the opening of the Bids.

11. State the true, exact, correct and complete name of the partnership, corporation or trade name under which you do business, and the address of the place of business. (If a corporation, state the name of all partners. If a trade name, state the names of the individuals who do business under the trade name.) It is absolutely necessary that information be furnished.

Correct Name of Bidder

- a. The business is a

(Type of Legal Entity)

- b. The address of principal place of business is:

c. The names of the corporate officers, or partners, or individuals doing business under a trade name, are as follows:

Bidder

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**Water and Sewer Upgrades
Town of Moriah
Port Henry, New York 12974**

AGREEMENT

THIS AGREEMENT is dated as of the _____ day of _____ in the year 2020 by and between the TOWN OF MORIAH (hereinafter called OWNER) and _____ (hereinafter called CONTRACTOR).

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

ARTICLE 1 - WORK

CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

Provide all labor, materials, tools, equipment, and other means necessary and incidental to completion of work shown on Plans and contained in the specifications, including, but not limited to, the following:

- Rehabilitation of approximately 490 linear feet of 12-inch clay and steel gravity sanitary sewer piping via cured-in-place pipe (CIPP) lining.
- Rehabilitation of one (1) manholes including, but not limited to, bench repairs, and complete rehabilitation using crack fillers and lining system, as specified.
- Replacement of approximately 440 linear feet of 6-inch diameter clay gravity sanitary sewer with 8-inch diameter PVC, including installation of three (3) manholes.
- Replacement of approximately 275 linear feet of 8-inch diameter clay gravity sanitary sewer with 8-inch PVC, including installation of two (2) manholes.
- Replacement of sewer laterals to property line and connection to existing laterals.
- Replacement of approximately 700 linear feet of 6-inch diameter cast iron water main with 8-inch diameter ductile water main, valves, fittings, water main connections, and associated appurtenances.
- Water main testing and disinfection.
- Replacement of water services to property line and connection to existing water services.
- Abandonment of the existing cast iron water main.
- Site restoration including asphalt pavement replacement, concrete sidewalk replacement, topsoil, and seeding.
- Erosion and sediment control of the project site during construction.
- Work zone traffic control of the project site

ARTICLE 2 – ENGINEER

The Project has been designed by M.J Engineering and Land Surveying, P.C. who is hereinafter called ENGINEER and who is to act as OWNER’s representative, assume all duties and responsibilities and have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

ARTICLE 3 - CONTRACT TIMES

3.1 The Work will be substantially completed on or before July 3, 2020 and completed and ready for final payment in accordance with paragraph 14.13 of the General Conditions on or before August 3, 2020.

3.2 *Liquidated Damages.* OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not completed within the times specified in paragraph 3.1 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. They also recognize the delays, expense and difficulties involved in proving the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring of such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER five hundred dollars (\$500.00) for each day that expires after the time specified in paragraph 3.1 for completion and readiness for final payment or any proper extension thereof granted by the OWNER, CONTRACTOR shall pay OWNER five hundred dollars (\$500.00) for each day that expires after the time specified in paragraph 3.1 for completion and readiness for final payment.

ARTICLE 4 - CONTRACT PRICE

OWNER shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to paragraphs 4.1 below:

4.1 For all Unit Price Work, an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the quantity of that item as indicated on the Bid Summary Form.

Total Bid of All Unit Prices:

_____ (\$ _____)
(use words) (use figures)

Total Bid of All Unit Prices (Add Alternate No. 1):

_____ (\$ _____)
(use words) (use figures)

As provided in paragraph 11.9 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classification are to be made by ENGINEER as provided in paragraph 9.10 of the General Conditions. Unit prices have been computed in paragraph 11.9 of the General Conditions.

ARTICLE 5 - PAYMENT PROCEDURES

CONTRACTOR shall submit Application for Payment in accordance with Article 14 of the General Conditions, Applications for Payment will be processed by ENGINEER as provided in the General Conditions.

5.1 *Progress Payments; Retainage.* OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR's Applications for Payment as recommended by ENGINEER, on or about the 15th day of each month during construction as provided in paragraphs 5.1.1 and 5.1.2 below. All such payments will be measured by the schedule of values established in paragraph 2.9 of the General Conditions (an in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements.

5.1.1. Prior to Substantial completion payments will be made in an amount equal to the percentage indicated below, but, in each case, less the aggregate of payments previously made and less such amounts as ENGINEER shall determine, or OWNER may withhold, in accordance with paragraph 14.7 of the General Conditions.

95% of Work completed (with the balance being retainage).

95% (with the balance being retainage) of materials and equipment not incorporated in the Work (but delivered, suitably stored and accompanied by documentation satisfactory to OWNER as provided in paragraph 14.2 of the General Conditions).

5.1.2. Upon Substantial Completion, in an amount sufficient to increase total payments to CONTRACTOR to 95% of the Contract Price (with the balance being retainage), less such amounts as ENGINEER shall determine, or OWNER may withhold, in accordance with paragraph 14.7 of the General Conditions. If Work has been 50% completed as determined by ENGINEER, and if the character and progress of the Work have been satisfactory to OWNER and ENGINEER, OWNER on recommendation of ENGINEER, may determine that as long as the character and progress of the Work remain satisfactory to them, there will be no additional retainage on account of Work completed, in which case the remaining progress payments prior to Substantial Completion will be in an amount equal to 100% of the Work completed.

5.2 *Final Payment.* Upon final completion and acceptance of the Work in accordance with paragraph 14.13 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in said paragraph 14.13.

ARTICLE 6 – INTEREST

All moneys not paid when due as provided in Article 14 of the General Conditions shall bear interest at the maximum rate allowed by law at the place of the Project.

ARTICLE 7 - CONTRACTOR'S REPRESENTATIONS

In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

7.1 CONTRACTOR has examined and carefully studied the Contract Documents (including the Addenda listed in paragraph 8) and the other related data identified in the Bidding Documents including “technical data.”

7.2 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, performance or furnishing of the Work.

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

7.4 CONTRACTOR has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to 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 4.2.1 of the General Conditions. CONTRACTOR accepts the determination set forth in paragraph SC-4.2 of the Supplementary Conditions of the extent of the “technical data” contained in such reports and drawings upon which CONTRACTOR is entitled to rely as provided in paragraph 4.2 of the General Conditions. CONTRACTOR acknowledges that such reports and drawings are not Contract Documents and may not be complete for CONTRACTOR’s purposes. CONTRACTOR acknowledges that OWNER and ENGINEER do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Contract Documents with respect to Underground Facilities at or contiguous to the site. CONTRACTOR has obtained and carefully studied (or assumes responsibility for having done so) all such additional supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance, or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR and safety precautions, and programs incident thereto. CONTRACTOR does not consider that any additional examinations, investigations, explorations, tests, studies, or data are necessary for the performance and furnishing of the Work at the Contract Price, within the Contract Times and in accordance with the other terms and conditions of the Contract Documents.

7.5 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.

7.6 CONTRACTOR has correlated the information known to CONTRACTOR, information and observation 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.

7.7 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, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 8 - CONTRACT DOCUMENTS

The Contract Documents which comprise the entire agreement between OWNER and CONTRACTOR concerning the Work consist of the following:

- 8.1 This Agreement.
- 8.2 Performance, Payment, and other Bonds.
- 8.3 Notice to Proceed.
- 8.4 General Conditions.
- 8.5 Supplementary Conditions.
- 8.6 Specifications.
- 8.7 Drawings.
- 8.8 Addenda.
- 8.9 CONTRACTOR's Bid.
- 8.10 Documentation submitted by CONTRACTOR prior to Notice of Award.

8.11 The following which may be delivered or issued after the Effective Date of the Agreement and are not attached hereto: All Written Amendments and other documents amending, modifying or supplementing the Contract Documents pursuant to paragraphs 3.5 and 3.6 of the General Conditions. The documents listed in paragraph 8.2 et seq. above are attached to this Agreement (except as expressly noted otherwise above). There are not Contract Documents other than those listed above in this Article 8. The Contract Documents may only be amended, modified or supplemented as provided in paragraphs 3.5 and 3.6 of the General Conditions.

ARTICLE 9 - MISCELLANEOUS

9.1 Terms used in this Agreement which are defined in Article 1 of the General Conditions will have the meanings indicated in the General Conditions.

9.2 No assignment by a party hereto of any rights under or interests in the Contract Documents 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.

9.3 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.

9.4 Any provisions or part of the Contract Documents 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.

9.5 OTHER PROVISIONS

IN WITNESS WHEREOF, OWNER, and CONTRACTOR have signed this Agreement in triplicate. One counterpart each has been delivered to OWNER, CONTRACTOR, and ENGINEER. All portions of the Contract Documents have been signed, initialed or identified by OWNER, and CONTRACTOR, or identified by ENGINEER on their behalf.

This Agreement will be effective on _____, 20__ (which is the Effective Date of the Agreement).

OWNER _____ CONTRACTOR _____

By: _____ By: _____

[CORPORATE SEAL]

[CORPORATE SEAL]

Attest _____ Attest _____

Address for giving notices:

Address for giving notices:

(If OWNER is a public body, attached evidence of authority to sign and resolution or other documents authorizing execution of Agreement).

License No. _____

Agent for services of process: _____

(If CONTRACTOR is a corporation, attach evidence of authority to sign).

NON-COLLUSIVE BIDDING CERTIFICATION

By signing 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 their 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 other 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 to will be made buy the bidder to induce another persons, partnership of corporation to submit or not to submit a bid for the purpose of restricting competition.

SIGNED: _____

TITLE: _____

FIRM: _____

DATE: _____

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AFFIDAVIT - WORKER'S COMPENSATION

State of _____

County of _____

SS: _____

of _____

being duly sworn, deposes and says that he now carries or that he has applied for a Worker's Compensation Policy to cover the operations, as set forth in the preceding contract, and to comply with the provisions thereof.

Signed: _____

Subscribed and sworn to before me

this _____ day of _____, 20_____.

Notary Public

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CONSTRUCTION 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 Principal Place of Business):

OWNER

Town of Moriah
38 Park Place
Port Henry, NY 12974

CONTRACT _____

Date: _____

Amount: _____

Description (Name and Location):

BOND

Date (not earlier than Construction Contract Date): _____ Amount: _____

Modifications to this Bond Form:

CONTRACTOR AS PRINCIPAL

Company _____ (Corp Seal)

SURETY

Company _____ (Corp Seal)

Signature: _____

Signature: _____

Name and Title:

Name and Title:

CONTRACTOR AS PRINCIPAL

Company _____ (Corp Seal)

SURETY

Company _____ (Corp Seal)

Signature: _____

Signature: _____

Name and Title:

Name and Title:

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 Construction Contract, which is incorporated herein by reference.
2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except to participate in conferences as provided in Subparagraph 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 its address 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 Construction Contract. If the Owner and the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction 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 Subparagraph 3.1; and
 - 3.3 The Owner has agreed to pay the Balance of the Contract Price to the Surety in accordance with the terms of the Construction Contract or to a contractor selected to perform the Construction Contract in accordance with the terms of the contract with the Owner.
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 Construction Contract; or
 - 4.2 Undertake to perform and complete the Construction 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 Contract or performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and the Contractor selected with the Owners's concurrence, to be secured with performance and payment bonds executed by qualified surety equivalent to the bonds issued on the Construction 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's 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.
 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 therefore to the Owner; or
 2. Deny liability in whole or in part and notify the Owner citing reasons therefore.
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 Subparagraph 4.4, and the Owner refuses the payment tendered or the Surety has denied liability, 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 Construction Contract, and if the Surety elects to act under Subparagraph 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 Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. To the 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 Construction Contract, the Surety is obligated without duplication for:
 - 6.1 The responsibilities of the Contractor for correction of defective work and completion of the Construction 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 Construction 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 Construction 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, include changes of time to the Construction 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 the 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 requirements in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirements shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirements 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 Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amount received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduce by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.
 - 12.2 Construction 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 Construction Contract.
 - 12.4 Owner Default: Failure of the Owner, which as neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete or comply with other terms thereof.

CONSTRUCTION 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 Principal Place of Business):

OWNER

Town of Moriah
38 Park Place
Port Henry, NY 12974

CONTRACT _____

Date: _____

Amount: _____

Description (Name and Location):

BOND

Date (not earlier than Construction Contract Date): _____

Amount: _____

Modifications to this Bond Form:

CONTRACTOR AS PRINCIPAL

Company (Corp Seal)

SURETY

Company (Corp Seal)

Signature: _____

Signature: _____

Name and Title:

Name and Title:

CONTRACTOR AS PRINCIPAL

Company (Corp Seal)

SURETY

Company (Corp Seal)

Signature: _____

Signature: _____

Name and Title:

Name and Title:

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 to pay for labor, materials, and equipment furnished for use in the performance of the Construction 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 hold 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 Construction Contract, provided the Owner has promptly notified the Contractor and the Surety (at the address 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 not 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 address 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:
 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
 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 has indicated the claim will be paid directly or indirectly; and
 3. Not having been paid within the above 30 days, have sent a written notice to the Surety (at the address 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 enclosing a copy of the previous written notice furnished to the Contractor.
5. If a notice required by Paragraph 4 is given to the Contractor 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. Amount owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any Construction 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 Construction Contract area 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 Construction 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 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 Construction 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 Subparagraph 4.1 or Clause 4.2 (iii), 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 address 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 requirements in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirements shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirements 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 by 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 have 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 Construction, 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 Construction 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 as neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete or comply with other terms thereof.

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

GENERAL CONDITIONS
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GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS

Wherever used in these General Conditions or in the other Contract Documents the following terms have the meanings indicated which are applicable to both the singular and plural thereof:

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

1.2 **Agreement** – The written contract between OWNER and CONTRACTOR covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.

1.3 **Application for Payment** – The form accepted by ENGINEER which is to be used by CONTRACTOR in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

1.4 **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.

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

1.6 **Bidding Documents** – The advertisement or invitation to Bid, instructions to bidders, the Bid form, and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

1.7 **Bidding Requirements** – The advertisement or invitation to Bid, instructions to bidders, and the Bid form.

1.8 **Bonds** – Performance and Payment bonds and other instruments of security.

1.9 **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.

1.10 **Contract Documents** – 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 pursuant to paragraphs 3.5, 3.6.1, and 3.6.3 on or after the Effective Date of the Agreement. Shop Drawing submittals approved pursuant to paragraphs 6.26 and 6.27 and the reports and drawings referred to in paragraphs 4.2.1.1 and 4.2.2.2 are not Contract Documents.

1.11 **Contract Price** – The money 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 11.9.1 in the case of Unit Price Work).

1.12 **Contract Times** – The numbers of days or the dates stated in the Agreement: (i) to achieve Substantial Completion, and (ii) to complete the Work so that it is ready for final payment as evidenced by ENGINEER's written recommendation of final payment in accordance with paragraph 14.13.

1.13 **CONTRACTOR** – The person, firm or corporation with whom OWNER has entered into the Agreement.

1.14 **Defective** – An adjective which 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 14.8 or 14.10).

1.15 **Drawings** – The drawings which show the scope, extent, and character of the Work to be furnished and performed by CONTRACTOR and which have been prepared or approved by ENGINEER and are referred to in the Contract Documents. Shop drawings are not Drawings as so defined.

1.16 **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.

1.17 **ENGINEER** – The person, firm, or corporation named as such in the Agreement.

1.18 **ENGINEER's Consultant** – A person, firm, or corporation 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.

1.19 **Field Order** – A written order issued by ENGINEER which orders minor changes in the Work in accordance with paragraph 9.5 but which does not involve a change in the Contract Price or the Contract Times.

1.20 **General Requirements** – Sections of Division 1 of the Specifications.

1.21 **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.

1.22 **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.

1.23 **Liens** – Liens, charges, security interests, or encumbrances upon real property or personal property.

1.24 **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.

1.25 **Notice of Award** – The written notice by OWNER to the apparent successful bidder

stating that upon compliance by the apparent successful bidder with the conditions precedent enumerated therein, within the time specified, OWNER will sign and deliver the Agreement.

1.26 **Notice to Proceed** – A written notice given by OWNER to CONTRACTOR (with a copy to ENGINEER) fixing the date on which the Contract Times will commence to run and on which CONTRACTOR shall start to perform CONTRACTOR's obligations under the Contract Documents.

1.27 **OWNER** – The public body or authority, corporation, association, firm, or person with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be provided.

1.28 **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.

1.29 **PCBs** – Polychlorinated biphenyls.

1.30 **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 Wastes and crude oils.

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

1.32 **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.

1.33 **Resident Project Representative** – The authorized representative of ENGINEER who may be assigned to the site or any part thereof.

1.34 **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.

1.35 **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.

1.36 **Specifications** – Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto.

1.37 **Subcontractor** – An individual, firm, or corporation having a direct contract with CONTRACTOR or with any other Subcontractor for performance of a part of the Work at the site.

1.38 **Substantial Completion** – The Work (or a specified part thereof) has progressed to the point where, in the opinion of ENGINEER as evidenced by ENGINEER's definitive certificate of Substantial Completion, it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended; or if no such certificate is issued, when the Work is complete and ready for final payment as evidenced by ENGINEER's written recommendation of final payment in accordance with paragraph 14.13. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

1.39 **Supplementary Conditions** – The part of the Contract Documents which amends or supplements these General Conditions.

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

1.41 **Underground Facilities** – All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone, or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

1.42 **Unit Price Work** – Work to be paid for on the basis of unit prices.

1.43 **Work** – The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work includes and is the result of performing or furnishing labor and furnishings and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all as required by the Contract Documents.

1.44 **Work Change Directive** – A written directive 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 physical conditions under which the Work is to be performed as provided in paragraph 4.2 or 4.3 or to emergencies under paragraph 6.23. A Work Change Directive will not change the Contract Price or the Contract Times, but is evidence that the parties expect that the change directed 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 as provided in paragraph 10.2.

1.45 **Written Amendment** – A written amendment of the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the non-engineering or non-technical rather than strictly construction-related aspects of the Contract Documents.

ARTICLE 2 - PRELIMINARY MATTERS

Delivery of Bonds:

2.1 When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds as CONTRACTOR may be required to furnish in accordance with Article 5.

Copies of Documents:

2.2 OWNER shall furnish to CONTRACTOR up to ten copies (unless otherwise specified in the Supplementary Conditions) of the Contract

Documents as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction

Commencement of Contract Times; Notice to Proceed:

2.3 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 thirty days after the Effective Date of the Agreement. In no event will the Contract Time 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.

Starting the Work:

2.4 CONTRACTOR shall start to perform the Work on the date when the Contract Times commence to run, but no Work shall be done at the site prior to the date on which the Contract Times commence to run.

Before Starting Construction:

2.5 Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon 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.

2.6 Within ten days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements). CONTRACTOR shall submit to ENGINEER for review:

2.6.1 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;

2.6.2 A preliminary schedule of Shop Drawings and Sample submittals which will list each required submittal and the times for submitting, reviewing and processing such submittal;

2.6.3 A preliminary schedule of values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Such prices will include and appropriate amount of overhead and profit applicable to each item of Work.

2.7 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.

Preconstruction Conference:

2.8 Within twenty 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 2.6, procedures for handling Shop Drawings, and other submittals, processing Applications for Payment and maintaining required records.

Initially Acceptable Schedules:

2.9 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 2.6. 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 the schedules are submitted to and acceptable to ENGINEER as provided below. The progress schedule will be acceptable to ENGINEER as providing an orderly progression of the Work to completion within any specified Milestones and

the Contract Times, but such acceptance will neither impose on ENGINEER responsibility for the sequencing, scheduling, or progress of Work nor interfere with or relieve CONTRACTOR from CONTRACTOR's full responsibility therefore, CONTRACTOR's schedule of Shop Drawing and Sample submissions will be acceptable to ENGINEER as providing a workable arrangement for reviewing and processing the required submittals. CONTRACTOR's schedule of values will be acceptable to ENGINEER as to form and substance.

ARTICLE 3 - Contract Documents: INTENT, AMENDING, REUSE

Intent:

3.1 The Contract Documents comprise the entire agreement between OWNER and CONTRACTOR concerning the Work. The Contract Documents are complementary: what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the law of the place of the Project.

3.2 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 Work, 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 furnished and performed whether or not specifically called for. When words or phrases which have a well-known technical or construction industry or trade meaning are used to describe Work, materials, or equipment, such words or phrases shall be interpreted in accordance with the meaning. Clarifications and interpretations of the Contract Documents shall be issued by ENGINEER as provided in paragraph 9.4.

3.3 Reference to Standards and Specifications of Technical Societies: Reporting and Resolving Discrepancies:

3.3.1 Reference to standards, specifications, manuals or codes of any technical society, organization, or association, or to the Laws or Regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest 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.

3.3.2 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 such Law or Regulation applicable to the performance of the Work or of any such standard, specification, manual, or code or of any instruction of any Supplier referred to in paragraph 6.5. CONTRACTOR shall report it to ENGINEER in writing at once, and, CONTRACTOR shall not proceed with the Work affected thereby (except in an emergency as authorized by paragraph 6.23) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in paragraph 3.5 or 3.6; provide, 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.

3.3.3 Except as otherwise specifically stated in the Contract Documents or as may be provided by amendment or supplement thereto issued by one of the methods indicated in paragraph 3.5 or 3.6, 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:

3.3.3.1 the provisions of any such standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or 3.3.3.2 the provisions of any such 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). No provision of any such standard, specification, manual, code, or instruction shall be effective to change the duties and 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 it 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 furnishing or performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of

paragraph 9.13 or any other provision of the Contract Documents.

3.4 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, or the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” or “satisfactory” or adjectives of like effect or import are used to describe a requirement, direction, review or judgment of ENGINEER as to the Work, it is intended that such requirement, direction, review, or judgment 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 furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.13 or any other provision of the Contract Documents.

Amending and Supplementing Contract Documents:

3.5 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:

- 3.5.1 A formal Written Amendment.
- 3.5.2 A Change Order (pursuant to paragraph 10.4) or
- 3.5.3 A Work Change Directive (pursuant to paragraph 10.1).

Supplementing Contract Documents:

3.6 In addition, the requirements of the Contract Documents may be supplemented, and minor variations, and deviations of the Work may be authorized, in one or more of the following ways:

- 3.6.1 A Field Order (pursuant to paragraph 9.5).

3.6.2 ENGINEER's approval of a Shop Drawing or Sample (pursuant to paragraphs 6.26 and 6.27), or

3.6.3 ENGINEER's written interpretation or clarification (pursuant to paragraph 9.4).

Reuse of Documents:

3.7 CONTRACTOR and any Subcontractor or Supplier or other person or organization 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, and (ii) shall not reuse any of such Drawings, Specifications, other documents, or copies on extensions of the Project or any other project without written consent of OWNER and ENGINEER and specific written verification or adaptation by ENGINEER.

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

Availability of Lands:

4.1 OWNER shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for the use of CONTRACTOR. Upon reasonable written request, OWNER shall furnish CONTRACTOR with a correct statement of record legal title and legal description of the lands upon which the Work is to be performed and OWNER's interest therein as necessary for giving notice of or filing a mechanic's lien against such lands in accordance with applicable Laws and Regulations. OWNER shall identify any encumbrances or restrictions not of general application but specifically related to use of lands so furnished with which CONTRACTOR will have to comply in performing the Work. Easements for permanent structures or permanent in existing facilities will be obtained and paid for by OWNER, unless otherwise provided in the Contract Documents. If CONTRACTOR and OWNER are unable to agree on entitlement to or the amount or extent of any adjustments in the Contract Price or the Contract Times as a result of any delay in OWNER's furnishing these lands, rights-of-way or easements. CONTRACTOR may make a claim therefore as provided in Articles 11 and 12.

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

4.2 **Subsurface and Physical Conditions:**

4.2.1 **Reports and Drawings:** Reference is made to the Supplementary Conditions for identification of:

4.2.1.1 **Subsurface Conditions:** Those reports of explorations and tests of Subsurface conditions at or contiguous to the site that have been utilized by ENGINEER in preparing the Contract Documents; and

4.2.1.2 **Physical Conditions:** Those drawings of physical conditions in or relating to existing surface or Subsurface structures at or contiguous to the site (except Underground Facilities) that have been utilized by ENGINEER in preparing the Contract Documents.

4.2.2 **Limited Reliance by CONTRACTOR Authorized; Technical Data:** 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:

4.2.2.1 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

4.2.2.2 other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings, or 4.2.2.3 any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any such data, interpretations, opinions, or information.

4.2.3 **Notice of Differing Subsurface or Physical Conditions:** If CONTRACTOR believes that any Subsurface or physical condition at or contiguous to the site that is uncovered or revealed either:

4.2.3.1 is of such a nature as to establish that any "technical data" on which CONTRACTOR is entitled to rely as provided in paragraphs 4.2.1 and 4.2.2 is materially inaccurate, or 4.2.3.2 is of such a nature as to require a change in the Contract Documents, or 4.2.3.3 differs materially from that shown or indicated in the Contract Documents, or

4.2.3.4 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 conditions affected thereby or performing any Work in connection therewith (except in an emergency as permitted by paragraph 6.23), notify OWNER and ENGINEER in writing about such condition. CONTRACTOR shall not further disturb such conditions or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

4.2.4 **ENGINEER's Review:** ENGINEER will promptly review the pertinent conditions, 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.

4.2.5 **Possible Contract Documents Change:** If ENGINEER concludes that a change in the Contract Documents is required as a result of a condition that meets one or more of the categories in paragraph 4.2.3., a Work Change Directive or a Change Order will be issued as provided in Article 10 to reflect and document the consequences of such change.

4.2.6 **Possible Price and Times Adjustments:** An equitable adjustment in the Contract Price or in the Contract Times, or both, will be allowed to the extent that the existence of such uncovered or revealed condition causes an increase or decrease in CONTRACTOR's cost of, or time required for performance of the Work; subject, however, to the following:

4.2.6.1 such condition must meet any one or more of the categories described in paragraphs 4.2.3.1 through 4.2.3.4. inclusive;

4.2.6.2 a change in the Contract Documents pursuant to paragraph 4.2.5 will not be an automatic authorization of nor a condition precedent to entitlement to any such adjustment;

4.2.6.3 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 9.10 and 11.9; and

4.2.6.4 CONTRACTOR shall not be entitled to any adjustment in the Contract Price or Times if;

4.2.6.4.1 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

4.2.6.4.2 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

4.2.6.4.3 CONTRACTOR failed to give the written notice within the time and as required by paragraph 4.2.3. If OWNER and CONTRACTOR are unable to agree on entitlement to or as to the amount or length of any such equitable adjustment in the Contract Price or Contract Times, a claim may be made therefore as provided in Articles 11 and 12. However, OWNER, ENGINEER, and ENGINEER's Consultants shall not be liable to CONTRACTOR for any claims, costs, losses, or damages sustained by CONTRACTOR on or in connection with any other project or anticipated project.

4.3 Physical Conditions – Underground Facilities:

4.3.1 **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 or by others. Unless it is otherwise

expressly provided in the Supplementary Conditions:

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

4.3.1.2 The cost of all of the following will be included in the Contract Price and CONTRACTOR shall have full responsibility for: (i) reviewing and checking all such information and data, (ii) locating all Underground Facilities shown or indicated in the Contract Documents, (iii) coordination of the Work with the owners of such Underground Facilities during construction, and (iv) the safety and protection of all such Underground Facilities as provided in paragraph 6.20 and repairing any damage thereto resulting from the Work.

4.3.2 **Not Shown or Indicated:** If an Underground Facility is uncovered or revealed at or contiguous to the site which was not shown or indicated 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 6.23), 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 of the Underground Facility. If ENGINEER concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued as provided in Article 10 to reflect and document such consequences. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility as provided in paragraph 6.20. CONTRACTOR shall be allowed and increase in the Contract Price or an extension of the Contract Times, or both, to the extent that they are attributable to the existence of any Underground Facility that was not shown or indicated 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 the amount or length of any such adjustment in Contract Price or Contract Times. CONTRACTOR may make a

claim, therefore, as provided in Articles 11 and 12. However, OWNER, ENGINEER, and ENGINEER's Consultants shall not be liable to CONTRACTOR for any claims, costs, losses or damages incurred or sustained by CONTRACTOR on or in connection with any other project or anticipated project.

Reference Points:

4.4 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 shall make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER whenever any reference point 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 by professionally qualified personnel.

4.5 Asbestos, PCBs, Petroleum, Hazardous Waste or Radioactive Material:

4.5.1 OWNER shall be responsible for any Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material 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 and which may present a substantial danger to persons or property exposed thereto in connection with the Work at the site. OWNER shall not be responsible for any such materials brought to the site by CONTRACTOR, Subcontractor, Suppliers, or anyone else for whom CONTRACTOR is responsible.

4.5.2 CONTRACTOR shall immediately: (i) stop all Work in connection with such hazardous condition and in any area affected thereby (except in an emergency as required by paragraph 6.23), and (ii) notify OWNER and ENGINEER (and 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 hazardous condition to take corrective action, if any. CONTRACTOR shall not be required to resume Work in connection with such hazardous condition or in any such affected area

until after OWNER has obtained any required permits related thereto and delivered to CONTRACTOR special 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 the amount or extent of an adjustment, if any, in Contract Price or Contract Times as a result of such Work stoppage or such special conditions under which Work is agreed by CONTRACTOR to be resumed, either party may make a claim therefore as provided in Articles 11 and 12.

4.5.3 If after receipt of such special 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 such portion of the Work that is in connection with such hazardous condition or in such affected area to be deleted from the Work. If OWNER and CONTRACTOR cannot agree as to entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a claim therefore as provided in Articles 11 and 12. OWNER may have such deleted portion of the Work performed by OWNER's own forces or others in accordance with Article 7.

4.5.4 To the fullest extent permitted by Laws and Regulations, OWNER shall indemnify and hold harmless CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and the officers, directors, employees, agents, other consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages arising out of or resulting from such hazardous condition, provided that: (i) any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, and (ii) nothing in this subparagraph 4.5.4. shall obligate OWNER to indemnify any person or entity from and against the consequences of that person's or entity's own negligence.

4.5.5 The provisions of paragraphs 4.2 and 4.3 are not intended to apply to Asbestos, PCBs, Petroleum, Hazardous Waste or Radioactive Material uncovered or revealed at the site.

ARTICLE 5 - BONDS AND INSURANCE

Performance, Payment, and Other Bonds:

5.1 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 Supplementary Conditions. 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 Audit Staff, Bureau of Government Financial Operations, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.

5.2 If the surety on any Bond furnished by CONTRACTOR is declared a 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 5.1. CONTRACTOR shall within ten days thereafter substitute another bond and surety, both of which must be acceptable to OWNER.

5.3 Licensed Sureties and Insurers; Certificates of Insurance:

5.3.1 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 coverage so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.3.2 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 in accordance with paragraph 5.4. 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 in accordance with paragraphs 5.6 and 5.7 hereof.

CONTRACTOR's Liability Insurance:

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

5.4.1 claims under workers' compensation, disability benefits and other similar employee benefit acts;

5.4.2 claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR's employees;

5.4.3 claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR's employees;

5.4.4 claims for damages insured by customary 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 by any other person for any other reason;

5.4.5 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

5.4.6 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. The policies of insurance so required by this paragraph 5.4 to be purchased and maintained shall:

5.4.7 with respect to insurance required by paragraphs 5.4.3 through 5.4.6 inclusive, include as additional insureds (subject to any customary exclusion in respect of professional liability) OWNER, ENGINEER, ENGINEER's Consultants and any other persons or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers and employees of all such additional insureds;

5.4.8 include 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;

5.4.9 include completed operations insurance;

5.4.10 include contractual liability insurance covering CONTRACTOR's indemnity obligations under paragraphs 6.12, 6.16, and 6.31 through 6.33;

5.4.11 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 5.3.2 will so provide);

5.4.12 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 13.12; and

5.4.13 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).

OWNER's Liability Insurance:

5.5 In addition to the insurance required to be provided by CONTRACTOR under paragraph 5.4. 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.

Property Insurance:

5.6 Unless otherwise provided in the Supplementary Conditions, OWNER shall purchase and maintain property insurance upon the Work at the site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

5.6.1 include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and any other persons or entities identified in the Supplementary Conditions, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

5.6.2 be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework and Work in transit and shall insure against at least the following perils fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, and such other perils as may be specifically required by the Supplementary Conditions;

5.6.3 include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

5.6.4 cover materials and equipment stored at the site or at another location that was agreed to in writing by OWNER prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by ENGINEER; and

5.6.5 be maintained in effect until final payment is made unless otherwise agreed to in writing by OWNER, CONTRACTOR and ENGINEER with thirty days written notice to each other additional

insured to whom a certificate of insurance has been issued.

5.7 OWNER shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and any other persons or entities identified in the Supplementary Conditions, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.

5.8 All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained by OWNER in accordance with paragraphs 5.6 and 5.7 will contain a provision or endorsement that the coverage afforded will not be canceled or 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 to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with paragraph 5.11.

5.9 OWNER shall not be responsible for purchasing and maintaining any property insurance to protect the interests of CONTRACTOR, Subcontractors or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount, will be borne by CONTRACTOR, Subcontractor, or others suffering any such loss and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

5.10 If CONTRACTOR requests in writing that other special insurance be included in the property insurance policies provided under paragraphs 5.6 or 5.7, OWNER shall, if possible, include such insurance, and the cost thereof will be changed to CONTRACTOR by appropriate Change Order or Written Amendment. Prior to commencement of the Work at the site, OWNER shall in writing advise CONTRACTOR whether or not such other insurance has been procured by OWNER.

5.11 Waiver of Rights:

5.11.1 OWNER and CONTRACTOR intend that all policies purchased in accordance with paragraphs 5.6 and 5.7 will protect OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and all other persons or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds in such policies and will provide primary coverage for all losses and damages caused by the perils covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. OWNER and CONTRACTOR waive all rights against each other and their respective officers, directors, employees, and agents for all losses and damages caused by, arising out of, or resulting from any of the perils covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors, ENGINEER, ENGINEER's Consultants and all other persons or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by OWNER as trustee or otherwise payable under any policy so issued.

5.11.2 In addition, OWNER waives all rights against CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and the officers, directors, employees, and agents of any of them, for;

5.11.2.1 loss due to business interruption, loss of use or other consequential loss extending beyond direct physical loss or damage to OWNER's property or the Work caused by, arising out of or resulting from fire or other peril, whether or not insureds by OWNER; and

5.11.2.2 loss or damage to the completed Project or part thereof caused by, arising out of or resulting from fire or other insureds peril coverage by any property insurance maintained on the completed Project or part thereof by OWNER during partial utilization pursuant to paragraph 14.10, after substantial completion pursuant to paragraph 14.8 or after final payment pursuant to paragraph 14.13. Any insurance policy maintained by OWNER covering any loss, damage or consequential loss referred to in this paragraph 5.11.2 shall contain provisions to the

effect that in the event of payment of any such loss, damage, or consequential loss the insurers will have no rights of recovery against any of CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and the officers, directors, employees, and agents of any of them.

Receipt and Application of Insurance Proceeds

5.12 Any insureds loss under the policies of insurance required by paragraphs 5.6 and 5.7 will be adjusted with OWNER and made payable to OWNER as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of paragraph 5.13. OWNER shall deposit in a separate account any money so received, and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof and the Work and the cost thereof covered by an appropriate Change Order or Written Amendment.

5.13 OWNER as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within fifteen days after the occurrence of loss to OWNER's exercise of this power. If such objection be made, OWNER as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, OWNER as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, OWNER as fiduciary shall give bond for the proper performance of such duties.

Acceptance of Bonds and Insurance; Option to Replace:

5.14 If either party (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 nonconformance with the Contract Documents, the objecting party shall so notify the other party in writing within ten days after receipt of the certificates (or other evidence requested) required by paragraph 2.7. 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.

Partial Utilization – Property Insurance:

5.15 If OWNER finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, such use or occupancy may be accomplished in accordance with paragraph 14.10; provided that no such use or occupancy shall commence before the insurers providing the property insurance have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 – CONTRACTOR'S RESPONSIBILITIES

Supervision and Superintendence:

6.1 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 others 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.

6.2 CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent, 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 to the superintendent shall be as binding as if given to CONTRACTOR.

Labor, Materials and Equipment:

6.3 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. 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 indicated 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 given after prior written notice to ENGINEER.

6.4 Unless otherwise specified in the General Requirements, CONTRACTOR shall furnish and assume full responsibility for all 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 furnishing, performance, testing, start-up and completion of the Work.

6.5 All materials and equipment 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 kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with instructions of the applicable Supplier, except as otherwise provided in the Contract Documents.

Progress Schedule:

6.6 CONTRACTOR shall adhere to the progress schedule established in accordance

with paragraph 2.9 as it may be adjusted from time to time as provided below:

6.6.1 CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.9) proposed adjustments in the progress schedule that will not change 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.

6.6.2 Proposed adjustments in the progress schedule that will change the Contract Times (or Milestones) shall be submitted in accordance with the requirements of paragraph 12.1. Such adjustments may only be made by a Change Order or Written Amendment in accordance with Article 12.

6.7 Substitutes and "Or-Equal" Items:

6.7.1 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 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 accepted by ENGINEER under the following circumstances:

6.7.1.1 "Or-Equal:" 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 acceptance of proposed substitute items.

6.7.1.2 **Substitute Items:** If in ENGINEER's sole discretion an item of material or equipment proposed by CONTRACTOR does not qualify as an "or-equal" item under subparagraph 6.7.1.1, it will be considered a proposed substitute item. 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 therefore. The procedure for review by the ENGINEER will include the following as supplemented in the General Requirements and as ENGINEER may decide is appropriate under the circumstances. Requests for review of proposed substitute items of material or equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR. If CONTRACTOR wishes to furnish or use a substitute item of material or equipment, CONTRACTOR shall first make written application to ENGINEER for acceptance thereof, certifying that the proposed substitute 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 evaluation and acceptance of the proposed substitute will prejudice CONTRACTOR's achievement of Substantial Completion on time, whether or not acceptance of the substitute for use 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 and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which will be considered by ENGINEER in evaluating the proposed substitute.

ENGINEER may require CONTRACTOR to furnish additional data about the proposed substitute.

6.7.1.3 CONTRACTOR's Expense: All data to be provided by CONTRACTOR in support of any proposed "or-equal" or substitute item will be at CONTRACTOR's expense.

6.7.2 Substitute Construction Methods or Procedures: If a specific means, method, technique, sequence or procedure of construction is shown or indicated in an expressly required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, technique, sequence or

procedure of construction acceptable to 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 6.7.1.2.

6.7.3 ENGINEER's Evaluation: ENGINEER will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to paragraphs 6.7.1.2 and 6.7.2. ENGINEER will be the sole judge of acceptability. No "or-equal" or substitute will be ordered, installed or utilized without ENGINEER's prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. OWNER may require CONTRACTOR to furnish at CONTRACTOR's expense a special performance guarantee or other surety with respect to any "or-equal" or substitute. ENGINEER will record time required by ENGINEER and ENGINEER's Consultants in evaluating substitutes proposed or submitted by CONTRACTOR pursuant to paragraphs 6.7.1.2 and 6.7.2 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 accepts a substitute item so proposed or submitted by CONTRACTOR, CONTRACTOR shall reimburse OWNER for the changes of ENGINEER and ENGINEER's Consultants for evaluating each such proposed substitute item.

6.8 Concerning Subcontractors, Suppliers and Others:

6.8.1 CONTRACTOR shall not employ any Subcontractor, Supplier or other person or organization (including those acceptable to OWNER and ENGINEER as indicated in paragraph 6.8.2), whether initially or as a substitute, against whom OWNER or ENGINEER may have reasonable objection. CONTRACTOR shall not be required to employ any subcontractor, Supplier or other person or organization to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

6.8.2 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers or other persons or organizations (including those who are to furnish the principal items of materials or equipment) to be submitted to OWNER in

advance of the specified date prior to the Effective Date of the Agreement for acceptance by OWNER and ENGINEER, and if CONTRACTOR has submitted a list thereof in accordance with the Supplementary Conditions, OWNER's or ENGINEER'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 person or organization so identified may be revoked on the basis of reasonable objection after due investigation, in which case CONTRACTOR shall submit an acceptable substitute, the Contract Price will be adjusted by the difference in the cost occasioned by such substitution and an appropriate Change Order will be issued or Written Amendment signed. No acceptance by OWNER or ENGINEER of any such Subcontractor, Supplier or other person or organization shall constitute a waiver of any right of OWNER or ENGINEER to reject **defective** Work.

6.9 CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR 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 person or organization any contractual relationship between OWNER or ENGINEER and any such Subcontractor, Supplier or other person or organization, 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 person or organization except as may otherwise be required by Laws and Regulations.

6.9.1 CONTRACTOR shall be solely responsible for scheduling and coordinating the Work or Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR. CONTRACTOR shall require all Subcontractors, Suppliers and such other persons and organizations performing or furnishing any of the Work to communicate with the ENGINEER through CONTRACTOR.

6.10 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.

6.11 All Work performed by 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 insureds on the property insurance provided in paragraph 5.4.5. 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 additional insureds for all losses and damages caused by, arising out of or resulting from any of the perils 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.

Patent Fees and Royalties:

6.12 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, employees, agents and other consultants of each and any of them from and against all claims, costs, losses and damages arising out of or resulting from 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.

Permits:

6.13 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.

Laws and Regulations:

6.14 CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to furnishing and 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.

6.14.1 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 caused by, arising out of or resulting therefrom: however, it shall not be CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve CONTRACTOR or CONTRACTOR's obligations under paragraph 3.3.2.

Taxes:

6.15 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.

Use of Premises:

6.16 CONTRACTOR shall confine construction equipment, the storage of materials

and equipment and the operations of workers to the site and land and areas identified in and permitted by the Contract Documents and other land and areas permitted Laws and Regulations, rights-of-way, permits and easements, and shall not unreasonably encumber the premises 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. 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. CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultant and anyone directly or indirectly employed by any of them from and against all claims costs, losses and damages arising out of or resulting from 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.

6.17 During the progress of the Work, CONTRACTOR shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work CONTRACTOR shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery and surplus materials. CONTRACTOR shall leave the site clean and ready for occupancy by OWNER at Substantial Completion of the Work. CONTRACTOR shall restore to original condition all property not designated for alteration by the Contract Documents.

6.18 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.

Record Documents:

6.19 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 (issued pursuant to paragraph 9.4) in good order and annotated to show all 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.

Safety and Protection:

6.20 CONTRACTOR shall be 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:

6.20.1 all persons on the Work site or who may be affected by the Work;

6.20.2 all the Work and materials and equipment to be incorporated therein, whether in storage on or off the site; and

6.20.3 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. CONTRACTOR shall comply with all applicable Laws and Regulations of any public body having jurisdiction for safety of persons or property or to protect them 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 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 6.20.2. or 6.20.3. caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish 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 person or organization 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 14.13. that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

Safety Representative:

6.21 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.

Hazard Communication Programs:

6.22 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.

Emergencies:

6.23 In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, CONTRACTOR, without special instruction or authorization from OWNER or ENGINEER, 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. 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 to document the consequences of such action.

6.24 Shop Drawings and Samples:

6.24.1 CONTRACTOR shall submit Shop Drawings to ENGINEER for review and approval in accordance with the accepted schedule of Shop Drawings and Sample submittals (see paragraph 2.9.). 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 shown to ENGINEER the materials and equipment CONTRACTOR proposes to provide and to enable ENGINEER to review the information for the limited purposes required by paragraph 6.26.

6.24.2 CONTRACTOR shall also submit Samples to ENGINEER for review and approval in accordance with said accepted 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 6.26. The numbers of each Sample to be submitted will be as specified in the Specifications.

6.25 Submittal Procedures:

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

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

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

6.25.1.3 all information relative to CONTRACTOR's sole responsibilities in respect of means, methods, techniques, sequences and procedures of construction and safety precautions and programs incident thereto. 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.

6.25.2 Each submittal will 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.

6.25.3 At the time of each submission, 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.

6.26 ENGINEER will review and approve Shop Drawings and Samples in accordance with the schedule of Shop Drawings and Sample submittals accepted by ENGINEER as required by paragraph 2.9. 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. 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. 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.

6.27 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 submission as required by paragraph 6.25.3 and ENGINEER has given written approval of each such variation by specific written notation thereof incorporated in or accompanying Shop Drawing or Sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for

complying with the requirements of paragraph 6.25.1.

6.28 Where a Shop Drawing or Sample is required by the Contract Documents or the schedule of Shop Drawings and Sample submissions accepted by ENGINEER as required by paragraph 2.9, 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.

Continuing the Work:

6.29 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 15.5 or as OWNER and CONTRACTOR may otherwise agree in writing.

6.30 CONTRACTOR's General Warranty and Guarantee:

6.30.1 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:

6.30.1.1 abuse, modification or improper maintenance or operation by persons other than CONTRACTOR, Subcontractors or Suppliers; or

6.30.1.2 normal wear and tear under normal usage.

6.30.2 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:

6.30.2.1 observations by ENGINEER;

6.30.2.2 recommendation of any progress or final payment by ENGINEER;

6.30.2.3 the issuance of a certificate of Substantial Completion or any payment by OWNER to CONTRACTOR under the Contract Documents;

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

6.30.2.5 any acceptance by OWNER or any failure to do so;

6.30.2.6 any review and approval of Shop Drawing or Sample submittal or the issuance of a notice of acceptability by ENGINEER pursuant to paragraph 14.13;

6.30.2.7 any inspection, test or approval by others; or

6.30.2.8 any correction of defective Work by OWNER.

Indemnification:

6.31 To the fullest extent permitted by Laws and Regulations. CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants and the officers, directors, 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) caused by, arising out of or resulting from the performance of the Work, provided that any such claim, cost, loss or damage: (i) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, and (ii) is caused in whole or in part by any negligent act or omission of CONTRACTOR, any Subcontractor, any Supplier, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not caused in part by any negligence or omission of a person or entity indemnified hereunder or whether liability is imposed upon such indemnified party by Laws and Regulations regardless of the negligence of any such person or entity.

6.32 In any and all claims against OWNER or ENGINEER or any of their respective

consultants, agents, officers, directors or employees by any employee (or the survivor or personal representative of such employee) of CONTRACTOR, any Subcontractor, any Supplier, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.31 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 person or organization under workers' compensation acts, disability benefit acts or other employee benefit acts.

6.33 The indemnification obligations of CONTRACTOR under paragraph 6.31 shall not extend to the liability of ENGINEER and ENGINEER's Consultants, officers, directors, employees or agents caused by the professional negligence, errors or omissions of any of them.

Survival of Obligations:

6.34 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 and termination or completion of the Agreement.

ARTICLE 7 - OTHER WORK

Related Work at Site:

7.1 OWNER may perform other work related to the Project at the site by OWNER's own forces, or let other direct contracts therefore which shall contain General Conditions similar to these, or have other work performed by utility owners. If the fact that such other work is to be performed was not noted in the Contract Documents, then; (i) written notice thereof will be given to CONTRACTOR prior to starting any such other work, and (ii) CONTRACTOR may make a claim therefore as provided in Articles 11 and 12 if CONTRACTOR believes that such performance will involve additional expense to CONTRACTOR or requires additional time and the parties are unable to agree as to the amount or extent thereof.

7.2 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 additional 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 connect and 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 make its several parts come together properly and 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.

7.3 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 so to report will constitute an acceptance of such other work as fit and proper for integration with CONTRACTOR's Work except for latent or non-apparent defects and deficiencies in such other work.

Coordination:

7.4 If OWNER contracts with others for the performance of other work on the Project at the site, the following will be set forth in Supplementary Conditions:

7.4.1 the person, firm or corporation who will have authority and responsibility for coordination of the activities among the various prime contractors will be identified;

7.4.2 the specific matters to be covered by such authority and responsibility will be itemized: and

7.4.3 the extent of such authority and responsibilities will be provided. Unless otherwise provided in the Supplementary Conditions, OWNER shall have sole authority and responsibility in respect of such coordination.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

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

8.2 In case of termination of the employment of ENGINEER, OWNER shall appoint an engineer against whom CONTRACTOR makes no reasonable objection, whose status under the Contract Documents shall be that of the former ENGINEER.

8.3 OWNER shall furnish the data required of OWNER under the Contract Documents promptly and shall make payments to CONTRACTOR promptly when they are due as provided in paragraphs 14.4 and 14.13.

8.4 OWNER's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1 and 4.4. Paragraph 4.2 refers to OWNER's identifying and making available to CONTRACTOR copies of reports of explorations and tests of Subsurface conditions at the site and drawings of physical conditions in existing structures at or contiguous to the site that have been utilized by ENGINEER in preparing the Contract Documents.

8.5 OWNER's responsibilities in respect of purchasing and maintaining liability and property insurance, if any, are set forth in the Supplementary Conditions.

8.6 OWNER is obligated to execute Change Orders as indicated in paragraph 10.4.

8.7 OWNER's responsibility in respect of certain inspections, tests and approvals is set forth in paragraph 13.4.

8.8 In connection with OWNER's right to stop Work or suspend Work, see paragraphs 13.10 and 15.1. Paragraph 15.2 deals with OWNER's right to terminate services of CONTRACTOR under certain circumstances.

8.9 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 furnishing or performance of the Work. OWNER will not be responsible for CONTRACTOR's failure to perform or furnish the Work in accordance with the Contract Documents.

8.10 OWNER's responsibility in respect of undisclosed Asbestos, PCBs, Petroleum, Hazardous Waste or Radioactive Materials uncovered or revealed at the site is set forth in paragraph 4.5.

8.11 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

OWNER's Representative:

9.1 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 shall not be extended without written consent of OWNER and ENGINEER.

Visits to Site:

9.2 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 will endeavor for the benefit of OWNER to determine, in general, if the Work is proceeding in accordance with the Contract Documents. ENGINEER will not be required to make exhaustive or continuous on-site inspections 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 on-site observations, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defective Work. ENGINEER's visits and on-site observations are subject to all the limitations on ENGINEER's authority and responsibility set forth in paragraph 9.13, and particularly, but without limitation, during or as a result of ENGINEER's on-site 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 furnishing or performance of the Work.

Project Representative:

9.3 If OWNER and ENGINEER agree, ENGINEER will furnish a Resident Project Representative to assist ENGINEER in providing more continuous 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 9.13 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 person will be as provided in the Supplementary Conditions.

Clarifications and Interpretations:

9.4 ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings or otherwise) as ENGINEER may determine necessary, which shall be consistent with the intent of and reasonably inferable from Contract Documents. Such written clarifications and interpretations will be binding on OWNER and CONTRACTOR. If OWNER or CONTRACTOR believes that a written clarification or interpretation justifies an adjustment in the Contract Price or the Contract Times and the parties are unable to agree to the amount or extent thereof, if any, OWNER or CONTRACTOR

may make a written claim therefore as provided in Article 11 or Article 12.

Authorized Variations in Work:

9.5 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 or CONTRACTOR believes that a Field Order justifies an adjustment in the Contract Price or the Contract Times and the parties are unable to agree as to the amount or extent thereof, OWNER or CONTRACTOR may make a written claim therefore as provided in Article 11 or 12.

Rejecting Defective Work:

9.6 ENGINEER will have authority to disapprove or reject Work which ENGINEER believes to be defective, or that ENGINEER believes will not produce a complete 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 13.9, whether or not the Work is fabricated, installed or completed.

Shop Drawings, Change Orders and Payments:

9.7 In connection with ENGINEER's authority as to Shop Drawings and Samples, see paragraphs 6.24 through 6.28 inclusive.

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

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

Determinations for Unit Prices:

9.10 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 upon OWNER and CONTRACTOR, unless, within ten days after the date of any such decision, either OWNER or CONTRACTOR delivers to the other and to ENGINEER written notice of intention to appeal from ENGINEER's decision and: (i) an appeal from ENGINEER's decision is taken within the time limits and in accordance with the procedures set forth in Exhibit GC-A, "Dispute Resolution Agreement," entered into between OWNER and CONTRACTOR pursuant to Article 16, or (ii) if no such Dispute Resolution Agreement has been entered into, a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction to exercise such rights or remedies as the appealing party may have with respect to ENGINEER's decision, unless otherwise agreed in writing by OWNER and CONTRACTOR. Such appeal will not be subject to procedures of paragraph 9.11.

Decisions on Disputes:

9.11 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 or the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work and Claims under Articles 11 and 12 in respect of changes in the Contract Price or Contract Times will be referred initially to ENGINEER in writing with a request for a formal decision in accordance with this paragraph. Written notice of each such claim, dispute or other matter will be delivered by the claimant to ENGINEER and the other party to the Agreement promptly (but in no event later than thirty days) after the start of the occurrence or event giving rise thereto, and written supporting data will be submitted to ENGINEER and the other party within sixty days after the start of such occurrence or event unless ENGINEER allows an additional period of time for the submission of additional or more accurate data in support of such claim, dispute or other matter. The opposing party shall submit any response to ENGINEER and the claimant within thirty days after receipt of the claimant's last submittal (unless ENGINEER allows additional time). ENGINEER will render a formal decision in writing within thirty days after

receipt of the opposing party's submittal, if any, in accordance with this paragraph. ENGINEER's written decision on such claim, dispute or other matter will be final and binding upon OWNER and CONTRACTOR unless: (i) an appeal from ENGINEER's decision is taken within the time limits and in accordance with the procedures set forth in EXHIBIT GC-A, "Dispute Resolution Agreement," entered into between OWNER and CONTRACTOR pursuant to Article 16, or (ii) if no such Dispute Resolution Agreement has been entered into, 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 thirty days after the date of such decision and a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction 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 within sixty days of the date of such decision, unless otherwise agreed in writing by OWNER and CONTRACTOR.

9.12 When functioning as interpreter and judge under paragraphs 9.10 and 9.11, 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 paragraphs 9.10 or 9.11 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 14.15) 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 pursuant to Article 16.

9.13 Limitations on ENGINEER's Authority and Responsibilities:

9.13.1 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 owed by ENGINEER to CONTRACTOR, any Subcontractor, and Supplier, any other person or organization, or to any surety for or employee or agent of any of them.

9.13.2 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 furnishing or performance of the Work. ENGINEER will not be responsible for CONTRACTOR's failure to perform or furnish the Work in accordance with the Contract Documents.

9.13.3 ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work.

9.13.4 ENGINEER's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds and certificates of inspection, tests, and approvals and Other documentation required to be delivered by paragraph 4.12 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.

9.13.5 The limitations upon authority and responsibility set forth in this paragraph 9.13 shall also apply to ENGINEER's Consultants, Resident Project Representative and assistants.

ARTICLE 10 - CHANGES IN THE WORK

10.1 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. Such additions, deletions or revisions will be authorized 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).

10.2 If OWNER and CONTRACTOR are unable to agree as to the extent, if any, of an adjustment in the Contract Price or an adjustment of the Contract Times that should be allowed as a result of a Work Change Directive, a claim may

be made therefore as provided in Article 11 or Article 12.

10.3 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 and supplemented as provided in paragraphs 3.5 and 3.6 except in the case of an emergency as provided in paragraph 6.23 or in the case of uncovering Work as provided in paragraph 13.9.

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

10.4.1 changes in the Work which are (i) ordered by OWNER pursuant to paragraph 10.1, (ii) required because of acceptance of defective Work under paragraph 13.13 or correcting defective Work under paragraph 13.14, or (iii) agreed to by the parties;

10.4.2 changes in the Contract Price or Contract Times which are agreed to by the parties; and

10.4.3 changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by ENGINEER pursuant to paragraph 9.11; 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 6.29.

10.5 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, and the amount of each applicable Bond will be adjusted accordingly.

ARTICLE 11 - CHANGE OF CONTRACT PRICE

11.1 The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to CONTRACTOR for performing the Work. All duties, responsibilities

and obligations assigned to or undertaken by CONTRACTOR shall be at CONTRACTOR's expense without change in the Contract Price.

11.2 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 delivered by the party making the claim to the other party and to ENGINEER promptly (but in no event later than thirty days) after the start of the occurrence or event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within sixty days after the start of such occurrence or event (unless ENGINEER allows additional time for claimant to submit additional or more accurate data in support of the claim) and shall be accompanied by claimant's written statement that the adjustment claimed covers all known amounts to which the claimant is entitled as a result of said occurrence or event. All claims for adjustment in the Contract Price shall be determined by ENGINEER in accordance with paragraph 9.11 if OWNER and CONTRACTOR cannot otherwise agree on the amount involved. No claim for an adjustment in the Contract Price will be valid if not submitted in accordance with this paragraph 11.2.

11.3 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:

11.3.1 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 paragraphs 11.9.1. through 11.9.3. inclusive);

11.3.2 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 11.6.2):

11.3.3 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 11.3.2, on the basis of the Cost of the Work (determined as provided in paragraphs 11.4 and 11.5) plus a CONTRACTOR's fee for overhead and profit (determined as provided in paragraph 11.6).

Cost of the Work:

11.4 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. 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 11.5.

11.4.1 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, worker's compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work after regular working hours, on Saturday, Sunday or legal holidays, shall be included in the above to the extent authorized by OWNER.

11.4.2 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.

11.4.3 Payments made by CONTRACTOR to the Subcontractors for Work performed or furnished 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 accepted. 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 paragraphs 11.4, 11.5, 11.6 and 11.7. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.

11.4.4 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.

11.4.5 Supplemental costs including the following:

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

11.4.5.2 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.

11.4.5.3 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, installation, dismantling and removal thereof – all 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.

11.4.5.4 Sales, consumer, use or similar taxes related to the work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.

11.4.5.5 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.

11.4.5.6 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 and furnishing of the Work (except losses and damages within the deductible amounts of property insurance established by OWNER), provided they 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. If, however, any such loss or damage requires reconstruction and CONTRACTOR is placed in charge thereof, CONTRACTOR is placed in charge thereof, CONTRACTOR shall be paid for services a fee proportionate to that stated in paragraph 11.6.2.

11.4.5.7 The cost of utilities, fuel and sanitary facilities at the site.

11.4.5.8 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.

11.4.5.9 Cost of premiums for additional Bonds and insurance required because of changes in the Work.

11.5 The term Cost of the Work shall not include any of the following:

11.5.1 Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnership 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 a branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 11.4.1 or specifically covered by paragraph 11.4.4 – all of which are to be considered administrative costs covered by the CONTRACTOR's fee.

11.5.2 Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the site.

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

11.5.4 Cost of premiums for all Bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except for the cost of premiums covered by subparagraph 11.4.5.9 above).

11.5.5 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. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 11.4.

11.6 The CONTRACTOR's fee allowed to CONTRACTOR for overhead and profit shall be determined as follows:

11.6.1 a mutually acceptable fixed fee; or

11.6.2 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:

11.6.2.1 for costs incurred under paragraphs 11.4.1 and 11.4.2, the CONTRACTOR's fee shall be fifteen percent;

11.6.2.2 for costs incurred under paragraph 11.4.3, the CONTRACTOR's fee shall be five percent.

11.6.2.3 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 paragraphs 11.4.1, 11.4.2, 11.4.3 and 11.6.2 is that the Subcontractor who actually performs or furnishes the Work, at whatever tier, will be paid a fee of fifteen percent of the costs incurred by such Subcontractor under paragraphs 11.4.1 and 11.4.2 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:

11.6.2.4 no fee shall be payable on the basis of costs itemized under paragraphs 11.4.4, 11.4.5 and 11.5;

11.6.2.5 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

11.6.2.6 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 11.6.2.1 through 11.6.2.5, inclusive.

11.7 Whenever the cost of any work is to be determined pursuant to paragraphs 11.4 and 11.5, CONTRACTOR will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in form acceptable to ENGINEER an itemized cost breakdown together with supporting data.

Cash Allowances:

11.8 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 furnished and performed for such sums as may be acceptable to OWNER and ENGINEER, CONTRACTOR agrees that:

11.8.1 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

11.8.2 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. 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.

11.9 Unit Price Work:

11.9.1 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 established 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 in accordance with paragraph 9.10.

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

11.9.3 OWNER or CONTRACTOR may make a claim for an adjustment in the Contract Price in accordance with Article 11 if:

11.9.3.1 the quantity of any item of Unit Price Work performed by CONTRACTOR differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

11.9.3.2 there is no corresponding adjustment with respect to any other item of Work; and

11.9.3.3 if CONTRACTOR believes that CONTRACTOR is entitled to an increase in Contract Price as a result of having incurred additional expense or OWNER believes that OWNER is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 - CHANGE OF CONTRACT TIMES

12.1 The Contract Times (or Milestones) may only be changed by a Change Order or a Written Amendment. Any claim for an adjustment of the Contract Times (or Milestones) shall be based on written notice delivered by the party making the claim to the other party and to ENGINEER promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within sixty days after such occurrence (unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the claimant's written statement that the adjustment claimed is the

entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Times (or Milestones) shall be determined by ENGINEER in accordance with paragraph 9.11 if OWNER and CONTRACTOR cannot otherwise agree. No claim for an adjustment in the Contract Times (or Milestones) will be valid if not submitted in accordance with the requirements of this paragraph 12.1.

12.2 All time limits stated in the Contract Documents are of the essence of the Agreement.

12.3 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 therefore as provided in paragraph 12.1. 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. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of CONTRACTOR.

12.4 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. In no event shall OWNER be liable to CONTRACTOR, any Subcontractor, any Supplier, 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 (i) delays caused by or within the control of CONTRACTOR, or (ii) delays beyond the control of both parties 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.

ARTICLE 13 - TESTS AND INSPECTION: CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.1 **Notice of Defects:** Prompt notice of all defective Work of which OWNER or ENGINEER have actual knowledge will be given to CONTRACTOR. All defective Work may be rejected, corrected or accepted as provided in this Article 13.

Access to Work:

13.2 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 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.

Tests and Inspections:

13.3 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.

13.4 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:

13.4.1 for inspections, tests or approvals covered by paragraph 13.5 below:

13.4.2 that costs incurred in connection with tests or inspections conducted pursuant to paragraph 13.9 below shall be paid as provided in said paragraph 13.9; and

13.4.3 as otherwise specifically provided in the Contract Documents.

13.5 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. CONTRACTOR shall also 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 of materials, mix designs, or equipment submitted for approval prior to CONTRACTOR's purchase thereof for incorporation in the Work.

13.6 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.

13.7 Uncovering Work as provided in paragraph 13.6 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.

Uncovering Work:

13.8 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.

13.9 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 caused by, arising out of or resulting from 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, and, if the parties are unable to agree as to the amount thereof, may make a claim therefore as provided in Article 11. 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; and, if the parties are unable to agree as to the amount or extent therefore,

CONTRACTOR may make a claim therefore as provided in Articles 11 and 12.

OWNER May Stop the Work:

13.10 If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or 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 or any surety or other party.

Correction or Removal of Defective Work:

13.11 If required by ENGINEER, CONTRACTOR shall promptly, as directed, either correct all defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by ENGINEER, remove it from the site and replace it with Work that is not defective.

CONTRACTOR shall pay all claims, costs, losses and damages caused by or resulting from such correction or removal (including but not limited to all costs of repair or replacement of work of others).

13.12 Correction Period:

13.12.1 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, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER's written instruction: (i) correct such defective Work, or, if it has been rejected by OWNER, remove it from the site and replace it with Work that is not defective, and (ii) satisfactorily correct or remove and replace any damage to other Work or the work of others resulting therefrom. If CONTRACTOR does not promptly comply with the terms of such instructions, or in any emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or the rejected Work removed and replaced, and all claims, costs, losses and damages caused by or resulting from such removal and replacement (including but not limited to all costs of repair or

replacement of work of others) will be paid by CONTRACTOR.

13.12.2 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.

13.12.3 Where defective Work (and damage to other Work resulting therefrom) has been corrected, removed or replaced under this paragraph 13.12, 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.

Acceptance of Defective Work:

13.13 If, instead of requiring correction or removal and replacement of defective Work, OWNER (and, prior to ENGINEER's recommendation of final payment, also ENGINEER) prefers to accept it, OWNER may do so. CONTRACTOR shall pay all claims, costs, losses and damages attributable to OWNER's evaluation of and determination to accept such defective Work (such costs to be approved by ENGINEER as to reasonableness). 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, and, if the parties are unable to agree as to the amount thereof, OWNER may make a claim therefore as provided in Article 11. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to OWNER.

OWNER May Correct Defective Work:

13.14 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 13.11, 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. 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 representative, 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. All claims, costs, losses and damages incurred or sustained by OWNER in exercising such rights and remedies 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, and, if the parties are unable to agree as to the amount thereof, OWNER may make a claim therefore as provided in Article 11. 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. 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 hereunder.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

Schedule of Values:

14.1 The schedule of values established as provided in paragraph 2.9 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.

Application for Progress Payment:

14.2 At least twenty 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 will be satisfactory to OWNER. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

CONTRACTOR's Warranty of Title:

14.3 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.

Review of Applications for Progress Payment:

14.4 ENGINEER will, within ten 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. Ten days after presentation of the Application for Payment to OWNER with ENGINEER's recommendation, the amount recommended will (subject to the provisions of the last sentence of paragraph 14.7) become due and when due will be paid by OWNER to CONTRACTOR.

14.5 ENGINEER's recommendation of any payment requested in an Application for Payment will constitute a representation by ENGINEER to OWNER, based on ENGINEER's on-site observations 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:

14.5.1 the Work has progressed to the point indicated.

14.5.2 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 9.10, and to any other qualifications stated in the recommendation), and

14.5.3 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. However, by recommending any such payment ENGINEER will not thereby be deemed to have represented that: (i) exhaustive or continuous onsite inspections have been made to check the quality or the quantity 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.

14.6 ENGINEER's recommendation of any payment, including final payment, shall not mean that ENGINEER is responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of Work, or for any failure of CONTRACTOR to perform or furnish Work in accordance with the Contract Documents.

14.7 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 14.5. ENGINEER may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended, to such extent as may be necessary in ENGINEER's opinion to protect OWNER from loss because:

14.7.1 the Work is defective, or completed Work has been damaged requiring correction or replacement.

14.7.2 the Contract Price has been reduced by Written Amendment or Change Order.

14.7.3 OWNER has been required to correct defective Work or complete Work in accordance with paragraph 13.14. or

14.7.4 ENGINEER has actual knowledge of the occurrence of any of the events enumerated in paragraphs 15.2.1 through 15.2.4 inclusive. OWNER may refuse to make payment of the full amount recommended by ENGINEER because:

14.7.5 claims have been made against OWNER on account of CONTRACTOR's performance or furnishing of the Work.

14.7.6 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,

14.7.7 there are other items entitling OWNER to a set-off against the amount recommended, or

14.7.8 OWNER has actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.7.1 through 14.7.3 or paragraphs 15.2.1 through 15.2.4 inclusive; but OWNER must give CONTRACTOR immediate written notice (with a copy to ENGINEER) stating the reasons for such action and 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.

Substantial Completion:

14.8 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. Within a reasonable time 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 therefore. 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 fourteen days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefore. If, after consideration of OWNER's objections, ENGINEER considers the Work substantially complete, ENGINEER will within said fourteen 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, 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.

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

Partial Utilization:

14.10 Use by OWNER at OWNER's option of any substantially completed part of the Work which: (i) has specifically been identified in the Contract Documents, or (ii) 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:

14.10.1 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 therefore. If ENGINEER considers that part of the Work to be substantially complete, the provisions of paragraphs 14.8 and 14.9 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.

14.10.2 No occupancy or separate operation of part of the Work will be accomplished prior to compliance with the requirements of paragraph 5.13 in respect of property insurance.

Final Inspection:

14.11 Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will 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.

Final Application for Payment:

14.12 After CONTRACTOR has completed all such corrections to the satisfaction of ENGINEER and delivered in accordance with the Contract Documents all maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance required by Article 5, certificates of inspection, marked-up record documents (as provided in paragraph 6.19) and other documents, CONTRACTOR may make application for final payment following the procedure for progress payments. 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 Article 5, (ii) consent of the surety, if any, to final payment, and (iii) complete and legally effective releases or waivers (satisfactory to OWNER) of all Liens arising out of or filed in connection with the Work. In lieu of such releases or waivers of Liens 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.

Final Payment and Acceptance:

14.13 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 ten days after receipt of the final Application for Payment, indicate in writing ENGINEER's recommendation of payment and present the Application 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 14.15. Otherwise, ENGINEER will return the Application 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. Thirty days after the presentation to OWNER of the Application and accompanying documentation, in appropriate form and substance and with ENGINEER's recommendation and notice of acceptability, the amount recommended by amount considered by CONTRACTOR to be adequate to cover CONTRACTOR's overhead and profit for each separately identified item. ENGINEER will become due and will be paid by OWNER to CONTRACTOR.

14.14 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 Article 5, 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.

Waiver of Claims:

14.15 The making and acceptance of final payment will constitute:

14.15.1 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 14.11, 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

14.15.2 a waiver of all claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

OWNER May Suspend Work:

15.1 At any time and without cause, OWNER may suspend the Work or any portion thereof for a period of not more than ninety 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 an approved claim therefore as provided in Articles 11 and 12.

OWNER May Terminate:

15.2 Upon the occurrence of any one or more of the following events:

15.2.1 if CONTRACTOR persistently fails 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 2.9 as adjusted from time to time pursuant to paragraph 6.6);

15.2.2 if CONTRACTOR disregards Laws or Regulations of any public body having jurisdiction;

15.2.3 if CONTRACTOR disregards the authority of ENGINEER; or

15.2.4 if CONTRACTOR otherwise violates in any substantial way any provisions of the Contract Documents;

OWNER may, after giving CONTRACTOR (and the surety, if any,) seven days' written notice and to the extent permitted by Laws and Regulations, 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 sustained by

OWNER arising out of or resulting from 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, provided that when exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

15.3 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.

15.4 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 Agreement. In such case, CONTRACTOR shall be paid (without duplication of any items):

15.4.1 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;

15.4.2 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;

15.4.3 for all claims, costs, losses and damages incurred in settlement of terminated contracts with Subcontractors, Suppliers and other; and

15.4.4 for reasonable expenses directly attributable to termination. 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.

CONTRACTOR May Stop Work or Terminate:

15.5 If, through no act or fault of CONTRACTOR, the Work is suspended for a

period of more than ninety days by OWNER or under an order of court or other public authority, or ENGINEER fails to act on any Application for Payment within thirty days after it is submitted or OWNER fails for thirty 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 Agreement and recover from OWNER payment on the same terms as provided in paragraph 15.4. In lieu of terminating the Agreement and without prejudice to any other right or remedy, if ENGINEER has failed to act on an Application for Payment within thirty days after it is submitted, or OWNER has failed for thirty days to pay CONTRACTOR any sum finally determined to be due, CONTRACTOR may upon seven day's written notice to OWNER and ENGINEER stop the Work until payment of all such amounts due CONTRACTOR, including interest thereon. The provisions of this paragraph 15.5 are not intended to preclude CONTRACTOR from making claim under Articles 11 and 12 for an increase in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to CONTRACTOR's stopping Work as permitted by this paragraph.

ARTICLE 16 - DISPUTE RESOLUTION

If and to the extent that OWNER and CONTRACTOR have agreed on the method and procedure for resolving disputes between them that may arise under this Agreement, such dispute resolution method and procedure, if any, shall be as set forth in Exhibit GC-A, "Dispute Resolution Agreement," to be attached hereto and made a part hereof. If no such agreement on the method and procedure for resolving such disputes has been reached, and subject to the provisions of paragraphs 9.10, 9.11, and 9.12, 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

Giving Notice:

17.1 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.

Computation of Times:

17.2 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.

17.2.1 A calendar day of twenty-four hours measured from midnight to the next midnight will constitute a day.

Notice of Claim:

17.3 Should OWNER or CONTRACTOR suffer injury or damage to person or property because of any error, omission or act of the other part or of any of the other party's employees or agents or others for whose acts the other party is legally liable, claim will be made in writing to the other party within a reasonable time of the first observance of such injury or damage. The provisions of this paragraph 17.3 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or repose.

Cumulative Remedies:

17.4 The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon CONTRACTOR by paragraphs 6.12, 6.16, 6.30, 6.31, 6.32, 13.1, 13.12, 13.14, 14.3 and 15.2 and all of the rights and remedies available to OWNER and ENGINEER thereunder, 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.

Professional Fees and Court Costs Included:

17.5 Whenever reference is made to “claims, costs, losses and damages,” it shall include in each case, but not be limited to, all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs.

SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

SC-1 - DEFINITIONS

The term used in these Supplementary Conditions which are defined in the Standard General Conditions of the Construction Contract have the meanings assigned to them in the General Conditions.

SC-1.18

ENGINEER's Consultant - the following list of independent professional associates and consultants are considered the ENGINEER's consultant for this Construction Contract:

None

ARTICLE 2 - PRELIMINARY MATTERS

SC-2.3

Amend the third sentence of paragraph 2.3 of the General Conditions to read as follows: In no event will the Contract Times commence to run later than the seventy-fifth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

And as so amended paragraph 2.3 remains in effect.

SC-2.7

Amend the first sentence of paragraph 2.7 of the General Conditions to read as follows: Before any work at the site is started, CONTRACTOR shall deliver to OWNER with copies to each additional insured identified in the Supplementary Conditions, Certificates of Insurance (and other evidence of insurance which OWNER or any other additional insured may reasonably request) which CONTRACTOR is required to purchase and maintain in accordance with Article 5.

And as so amended paragraph 2.7 remains in effect.

SC-2.8

Amend the first segment of the first sentence of paragraph 2.8 of the General Conditions to read as follows: Within 20 days after the Contract Times commence to run, but before any work at the site is started,...

And as so amended paragraph 2.8 remains in effect.

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

SC-4.2.1.

Amend the first sentence of paragraph 4.2.1 of the General Conditions to read as follows: Reports and drawings: Reference is made to the 'Information Available to Bidders' for identification of:

And as so amended paragraph 4.2.1 remains in effect.

SC-4.2.2

Amend the second sentence of paragraph 4.2.2 of the General Conditions to read as follows: Such "technical data" is identified in the Information Available to Bidders.

And as so amended paragraph 4.2.2 remains in effect.

SC-4.3.1

Amend the second sentence of paragraph 4.3.1 of the General Conditions to read as follows: Unless it is otherwise expressly provided in the "Information Available to Bidders:" And as so amended paragraph 4.3.1 remains in effect.

ARTICLE 5 - BONDS AND INSURANCE

New Bond and Insurance Provisions:

SC-5

Article 5 of the General Conditions is hereby deleted in its entirety and replaced with the following provisions.

SC-2

Performance and Payment Bonds:

SC 5.1

CONTRACTOR shall furnish Performance and Payment Bonds, each in an amount of 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 a minimum, for one year after the date when the final payment becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents.

SC 5.1.1

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 (as amended) by the U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.

SC 5.2

If the surety on any Bond furnished by CONTRACTOR files a petition in bankruptcy, becomes insolvent, is reasonably likely to become insolvent in the near future, 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 5.6, CONTRACTOR shall within ten days thereafter substitute another bond and surety, both of which must be acceptable to OWNER.

Licensed Sureties and Insurers:

SC 5.3

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 Bond or insurance policies for the limits and coverage required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

CONTRACTOR'S Liability Insurance:

SC 5.4

CONTRACTOR shall, at his own cost and expense, take out and maintain for the life of the project and cause his Subcontractors to obtain and maintain for the life of their subcontracts, the following insurance:

Commercial General Liability Insurance:

SC 5.4.1

Commercial General Liability (CGL) with limits of insurance of not less than:
Limits of Liability:

| | |
|-------------|----------------------------------------------------------|
| \$1,000,000 | Each Occurrence |
| \$2,000,000 | General Aggregate Limit (Per Project – CG 25 0311/85) |
| \$2,000,000 | Products/Completed Operations |
| \$1,000,000 | Advertising/Personal Injury |
| \$10,000 | Premises Medical Payments |

CONTRACTOR's CGL policy shall include the following coverage: Products/Completed Operations, Contractual Liability and Explosion, Collapse and Underground Damage.

OWNER and ENGINEER shall be included as insureds on the CONTRACTOR's CGL, using ISO Additional Insured Endorsement CG 20 10 11 85 or an endorsement providing equivalent coverage to the additional insureds. The CGL insurance for the additional insureds shall be as broad as the coverage provided for the named insured CONTRACTOR. It shall apply as primary and noncontributing insurance before any insurance maintained by the additional insureds.

CONTRACTOR shall maintain CGL coverage for itself and all additional insureds for the duration of the project and maintain Completed Operations coverage for itself and all additional insureds for at least 3 years after completion of the work.

Automobile Liability Insurance:

SC 5.4.2

Business Automobile Liability (AL) with limits of insurance of not less than \$1,000,000, Combined Single Limit. AL coverage must include coverage for liability arising out of all owned, leased, hired and non-owned automobiles.

SC-3

OWNER and ENGINEER shall be included as additional insureds on the CONTRACTOR's AL policy. The AL coverage for the additional insured shall apply as primary and non-contributing insurance before any insurance maintained by the additional insureds.

Workers' Compensation and Employer's Liability Insurance:

SC 5.4.3

Workers Compensation (WC) as required by statute in the state where the Project is located.

Employer's Liability (EL) with limits of insurance of not less than \$500,000 each accident for bodily injury by accident and \$500,000 each employee for injury by disease.

The policy shall include an All States coverage endorsement. Where applicable, the U.S. Longshore and Harbor workers Compensation Act Endorsement shall be attached to the policy. Where applicable, the Maritime Coverage Endorsement shall be attached to the policy. Where applicable, the Stop Gap Endorsement shall be attached to the policy.

Proof of the coverage shall be provided on Form C-105.2, GSI-105.2, SI-12 or U-26.3.

Commercial Umbrella Liability Insurance:

SC 5.4.4

Commercial Umbrella Liability (UL) with limits of insurance of not less than \$5,000,000.

Builder's Risk Insurance:

SC 5.4.5

CONTRACTOR shall purchase and maintain Builder's Risk insurance upon the Work at the site in the amount of the full replacement cost thereof (subject to a deductible of no more than \$500.00). This Builder's Risk insurance shall:

SC 5.4.5.1

Include the interests of OWNER, CONTRACTOR, SUBCONTRACTORS, ENGINEER and ENGINEER's consultants and any other person or entities identified in the Supplementary Conditions each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.

SC 5.4.5.2

Be written on a Builder's Risk "allrisk" or open peril or special causes of loss policy form that shall at least insure for physical loss and damage to the Work, temporary buildings, falsework and Work in transit and shall insure against at least the following perils: fire, lightning, extended coverage, theft, vandalism, malicious mischief, water damage, earthquake, collapse, debris removal and demolition occasioned by enforcement of Laws and Regulations and such other perils as may be specifically required in the Supplementary Conditions.

SC 5.4.5.3

Include expenses incurred in the repair or replacement of any insured property (including, but not limited to, fees and charges of the ENGINEER and architect).

SC 5.4.5.4

Cover materials and equipment in transit for incorporation in the Work or stored at the site or at another location provided that such materials and equipment have been included in an Application for Payment recommended by ENGINEER;

SC 5.4.5.5

Be maintained in effect until final payment is made unless otherwise agreed to in writing by OWNER, CONTRACTOR, and ENGINEER with thirty days written notice to each insured or additional insured to whom a Certificate of Insurance has been issued.

Pollution Liability Coverage:

SC 5.4.6

Pollution Legal Liability (PLL) with limits of insurance of not less than \$1,000,000 each occurrence and \$2,000,000 annual aggregate. The maximum deductible shall not exceed \$25,000.

CONTRACTOR's PPL policy shall include coverage for damage to soil, surface water or plant or animal caused by the discharge, dispersal, release or escape of any solid, liquid, gaseous or thermal irritant or contaminant, including smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, medical waste and waste materials into or upon land, or any structure on land, the atmosphere or any watercourse or body of water, including groundwater, provided such conditions are not naturally present in the environment in the concentration or amounts discovered.

OWNER and ENGINEER shall be included as insureds on the CONTRACTOR'S PPL, using ISO Additional Insured Endorsement CG 20 10 11 85 or an endorsement providing equivalent coverage to the additional insureds. The PPL insurance for the additional insureds shall be as broad as the coverage provided for the named insured CONTRACTOR. It shall apply as primary and non-contributing insurance before any insurance maintained by the additional insureds.

Waiver of Subrogation:

SC 5.5

CONTRACTOR waives all rights against OWNER and ENGINEER and their agents, officers, directors and employees for recovery of damages to the extent these damages are covered by the CGL, UL, AL or WC and EL insurance maintained per the requirements set forth above.

Required Insurance Carriers:

SC 5.6

All of the above insurance requirements shall be provided by an insurance carrier licensed to business in the state where the project is located and have an A.M. Best Rating of A- or better as determined by the most recent A.M. Best Publication.

Certificates of Insurance:

SC 5.7

Within five business days of the Contract being executed, CONTRACTOR shall deliver to OWNER, with copies to each additional insured identified in the Supplementary Conditions, Certificates of Insurance (and other evidence of insurance reasonably requested by the OWNER or any other additional insured) which CONTRACTOR is required to purchase and maintain in accordance with the Contract Documents. OWNER shall deliver to CONTRACTOR, with copies to each additional insured identified in the Supplementary Conditions, Certificates of Insurance (and other evidence of insurance reasonably requested by the CONTRACTOR or any other additional insured) which OWNER is required to purchase and maintain in accordance with the Contract Documents.

SC 5.7.1

Each Certificate of Insurance shall be endorsed to provide for 30 days notice of cancellation, non-renewal or material change to the Certificate Holder and each additional insured except where Laws or Regulations require otherwise. The endorsement shall read: "No cancellation of or change in this policy shall become effective until after thirty (30) days notice by issuing company."

Effect of Insurance Coverage; Claims in Excess of Coverage:

SC 5.8

Upon failure of the CONTRACTOR to furnish, deliver and maintain such insurance as required above, this Contract may, at the election of the OWNER, be forthwith declared suspended, discontinued or terminated. Failure of the CONTRACTOR to take out or maintain or the taking out or maintenance of any required insurance, shall not relieve the CONTRACTOR's liability under the Contract nor shall the insurance requirements be construed to limit the obligations of indemnification or contribution.

SC 5.8.1

In the event that claims in excess of the amounts provided by insurance are filed by reason of any operations under the Contract, the amount of excess of such claims, or any portion thereof, may be withheld from payment due to or become due the CONTRACTOR until such time as the CONTRACTOR shall furnish additional security covering such claims as may be determined by the OWNER.

Waiver of Rights:

SC 5.9

OWNER and CONTRACTOR intend that policy purchased and maintained pursuant to paragraphs 5.4.5 will protect OWNER, CONTRACTOR, SUBCONTRACTORS, ENGINEER, ENGINEER's consultants and all other persons or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds in such policies and will provide primary coverage for all losses and damages caused by the perils covered thereby. This policy shall contain provisions to the effect that in the event of payment of any loss

or damage the insurers will have no rights of recovery against any of the insureds or additional insureds there under.

Receipt and Application of Insurance Proceeds:

SC 5.10

Any insureds' loss under the policy of insurance required by paragraph 5.4.5 will be adjusted with OWNER and made payable to OWNER as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and paragraph 5.8. OWNER shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof and the Work and the cost thereof covered by an appropriate Change Order or written Amendment.

SC 5.10.1

OWNER as fiduciary shall have the power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within fifteen days after the occurrence of loss to OWNER's exercise of this power. If such objection be made, OWNER as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach.

If no such agreement among the parties in interest is reached, OWNER as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, OWNER as fiduciary shall give bond for proper performance of such duties.

Disability Benefits:

SC 5.11

Where and as required by law, CONTRACTOR will provide disability benefits during the duration of the contract for the employees required to be covered. Proof of such coverage shall be provided on Form D-120.1, DB-820/829 or DB-155.

Acceptance of Bonds and Insurance; Option to Replace:

SC 5.12

If either party (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 ten days after receipt of the certificates (or other evidence requested) required by paragraph 2.7. 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 do 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.

Partial Utilization – Property Insurance:

SC 5.13

If OWNER finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, such use or occupancy may be accomplished in accordance with paragraph 14.10; provided that no such use or occupancy shall commence before the insurers providing the property insurance have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITY

SC-6.2.1

Add a new paragraph immediately after paragraph 6.2 of the General Conditions which reads as follows:

Contractor shall observe recognized safety standards, such as those of the National Fire Protection Association and the American National Standards Institute, ensure safety on the site, through safe work practices and an effective safety management program, maintain safe equipment and material storage and employ good site housekeeping and fire prevention practices, establish a safe traffic flow for pedestrians and vehicles and employ measures to prevent falling or collapsing items in their vicinity, and require that contractors make their subcontractors follow the same safe work practices.

SC-6.7

Add the following language at the end of the first sentence of paragraph 6.7 of the General Conditions:

Whenever the term "or-equal" is followed by the words "requiring prior approval" in the specification or description of an item of material or equipment, the CONTRACTOR's proposed equivalent will be submitted for ENGINEER's approval as described in paragraph 10 in the Instructions to Bidders.

And as so amended paragraph 6.7 remains in effect.

SC-6.8

Add a new paragraph immediately before paragraph 6.8.1 of the General conditions which is to read as follows:

The CONTRACTOR shall submit a list of SUBCONTRACTORS and major Material Suppliers for the OWNER's approval within five days of the Notice of Award. An OWNER or ENGINEER, who after due investigation, reasonably believes that a Subcontractor, Supplier, other person or organization is suspended, debarred or has otherwise been declared ineligible to perform this contract, may request that the Successful Bidder submit an acceptable substitute Subcontractor, Supplier, person or organization.

And as so amended paragraph 6.8 remains in effect.

SC-6.15

Delete paragraph 6.15 in its entirety and substitute the following:

"The OWNER is exempt from payment of Sales and Compensating Use Taxes of the State of New York and of its cities and counties on all materials and supplies sold to the OWNER pursuant to the provisions of this Contract. Those tools, machinery, and equipment or other property leased by or to the CONTRACTOR or a SUBCONTRACTOR, or supplies and materials which even though they are consumed, are not incorporated into the completed project are not tax exempt. The CONTRACTOR and his SUBCONTRACTORS shall be responsible to pay all applicable taxes, including Sales and Compensating Use Taxes, on such leased tools, machinery, and equipment, or other property and upon all such unincorporated supplies and materials.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

SC-9.3

Add thirty-five (35) new paragraphs immediately after the last paragraph in section 9.3 of the General Conditions which are to read as follows:

9.3.1 ENGINEER will furnish a Resident Project Representative, assistants and other field staff as needed, to assist ENGINEER in observing performance of the Work. The Resident Project Representative is to observe and inspect, in the OWNER'S interest, the materials furnished and the work done as the work

progresses in order to insure full and complete compliance with the contract and to verify quantities of work completed.

9.3.2 OWNER may also designate one of its employees to represent OWNER for these purposes.

9.3.3 ENGINEER, Resident Project Representative, OWNER and all such other persons referred to shall have unrestricted access to all parts of the Work. CONTRACTOR shall cooperate by supplying necessary facilities and assistance required by above persons to carry out their work of observation and inspection.

9.3.4 It is not the function of the ENGINEER, Resident Project Representative or OWNER to supervise or direct the manner in which the work to be done under this CONTRACT is carried on or conducted. The ENGINEER, Resident Project Representative or OWNER is not responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the work, and they will not be responsible for the CONTRACTOR'S failure to carry out the work in accordance with the Contract Documents. Nevertheless, CONTRACTOR agrees that any method or procedure, which in the opinion of the ENGINEER or OWNER does not achieve the required results or quality of the work specified, shall be discontinued immediately upon the order of the ENGINEER.

9.3.5 All communications between CONTRACTOR and ENGINEER or CONTRACTOR and OWNER are to be through the Resident Project Representative.

9.3.6 Duties and Responsibilities of Resident Project Representative (RPR):

- (a) ENGINEER'S agent at the site; will act as directed by and under the supervision of ENGINEER, and will confer with ENGINEER regarding RPR's actions. RPR's dealings in matters pertaining to the on-site work shall in general be with ENGINEER and CONTRACTOR keeping OWNER advised as necessary. RPR'S dealings with SUBCONTRACTORS shall only be through or with the full knowledge and approval of Contractor. RPR shall generally communicate with Owner with the knowledge of and under direction of Engineer.
- (b) Review progress schedule, schedule of Shop Drawing submittals and schedule of values prepared by CONTRACTOR and consult with ENGINEER concerning acceptability.
- (c) Attend meetings with CONTRACTOR, such as pre-construction conferences, progress meetings, job conferences and other project-related meetings, and prepare and circulate copies of minutes thereof.
- (d) Serve as ENGINEER's and OWNER's liaison with CONTRACTOR, working principally through CONTRACTOR's superintendent and assist in understanding the intent of the Contract Documents.
- (e) Advise ENGINEER and CONTRACTOR of the commencement of any Work requiring a Shop Drawing or sample if the submittal has not been approved by ENGINEER.
- (f) Conduct on-site observations of the Work in progress to assist ENGINEER in determining if the Work is in general proceeding in accordance with the Contract Documents. Report to ENGINEER whenever RPR believes that any Work is unsatisfactory, faulty or defective or does not conform to the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise ENGINEER of Work that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.
- (g) Report to ENGINEER when clarifications and interpretations of the Contract Documents are needed and transmit to CONTRACTOR clarifications and interpretations as issued by ENGINEER.
- (h) Consider and evaluate CONTRACTOR's suggestions for modifications in Drawings or Specifications and report with RPR's recommendations to ENGINEER. Transmit to CONTRACTOR decisions as issued by ENGINEER.

- (i) Maintain orderly files for correspondence, reports of job conferences, Shop Drawings and samples, reproductions of original Contract Documents including all Work Directive Changes, Addenda, Change Orders, Field Orders, additional Drawings issued subsequent to the execution of the Contract, ENGINEER's clarifications and interpretations of the Contract Documents, progress reports, and other Project related documents.
- (j) Keep a diary or log book, recording CONTRACTOR hours on the job site, weather conditions, data relative to questions of Work Directive Changes, Change Orders or changed conditions, list of job site visitors, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to ENGINEER.
- (k) Record names, addresses and telephone numbers of all CONTRACTORS, SUBCONTRACTORS and major suppliers of materials and equipment.
- (l) Furnish ENGINEER periodic reports as required of progress of the Work and of CONTRACTOR's compliance with the progress schedule and schedule of Shop Drawing and sample submittals.
- (m) Draft proposed Change Orders and Work Directive Changes, obtaining backup material from CONTRACTOR and recommend to ENGINEER and OWNER Change Orders, Work Directive Changes, and Field Orders.
- (n) Report immediately to ENGINEER and OWNER upon the occurrence of any accident.
- (o) Review applications for payment with CONTRACTOR for compliance with the established procedure for their submission and forward with recommendations to ENGINEER, noting particularly the relationship of the payment requested to the schedule of values, Work completed and materials and equipment delivered at the site but not incorporated in the Work.
- (p) During the course of the Work, verify that certificates, maintenance and operation manuals and other data required to be assembled and furnished by CONTRACTOR are applicable to the items actually installed and in accordance with the Contract Documents, and have this material delivered to ENGINEER for review and forwarding to OWNER prior to final payment for the work.
- (q) Before ENGINEER issues a Certificate of Substantial Completion, submit to CONTRACTOR a list of observed items requiring completion or correction.
- (r) Conduct final inspection in the company of ENGINEER, OWNER and CONTRACTOR and prepare a final list of items to be completed or corrected.
- (s) Observe that all items on final list have been completed or corrected and make recommendations to ENGINEER concerning acceptance.

9.3.7 Limitations of Authority of Resident Project Representative (RPR):

- (a) Shall not authorize any deviation from the Contract Documents or substitution of materials or equipment, unless authorized by ENGINEER.
- (b) Shall not exceed limitations of ENGINEER's authority as set forth in the Contract Documents.
- (c) Shall not undertake any of the responsibilities of CONTRACTOR, SUBCONTRACTORS or CONTRACTOR's superintendent.
- (d) Shall not advise on, issue directions relative to or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction unless such advice or directions are specifically required by the Contract Documents.

- (e) Shall not advise on, issue directions regarding or assume control over safety precautions and programs in connection with the Work.
- (f) Shall not accept Shop Drawing or sample submittals from anyone other than Contractor.

9.3.8 The ENGINEER shall have the authority to reject any work, or materials, or any part thereof, which does not in his opinion conform to the plans, drawings, specifications and contract, and it shall be permissible for him to do so at any time during the progress of the work and until its acceptance. No material of any kind shall be used upon the work until it has been inspected and accepted by the ENGINEER. All materials rejected shall be removed immediately from the work and not again offered for inspection. Any materials or workmanship found at any time to be defective or not of the quality or character required by the plans and specifications shall be remedied at once regardless of previous inspection. Such inspection shall not relieve the CONTRACTOR from any obligation to perform said work strictly in accordance with the plans and specifications and work not so constructed shall be removed and made good by the CONTRACTOR at his own expense, and free from all expense to the OWNER whenever so ordered by the OWNER without reference to any previous oversight or error in inspection.

SC-9.10

Amend the second sentence of paragraph 9.10 of the General Conditions by striking out the following words: (i) An appeal from ENGINEER's decision is taken within the time limits and in accordance with the procedures set forth in Exhibit GC-A, "Dispute Resolution Agreement," entered into between OWNER and CONTRACTORS pursuant to Article 16, or (ii) if no such dispute resolution agreement has been entered into.

And as so amended paragraph 9.10 remains in effect.
SC-9.11

Amend the sixth sentence of paragraph 9.11 of the General Conditions by striking out the following words: (i) an appeal from ENGINEER's decision is taken within the time limits and in accordance with the procedures set forth in Exhibit GC-A "Dispute Resolution Agreement," entered into between OWNER and CONTRACTOR pursuant to Article 16, or (ii) if no dispute resolution agreement has been entered into.

And as so amended paragraph 9.11 remains in effect.

SC-9.12

Amend the second sentence of paragraph 9.12 of the General Conditions by striking out the following words:

Pursuant to Article 16.

And as so amended paragraph 9.12 remains in effect.

ARTICLE 14 - PAYMENT TO CONTRACTOR AND COMPLETION

SC-14.4

Amend paragraph 14.4 of the General Conditions by changing the last sentence to read as follows:

OWNER shall promptly pay the CONTRACTOR'S Application for Payment. Where the OWNER is other than the City of New York, the term "promptly pay" shall mean payment within thirty days, excluding legal holidays, of receipt of an Application for Payment unless such Application is not approved. Notwithstanding the foregoing, where the OWNER is other than the City of New York and is a municipal corporation which requires an elected official to approve progress payments, "promptly pay" shall mean payment within forty-five days, excluding legal holidays, of receipt of an approved Application for Payment.

And so amended, paragraph 14.4 remains in effect.

SC-14.10

Add a new unnumbered paragraph immediately after paragraph 14.10 of the General Conditions which is to read as follows:

OWNER may at any time request CONTRACTOR in writing to permit OWNER to take over operation of any such part of the work although it is not substantially complete. A copy of such request will be sent to ENGINEER and within a reasonable time thereafter OWNER, CONTRACTOR, and ENGINEER shall make an inspection of that part of the Work to determine its status of completion and will prepare a list of the items remaining to be completed or corrected thereon before final payment. If CONTRACTOR does not object in writing to OWNER and ENGINEER that such part of the Work is not ready for separate operation by OWNER, ENGINEER will finalize the list of items to be completed or corrected and will deliver such lists to OWNER and CONTRACTOR together with a written recommendation as to the division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, maintenance, utilities, insurance, warranties and guarantees for that part of the Work which will become binding upon OWNER and CONTRACTOR at the time when OWNER takes over such operation (unless they shall have otherwise agreed in writing and so informed ENGINEER). During such operation and prior to Substantial Completion of such part of the Work, OWNER shall allow CONTRACTOR reasonable access to complete or correct items on said list and to complete other related Work.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

SC-15.2

Add additional subparagraphs to paragraph 15.2 of the General Conditions as follows:

15.2.5 if CONTRACTOR commences a voluntary case under any chapter of the Bankruptcy Code (Title 11, United States Code), as now or hereafter in effect, or if CONTRACTOR takes any equivalent or similar action by filing a petition or otherwise under any other federal or state law in effect at such time relating to the bankruptcy or insolvency;

15.2.6 if a petition is filed against CONTRACTOR under any chapter of the Bankruptcy Code (Title 11, United States Code), as now or hereafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against CONTRACTOR under any other federal or state law in effect at the time relating to bankruptcy or insolvency;

15.2.7 if CONTRACTOR makes a general assignment for the benefit of creditors;

15.2.8 if a trustee, receiver, custodian, or agent of CONTRACTOR is appointed under applicable law or under contract, whose appointment or authority to take charge of property of CONTRACTOR is for the purpose of enforcing a Lien against such property or for the purpose of general administration of such property for the benefit of CONTRACTOR'S creditors;

15.2.9 if CONTRACTOR admits in writing an inability to pay its debts generally as they become due.

ARTICLE 16 - DISPUTE RESOLUTION

SC-16

Delete Article 16 of the General Conditions in its entirety.

ARTICLE 17 - MISCELLANEOUS

SC-17

Amend the first sentence of paragraph 17.5 of the General Conditions by striking out the following words:

Or arbitration.

And as so amended paragraph 17.5 remains in effect.

SC-17.6 LABOR RECORDS AND SCHEDULES

Add new paragraph immediately after paragraph 17.5 of the General Conditions which is to read as follows:

The Department of Jurisdiction on such public work shall require all CONTRACTORS and SUBCONTRACTORS to keep the following records on the site of the public work project on which such CONTRACTORS, and SUBCONTRACTORS are engaged:

17.6.1 Record of hours worked by each worker, laborer, and mechanic on each day.

17.6.2 Record of days worked each week by each worker, laborer, and mechanic.

17.6.3 Schedule of occupation or occupations at which each worker, laborer, and mechanic on the project is employed during each workday and week.

17.6.4 Schedule of hourly wage rates and supplements paid to each worker, laborer, and mechanic for each occupation.

SC-17.7 WAGE SCHEDULES

Add a new paragraph immediately after paragraph 17.6.4 of the General Conditions which is to read as follows:

17.7 Pursuant to Sections 220.3 and 220-d of the Labor Law, each laborer, worker, or mechanic employed by the CONTRACTOR, SUBCONTRACTOR, or other person shall be paid not less than the prevailing rate of wages for a legal day's work and shall be provided supplements not less than the prevailing supplements as determined by the Industrial Commissioner.

17.7.1 The CONTRACTOR and every SUBCONTRACTOR shall post in a prominent and accessible place on the site of the work a legible statement of all wage rates and supplements as specified in the CONTRACT to be paid or provided, as the case may be, for the various classes of mechanics, workers, and laborers employed on the work.

17.7.2 The OWNER does not represent or warrant that the accompanying schedule of wage rates and supplements with the classification of workers, mechanics, and laborers, as required by Section 220 of the Labor Law, is complete, and it reserves the right to revise such schedule when required. If any occupation is not mentioned in the schedule of wage rates and supplements it shall be requested from the Industrial Commissioner, by the CONTRACTOR through the ENGINEER and such schedules, shall, upon notice to the CONTRACTOR, become and be a part of the wage and supplement schedules embodied in the CONTRACT.

SC-18 NON-DISCRIMINATION IN EMPLOYMENT

18.1 During the performance of the Contract, the CONTRACTOR shall comply with the following: Section 220-e of the State Labor Law including -

- (a) That in the hiring of employees for the performance of work under this Contract or any subcontract hereunder, no CONTRACTOR, SUBCONTRACTOR, nor any person acting on behalf of such CONTRACTOR or SUBCONTRACTOR, shall by reason of race, creed, color, 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;
- (b) That no CONTRACTOR, SUBCONTRACTOR, nor any person acting on behalf shall, in any manner discriminate against or intimidate any employee hired for the performance of work under this Contract on account of race, creed, color, sex or national origin;
- (c) That there may be deducted from the amount payable to the CONTRACTOR by the municipality under this Contract a penalty of five dollars for each person for each calendar day during which such person was discriminated against or intimidated in violation of the provisions of the Contract;

- (d) That this Contract may be canceled or terminated by the municipality and all monies due or to become due hereunder may be forfeited, for a second or any subsequent violation of the terms or conditions of the provisions of the Contract;
- (e) The aforesaid provisions of this Section cover every Contract for or on behalf of the municipality for the manufacture, sale or distribution of materials, equipment, or supplies shall be limited to operations performed within the territorial limits of the State of New York.

18.2 Non-discrimination Clauses of the Executive Law and Civil Rights Law:

- (a) The CONTRACTOR will not discriminate against any employee or applicant for employment because of race, creed, color, sex, or national origin, and will take affirmative action to insure that they are afforded equal employment opportunities without discrimination because of race, color, sex, or national origin. Such action shall be taken with reference, but not be limited to: recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, or termination, rates of pay or other forms of compensation, and selection for training or retraining, including apprenticeship and on-the-job training.
- (b) The CONTRACTOR will send to each labor union or representative or 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 (g) (hereinafter called "non-discrimination clauses"). If the CONTRACTOR was directed to do so by the contracting agency as part of the bid or negotiation of this Contract, the CONTRACTOR shall request such 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, sex 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 the 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 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, the Contractor shall promptly notify the State Commission for Human Rights of such failure or refusal.
- (c) The CONTRACTOR will post and keep posted in conspicuous places, available to employees and applicants for employment, notices to be provided by the State Commission for Human Rights setting forth the substance of the provisions of clauses (a) 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, color, sex, or national origin.
- (e) The CONTRACTOR will comply with the provisions of Section 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 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 nondiscrimination clauses and such sections of the Executive law and the Civil Rights Law.
- (f) This Contract may be forthwith canceled, terminated or suspended in whole or in part, upon the basis of finding made by the State Commission for Human Rights that the contractor may be declared ineligible for further contracts made by or on behalf of the State or a public authority or agency of the State, until he has 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 findings shall be made by the State Commission of Human Rights after conciliation efforts by the Commission have failed to achieve compliance with these

nondiscrimination clauses and after a verified complaint has been filed with the Commission, notice thereof has been given to the Contractor and an opportunity has been afforded 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) The CONTRACTOR will include the provisions of clauses (a) through (f) in every subcontract or purchase order in such a manner that such provisions will be binding upon each Sub-CONTRACTOR 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 non-compliance.

SC-19 PROVISIONS FOR PUBLIC WORKS UNDER NEW YORK STATE LAW

During the performance of the Contract, the CONTRACTOR agrees as follows:

- (a) That in the hiring of employees for the performance of work under this Contract or any subcontract hereunder, no CONTRACTOR, Subcontractor, nor any person acting on behalf of such CONTRACTOR or Subcontractor, shall by reason of age, race, creed, color, disability, sex, national origin, or marital status discriminate against any citizen of the State of New York who is qualified and available to perform the work to which the employment relates;
- (b) That no CONTRACTOR, SUBCONTRACTOR, nor any person on his behalf, shall, in any manner, discriminate against or intimidate any employee hired for the performance of work under this Contract on account of age, race, creed, color, disability, sex, national origin, or marital status;
- (c) That there may be deducted from the amount payable to the CONTRACTOR by the state or municipality under this Contract, a penalty of \$50.00 for each person for each calendar day during which such person was discriminated against or intimidated in violation of the provisions of the Contract;
- (d) That this Contract may be canceled or terminated by the state or municipality, and all moneys due or to become due hereunder may be forfeited for a second or any subsequent violation of the terms or conditions of this section of the Contract; and
- (e) The aforesaid provisions of this section covering every Contract for or on behalf of the state or municipality for the manufacture, sale or distribution of materials, equipment or supplies shall be limited to operations performed within the territorial limits of the State of New York.

SC-21 SUBMISSION OF CERTIFIED PAYROLLS

CONTRACTOR shall in accordance with New York Labor Law Section 220(3)(a) submit to the OWNER within thirty days after issuance of its first payroll on the project and each and every thirty days thereafter until the conclusion of the project, a transcript of the original payroll record, as provided under New York Labor Law Section 220(3)(a), subscribed and affirmed as true under penalty of perjury. Failure to do so shall be a material breach of this contract.

SC-22 CONFLICTS WITH NEW YORK STATE LAW

Should any provision of the General or Supplemental Conditions contained herein conflict with New York State law, New York State law shall control.

PREVAILING WAGE SCHEDULES



Andrew M. Cuomo, Governor

Roberta Reardon, Commissioner

Town of Moriah
Mitchell Brower, Design Engineer
1533 Crescent Road
Clifton Park NY 12065

Schedule Year 2019 through 2020
Date Requested 10/31/2019
PRC# 2019013996

Location Ridge Lane, Oak Lane, College
Project ID# 1075.03
Project Type Water main replacement, gravity sanitary sewer main replacement, sanitary sewer lining, site restoration.

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 2019 through June 2020. 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.ny.gov. Updated PDF copies of your schedule can be accessed by entering your assigned PRC# at the proper location on the website.

It is the responsibility of the contracting agency or its agent to annex and make part, the attached schedule, to the specifications for this project, when it is advertised for bids and /or to forward said schedules to the successful bidder(s), immediately upon receipt, in order to insure the proper payment of wages.

Please refer to the "General Provisions of Laws Covering Workers on Public Work Contracts" provided with this schedule, for the specific details relating to other responsibilities of the Department of Jurisdiction.

Upon completion or cancellation of this project, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

NOTICE OF COMPLETION / CANCELLATION OF PROJECT

Date Completed: _____ Date Cancelled: _____

Name & Title of Representative: _____

Phone: (518) 457-5589 Fax: (518) 485-1870
W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12240

General Provisions of Laws Covering Workers on Article 8 Public Work Contracts

Introduction

The Labor Law requires public work contractors and subcontractors to pay laborers, workers, or mechanics employed in the performance of a public work contract not less than the prevailing rate of wage and supplements (fringe benefits) in the locality where the work is performed.

Responsibilities of the Department of Jurisdiction

A Department of Jurisdiction (Contracting Agency) includes a state department, agency, board or commission; a county, city, town or village; a school district, board of education or board of cooperative educational services; a sewer, water, fire, improvement and other district corporation; a public benefit corporation; and a public authority awarding a public work contract.

The Department of Jurisdiction (Contracting Agency) awarding a public work contract MUST obtain a Prevailing Rate Schedule listing the hourly rates of wages and supplements due the workers to be employed on a public work project. This schedule may be obtained by completing and forwarding a "Request for wage and Supplement Information" form (PW 39) to the Bureau of Public Work. The Prevailing Rate Schedule MUST be included in the specifications for the contract to be awarded and is deemed part of the public work contract.

Upon the awarding of the contract, the law requires that the Department of Jurisdiction (Contracting Agency) furnish the following information to the Bureau: the name and address of the contractor, the date the contract was let and the approximate dollar value of the contract. To facilitate compliance with this provision of the Labor Law, a copy of the Department's "Notice of Contract Award" form (PW 16) is provided with the original Prevailing Rate Schedule.

The Department of Jurisdiction (Contracting Agency) is required to notify the Bureau of the completion or cancellation of any public work project. The Department's PW 200 form is provided for that purpose.

Both the PW 16 and PW 200 forms are available for completion [online](#).

Hours

No laborer, worker, or mechanic in the employ of a contractor or subcontractor engaged in the performance of any public work project shall be permitted to work more than eight hours in any day or more than five days in any week, except in cases of extraordinary emergency. The contractor and the Department of Jurisdiction (Contracting Agency) may apply to the Bureau of Public Work for a dispensation permitting workers to work additional hours or days per week on a particular public work project.

There are very few exceptions to this rule. Complete information regarding these exceptions is available on the "[4 Day / 10 Hour Work Schedule](#)" form (PW 30.1).

Wages and Supplements

The wages and supplements to be paid and/or provided to laborers, workers, and mechanics employed on a public work project shall be not less than those listed in the current Prevailing Rate Schedule for the locality where the work is performed. If a prime contractor on a public work project has not been provided with a Prevailing Rate Schedule, the contractor must notify the Department of Jurisdiction (Contracting Agency) who in turn must request an original Prevailing Rate Schedule form 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

Every contractor and subcontractor MUST keep original payrolls or transcripts subscribed and affirmed as true under penalty of perjury. Payrolls must be maintained for at least three (3) years from the project's date of completion. At a minimum, 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 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 or is performing work outside the classification of work for which the apprentice is indentured, must be paid the prevailing journeyworker's wage rate for the classification of work the employee is actually performing.

NYS DOL Labor Law, Article 8, Section 220-3, require that only apprentices individually registered with the NYS Department of Labor may be paid apprenticeship rates on a public work project. No other Federal or State Agency of office registers apprentices in New York State.

Persons wishing to verify the apprentice registration of any person must do so in writing by mail, to the NYSDOL Office of Employability Development / Apprenticeship Training, State Office Bldg. Campus, Bldg. 12, Albany, NY 12240 or by Fax to NYSDOL Apprenticeship Training (518) 457-7154. All requests for verification must include the name and social security number of the person for whom the information is requested.

The only conclusive proof of individual apprentice registration is written verification from the NYSDOL Apprenticeship Training Albany Central office. Neither Federal nor State Apprenticeship Training offices outside of Albany can provide conclusive registration information.

It should be noted that the existence of a registered apprenticeship program is not conclusive proof that any person is registered in that program. Furthermore, the existence or possession of wallet cards, identification cards, or copies of state forms is not conclusive proof of the registration of any person as an apprentice.

Interest and Penalties

In the event that an underpayment of wages and/or supplements is found:

- Interest shall be assessed at the rate then in effect as prescribed by the Superintendent of Banks pursuant to section 14-a of the Banking Law, per annum from the date of underpayment to the date restitution is made.
- A Civil Penalty may also be assessed, not to exceed 25% of the total of wages, supplements, and interest due.

Debarment

Any contractor or subcontractor and/or its successor shall be ineligible to submit a bid on or be awarded any public work contract or subcontract with any state, municipal corporation or public body for a period of five (5) years when:

- Two (2) willful determinations have been rendered against that contractor or subcontractor and/or its successor within any consecutive six (6) year period.
- There is any willful determination that involves the falsification of payroll records or the kickback of wages or supplements.

Criminal Sanctions

Willful violations of the Prevailing Wage Law (Article 8 of the Labor Law) may be a felony punishable by fine or imprisonment of up to 15 years, or both.

Discrimination

No employee or applicant for employment may be discriminated against on account of age, race, creed, color, national origin, sex, disability or marital status.

No contractor, subcontractor nor any person acting on its behalf, shall by reason of race, creed, color, disability, sex or national origin discriminate against any citizen of the State of New York who is qualified and available to perform the work to which the employment relates (NYS Labor Law, Article 8, Section 220-e(a)).

No contractor, subcontractor, nor any person acting on its behalf, shall in any manner, discriminate against or intimidate any employee on account of race, creed, color, disability, sex, or national origin (NYS Labor Law, Article 8, Section 220-

e(b)).

The Human Rights Law also prohibits discrimination in employment because of age, marital status, or religion.

There may be deducted from the amount payable to the contractor under the contract a penalty of \$50.00 for each calendar day during which such person was discriminated against or intimidated in violation of the provision of the contract (NYS Labor Law, Article 8, Section 220-e(c)).

The contract may be cancelled or terminated by the State or municipality. All monies due or to become due thereunder may be forfeited for a second or any subsequent violation of the terms or conditions of the anti-discrimination sections of the contract (NYS Labor Law, Article 8, Section 220-e(d)).

Every employer subject to the New York State Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers notices furnished by the State Division of Human Rights.

Workers' Compensation

In accordance with Section 142 of the State Finance Law, the contractor shall maintain coverage during the life of the contract for the benefit of such employees as required by the provisions of the New York State Workers' Compensation Law.

A contractor who is awarded a public work contract must provide proof of workers' compensation coverage prior to being allowed to begin work.

The insurance policy must be issued by a company authorized to provide workers' compensation coverage in New York State. Proof of coverage must be on form C-105.2 (Certificate of Workers' Compensation Insurance) and must name this agency as a certificate holder.

If New York State coverage is added to an existing out-of-state policy, it can only be added to a policy from a company authorized to write workers' compensation coverage in this state. The coverage must be listed under item 3A of the information page.

The contractor must maintain proof that subcontractors doing work covered under this contract secured and maintained a workers' compensation policy for all employees working in New York State.

Every employer providing worker's compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers' Compensation Board in a conspicuous place on the jobsite.

Unemployment Insurance

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the New York State Department of Labor.



Andrew M. Cuomo, Governor

Roberta Reardon, Commissioner

Town of Moriah
Mitchell Brower, Design Engineer
1533 Crescent Road
Clifton Park NY 12065

Schedule Year 2019 through 2020
Date Requested 10/31/2019
PRC# 2019013996

Location Ridge Lane, Oak Lane, College
Project ID# 1075.03
Project Type Water main replacement, gravity sanitary sewer main replacement, sanitary sewer lining, site restoration.

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 .

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. These include:

- Unemployment Insurance benefits, if you are 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 and Unemployment Insurance contributions required by New York State and Federal Law.**

Penalties for paying workers 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 or 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 (866) 435-1499 or send an email to dol.misclassified@labor.ny.gov. All complaints of fraud and violations are taken seriously. You can remain anonymous.

Employer Name:

IA 999 (09/16)

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.ny.gov 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:

https://labor.ny.gov/workerprotection/safetyhealth/dosh_training.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.ny.gov) 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 |

Essex County General Construction

Boilermaker **10/01/2019**

JOB DESCRIPTION Boilermaker **DISTRICT 1**

ENTIRE COUNTIES

Albany, Broome, Chenango, Columbia, Delaware, Essex, Fulton, Greene, Hamilton, Herkimer, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Tioga, Warren, Washington

WAGES

| | | |
|-------------|------------|--------------------------|
| Per hour | 07/01/2019 | 01/01/2020 Additional |
| Boilermaker | \$ 37.29 | \$ 1.59 |

SUPPLEMENTAL BENEFITS

| | |
|------------|---------------------|
| Per hour | 07/01/2019 |
| Journeymen | \$ 24.53 + 1.24* |

* This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

OVERTIME PAY

See (B, E, Q, V) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6, 15, 25) on HOLIDAY PAGE

Note: When a holiday falls on Sunday, the day observed by the State or Nation shall be observed, and when Christmas Day and New Year's fall on Saturday, Friday will be observed as the holiday.

REGISTERED APPRENTICES

Wages per hour
 (1/2) year terms at the following percentage of Journeyman's wage.

| | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|
| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th |
| 65% | 65% | 70% | 75% | 80% | 85% | 90% | 95% |

Supplemental Benefits per hour

| | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|
| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th |
| 18.42 | 18.42 | 19.30 | 20.16 | 21.03 | 21.91 | 22.79 | 23.65 |
| +1.24* | +1.24* | +1.24* | +1.24* | +1.24* | +1.24* | +1.24* | +1.24* |

* This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

1-197

Carpenter - Building **10/01/2019**

JOB DESCRIPTION Carpenter - Building **DISTRICT 2**

ENTIRE COUNTIES

Clinton, Essex, Franklin

WAGES

| | | |
|---------------|------------|--------------------------|
| Per hour: | 07/01/2019 | 07/01/2020 Additional |
| Carpenter | \$ 27.17 | \$ 1.00 |
| Floor Coverer | 27.17 | 1.00 |
| Carpet Layer | 27.17 | 1.00 |
| Dry-Wall | 27.17 | 1.00 |
| Lather | 27.17 | 1.00 |
| Diver-Wet Day | 61.25 | 0.00 |
| Diver-Dry Day | 28.17 | 1.00 |
| Diver Tender | 28.17 | 1.00 |

NOTE ADDITIONAL AMOUNTS PAID FOR THE FOLLOWING WORK LISTED BELOW (not subject to overtime premiums):

- Pile Drivers shall receive \$0.25 per hour over the journeyman's rate of pay when performing piledriving work.
- Certified welders shall receive \$1.00 per hour over the journeyman's rate of pay when the employee is required to be certified and performs DOT or ABS specified welding work
- When an employee performs work within a contaminated area on a State and/or Federally designated hazardous waste site, and where relevant State and/or Federal regulations require employees to be furnished and use or wear required forms of personal protection, then the employee shall receive his regular hourly rate plus \$1.50 per hour.
- Depth pay for Divers based upon deepest depth on the day of the dive:
 - 0' to 80' no additional fee
 - 81' to 100' additional \$.50 per foot
 - 101' to 150' additional \$0.75 per foot
 - 151' and deeper additional \$1.25 per foot
- Penetration pay for Divers based upon deepest penetration on the day of the dive:
 - 0' to 50' no additional fee
 - 51' to 100' additional \$.75 per foot
 - 101' and deeper additional \$1.00 per foot
- Diver rates applies to all hours worked on dive day.

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 \$ 20.89

OVERTIME PAY

See (B, E, *E2, Q) 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

Note: Any holiday which occurs on Sunday shall be observed the following Monday. If Christmas falls on a Saturday, it shall be observed on the prior Friday.

REGISTERED APPRENTICES

Wages per hour

FOR APPRENTICES INDENTURED PRIOR TO JANUARY 1, 2016

One year terms at the following percentage of Journeyman's base wage.

| | | | |
|-----|-----|-----|-----|
| 1st | 2nd | 3rd | 4th |
| 50% | 60% | 70% | 80% |

Supplemental Benefits per hour:

| | |
|---------------|----------|
| 1st year term | \$ 11.46 |
| 2nd year term | 11.46 |
| 3rd year term | 14.06 |
| 4th year term | 14.06 |

FOR APPRENTICES INDENTURED AFTER JANUARY 1, 2016

1,300 hour terms at the following percentage of Journeyman's base wage.

| | | | | |
|-----|-----|-----|-----|-----|
| 1st | 2nd | 3rd | 4th | 5th |
| 50% | 60% | 65% | 70% | 80% |

Supplemental Benefits per hour:

| | |
|----------|----------|
| 1st term | \$ 11.46 |
| 2nd term | 11.46 |
| 3rd term | 14.06 |
| 4th term | 14.06 |
| 5th term | 14.06 |

ADDITIONAL AMOUNTS PAID TO APPRENTICES FOR SPECIFIC TYPES OF WORK PERFORMED (not subject to overtime premiums):

- Pile Driving apprentices shall receive \$0.25 per hour when performing piledriving work.

- Certified welders shall receive \$1.00 per hour over the apprentices rate of pay when the apprentice is required to be certified and performs DOT or ABS specified welding work
- When an apprentice performs work within a contaminated area on a State and/or Federally designated hazardous waste site, and where relevant State and/or Federal regulations require the apprentice to be furnished and use or wear required forms of personal protection, then the apprentice shall receive his regular hourly rate plus \$1.50 per hour.

2-291B-Cli

Carpenter - Building / Heavy&Highway

10/01/2019

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: | 07/01/2019 | 07/01/2020 | 07/01/2021 |
| | | Additional | Additional |
| Carpenter - ONLY for Artificial Turf/Synthetic Sport Surface | \$ 30.88 | \$ 1.15 | \$ 1.15 |

Note - Does not include the operation of equipment. Please see Operating Engineers rates.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman \$ 23.10

OVERTIME PAY

See (B, E, Q, X) on OVERTIME PAGE

HOLIDAY

Paid: See (5) 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 |
| 55% | 60% | 70% | 80% |

Supplemental Benefits per hour:

| | |
|---------------|----------|
| 1st year term | \$ 11.55 |
| 2nd year term | 11.55 |
| 3rd year term | 14.15 |
| 4th year term | 14.15 |

2-42AtSS

Carpenter - Heavy&Highway

10/01/2019

JOB DESCRIPTION Carpenter - Heavy&Highway

DISTRICT 2

ENTIRE COUNTIES

Albany, Clinton, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington

WAGES

| | | | |
|-----------|------------|------------|------------|
| Per hour | 07/01/2019 | 07/01/2020 | 07/01/2021 |
| | | Additional | Additional |
| Carpenter | \$ 33.02 | \$ 1.40 | \$ 1.40 |

| | | | |
|---------------|-------|------|------|
| Piledriver | 33.02 | 1.40 | 1.40 |
| Diver-Wet Day | 58.02 | 1.40 | 1.40 |
| Diver-Dry Day | 34.02 | 1.40 | 1.40 |
| Diver-Tender | 34.02 | 1.40 | 1.40 |

NOTE ADDITIONAL AMOUNTS PAID FOR THE FOLLOWING WORK LISTED BELOW (not subject to overtime premiums):

- When project owner mandates a single irregular work shift, the employee will receive an additional \$2.00 per hour. A single irregular work shift can start any time from 5:00 p.m. to 1:00 a.m.
- State or Federal designated hazardous site, requiring protective gear shall be an additional \$2.00 per hour.
- Certified welders when required to perform welding work will receive an additional \$1.50 per hour.

ADDITIONAL NOTES PERTAINING TO DIVERS/TENDERS:

- Divers and Tenders shall receive one and one half (1 1/2) times their regular diver and tender rate of pay for Effluent and Slurry diving.
- Divers and tenders being paid at the specified rate for Effluent and Slurry diving shall have all overtime rates based on the specified rate plus the appropriate overtime rates (one and one half or two times the specified rate for Slurry and Effluent divers and tenders).
- The pilot of an ADS or submersible will receive one and one-half (1 1/2) times the Diver-Wet Day Rate for time submerged.
- All crew members aboard a submersible shall receive the Diver-Wet Day rate.
- Depth pay for Divers based upon deepest depth on the day of the dive (per diem payment):
 - 0' to 50' no additional fee
 - 51'to 100' additional \$.50 per foot
 - 101'to 150' additional \$.75 per foot
 - 151'and deeper additional \$1.25 per foot
- Penetration pay for Divers based upon deepest penetration on the day of the dive (per diem payment):
 - 0' to 50' no additional fee
 - 51' to 100' additional \$.75 per foot
 - 101' and deeper additional \$1.00 per foot
- Diver rates applies to all hours worked on dive day.

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Friday, provided the project duration is more than forty (40) hours.

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 \$ 22.50

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

In the event a Holiday falls on a Saturday, the Friday before will be observed as a Holiday. If a Holiday falls on a Sunday, then Monday will be observed as a Holiday. Employee must work scheduled work day before and after the Holiday.

REGISTERED APPRENTICES

Wages per hour

FOR APPRENTICES INDENTURED PRIOR TO JANUARY 1, 2016

One year terms at the following percentage of Journeyman's base wage

| | | | |
|-----|-----|-----|-----|
| 1st | 2nd | 3rd | 4th |
| 55% | 60% | 70% | 80% |

Supplemental Benefits per hour:

| | |
|---------------|----------|
| 1st year term | \$ 11.42 |
| 2nd year term | 11.42 |
| 3rd year term | 14.02 |
| 4th year term | 14.02 |

FOR APPRENTICES INDENTURED AFTER JANUARY 1, 2016

1,300 hour terms at the following percentage of Journeyman's base wage

| | | | | |
|-----|-----|-----|-----|-----|
| 1st | 2nd | 3rd | 4th | 5th |
| 55% | 60% | 65% | 70% | 80% |

Supplemental Benefits per hour:

| | |
|----------|----------|
| 1st term | \$ 11.42 |
| 2nd term | 11.42 |
| 3rd term | 14.02 |
| 4th term | 14.02 |
| 5th term | 14.02 |

NOTE ADDITIONAL AMOUNTS PAID TO APPRENTICES FOR THE FOLLOWING WORK LISTED BELOW (not subject to overtime premiums):

- When project owner mandates a single irregular work shift, the employee will receive an additional \$2.00 per hour. A single irregular work shift can start any time from 5:00 p.m. to 1:00 a.m.
- State or Federal designated hazardous site, requiring protective gear shall be an additional \$2.00 per hour.
- Certified welders when required to perform welding work will receive an additional \$1.50 per hour.

2-291HH-Alb

Electrician

10/01/2019

JOB DESCRIPTION Electrician

DISTRICT 6

ENTIRE COUNTIES

Clinton, Essex, Franklin, Jefferson, Lewis, St. Lawrence

WAGES

| Per hour: | 07/01/2019 | 04/01/2020 | 04/01/2021 | 04/01/2022 |
|-------------|------------|------------|------------|------------|
| | | Additional | Additional | Additional |
| Electrician | \$ 35.00 | \$ 1.55 | \$ 1.60 | \$ 1.65 |
| Teledata | 35.00 | | | |
| Welder | 37.00 | | | |

NOTE: Additional premiums for the following work listed:

- Additional \$1.50 per hour for work performed underground such as tunnels and mine shafts. Excludes manholes and walkway tunnels between buildings.
- Additional \$1.50 per hour for working 35 feet or more on scaffolds, ladders, towers, steeples, structural steel, or mechanical lifts over 65 feet.

Shift Work: The following rates will apply on all Contracting Agency mandated shifts worked between the hours listed below. The employer may be permitted to adjust the starting hours of the shift by up to two (2) hours if required by the agency. If a shift begins outside of the stated shift hours, the rate paid would be determined by what shift the majority of the hours were worked.

| | |
|------------|--------------------------------------------------|
| 1st shift: | 8:00 AM to 4:30 PM regular wage rate |
| 2nd shift: | 4:30 PM to 1:00 AM regular wage rate plus 17.3% |
| 3rd shift: | 12:30 AM to 9:00 AM regular wage rate plus 31.4% |

**** IMPORTANT NOTICE - EFFECTIVE 07/01/2012 ****

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: | \$ 20.68 |
| | *plus 5.75% of gross wage |

* NOTE: THE 5.75% IS BASED ON THE HOURLY WAGE PAID, STRAIGHT TIME RATE OR PREMIUM TIME 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) on HOLIDAY PAGE |

REGISTERED APPRENTICES

WAGES: Hourly terms at the following percentage of Journeyman's wage.

| | 1-1000 | to 2000 | to 3500 | to 5000 | to 6500 | to 8000 |
|-------------|---------|---------|---------|---------|---------|---------|
| | 45% | 50% | 55% | 60% | 70% | 80% |
| Electrician | \$15.75 | \$17.50 | \$19.25 | \$21.00 | \$24.50 | \$28.00 |
| Tunnel | \$17.25 | \$19.00 | \$20.75 | \$22.50 | \$26.00 | \$29.50 |

SUPPLEMENTAL BENEFITS per hour:

07/01/2019

Appr 1st & 2nd term \$ 10.02
 * plus 5.75% of gross wage

Appr All other terms \$ 20.68
 * plus 5.75% of gross wage

* NOTE: THE 5.75% IS BASED ON THE HOURLY WAGE PAID, STRAIGHT TIME RATE OR PREMIUM TIME RATE.

6-910

Elevator Constructor

10/01/2019

JOB DESCRIPTION Elevator Constructor

DISTRICT 1

ENTIRE COUNTIES

Albany, Clinton, Essex, Fulton, Hamilton, Herkimer, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington

PARTIAL COUNTIES

Madison: Madison Only the towns of: Brookfield, Hamilton, Lincoln, Madison, Smithfield, Stockbridge and the City of Oneida
 Oneida: Entire county except the towns of: Camden, Florence, and Vienna.

WAGES

Per hour

07/01/2019 01/01/2020

Mechanic \$ 46.00 \$ 47.51

Helper 70% of Mechanic Wage Rate 70% of Mechanic Wage Rate

Four (4), ten (10) hour days may be worked for New Construction and Modernization Work at straight time during a week, Monday thru Thursday or Tuesday thru Friday.

***Four (4), ten (10) hour days are not permitted for Contract Work/Repair Work

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

07/01/2019 01/01/2020

Journeyman/Helper \$ 33.705* \$ 34.765*

(*)Plus 6% of hourly rate, if less than 5 years of service. Plus 8% of hourly rate, if more than 5 years of service.

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

Note: When a paid holiday falls on Saturday, it shall be observed on Friday. When a paid holiday falls on Sunday, it shall be observed on Monday.

REGISTERED APPRENTICES

Wages per hour:

| | | | | |
|---------|---------|--------|--------|--------|
| 0-6 mo* | 6-12 mo | 2nd yr | 3rd yr | 4th yr |
| 50% | 55 % | 65 % | 70 % | 80 % |

(*)Plus 6% of the hourly rate, no additional supplemental benefits.

Supplemental Benefits - per hour worked:

Same as Journeyman/Helper

Glazier **10/01/2019**

JOB DESCRIPTION Glazier

DISTRICT 1

ENTIRE COUNTIES

Albany, Clinton, Columbia, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington

WAGES

Per hour

| | 07/01/2019 | 5/01/2020 Additional | 5/01/2021 Additional |
|----------------------|---------------------------------------------------|-------------------------|-------------------------|
| Glazier Base Wage | \$ 29.15 | \$ 1.75 | \$ 1.75 |
| | + additional \$2.20 per hour for all hours worked | | |
| High Work Base Wage* | 31.55 | | |
| | + additional \$3.55 per hour for all hours worked | | |

(*)When working on Swing Stage or Lift 100 feet or more in height, measured from the ground level up.

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 | \$ 20.06 |
| Journeyman High Work | 25.36 |

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

Premium is applied to the respective base wage only.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6) on HOLIDAY PAGE

Note: If any of the holidays are designated by federal law to be celebrated on a day other than that on which they regularly fall, then the holiday shall be celebrated on the day set by said federal law as if the day on which the holiday is celebrated was actually the holiday date.

REGISTERED APPRENTICES

Wages per hour

Apprentice Glazier One Year and 1500 hr. terms at the following percentage of Journeymans base wage.

| 1st | 2nd | 3rd | 4th |
|-----------------------------------------------------------------|-----|-----|-----|
| 50% | 65% | 75% | 90% |
| + additional \$2.20 per hour for all hours worked for all terms | | | |

Apprentice Glazier Hi-Work One Year and 1500 hr. terms at the following percentage of Journeymans Hi-Work base wage.

| 1st | 2nd | 3rd | 4th |
|-----------------------------------------------------------------|-----|-----|-----|
| 50% | 65% | 75% | 90% |
| + additional \$3.52 per hour for all hours worked for all terms | | | |

Supplemental Benefits per hour worked

| | |
|-----------------------------------|----------|
| Apprentice 1st term | \$ 16.39 |
| Apprentice 2nd-4th term | 20.06 |
| Apprentice High Work 1st term | 19.34 |
| Apprentice High Work 2nd-4th term | 25.36 |

1-201

Insulator - Heat & Frost **10/01/2019**

JOB DESCRIPTION Insulator - Heat & Frost

DISTRICT 1

ENTIRE COUNTIES

Albany, Columbia, Delaware, Essex, Fulton, Greene, Hamilton, Montgomery, Rensselaer, Saratoga, Schenectady, Schoharie, Sullivan, Ulster, Warren, Washington

WAGES

| Wages per hour | 07/01/2019 | 8/4/2019 |
|----------------------|------------|----------|
| Asbestos Worker* | \$ 36.04 | \$ 35.62 |
| Insulator* | 36.04 | 35.62 |
| Firestopping Worker* | 30.64 | 30.28 |

(*)On Mechanical Systems only.

On government mandated shift work additional 12% of wage for all shifts starting after 3:30 P.M.

SUPPLEMENTAL BENEFITS

Per hour

| | | |
|------------|----------|----------|
| Journeyman | \$ 21.94 | \$ 22.36 |
|------------|----------|----------|

OVERTIME PAY

See (*B1, **Q) on OVERTIME PAGE

*B1=Double time begins after 10 hours on Saturday

**Q=Triple time on Labor Day if worked.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

When a holiday falls on Sunday the following Monday shall be observed as the holiday.

REGISTERED APPRENTICES

Wages per hour

one year terms at the following percentage of Journeyman"s wage.

| | | | |
|------|------|------|------|
| 1st | 2nd | 3rd | 4th |
| 60 % | 70 % | 80 % | 90 % |

Supplemental Benefits per hour worked:

| | | |
|-------------|----------|----------|
| Apprentices | \$ 21.94 | \$ 22.36 |
|-------------|----------|----------|

1-40

Ironworker

10/01/2019

JOB DESCRIPTION Ironworker

DISTRICT 1

ENTIRE COUNTIES

Albany, Clinton, Columbia, Delaware, Essex, Greene, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington

PARTIAL COUNTIES

Fulton: Only the Townships of Broadalbin, Mayfield, Northampton, Perth, Bleecker and Johnstown.

Hamilton: Only the Townships of Hope, Benson and Wells.

Montgomery: Only the Townships of Florida, Amsterdam, Charleston, Glen, Mohawk and Root.

Otsego: Only the Towns of Unadilla, Butternuts, Morris, Otego, Oneonta, Laurens, Millford, Maryland and Worcester.

WAGES

Wages
 Per hour 07/01/2019

| | |
|------------------------|----------|
| Ornamental | \$ 31.55 |
| Reinforcing | 31.55 |
| Rodman | 31.55 |
| Structural & Precast | 31.55 |
| Mover/Rigger | 31.55 |
| Fence Erector | 31.55 |
| Stone Derrickman | 31.55 |
| Sheeter | 31.80 |
| Curtain Wall Installer | 31.55 |
| Metal Window Installer | 31.55 |

SUPPLEMENTAL BENEFITS

Per hour

JOURNEYMAN \$ 28.81

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

Note: Any holiday which occurs on Sunday shall be observed the following Monday.

REGISTERED APPRENTICES

Wages per hour

ONE YEAR TERMS AT THE FOLLOWING WAGE RATES:

07/01/2019

| | |
|----------|----------|
| 1st year | \$ 16.50 |
| 2nd year | 18.50 |
| 3rd year | 20.50 |
| 4th year | 22.50 |

Supplemental Benefits per hour worked

| | |
|----------|----------|
| 1st year | \$ 11.25 |
| 2nd year | 22.39 |
| 3rd year | 23.97 |
| 4th year | 25.57 |

1-12

Laborer - Building

10/01/2019

JOB DESCRIPTION Laborer - Building

DISTRICT 7

ENTIRE COUNTIES

Clinton, Essex, Warren

WAGES

GROUP A: All Laborers (except as noted)

GROUP B: Asbestos & Hazardous Waste Work.

WAGES per hour

07/01/2019

| | |
|---------|----------|
| Group A | \$ 24.33 |
| Group B | 25.83 |

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman \$ 22.45

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

Terms are at the following percentage of Group Rate A.

| | | | |
|-------------|-----------------|-----------------|-----------------|
| 0-1,000 Hrs | 1,001-2,000 Hrs | 2,001-3,000 Hrs | 3,001-4,000 Hrs |
| 60% | 70% | 80% | 90% |

SUPPLEMENTAL BENEFITS per hour worked:

All Terms: Same as Journeyman

7-1822ew

Laborer - Heavy&Highway

10/01/2019

JOB DESCRIPTION Laborer - Heavy&Highway

DISTRICT 7

ENTIRE COUNTIES
 Clinton, Essex, Warren

WAGES
 Per hour:

GROUP A: Drill Helper, Flagmen, Outboard and Hand Boats.

GROUP B: BASIC RATE: Bull Float (where used for strike off only), Chain Saw, Concrete Aggregate Bin, Concrete Bootman, Gin Buggy, Hand or Machine Vibrator, Jack Hammer, Mason Tender, Mortar Mixer, Pavement Breaker, Handlers of All Steel Mesh, Small Generators for Laborers' Tools, Installation of Bridge Drainage Pipe, Pipe Layers, Vibrator Type Rollers, Tamper, Drill Doctor, Water Pump Operator (1-1/2" and Single Diaphragm) Nozzle (Asphalt, Guniting, Seeding, and Sand Blasting), Laborers on Chain Link Fence Erection, Rock Splitter & Power Unit, Pusher Type Concrete Saw and All Other Gas, Electric, Oil, and Air Tool Operators, Wrecking Laborer.

GROUP C: Drilling Equipment - only where a separate air compressor unit supplies power, Acetylene Torch Operators, Asphalt Raker, Powder Man, Tail or Screw Operator on Asphalt Paver.

GROUP D: Blasters, Form Setters, Stone or Granite Curb Setters.

GROUP E: Hazardous Waste Removal Work when designated by State/Federal as hazardous waste site and regulations require employees wear required personal protection.

| WAGES per hour | 07/01/2019 | 07/01/2020 Additional | 07/01/2021 Additional |
|----------------|------------|--------------------------|--------------------------|
| Group # A | \$ 25.97 | \$ 1.60 | \$ 1.60 |
| Group # B | 26.17 | 1.60 | 1.60 |
| Group # C | 26.37 | 1.60 | 1.60 |
| Group # D | 26.57 | 1.60 | 1.60 |
| Group # E | 28.67 | 1.60 | 1.60 |

NOTE: A single irregular work shift starting any time between 5:00 PM and 1:00 AM on governmental mandated night work shall be paid an additional \$2.50 per hour.

IMPORTANT NOTE: Operation of all terrain forklifts or skid steers is the work of the Operating Engineers, please see appropriate rates.

SUPPLEMENTAL BENEFITS
 Per hour:

Journeyman \$ 24.95

OVERTIME PAY
 See (B, E, Q) on OVERTIME PAGE

HOLIDAY
 Paid: See (5, 6) on HOLIDAY PAGE
 Overtime: See (5, 6) on HOLIDAY PAGE

NOTE: If a holiday falls on Sunday, it will be celebrated on Monday. In the event that men work on this Sunday holiday, they shall be paid double time. In the event that men work on Monday, they shall be compensated at double time plus the holiday pay. Accordingly, the Monday following the Sunday is treated as the holiday.

REGISTERED APPRENTICES
 WAGES: 1000 hour terms at the following percentage of Journeyman's wage.

| 1st | 2nd | 3rd | 4th |
|-----|-----|-----|-----|
| 60% | 70% | 80% | 90% |

SUPPLEMENTAL BENEFITS per hour worked:

All Terms: Same as Journeyman

7-1822/2h

Laborer - Tunnel

10/01/2019

JOB DESCRIPTION Laborer - Tunnel

DISTRICT 7

ENTIRE COUNTIES
 Clinton, Essex, Warren

WAGES
 GROUP A: General Laborer

GROUP B: Change Houseman, Miners and all Machine Men, Safety Miner, all Shaft-work, Caisson work, Drilling, Blow Pipe, all Air Tools, Tugger, Scaling, Nipper, Guniting pot to nozzle, Bit Grinder, Signal Man (top and bottom), Concrete Men, Shield driven tunnels, mixed face and soft ground, liner plate tunnels in free air.

GROUP C: Hazardous/Waste Work

WAGES (per hour)

| | 07/01/2019 | 07/01/2020 | 07/01/2021 |
|-----------------|------------|------------|------------|
| Tunnel Laborer: | | Additional | Additional |
| Group A | \$ 29.15 | \$ 1.60 | \$ 1.60 |
| Group B | 29.35 | 1.60 | 1.60 |
| Group C* | 31.65 | 1.60 | 1.60 |

(*)Work site required to be designated by State/Federal as hazardous waste site and relevant regulations require employees to use personal protection.

Note - A single irregular work shift shall be paid an additional \$2.50 per hour.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman \$ 24.95

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

NOTE: If a holiday falls on Saturday, it will be celebrated on Friday. If a holiday falls on Sunday, it will be celebrated on Monday. In the event that men work on this Sunday holiday, they shall be paid double time. In the event that men work on Monday, they shall be compensated at double time plus the holiday pay. Accordingly, the Monday following the Sunday is treated as the holiday.

REGISTERED APPRENTICES

Wages per hour

Terms are at the following percentage of Group B rate.

| 0-1000 Hrs | 1001-2000 Hrs | 2001-3000 Hrs | 3001-4000 Hrs |
|------------|---------------|---------------|---------------|
| 60% | 70% | 80% | 90% |

SUPPLEMENTAL BENEFITS

All Terms: Same as Journeyman

7-1822T

Lineman Electrician

10/01/2019

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)

| | 07/01/2019 | 05/04/2020 |
|-------------------------|------------|------------|
| Lineman, Technician | \$ 52.05 | \$ 53.50 |
| Crane, Crawler Backhoe | 52.05 | 53.50 |
| Welder, Cable Splicer | 52.05 | 53.50 |
| Digging Mach. Operator | 46.85 | 48.15 |
| Tractor Trailer Driver | 44.24 | 45.48 |
| Groundman, Truck Driver | 41.64 | 42.80 |

| | | |
|--------------------|-------|-------|
| Equipment Mechanic | 41.64 | 42.80 |
| Flagman | 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 | \$ 52.05 | \$ 53.50 |
| Crane, Crawler Backhoe | 52.05 | 53.50 |
| Cable Splicer | 57.26 | 58.85 |
| Certified Welder - Pipe Type Cable | 54.65 | 56.18 |
| Digging Mach. Operator | 46.85 | 48.15 |
| Tractor Trailer Driver | 44.24 | 45.48 |
| Groundman, Truck Driver | 41.64 | 42.80 |
| Equipment Mechanic | 41.64 | 42.80 |
| Flagman | 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 | \$ 53.37 | \$ 54.82 |
| Crane, Crawler Backhoe | 53.37 | 54.82 |
| Cable Splicer | 58.71 | 60.30 |
| Certified Welder - Pipe Type Cable | 56.04 | 57.56 |
| Digging Mach. Operator | 48.03 | 49.34 |
| Tractor Trailer Driver | 45.36 | 46.60 |
| Groundman, Truck Driver | 42.70 | 43.86 |
| Equipment Mechanic | 42.70 | 43.86 |
| Flagman | 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 | \$ 54.56 | \$ 56.01 |
| Crane, Crawler Backhoe | 54.56 | 56.01 |
| Cable Splicer | 54.56 | 56.01 |
| Digging Mach. Operator | 49.10 | 50.41 |
| Tractor Trailer Driver | 46.38 | 47.61 |
| Groundman, Truck Driver | 43.65 | 44.81 |
| Equipment Mechanic | 43.65 | 44.81 |
| Flagman | 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 | \$ 24.15 *plus 6.75% of hourly wage | \$ 24.90 *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 **10/01/2019**

JOB DESCRIPTION Lineman Electrician - Teledata **DISTRICT 6**

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, 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).

| | 07/01/2019 | 01/01/2020 | 01/01/2021 |
|------------------------|------------|------------|------------|
| Cable Splicer | \$ 32.78 | \$ 33.77 | \$ 34.78 |
| Installer, Repairman | \$ 31.12 | \$ 32.05 | \$ 33.01 |
| Teledata Lineman | \$ 31.12 | \$ 32.05 | \$ 33.01 |
| Tech., Equip. Operator | \$ 31.12 | \$ 32.05 | \$ 33.01 |
| Groundman | \$ 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 *plus 3% of wage paid | \$ 4.73 *plus 3% of wage paid | \$ 4.73 *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 **10/01/2019**

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: | 07/01/2019 | 05/04/2020 |
|-------------------------|------------|------------|
| Lineman, Technician | \$ 45.00 | \$ 46.20 |
| Crane, Crawler Backhoe | 45.00 | 46.20 |
| Certified Welder | 47.25 | 48.51 |
| Digging Machine | 40.50 | 41.58 |
| Tractor Trailer Driver | 38.25 | 39.27 |
| Groundman, Truck Driver | 36.00 | 36.96 |
| Equipment Mechanic | 36.00 | 36.96 |
| Flagman | 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 | \$ 24.15 | \$ 24.90 |
| | *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.

| | 07/01/2019 | 05/04/2020 |
|----------|------------|------------|
| 1st term | \$ 27.00 | \$ 27.72 |
| 2nd term | 29.25 | 30.03 |
| 3rd term | 31.50 | 32.34 |
| 4th term | 33.75 | 34.65 |
| 5th term | 36.00 | 36.96 |
| 6th term | 38.25 | 39.27 |
| 7th term | 40.50 | 41.58 |

SUPPLEMENTAL BENEFITS: Same as Journeyman

6-1249a-LT

Lineman Electrician - Tree Trimmer

10/01/2019

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.

07/01/2019

| | |
|--------------------|----------|
| Tree Trimmer | \$ 25.79 |
| Equipment Operator | 22.81 |
| Equipment Mechanic | 22.81 |
| Truck Driver | 18.99 |
| Groundman | 15.64 |
| Flag person | 11.27 |

SUPPLEMENTAL BENEFITS

Per hour worked (but also required on non-worked holidays):

| | |
|------------|----------------------------|
| Journeyman | \$ 9.98 |
| | *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

10/01/2019

JOB DESCRIPTION Mason - Building

DISTRICT 12

ENTIRE COUNTIES

Albany, Clinton, Columbia, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington

WAGES

Per hour 07/01/2019

Tile/Marble/Terrazzo

Setter \$ 35.46
Finisher 27.71

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

Journeyman Setter \$ 19.98
Journeyman Finisher 17.24

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

Hour Terms at the following percentage of Journeyman's wage

Setter:
1st term 0-500 hrs 60%
2nd term 501-1500 hrs 70%
3rd term 1501-2500 hrs 80%
4th term 2501-3500 hrs 85%
5th term 3501-4500 hrs 90%
6th term 4501-6000 hrs 95%

Finisher:
1st term 0-500 hrs 70%
2nd term 501-1500 hrs 80%
3rd term 1501-2500 hrs 90%
4th term 2501-3700 hrs 95%

Supplemental Benefits per hour worked
07/01/2019

Setter:
1st term 0-500 hrs \$ 11.63
2nd term 501-1500 hrs 11.63
3rd term 1501-2500 hrs 15.85
4th term 2501-3500 hrs 15.85
5th term 3501-4500 hrs 17.97
6th term 4501-6000 hrs 19.98

| | |
|------------------------|----------|
| Finisher: | |
| 1st term 0-500 hrs | \$ 11.09 |
| 2nd term 501-1500 hrs | 11.09 |
| 3rd term 1501-2500 hrs | 14.21 |
| 4th term 2501-3700 hrs | 14.21 |

12-2TS.1

Mason - Building

10/01/2019

JOB DESCRIPTION Mason - Building

DISTRICT 12

ENTIRE COUNTIES

Clinton, Essex, Franklin

PARTIAL COUNTIES

Warren: Only the Townships of Chester, Hague, Horicon and Johnsburg.

WAGES

Per hour 07/01/2019

| | |
|-------------------------|----------|
| Bricklayer | \$ 32.84 |
| Cement Finisher | 32.84 |
| Plasterer/Fireproofers* | 32.84 |
| Pointer/Caulker/Cleaner | 32.84 |
| Stone Mason | 32.84 |
| Acid Brick | 33.84 |

(*)Fireproofers on Structural only.

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

Journeyman \$ 19.62

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

Note: Any holiday which occurs on Sunday shall be observed the following Monday.

REGISTERED APPRENTICES

Wages per hour

750 hr terms at the following percentage of Journeyman's wage

| | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|
| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th |
| 55% | 60% | 65% | 70% | 75% | 80% | 85% | 90% |

Supplemental Benefits per hour worked

| | |
|-------------|----------|
| 0-500 Hours | \$ 11.77 |
| All others | \$ 19.62 |

12-2b.8

Mason - Heavy&Highway

10/01/2019

JOB DESCRIPTION Mason - Heavy&Highway

DISTRICT 12

ENTIRE COUNTIES

Albany, Cayuga, Clinton, Columbia, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Jefferson, Lewis, Madison, Montgomery, Oneida, Oswego, Rensselaer, Saratoga, Schenectady, Schoharie, St. Lawrence, Warren, Washington

PARTIAL COUNTIES

Onondaga: For Heavy & Highway Cement Mason or Plaster Work in Onondaga County, refer to Mason-Heavy&Highway tag 1-2h/h on.

WAGES

Per hour
 07/01/2019
 Mason &
 Bricklayer \$38.24

Additional \$1.00 per hour for work on any swing scaffold or staging suspended by means of ropes or cables.

SUPPLEMENTAL BENEFITS

Per hour worked

Journeyman
 \$ 19.90

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6) on HOLIDAY PAGE

Note: If a holiday falls on Sunday, the Monday following shall constitute the day of the legal holiday.

REGISTERED APPRENTICES

Wages per hour

750 HR TERMS at the following percent of Journeyman's wage

| | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|
| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th |
| 55% | 60% | 65% | 70% | 75% | 80% | 85% | 90% |

Supplemental Benefits per hour worked

\$ 19.90

12-2hh.1

Millwright

10/01/2019

JOB DESCRIPTION Millwright

DISTRICT 2

ENTIRE COUNTIES

Clinton, Essex, Franklin, Hamilton, Jefferson, Lewis, Oneida, Onondaga, Oswego, St. Lawrence, Warren, Washington

WAGES

| | | |
|-----------------|------------|------------|
| Per hour: | 07/01/2019 | 07/01/2020 |
| | | Additional |
| Building | \$ 28.59 | \$ 1.25 |
| Heavy & Highway | 30.59 | 1.25 |

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 Millwrights rate provided he/she is directed to perform certified welding.
- For Building work 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 for Building work.
- For Heavy & Highway work if the work is performed at a State or Federally designated hazardous waste site where employees are required to wear protective gear, the employees performing the work shall receive an additional \$2.00 per hour over the millwright heavy and highway wage rate for all hours worked on the day protective gear was worn.
- An employee performing the work of a machinist shall receive \$2.00 per hour in addition to the current Millwrights 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 \$0.50. This amount will increase to \$1.00 on 7/1/2020.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman \$ 23.30

OVERTIME PAY

See (B, E, *E2, Q) on OVERTIME PAGE

*Note - Saturday may be used as a make-up day and worked at the straight time rate of pay during a work week when conditions such as weather, power failure, fire, or natural disaster prevent the performance of work on a regular scheduled work day.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

Note: Any holiday that falls on Sunday shall be observed the following Monday. Any holiday that falls on Saturday shall be observed the preceding Friday.

REGISTERED APPRENTICES

Wages per hour:

(1)year terms at the following percentage of journeymans rate.

| | | | |
|-----|-----|-----|-----|
| 1st | 2nd | 3rd | 4th |
| 60% | 70% | 80% | 90% |

Supplemental Benefits per hour:

Apprentices:

| | |
|----------|----------|
| 1st term | \$ 10.60 |
| 2nd term | 19.49 |
| 3rd term | 20.76 |
| 4th term | 22.03 |

2-1163.2

Operating Engineer - Building

10/01/2019

JOB DESCRIPTION Operating Engineer - Building

DISTRICT 1

ENTIRE COUNTIES

Albany, Clinton, Columbia, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington

PARTIAL COUNTIES

Dutchess: Defined as north of the northern boundary line of City of Poughkeepsie then due east to Route 115 to Bedelt Road then east along Bedelt Road to VanWagner Road then north along VanWagner Road to Bower Road then east along Bower Road to Rte. 44 east to Route 343 then along Route 343 east to the northern boundary of Town of Dover Plains and east along the northern boundary of Town of Dover Plains to Connecticut.

WAGES

CLASS A1:

Crane, hydraulic cranes, tower crane, locomotive crane, piledriver, cableway, derricks,whirlies, dragline, boom trucks over 5 tons.

CLASS A:

Shovel, all Excavators (including rubber tire full swing), Gradalls, power road grader, all CMI equipment, front-end rubber tire loader, tractor-mounted drill (quarry master), mucking machine, concrete central mix plant, concrete pump, belcrete system, automated asphalt concrete plant, and tractor road paver, boom trucks 5 tons and under, maintenance engineer, self-contained crawler drill-hydraulic rock drill.

CLASS B:

Backhoes (rubber tired backhoe/loader combination), bulldozer, pushcat, tractor, traxcavator, scraper, LeTourneau grader, form fine grader, self-propelled soil compactor (fill roller), asphalt roller, blacktop spreader, power brooms, sweepers, trenching machine, Barber Green loader, side booms, hydro hammer, concrete spreader, concrete finishing machine, one drum hoist, power hoisting (single drum), hoist two drum or more, three drum engine, power hoisting (two drum and over), two drum and swinging engine, three drum swinging engine, hod hoist, A-L frame winches, core and well drillers (one drum), post hole digger, model CHB Vibro-Tamp or similar machine, batch bin and plant operator, dinky locomotive, skid steer loader, track excavator 5/8 cubic yard or smaller, front end rubber tired loader under four cubic yards, vacuum machine (mounted or towed).

CLASS C:

Fork lift, high lift, all terrain fork lift: or similar, oiler, fireman and heavy-duty greaser, boilers and steam generators, pump, vibrator, motor mixer, air compressor, dust collector, welding machine, well point, mechanical heater, generators, temporary light plants, electric submersible pumps 4" and over, murphy type diesel generator, conveyor, elevators, concrete mixer, beltcrete power pack (belcrete system), seeding, and mulching machines, pumps.

* In the event that equipment listed above is operated by robotic control, the classification covering the operation will be the same as if manually operated.

WAGES per hour

| | 07/01/2019 | 07/01/2020 | 07/01/2021 |
|------------|------------|------------|------------|
| Class # A1 | \$ 44.68 | 45.67 | 46.71 |
| Class # A | 44.19 | 45.18 | 46.22 |
| Class # B | 43.17 | 44.16 | 45.20 |
| Class # C | 40.27 | 41.26 | 42.30 |

Additional \$0.50 per hr for Tower Cranes.

Additional \$1.25 per hr for Cranes with Boom length & jib 150ft. and over.

Additional \$2.25 per hr for Cranes with Boom length & jib 200ft. and over.
 Additional \$2.50 per hr over B rate for Nuclear Leader work.
 Additional \$0.40 per hr for tunnel or excavation of shaft 40" or more deep.
 Additional \$2.50 per hour if work requires Personal Protective Equipment for hazardous waste site activities with a level C or over rating.

SUPPLEMENTAL BENEFITS

| Per hour | 07/01/2019 | 07/01/2020 | 07/01/2021 |
|------------|------------|------------|------------|
| Journeyman | \$ 27.10 | 28.25 | 29.40 |

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6) on HOLIDAY PAGE

Note: If a holiday falls on Sunday, it will be celebrated on Monday. If the holiday falls on Saturday, it will be celebrated on Friday. Employees who work a Saturday holiday shall be paid double time plus 8 hours of straight time.

REGISTERED APPRENTICES

Wages per hour

1000 hours terms at the following percentage of Journeyman"s wage Class B

| 1st | 2nd | 3rd | 4th |
|-----|-----|-----|-----|
| 60% | 70% | 80% | 90% |

Supplemental Benefits per hour worked

| | 07/01/2019 | 07/01/2020 | 07/01/2021 |
|-----------|------------|------------|------------|
| All terms | \$ 22.40 | 23.55 | 24.70 |

1-158 Alb

Operating Engineer - Heavy&Highway

10/01/2019

JOB DESCRIPTION Operating Engineer - Heavy&Highway

DISTRICT 1

ENTIRE COUNTIES

Albany, Broome, Chenango, Clinton, Columbia, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Tioga, Warren, Washington

PARTIAL COUNTIES

Dutchess: Defined as north of the northern boundary line of City of Poughkeepsie then due east to Route 115 to Bedelt Road then east along Bedelt Road to VanWagner Road then north along VanWagner Road to Bower Road then east along Bower Road to Rte. 44 east to Route 343 then along Route 343 east to the northern boundary of Town of Dover Plains and east along the northern boundary of Town of Dover Plains to Connecticut.

WAGES

CLASSIFICATION A:

Asphalt Curb Machine (Self Propelled, Slipform), Asphalt Paver, Automated Concrete Spreader (CMI Type), Automatic Fine Grader, Backhoe (Except Tractor Mounted, Rubber Tired), Backhoe Excavator Full Swing (CAT 212 or similar type), Back Filling Machine, Belt Placer (CMI Type), Blacktop Plant (Automated), Boom truck, GPS operated Bull Dozer, Cableway, Caisson Auger, Central Mix Concrete Plant (Automated), Concrete Curb Machine (Self Propelled, Slipform), Concrete Pump, Crane, Cherry Picker, Derricks (steel erection), Dragline, Overhead Crane (Gantry or Straddle type), Pile Driver, Truck Crane, Directional Drilling Machine, Dredge, Dual Drum Paver, Excavator (All PurposeHydraulically Operated) (Gradall or Similar), Front End Loader (4 cu. yd. and Over), Head Tower (Sauerman or Equal), Hoist (Two or Three Drum), Holland Loader, Maintenance Engineer, Mine Hoist, Mucking Machine or Mole, Pavement Breaker(SP) Wertgen; PB-4 and similar type, Power Grader, Profiler (over 105 H.P.), Quad 9, Quarry Master (or equivalent), Scraper, Shovel, Side Boom, Slip Form Paver (If a second man is needed, he shall be an Oiler), Tractor Drawn BeltType Loader, Truck or Trailer Mounted Log Chipper (Self Feeder), Tug Operator (Manned Rented Equipment Excluded), Tunnel Shovel

CLASSIFICATION B:

Backhoe (Tractor Mounted, Rubber Tired), Bituminous Recycler Machine, Bituminous Spreader and Mixer, Blacktop Plant (NonAutomated), Blast or Rotary Drill (Truck or Tractor Mounted), Brokk, Boring Machine, Cage Hoist, Central Mix Plant [(NonAutomated) and All Concrete Batching Plants], Concrete Paver (Over 16S), Crawler Drill (Self-contained), Crusher, Diesel Power Unit, Drill Rigs, Tractor Mounted, Front End Loader (Under 4 cu. yd.), Greaseman/Lubrication Engineer, HiPressure Boiler (15 lbs. and over), Hoist (One Drum), Hydro-Axe, Kolman Plant Loader and Similar Type Loaders (If Employer requires another man to clean the screen or to maintain the equipment, he shall be an Oiler), L.C.M. Work Boat Operator, Locomotive, Material handling knuckle boom, Mini Excavator (under 18,000 lbs.), Mixer (for stabilized base selfpropelled), Monorail Machine, Plant Engineer, Prentice Loader, Profiler (105 H.P. and under), Pug Mill, Pump Crete, Ready Mix Concrete Plant, Refrigeration Equipment (for soil stabilization), Road Widener, Roller (all above subgrade), Sea Mule, Self-contained Ride-on Rock Drill(Excluding Air-Track Type Drill), Skidder, Tractor with Dozer and/or Pusher, Trencher, Tugger Hoist, Vacuum machine (mounted or towed), Vermeer saw (ride on, any size or type), Welder

CLASSIFICATION C:

A Frame Winch Hoist on Truck, Articulated Heavy Hauler, Aggregate Plant, Asphalt or Concrete Grooving Machine (ride on), Ballast Regulator(Ride-on), Boiler (used in conjunction with production), Bituminous Heater (self-propelled), Boat (powered), Cement and Bin Operator, Concrete Pavement Spreader and Finisher Concrete Paver or Mixer (16' and under), Concrete Saw (self-propelled), Conveyor, Deck Hand, Directional Drill Machine Locator, Drill (Core and Well), Farm Tractor with accessories, Fine Grade Machine, Fireman, Fork Lift, Form Tamper, Grout Pump, Gunit Machine, Hammers (Hydraulic self-propelled), Hydra-Spiker (ride-on), Hydraulic Pump (jacking system), Hydro-Blaster (Water), Mulching Machine, Oiler, Parapet Concrete or Pavement Grinder, Post Hole Digger and Post Driver, Power Broom (towed), Power Heaterman, Power Sweeper, Revinus Widener, Roller (Grade and Fill), Scarifier (ride-on), Shell Winder, Skid steer loader (Bobcat or similar), Span-Saw (ride-on), Steam Cleaner, Tamper (ride-on), Tie Extractor (ride-on), Tie Handler (ride-on), Tie Inserter (ride-on), Tie Spacer (ride-on), Tire Repair, Track Liner (ride-on), Tractor, Tractor (with towed accessories), Vibratory Compactor, Vibro Tamp, Well Point, and the following hands-off equipment: Compressors, Dust Collectors, Generators, Pumps, Welding Machines, Light Plants and Heaters

- Note for all above classifications of Operating Engineer - In the event that equipment listed above is operated by robotic control, the classification covering the operation will be the same as if manually operated.

WAGES per hour

| | 07/01/2019 | 07/01/2020 Additional | 07/01/2021 Additional |
|-----------------|------------|--------------------------|--------------------------|
| Master Mechanic | \$ 46.43 | \$ 2.60 | \$ 2.70 |
| Class A* | 44.82 | | |
| Class B | 43.91 | | |
| Class C | 41.34 | | |

Additional \$2.50 per hour for All Employees who work a single irregular work shift starting from 5:00 PM to 1:00 AM that is mandated by the Contracting Agency.
 Additional \$2.50 per hr. for hazardous waste removal work on State and/or Federally designated waste site which require employees to wear Level C or above forms of personal protection.

(*) Premiums for CRANES is based upon Class A rates with the following premiums:

- Additional \$4.00 per hr for Tower Cranes, including self erecting.
- Additional \$3.00 per hr for Lattice Boom Cranes and all other cranes with a manufacturers rating of fifty (50) tons and over.
- Additional \$2.00 per hr for all Hydraulic Cranes and Derricks with a manufacturer's rating of 49 ton and below, including boom trucks.

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 \$ 27.30

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

Note: If the holiday falls on Sunday, it will be celebrated on Monday. If the holiday falls on a Saturday, it will be celebrated on Saturday.

REGISTERED APPRENTICES

Wages per hour

1000 hours terms at the following percentage of Journeyman's wage Class B

| 1st | 2nd | 3rd | 4th |
|-----|-----|-----|-----|
| 60% | 70% | 80% | 90% |

Supplemental Benefits per hour worked

All Terms 07/01/2019
 \$ 22.70

1-158H/H Alb

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 all equipment and operators are only for marine dredging work in navigable waters found in the counties listed above.

| Per Hour: | 07/01/2019 | 10/01/2019 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------|
| CLASS A1 Deck Captain, Leverman Mechanical Dredge Operator Licensed Tug Operator 1000HP or more. | \$ 39.23 | \$ 40.31 |
| CLASS A2 Crane Operator (360 swing) | 34.96 | 35.92 |
| CLASS B Dozer, Front Loader Operator on Land | To conform to Operating Engineer Prevailing Wage in locality where work is being performed including benefits. | |
| CLASS B1 Derrick Operator (180 swing) Spider/Spill Barge Operator Operator II, Fill Placer, Engineer, Chief Mate, Electrician, Chief Welder, Maintenance Engineer Licensed Boat, Crew Boat Operator | 33.93 | 34.86 |
| CLASS B2 Certified Welder | 31.94 | 32.82 |
| CLASS C1 Drag Barge Operator, Steward, Mate, Assistant Fill Placer | 31.07 | 31.92 |
| CLASS C2 Boat Operator | 30.06 | 30.89 |
| CLASS D Shoreman, Deckhand, Oiler, Rodman, Scowman, Cook, Messman, Porter/Janitor | 24.97 | 25.66 |

SUPPLEMENTAL BENEFITS

Per Hour:
 THE FOLLOWING SUPPLEMENTAL BENEFITS APPLY TO ALL CATEGORIES

| | 07/01/2019 | 10/01/2019 |
|-------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| All Classes A & B | \$11.23 plus 7.5% of straight time wage, Overtime hours add \$ 0.63 | \$11.88 plus 7.5% of straight time wage, Overtime hours add \$ 0.63 |
| All Class C | \$10.93 plus 7.5% of straight time wage, Overtime hours add \$ 0.48 | 11.58 plus 7.5% of straight time wage, Overtime hours add \$ 0.48 |
| All Class D | \$10.63 plus 7.5% of straight time wage, Overtime hours | 11.28 plus 7.5% of straight time wage, Overtime hours |

add \$ 0.33

add \$ 0.33

OVERTIME PAY

See (B2, 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

10/01/2019

JOB DESCRIPTION Operating Engineer - Survey Crew

DISTRICT 12

ENTIRE COUNTIES

Albany, Allegany, Broome, Cayuga, Chemung, Chenango, Clinton, Columbia, Cortland, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Yates

PARTIAL COUNTIES

Dutchess: The northern portion of the county from the northern boundary line of the City of Poughkeepsie, north.

Genesee: Only the portion of the county that lies east of a line down the center of Route 98 to include all area that lies within the City of Batavia.

WAGES

These rates apply to Building, Tunnel 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.

07/01/2019

| | |
|-------------------|----------|
| Party Chief | \$ 41.51 |
| Instrument Person | 39.15 |
| Rod Person | 27.10 |

Additional \$3.00/hr. for Tunnel Work

Additional \$2.50/hr. for Hazardous Work Site

SUPPLEMENTAL BENEFITS

Per hour worked:

| | |
|------------|----------|
| Journeyman | \$ 26.80 |
|------------|----------|

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:

07/01/2019

| | |
|-----------|-----|
| 0-1000 | 60% |
| 1001-2000 | 70% |
| 2001-3000 | 80% |

SUPPLEMENTAL BENEFIT per hour worked:

| | |
|-----------|----------|
| 0-1000 | \$ 16.21 |
| 1001-2000 | 18.92 |
| 2001-3000 | 21.63 |

12-158-545 D.H.H.

Operating Engineer - Survey Crew - Consulting Engineer

10/01/2019

JOB DESCRIPTION Operating Engineer - Survey Crew - Consulting Engineer

DISTRICT 12

ENTIRE COUNTIES

Albany, Allegany, Broome, Cayuga, Chemung, Chenango, Clinton, Columbia, Cortland, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Yates

PARTIAL COUNTIES

Dutchess: The northern portion of the county from the northern boundary line of the City of Poughkeepsie, north.
Genesee: Only the portion of the county that lies east of a line down the center of Route 98 to include all area that lies within the City of Batavia.

WAGES

These rates apply to feasibility and preliminary design surveying, line and 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.

07/01/2019

| | |
|-------------------|----------|
| Party Chief | \$ 42.86 |
| Instrument Person | 39.37 |
| Rod Person | 29.14 |

Additional \$3.00/hr. for Tunnel Work.
Additional \$2.50/hr. for EPA or DEC certified toxic or hazardous waste work.

SUPPLEMENTAL BENEFITS

Per hour worked:

| | |
|------------|----------|
| Journeyman | \$ 25.60 |
|------------|----------|

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 percentage of Rod Persons Wage:

07/01/2019

| | |
|-----------|-----|
| 0-1000 | 60% |
| 1001-2000 | 70% |
| 2001-3000 | 80% |

SUPPLEMENTAL BENEFIT per hour worked:

| | |
|-----------|----------|
| 0-1000 | \$ 17.43 |
| 1001-2000 | \$ 20.35 |
| 2001-3000 | \$ 23.26 |

12-158-545 DCE

Operating Engineer - Tunnel

10/01/2019

JOB DESCRIPTION Operating Engineer - Tunnel

DISTRICT 7

ENTIRE COUNTIES

Albany, Allegany, Broome, Cayuga, Chemung, Chenango, Clinton, Columbia, Cortland, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Oneida, Onondaga, Ontario, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Yates

PARTIAL COUNTIES

Dutchess: Northern part of Dutchess to the northern boundary line of the City of Poughkeepsie then due east to Route 115 to Bedelt Road then east along Bedelt Road to VanWagner Road then north along VanWagner Road to Bower Road then east along Bower Road to Rte. 44 east to Rte. 343 then along Rte. 343 east to the northern boundary of the Town of Dover Plains and east along the northern boundary of the Town of Dover Plains to Connecticut.
Genesee: Only that portion of the county that lies east of a line drawn down the center of Route 98 and the entirety of the City of Batavia.

WAGES

CLASS A: Automatic Concrete Spreader (CMI Type); Automatic Fine Grader; Backhoe (except tractor mounted, rubber tired); Belt Placer (CMI Type); Blacktop Plant (automated); Cableway; Caisson Auger; Central Mix Concrete Plant (automated); Concrete Curb Machine (self-propelled slipform); Concrete Pump (8" or over); Dredge; Dual Drum Paver; Excavator; Front End Loader (4 cu. yd & over); Gradall; Head Tower (Sauerman or Equal); Hoist (shaft); Hoist (two or three Drum); Log Chipper/Loader (self-feeder); Maintenance Engineer (shaft and tunnel); any Mechanical Shaft Drill; Mine Hoist; Mining Machine (Mole and similar types); Mucking Machine or Mole; Overhead Crane (Gantry or Straddle Type); Pile Driver; Power Grader; Remote Controlled Mole or Tunnel Machine; Scraper; Shovel; Side Boom; Slip Form Paver (If a second man is needed, they shall be an Oiler); Tripper/Maintenance Engineer (shaft & tunnel); Tractor Drawn Belt-Type Loader; Tug Operator (manned rented equipment excluded); Tunnel Shovel

CLASS B: Automated Central Mix Concrete Plant; Backhoe (topside); Backhoe (track mounted, rubber tired); Backhoe (topside); Bituminous Spreader and Mixer, Blacktop Plant (non-automated); Blast or Rotary Drill (truck or tractor mounted); Boring Machine; Cage Hoist; Central Mix Plant (non-automated); all Concrete Batching Plants; Compressors (4 or less exceeding 2,000 c.f.m. combined capacity); Concrete Pump; Crusher; Diesel Power Unit; Drill Rigs (tractor mounted); Front End Loader (under 4 cu. yd.); Grayco Epoxy Machine; Hoist (One Drum); Hoist (2 or 3 drum topside); Knuckle Boom material handler; Kolman Plant Loader & similar type Loaders (if employer requires another person to clean the screen or to maintain the equipment, they shall be an Oiler); L.C.M. Work Boat Operator; Locomotive; Maintenance Engineer (topside); Maintenance Grease Man; Mixer (for stabilized base-self propelled); Monorail Machine; Plant Engineer; Personnel Hoist; Pump Crete; Ready Mix Concrete Plant; Refrigeration Equipment (for soil stabilization); Road Widener; Roller (all above sub-grade); Sea Mule; Shotcrete Machine; Shovel (topside); Tractor with Dozer and/or Pusher; Trencher; Tugger Hoist; Tunnel Locomotive; Welder; Winch; Winch Cat

CLASS C: A Frame Truck; All Terrain Telescoping Material Handler; Ballast Regulator (ride-on); Compressors (4 not to exceed 2,000 c.f.m. combined capacity; or 3 or less with more than 1200 c.f.m. but not to exceed 2,000 c.f.m.); Compressors ((any size, but subject to other provisions for compressors), Dust Collectors, Generators, Pumps, Welding Machines, Light Plants (4 or any type combination)); Concrete Pavement Spreaders and Finishers; Conveyor; Drill (core); Drill (well); Electric Pump used in conjunction with Well Point System; Farm Tractor with Accessories; Fine Grade Machine; Fork Lift; Grout Pump (over 5 cu. ft.); Guniting Machine; Hammers (hydraulic-self-propelled); Hydra-Spiker (ride-on); Hydra-Blaster (water); Hydro-Blaster; Motorized Form Carrier; Post Hole Digger and Post Driver; Power Sweeper; Roller grade & fill); Scarifier (ride-on); Span-Saw (ride-on); Submersible Electric Pump (when used in lieu of well points); Tamper (ride-on); Tie-Extractor (ride-on), Tie Handler (ride-on), Tie Inserter (ride-on), Tie Spacer (ride-on); Track Liner (ride-on); Tractor with towed accessories; Vibratory Compactor; Vibro Tamp, Well Point

CLASS D: Aggregate Plant; Cement & Bin Operator; Compressors (3 or less not to exceed 1,200 c.f.m. combined capacity); Compressors ((any size, but subject to other provisions for compressors), Dust Collectors, Generators, Pumps, Welding Machines, Light Plants (3 or less or any type or combination)); Concrete Saw (self-propelled); Form Tamper; Greaseman; Hydraulic Pump (jacking system); Junior Engineer; Light Plants; Mulching Machine; Oiler; Parapet Concrete or Pavement Grinder; Power Broom (towed); Power Heaterman (when used for production); Revinus Widener; Shell Winder; Steam Cleaner; Tractor

WAGES per hour:

| | 07/01/2019 | 07/01/2020 | 07/01/2021 | 07/01/2022 |
|-----------------|------------|------------|------------|------------|
| Master Mechanic | \$ 48.00 | \$ 49.45 | \$ 51.00 | \$ 52.60 |
| CLASS A | 45.59 | 47.04 | 48.59 | 50.19 |
| CLASS B | 44.37 | 45.82 | 47.37 | 48.97 |
| CLASS C | 41.58 | 43.03 | 44.58 | 46.18 |
| CLASS D | 38.57 | 40.02 | 41.57 | 43.17 |

Additional \$5.00 per hour for Hazardous Waste Work on a state or federally designated hazardous waste site where the Operating Engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin and eye protection. Fringe benefits will be paid at the hourly wage premium.

CRANES:

Crane 1: All cranes, including self-erecting to be paid \$4.00 per hour over the Class A rate.

Crane 2: All Lattice Boom Cranes and all cranes with a manufacturer's rating of fifty (50) ton and over to be paid \$3.00 per hour over Class A rate.

Crane 3: All hydraulic cranes and derricks with a manufacturer's rating of forty nine (49) ton and below, including boom trucks, to be paid \$2.00 per hour over Class A rate.

| | | | | |
|---------|----------|----------|----------|----------|
| Crane 1 | \$ 49.59 | \$ 51.04 | \$ 52.59 | \$ 54.19 |
| Crane 2 | 48.59 | 50.04 | 51.59 | 53.19 |
| Crane 3 | 47.59 | 49.04 | 50.59 | 52.19 |

SUPPLEMENTAL BENEFITS

Per hour:

| | | | |
|----------|----------|----------|----------|
| \$ 29.60 | \$ 30.75 | \$ 31.90 | \$ 33.05 |
|----------|----------|----------|----------|

OVERTIME PAY

See (B, B2, E, Q, X) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

If a holiday falls on Sunday, it shall be observed on Monday.

REGISTERED APPRENTICES

WAGES:(1000) hours terms at the following percentage of Journeyman"s wage.

| | |
|----------|----------------|
| 1st term | 60% of Class B |
| 2nd term | 65% of Class B |
| 3rd term | 70% of Class B |
| 4th term | 75% of Class B |

SUPPLEMENTAL BENEFITS per hour paid: Same as Journeyman

7-158-832TL.

Painter **10/01/2019**

JOB DESCRIPTION Painter

DISTRICT 1

ENTIRE COUNTIES

Albany, Essex, Fulton, Hamilton, Montgomery, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington

WAGES

| Per hour | 07/01/2019 | 05/01/2020 Additional |
|---------------------------------------|------------|--------------------------|
| Painter\Wallcover | \$ 29.09 | \$1.50 |
| Drywall Finishers | 29.09 | 1.50 |
| Spray Rate | 29.09 | 1.50 |
| Structural Steel* | 30.09 | 1.50 |
| Lead Abatement | 30.09 | 1.50 |
| Lead Abatement on Structural Steel | 31.09 | 1.50 |

(*)Employees working on objects with the use of swing stage, boatswain chair, pick and cables only will be paid at Structural Steel rate.

Bridge Painter

See Bridge Painter rates for the following work:

All Bridges and Tanks

SUPPLEMENTAL BENEFITS

Per hour

Journeyman \$ 16.85

OVERTIME PAY

See (B, E2, H) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

Note: If the holiday falls on Sunday, it shall be observed on Monday.

REGISTERED APPRENTICES

Wages per hour

1000 hour terms at the following percentage of Journeyman's base wage

| | | | | | |
|-----|-----|-----|-----|-----|-----|
| 1st | 2nd | 3rd | 4th | 5th | 6th |
| 45% | 50% | 60% | 70% | 80% | 90% |

Supplemental Benefits per hour worked

All Terms \$ 16.85

1-201-P

Painter - Bridge & Structural Steel **10/01/2019**

JOB DESCRIPTION Painter - Bridge & Structural Steel

DISTRICT 8

ENTIRE COUNTIES

Albany, Bronx, Clinton, Columbia, Dutchess, Essex, Franklin, Fulton, Greene, Hamilton, Kings, Montgomery, Nassau, New York, Orange, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Suffolk, Sullivan, Ulster, Warren, Washington, Westchester

WAGES

Per Hour:

STEEL:

Bridge Painting: 07/01/2019
\$ 49.50
+ 6.38*

ADDITIONAL \$6.00 per hour for POWER TOOL/SPRAY, whether straight time or overtime.

NOTE: All premium wages are to be calculated on base rate per hour only.

* For the period of May 1st to November 15th, this amount is payable up to 40 hours. For the period of Nov 16th to April 30th, this amount is payable up to 50 hours. EXCEPTION: First and last week of employment, and for the weeks of Memorial Day, Independence Day and Labor Day, where the amount is paid for the actual number of hours worked (no cap).

NOTE: Generally, for Bridge Painting Contracts, ALL WORKERS on and off the bridge (including Flagmen) are to be paid Painter's Rate; the contract must be ONLY for Bridge Painting.

SUPPLEMENTAL BENEFITS

Per Hour:

Journeyworker: 07/01/2019
\$ 9.50
+26.05*

* For the period of May 1st to November 15th, this amount is payable up to 40 hours. For the period of Nov 16th to April 30th, this amount is payable up to 50 hours. EXCEPTION: First and last week of employment, and for the weeks of Memorial Day, Independence Day and Labor Day, where the amount is paid for the actual number of hours worked (no cap).

OVERTIME PAY

See (A, F, R) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (4, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wage - Per hour:

Apprentices: (1) year terms 07/01/2019
1st year \$ 23.13
2nd year 34.73
3rd year 46.30

Supplemental Benefits - Per hour:

1st year \$ 13.44
2nd year 20.16
3rd year 26.88

8-DC-9/806/155-BrSS

Painter - Line Striping

10/01/2019

JOB DESCRIPTION Painter - Line Striping

DISTRICT 8

ENTIRE COUNTIES

Albany, Bronx, Clinton, Columbia, Dutchess, Essex, Franklin, Fulton, Greene, Hamilton, Kings, Montgomery, Nassau, New York, Orange, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Suffolk, Sullivan, Ulster, Warren, Washington, Westchester

WAGES

Per hour:

Painter (Striping-Highway): 07/01/2019
Striping-Machine Operator* \$ 29.93
Linerman Thermoplastic \$ 36.06

Note: * Includes but is not limited to: Positioning of cones and directing of traffic using hand held devices. Excludes the Driver/Operator of equipment used in the maintenance and protection of traffic safety.

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work Schedule,' as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS

Per hour paid: 07/01/2019
 Journeyworker:

Striping-Machine operator \$ 7.44
 Linerman Thermoplastic \$ 7.44

OVERTIME PAY

See (B, B2, E2, F, S) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 20) on HOLIDAY PAGE
 Overtime: See (5, 20) on HOLIDAY PAGE

REGISTERED APPRENTICES

One (1) year terms at the following wage rates:
 07/01/2019

1st term \$ 11.97
 2nd term 17.96
 3rd term 23.94

Supplemental Benefits per hour:

1st term \$ 7.44
 2nd term 7.44
 3rd term 7.44

8-1456-LS

Painter - Metal Polisher

10/01/2019

JOB DESCRIPTION Painter - Metal Polisher

DISTRICT 8

ENTIRE COUNTIES

Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

07/01/2019
 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: 07/01/2019

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:

07/01/2019

| | |
|------------|----------|
| 1st year | \$ 15.00 |
| 2nd year | 15.00 |
| 3rd year | 15.75 |
| 1st year* | \$ 17.39 |
| 2nd year* | 17.44 |
| 3rd year* | 18.29 |
| 1st year** | \$ 19.50 |
| 2nd year** | 19.50 |
| 3rd year** | 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 |
| 2nd year | 5.52 |
| 3rd year | 5.52 |

8-8A/28A-MP

Plumber

10/01/2019

JOB DESCRIPTION Plumber

DISTRICT 1

ENTIRE COUNTIES

Essex

PARTIAL COUNTIES

Franklin: Entire County except for the Village of Hogansburg and the St. Regis Indian Reservation.

Hamilton: The Townships of Long Lake and Indian Lake

WAGES

Per hour

07/01/2019

| | |
|--------------------------|----------|
| Plumber & Steamfitter | \$ 38.50 |
|--------------------------|----------|

SUPPLEMENTAL BENEFITS

Per hour

| | |
|------------|---------------------|
| Journeyman | \$ 20.55 +10.43* |
|------------|---------------------|

* This portion of the benefit is subject to the SAME PREMIUM as shown for overtime and applicable to paid Holidays.

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (22) on HOLIDAY PAGE

Overtime: See (5, 6, 16, 23) on HOLIDAY PAGE

Note: Whenever a Holiday falls on a Saturday, the preceding day, Friday, shall be observed as the Holiday. If a Holiday falls on a Sunday, the following day, Monday shall be observed as the Holiday.

REGISTERED APPRENTICES

Wages per hour

One year terms at the following percentage of Journeyman's wage

| | |
|--------|-----|
| 1st yr | 50% |
| 2nd yr | 60% |
| 3rd yr | 70% |
| 4th yr | 80% |
| 5th yr | 90% |

Supplemental Benefits per hour worked

| | |
|--------|------------------|
| 1st yr | \$ 17.63 + 5.22* |
| 2nd yr | 18.21 + 6.26* |
| 3rd yr | 18.80 + 7.30* |
| 4th yr | 19.38 + 8.34* |
| 5th yr | 19.97 + 9.39* |

* This portion of the benefit is subject to the SAME PREMIUM as shown for overtime.

* This portion per hour paid.

1-773EF-SF

Roofer **10/01/2019**

JOB DESCRIPTION Roofer

DISTRICT 1

ENTIRE COUNTIES

Albany, Clinton, Columbia, Essex, Fulton, Greene, Hamilton, Montgomery, Rensselaer, Saratoga, Schenectady, Warren, Washington

WAGES

| | | | |
|----------------------|------------|------------|------------|
| Per hour | 07/01/2019 | 07/01/2020 | 07/01/2021 |
| | | Additional | Additional |
| Roofer/Waterproofer | \$ 31.55 | \$1.50 | \$1.50 |
| Asphalt Cold Process | 32.05 | | |
| Fluid Applied Roof | 32.05 | | |
| Pitch & Asbestos | 33.55 | | |

Shift Work:

On government mandated shift work starting after 12:00pm and before 4:00am workers shall be paid \$4.00 additional per hour

SUPPLEMENTAL BENEFITS

Per hour

Journeyman \$ 19.27

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 any Holiday falls on Saturday, the Friday before such Holiday shall be recognized as the legal Holiday. When a Holiday falls on Sunday, it shall be observed the following Monday.

REGISTERED APPRENTICES

Wages per hour

Apprentice terms at the following per cent of the Roofer/Waterproofer rate. For Pitch & Asbestos work, an additional \$2.00 must be paid in wages. For Asphalt Cold Process work and Fluid Applied Roof coating, an additional \$0.50 must be paid in the wages.

| | |
|---------------------|-----|
| 1st Term | 58% |
| 1500 hrs. | |
| 2nd Term | 74% |
| 1 yr. and 1500 hrs. | |
| 3rd Term | 90% |
| 1 yr. and 1050 hrs. | |

Supplemental Benefits per hour worked

| | |
|----------|----------|
| 1st Term | \$ 17.69 |
| 2nd Term | 18.12 |
| 3rd Term | 18.60 |

1-241

Sheetmetal Worker **10/01/2019**

JOB DESCRIPTION Sheetmetal Worker

DISTRICT 1

ENTIRE COUNTIES

Albany, Clinton, Columbia, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington

WAGES

| | | | |
|-------------------|------------|------------|------------|
| Per hour | 07/01/2019 | 06/01/2020 | 06/01/2021 |
| | | Additional | Additional |
| Sheetmetal Worker | \$33.16 | \$ 1.75 | \$ 1.75 |

All work requiring HAZWOPER Training additional \$1.00 per hour

SUPPLEMENTAL BENEFITS

Per hour

| | |
|------------|---------|
| Journeyman | \$33.09 |
|------------|---------|

OVERTIME PAY

See (B,E,E5,Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6) on HOLIDAY PAGE

When any holiday falls on Saturday, the Friday before such holiday shall be recognized as the legal holiday. Any holiday falling on Sunday, the following Monday shall be recognized as the legal holiday.

REGISTERED APPRENTICES

Wages per hour

6 Month Terms at the following rate:

| | |
|-----------|---------|
| 1st term | \$18.44 |
| 2nd term | \$19.99 |
| 3rd term | \$20.77 |
| 4th term | \$21.55 |
| 5th term | \$20.34 |
| 6th term | \$21.35 |
| 7th term | \$23.04 |
| 8th term | \$24.73 |
| 9th term | \$26.41 |
| 10th term | \$28.10 |

Supplemental Benefits per hour worked

| | |
|-----------|---------|
| 1st term | \$20.30 |
| 2nd term | 20.88 |
| 3rd term | 21.18 |
| 4th term | 21.60 |
| 5th term | 27.62 |
| 6th term | 28.05 |
| 7th term | 28.77 |
| 8th term | 29.49 |
| 9th term | 30.21 |
| 10th term | 30.93 |

Sprinkler Fitter

10/01/2019

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 | 07/01/2019 |
| Sprinkler Fitter | \$ 34.91 |

SUPPLEMENTAL BENEFITS

Per hour

| | |
|------------|----------|
| Journeyman | \$ 24.93 |
|------------|----------|

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6) on HOLIDAY PAGE

Note: When a holiday falls on Sunday, the following Monday shall be considered a holiday and all work performed on either day shall be at the double time rate. When a holiday falls on Saturday, the preceding Friday shall be considered a holiday and all work performed on either day shall be at the double time rate.

REGISTERED APPRENTICES

Wages per hour

For Apprentices HIRED ON OR AFTER 04/01/2010:

One Half Year terms at the following percentage of journeyman's wage.

| | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th |
| 45% | 50% | 55% | 60% | 65% | 70% | 75% | 80% | 85% | 90% |

Supplemental Benefits per hour worked

| | | | | | | | | | |
|---------|---------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th |
| \$ 9.18 | \$ 9.22 | \$ 17.89 | \$ 17.93 | \$ 18.48 | \$ 18.52 | \$ 18.57 | \$ 18.61 | \$ 18.66 | \$ 18.70 |

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 | \$ 18.04 | \$ 18.04 | \$ 18.29 | \$ 18.29 | \$ 18.29 | \$ 18.29 | \$ 18.29 | \$ 18.29 |

1-669

Teamster - Building **10/01/2019**

JOB DESCRIPTION Teamster - Building

DISTRICT 7

ENTIRE COUNTIES

Clinton, Essex, Franklin, Jefferson, St. Lawrence

PARTIAL COUNTIES

Lewis: Only the Townships of Croghan, Denmark, Diana, New Bremen, Harrisburg, Montague, Osceola and Pinckney.

Oswego: Only the Towns of Boylston, Redfield, and Sandy Creek.

Warren: Only the Townships of Hague, Horicon, Chester and Johnsburg.

WAGES

GROUP # 1: Fuel Trucks, Fork Lift (Warehouse & Storage Area Only), Bus, Warehouse, Yardman, Truck Helper, Pickups, Panel Truck, Flatbody Material Trucks (straight Jobs), Single axle Dump Trucks, Dumpsters, Material Checkers & Receivers, Greasers, Tiremen, Mechanic Helpers and Parts Chasers.

GROUP # 2: Tandems, Mechanics & Batch Trucks.

GROUP # 3: Semi Trailers, Low Boys, Asphalt Distributor Trucks, and Agitator Mixer Truck, Dump Crete Type Vehicles and 3 axle Dump trucks.

GROUP # 4: Asbestos Removal, Special earth moving Euclid type or similar off highway equip.(non self load.) Articulated and all-track dump trucks.

Wages per hour

07/01/2019

Building:

| | |
|----------|----------|
| Group #1 | \$ 23.58 |
| Group #2 | 24.58 |
| Group #3 | 24.68 |
| Group #4 | 23.84 |

SUPPLEMENTAL BENEFITS

Per hour:

All groups \$ 21.51

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

7-687B

Teamster - Heavy&Highway

10/01/2019

JOB DESCRIPTION Teamster - Heavy&Highway

DISTRICT 7

ENTIRE COUNTIES

Clinton, Essex, Franklin, Jefferson, St. Lawrence

PARTIAL COUNTIES

Lewis: Only the Townships of Croghan, Denmark, Diana, New Bremen, Harrisburg, Montague, Osceola and Pinckney.
Oswego: Only the Towns of Boylston, Redfield, and Sandy Creek.
Warren: Only the Townships of Hague, Horicon, Chester and Johnsbury.

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 Tirmen, Mechanics Helpers and Parts Chasers. Fork Lift (storage & warehouse areas only) Tandems and Batch Trucks, Mechanics, Dispatcher. Semi-Trailers, Low-boy Trucks, Asphalt Distributor Trucks, and Agitator, Mixer Trucks and dumpcrete type vehicles, Truck Mechanic, Fuel Truck.

GROUP 2: Specialized Earth Moving Equipment, Euclid type, or similar off-highway where not self-loading, Straddle (Ross) Carrier, and self-contained concrete mobile truck. Off-highway Tandem Back-Dump, Twin Engine Equipment and Double-Hitched Equipment where not self-loading.

Per hour:

07/01/2019

Heavy/Highway:

Group #1 \$ 25.82
Group #2 26.04

Additional \$1.50 per hour for hazardous waste removal work on a City, County, and/or Federal Designated waste site and regulations require employee to use or wear respiratory protection.

For work bid on or after April 1, 1982 there shall be a 12 month carryover of the negotiated rate in effect at the time of the bid.

SUPPLEMENTAL BENEFITS

Per hour:

All classes \$ 23.52

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

NOTE: If a holiday falls on a Sunday, it will be celebrated on Monday.

7-687

Welder

10/01/2019

JOB DESCRIPTION Welder

DISTRICT 1

ENTIRE COUNTIES

Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

Per hour 07/01/2019

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

- (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
- (U) Four times the hourly rate for Holidays
- (V) Including benefits at SAME PREMIUM as shown for overtime
- (W) Time and one half for benefits on all overtime hours.
- (X) Benefits payable on Paid Holiday at straight time. If worked, additional benefit amount will be required for worked hours. (Refer to other codes listed.)

Holiday Codes

PAID Holidays:

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

OVERTIME Holiday Pay:

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays. The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Following is an explanation of the code(s) listed in the HOLIDAY section of each classification contained in the attached schedule. The Holidays as listed below are to be paid at the wage rates at which the employee is normally classified.

- (1) None
- (2) Labor Day
- (3) Memorial Day and Labor Day
- (4) Memorial Day and July 4th
- (5) Memorial Day, July 4th, and Labor Day
- (6) New Year's, Thanksgiving, and Christmas
- (7) Lincoln's Birthday, Washington's Birthday, and Veterans Day
- (8) Good Friday
- (9) Lincoln's Birthday
- (10) Washington's Birthday
- (11) Columbus Day
- (12) Election Day
- (13) Presidential Election Day
- (14) 1/2 Day on Presidential Election Day
- (15) Veterans Day
- (16) Day after Thanksgiving
- (17) July 4th
- (18) 1/2 Day before Christmas
- (19) 1/2 Day before New Years
- (20) Thanksgiving
- (21) New Year's Day
- (22) Christmas
- (23) Day before Christmas
- (24) Day before New Year's
- (25) Presidents' Day
- (26) Martin Luther King, Jr. Day
- (27) Memorial Day
- (28) Easter Sunday



**New York State Department of Labor - Bureau of Public Work
State Office Building Campus
Building 12 - Room 130
Albany, New York 12240**

REQUEST FOR WAGE AND SUPPLEMENT INFORMATION

As Required by Articles 8 and 9 of the NYS Labor Law

Fax (518) 485-1870 or mail this form for new schedules or for determination for additional occupations.

This Form Must Be Typed

Submitted By: _____

(Check Only One)

Contracting Agency

Architect or Engineering Firm

Public Work District Office

Date: _____

A. Public Work Contract to be let by: (Enter Data Pertaining to Contracting/Public Agency)

1. Name and complete address (Check if new or change)

Telephone: () _____

Fax: () _____

E-Mail: _____

2. NY State Units (see Item 5)

01 DOT

02 OGS

03 Dormitory Authority

04 State University
Construction Fund

05 Mental Hygiene
Facilities Corp.

06 OTHER N.Y. STATE UNIT

07 City

08 Local School District

09 Special Local District, i.e.,
Fire, Sewer, Water District

10 Village

11 Town

12 County

13 Other Non-N.Y. State
(Describe)

3. SEND REPLY TO check if new or change)
Name and complete address: _____

Telephone:() _____

Fax: () _____

E-Mail: _____

4. SERVICE REQUIRED. Check appropriate box and provide project information.

New Schedule of Wages and Supplements.

APPROXIMATE BID DATE : _____

Additional Occupation and/or Redetermination

PRC NUMBER ISSUED PREVIOUSLY FOR
THIS PROJECT : _____

OFFICE USE ONLY

B. PROJECT PARTICULARS

5. Project Title _____

Description of Work _____

Contract Identification Number _____

Note: For NYS units, the OSC Contract No. _____

6. Location of Project:
Location on Site _____

Route No/Street Address _____

Village or City _____

Town _____

County _____

7. Nature of Project - Check One:

1. New Building

2. Addition to Existing Structure

3. Heavy and Highway Construction (New and Repair)

4. New Sewer or Waterline

5. Other New Construction (Explain)

6. Other Reconstruction, Maintenance, Repair or Alteration

7. Demolition

8. Building Service Contract

8. OCCUPATION FOR PROJECT :

Construction (Building, Heavy
Highway/Sewer/Water)

Tunnel

Residential

Landscape Maintenance

Elevator maintenance

Exterminators, Fumigators

Fire Safety Director, NYC Only

Guards, Watchmen

Janitors, Porters, Cleaners,
Elevator Operators

Moving furniture and
equipment

Trash and refuse removal

Window cleaners

Other (Describe)

9. Has this project been reviewed for compliance with the Wicks Law involving separate bidding?

YES NO

10. Name and Title of Requester _____

Signature



NEW YORK STATE DEPARTMENT OF LABOR
Bureau of Public Work - Debarment List

**LIST OF EMPLOYERS INELIGIBLE TO BID ON OR BE
AWARDED ANY PUBLIC WORK CONTRACT**

Under Article 8 and Article 9 of the NYS Labor Law, a contractor, sub-contractor and/or its successor shall be debarred and ineligible to submit a bid on or be awarded any public work or public building service contract/sub-contract with the state, any municipal corporation or public body for a period of five (5) years from the date of debarment when:

- Two (2) final determinations have been rendered within any consecutive six-year (6) period determining that such contractor, sub-contractor and/or its successor has WILLFULLY failed to pay the prevailing wage and/or supplements;
- One (1) final determination involves falsification of payroll records or the kickback of wages and/or supplements.

The agency issuing the determination and providing the information, is denoted under the heading 'Fiscal Officer'. DOL = New York State Department of Labor; NYC = New York City Comptroller's Office; AG = New York State Attorney General's Office; DA = County District Attorney's Office.

Debarment Database: To search for contractors, sub-contractors and/or their successors debarred from bidding or being awarded any public work contract or subcontract under NYS Labor Law Articles 8 and 9, or under NYS Workers' Compensation Law Section 141-b, access the database at this link: <https://applications.labor.ny.gov/EDList/searchPage.do>

For inquiries where WCB is listed as the "Agency", please call 1-866-546-9322

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| 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 | ****4539 | ACCOMPLISHED WALL SYSTEMS INC | | 112 OSCAWANNA HEIGHTS RD PUTNAM VALLEY NY 10542 | 03/13/2015 | 03/12/2020 |
| DOL | DOL | ****3344 | ACT INC | | 6409 LAND O LAKES BLVD LAND O LAKES FL 34638 | 11/10/2015 | 11/10/2020 |
| DOL | DOL | ****4018 | ADIRONDACK BUILDING RESTORATION INC. | | 4156 WILSON ROAD EAST TABERG NY 13471 | 03/26/2019 | 03/26/2024 |
| DOL | DOL | ****1687 | ADVANCED SAFETY SPRINKLER INC | | 261 MILL ROAD P.O BOX 296EAST AURORA NY 14052 | 07/29/2015 | 07/29/2020 |
| DOL | DOL | ****1687 | ADVANCED SAFETY SPRINKLER INC | | 261 MILL ROAD P.O BOX 296EAST AURORA NY 14052 | 05/29/2019 | 05/29/2024 |
| 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 | DOL | | ANGELO F COKER | | | 12/04/2018 | 12/04/2023 |
| DOL | NYC | | ANISUL ISLAM | | C/O RELIANCE GENERAL CONS 644 OCEAN PARKWAYBROOKLYN NY 11230 | 09/02/2015 | 09/02/2020 |
| DOL | DOL | | ANITA SALERNO | | 158 SOLAR ST SYRACUSE NY 13204 | 01/07/2019 | 01/07/2024 |
| DOL | 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 | NYC | ****9232 | ARKAY CONSTRUCTION INC | | 102-104 GREYLOCK AVENUE BELLEVILLE NJ 07109 | 07/15/2015 | 07/15/2020 |
| DOL | NYC | ****4779 | ASTORIA GENERAL CONTRACTING CORP | | 35-34 31ST STREET LONG ISLAND CITY NY 11106 | 09/02/2015 | 09/02/2020 |
| DOL | NYC | ****7217 | ASTRO COMMUNICATIONS OF NY CORP | | 79 ALEXANDER AVE- STE 36A BRONX NY 10454 | 10/30/2015 | 10/30/2020 |
| DOL | NYC | ****6046 | ATLANTIC SUN CONSTRUCTION CORP | | 58-46 59TH AVENUE MASPETH NY 11378 | 05/08/2015 | 05/08/2020 |
| DOL | NYC | ****6683 | ATLAS RESTORATION CORP. | | 35-12 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 | NYC | ****2591 | AVI 212 INC. | | 260 CROPSEY AVENUE APT 11GBROOKLYN NY 11214 | 10/30/2018 | 10/30/2023 |
| DOL | DOL | | AVIS R HILL | | 3510 HICKORY WALK LANE ELLENWOOD GA 32094 | 01/22/2015 | 01/22/2020 |
| 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 |

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| DOL | NYC | | BALWINDER SINGH | | 421 HUDSON ST SUITE C5NEW YORK NY 10014 | 02/20/2019 | 02/20/2024 |
| 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 | NYC | ****8416 | BEAM CONSTRUCTION, INC. | | 50 MAIN ST WHITE PLAINS NY 10606 | 01/04/2019 | 01/04/2024 |
| DOL | DOL | | BIAGIO CANTISANI | | | 06/12/2018 | 06/12/2023 |
| DOL | DOL | ****4512 | BOB BRUNO EXCAVATING, INC | | 5 MORNINGSIDE DR AUBURN NY 13021 | 05/28/2019 | 05/28/2024 |
| DOL | DOL | | BOGDAN MARKOVSKI | | 370 W. PLEASANTVIEW AVE SUITE 2.329HACKENSACK NJ 07601 | 02/11/2019 | 02/11/2024 |
| DOL | DOL | ****8551 | BRANDY'S MASONRY | | 216 WESTBROOK STREET P O BOX 304SAYRE PA 18840 | 08/09/2016 | 08/09/2021 |
| DOL | NYC | ****6555 | BROOKLYN WELDING CORP | | 1273 NORTH AVENUE/ #1 CP NEW ROCHELLE NY 10804 | 04/07/2015 | 04/07/2020 |
| DOL | DOL | ****1449 | BRRESTORATION NY INC | | 140 ARCADIA AVENUE OSWEGO NY 13126 | 09/12/2016 | 09/12/2021 |
| DOL | DOL | | BRUCE MORSEY | | C/O KENT HOLLOW SIDING LL 29A BRIDGE STREETNEW MILFORD CT 06776 | 01/15/2016 | 01/15/2021 |
| DOL | DOL | | BRUCE P. NASH JR. | | 5841 BUTTERNUT ROAD EAST SYRACUSE NY 13057 | 09/12/2018 | 09/12/2023 |
| DOL | DOL | ****8809 | C.B.E. CONTRACTING CORPORATION | | 310 MCGUINNESS BLVD GREENPOINT NY 11222 | 03/07/2017 | 03/07/2022 |
| DOL | DOL | ****9383 | C.C. PAVING AND EXCAVATING, INC. | | 2610 SOUTH SALINA ST SUITE 12SYRACUSE NY 13205 | 12/04/2018 | 12/04/2023 |
| DOL | DOL | | CANTISANI & ASSOCIATES LTD | | 442 ARMONK RD MOUNT KISCO NY 10549 | 06/12/2018 | 06/12/2023 |
| DOL | DOL | | CANTISANI HOLDING LLC | | | 06/12/2018 | 06/12/2023 |
| DOL | DOL | | CARIBBEAN POOLS | | C/O DOUGLAS L MALARKEY 64 VICTORIA DRIVEBINGHAMTON NY 13904 | 02/04/2016 | 02/04/2021 |
| DOL | DOL | ****3812 | CARMODY "2" INC | | | 06/12/2018 | 06/12/2023 |
| DOL | DOL | ****1143 | CARMODY BUILDING CORP | CARMODY CONTRACTIN G AND CARMODY CONTRACTIN G CORP. | 442 ARMONK RD MOUNT KISCO NY 10549 | 06/12/2018 | 06/12/2023 |
| DOL | DOL | | CARMODY CONCRETE CORPORATION | | | 06/12/2018 | 06/12/2023 |
| DOL | DOL | | CARMODY ENTERPRISES, LTD. | | 442 ARMONK RD MOUNT KISCO NY 10549 | 06/12/2018 | 06/12/2023 |
| DOL | DOL | | CARMODY INC | | 442 ARMONK RD MOUNT KISCO NY 10549 | 06/12/2018 | 06/12/2023 |
| DOL | DOL | ****3812 | CARMODY INDUSTRIES INC | | | 06/12/2018 | 06/12/2023 |
| DOL | DOL | | CARMODY MAINTENANCE CORPORATION | | 442 ARMONK RD MOUNT KISCO NY 10549 | 06/12/2018 | 06/12/2023 |
| DOL | DOL | | CARMODY MASONRY CORP | | 442 ARMONK RD MOUNT KISCO NY 10549 | 06/12/2018 | 06/12/2023 |
| DOL | NYC | ****9172 | CASSIDY EXCAVATING INC | | 14 RAILROAD AVENUE VALHALLA NY 10595 | 05/15/2014 | 04/02/2020 |
| DOL | DOL | ****8809 | CBE CONTRACTING CORP | | 142 EAST MARKET STREET LONG BEACH NY 11561 | 03/07/2017 | 03/07/2022 |
| DOL | AG | | CESAR J. AGUDELO | | 81-06 34TH AVENUE APT. 6EJACKSON HEIGHTS NY 11372 | 02/07/2018 | 02/07/2023 |
| DOL | DOL | ****7655 | CHAMPION CONSTRUCTION SERVICES CORP | | 2131 SCHENECTADY AVENUE BROOKLYN NY 11234 | 11/18/2015 | 11/18/2020 |
| DOL | NYC | | CHARLES CASSIDY JR | | 14 RAILROAD AVENUE VALHALLA NY 10595 | 05/15/2014 | 04/02/2020 |
| DOL | DOL | | CHARLES ZIMMER JR | | 216 WESTBROOK STREET P O BOX 304SAYRE PA 18840 | 08/09/2016 | 08/09/2021 |
| DOL | DOL | | CHRISTINE J HEARNE | | C/O CJ-HEARNE CONSTRUCTIO 131 PONCE DE LEON AVE NEATLANTA GA 30308 | 12/01/2015 | 12/01/2020 |

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| DOL | DOL | | CHRISTOPHER J MAINI | | 19 CAITLIN AVE JAMESTOWN NY 14701 | 09/17/2018 | 09/17/2023 |
| DOL | DOL | | CHRISTOPHER PAPASTEFANO A/K/A CHRIS PAPASTEFANO | | 1445 COMMERCE AVE BRONX NY 10461 | 05/30/2019 | 05/30/2024 |
| DOL | DOL | ****0671 | CJ-HEARNE CONSTRUCTION CO | | SUITE 204 131 PONCE DE LEON AVENUE ATLANTA GA 30308 | 12/01/2015 | 12/01/2020 |
| DOL | DOL | ****1927 | CONSTRUCTION PARTS WAREHOUSE, INC. | CPW | 5841 BUTTERNUT ROAD EAST SYRACUSE NY 13057 | 09/12/2018 | 09/12/2023 |
| DOL | NYC | ****2164 | CREATIVE TRUCKING INC | | 58-83 54TH STREET MASPETH NY 11378 | 02/26/2016 | 02/26/2021 |
| DOL | DOL | ****2524 | CSI ELECTRICAL & MECHANICAL INC | | 42-32 235TH ST DOUGLSTON NY 11363 | 01/14/2019 | 01/14/2024 |
| 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 WILLET ST. PASSAIC NJ 07503 | 10/26/2016 | 10/26/2021 |
| DOL | DOL | | DARIAN L COKER | | 2610 SOUTH SALINA ST SUITE 2C SYRACUSE NY 13205 | 12/04/2018 | 12/04/2023 |
| DOL | DOL | | DARYL T RIEKS | | C/O RIEKS CONTRACTING LLC 4804 GAHWILER ROAD AUBURN NY 13021 | 05/01/2015 | 05/01/2020 |
| DOL | NYC | ****7707 | DASSLE CONTRACTING INC | | 213-37 39TH AVE/SUITE 120 BAYSIDE NY 11360 | 05/08/2015 | 05/08/2020 |
| DOL | DOL | | DAVID MARTINEZ | | C/O EMPIRE TILE INC 6 TREMONT COURTHUNTINGTON STATION NY 11746 | 03/08/2016 | 03/08/2021 |
| DOL | DOL | | DEBBIE STURDEVANT | | 29 MAPLEWOOD DRIVE BINGHAMTON NY 13901 | 02/21/2017 | 02/21/2022 |
| DOL | AG | | DEBRA MARTINEZ | | 31 BAY ST BROOKLYN NY 11231 | 03/28/2018 | 03/28/2023 |
| DOL | DOL | | DEDA GAZIVODAN | | C/O DAKA PLUMBING AND H 2561 ROUTE 55 POUGHQUAG NY 12570 | 02/19/2016 | 02/19/2021 |
| DOL | DOL | | DELPHI PAINTING & DECORATING CO INC | | 1445 COMMERCE AVE BRONX NY 10461 | 05/30/2019 | 05/30/2024 |
| DOL | DOL | | DENNIS SCHWANDTNER | | C/O YES SERVICE AND REPAIR 145 LODGE AVE HUNTINGTON STATION NY 11476 | 08/09/2016 | 08/09/2021 |
| DOL | DOL | | DF CONTRACTORS OF ROCHESTER, INC. | | 1835 DAANSEN RD. PALMYRA NY 14522 | 05/16/2017 | 05/16/2022 |
| DOL | DOL | | DF CONTRACTORS, INC. | | 1835 DAANSEN RD. PALMYRA NY 14522 | 05/16/2017 | 05/16/2022 |
| DOL | NYC | | DIMITRIOS KOUTSOUKOS | | C/O ASTORIA GENERAL CONTR 35-34 31ST STREET LONG ISLAND CITY NY 11106 | 09/02/2015 | 09/02/2020 |
| DOL | NYC | | DIMITRIOS TSOUMAS | | 35-12 19TH AVENUE ASTORIA NY 11105 | 08/02/2017 | 08/02/2022 |
| DOL | DOL | ****3242 | DONALD R. FORSAY | DF LAWN SERVICE | 1835 DAANSEN RD. PALMYRA NY 14522 | 05/16/2017 | 05/16/2022 |
| DOL | DOL | | DONALD R. FORSAY | | 1835 DAANSEN RD. PALMYRA NY 14522 | 05/16/2017 | 05/16/2022 |
| DOL | DOL | | DORIS SKODA | | C/O APCO CONTRACTING CORP 24 SOUTH MARYLAND AVENUE PORT WASHINGTON NY 11050 | 09/24/2012 | 09/02/2020 |
| DOL | NYC | ****7404 | DOSANJH CONSTRUCTION CORP | | 9439 212TH STREET QUEENS VILLAGE NY 11428 | 02/25/2016 | 02/25/2021 |
| DOL | DOL | | DOUGLAS L MALARKEY | MALARKEY CONSTRUCTION | 64 VICTORIA DRIVE BINGHAMTON NY 13904 | 02/04/2016 | 02/04/2021 |
| DOL | DOL | | E C WEBB | | 6409 LAND O LAKES BLVD LAND O LAKES FL 34638 | 11/10/2015 | 11/10/2020 |
| DOL | DOL | | EARL L WILSON | WILSON BROTHER DRYWALL CONTRACTORS | 36 ABERSOLD STREET ROCHESTER NY 14621 | 08/31/2015 | 08/31/2020 |
| DOL | DOL | | EAST COAST PAVING | | 2238 BAKER RD GILLET PA 16923 | 03/12/2018 | 03/12/2023 |
| DOL | DOL | ****0780 | EMES HEATING & PLUMBING CONTR | | 5 EMES LANE MONSEY NY 10952 | 01/20/2002 | 01/20/3002 |

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| DOL | DOL | ****3270 | EMPIRE TILE INC | | 6 TREMONT COURT HUNTINGTON STATION NY 11746 | 03/08/2016 | 03/08/2021 |
| DOL | DOL | ****7403 | F & B PAINTING CONTRACTING INC | | 2 PARKVIEW AVENUE HARRISON NY 10604 | 09/26/2016 | 09/26/2021 |
| DOL | DOL | | FAIGY LOWINGER | | 11 MOUNTAIN RD 28 VAN BUREN DRMONROE NY 10950 | 03/20/2019 | 03/20/2024 |
| 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 | | FRANK BENEDETTO | | 19 CATLIN AVE JAMESTOWN NY 14701 | 09/17/2018 | 09/17/2023 |
| DOL | DOL | | FRANK BENEDETTO | | C/O F & B PAINTING CONTRA 2 PARKVIEW AVENUEHARRISON NY 10604 | 09/26/2016 | 09/26/2021 |
| DOL | DOL | ****4722 | FRANK BENEDETTO AND CHRISTOPHER J MAINI | B & M CONCRETE | 19 CAITLIN AVE JAMESTOWN NY 14701 | 09/17/2018 | 09/17/2023 |
| DOL | DOL | | GABRIEL FRASSETTI | | | 04/10/2019 | 04/10/2024 |
| DOL | DOL | | GALINDA ROTENBERG | | C/O GMDV TRANS INC 67-48 182ND STREETFRESH MEADOWS NY 11365 | 06/24/2016 | 06/24/2021 |
| DOL | DOL | | GEOFF CORLETT | | 415 FLAGGER AVE #302STUART FL 34994 | 10/31/2018 | 10/31/2023 |
| DOL | DA | | GEORGE LUCEY | | 150 KINGS STREET BROOKLYN NY 11231 | 01/19/1998 | 01/19/2998 |
| DOL | DOL | | GIGI SCHNECKENBURGER | | 261 MILL RD EAST AURORA NY 14052 | 05/29/2019 | 05/29/2024 |
| DOL | DOL | ****5674 | GMDV TRANS INC | | 67-48 182ND STREET FRESH MEADOWS NY 11365 | 06/24/2016 | 06/24/2021 |
| DOL | NYC | | GREAT ESTATE CONSTRUCTION, INC. | | 327 STAGG ST BROOKLYN NY 11206 | 10/10/2017 | 10/10/2022 |
| DOL | DOL | | GREGORY S. OLSON | | P O BOX 100 200 LATTA BROOK PARKHORSEHEADS NY 14845 | 03/08/2018 | 03/08/2023 |
| DOL | NYC | | HARMEL SINGH | | 15 CLINTON LANE HICKSVILLE NY 11801 | 02/25/2016 | 02/25/2021 |
| DOL | NYC | | HAROLD KUEMMELE | | 58-83 54TH STREET MASPETH NY 11378 | 02/26/2016 | 02/26/2021 |
| DOL | DOL | | HENRY VAN DALRYMPLE | | 2663 LANTERN LANE ATLANTA GA 30349 | 12/01/2015 | 12/01/2020 |
| DOL | DOL | ****6370 | HILLIANO CONSTRUCTION & ELECTRICAL INC | | 354 MAGNOLIA STREET ROCHESTER NY 14611 | 01/22/2015 | 01/22/2020 |
| DOL | DOL | ****8282 | IDEMA DEVELOPMENT INC | | 91 COLLEGE AVENUE POUGHKEEPSIE NY 12603 | 12/04/2015 | 12/04/2020 |
| DOL | DOL | ****8282 | IDEMA GENERAL CONTRACTORS INC | | 91 COLLEGE AVENUE POUGHKEEPSIE NY 12603 | 12/04/2015 | 12/04/2020 |
| DOL | DOL | ****7001 | INTEGRATED CONSTRUCTION & POWER SYSTEMS INC | | SUITE 100 2105 W GENESEE STREETS YRACUSE NY 13219 | 01/06/2016 | 01/06/2021 |
| DOL | DOL | ****5131 | INTEGRITY MASONRY, INC. | M&R CONCRETE | 722 8TH AVE WATERVLIET NY 12189 | 06/05/2018 | 06/05/2023 |
| DOL | DOL | | IRENE KASELIS | | 32 PENNINGTON AVE WALDWICK NJ 07463 | 05/30/2019 | 05/30/2024 |
| DOL | AG | | J A M CONSTRUCTION CORP | | SUITE 125 265 SUNRISE HIGHWAYROCKVILLE CENTRE NY 10457 | 04/07/2016 | 04/07/2021 |
| 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 LATTA BROOK PARKHORSEHEADS NY 14845 | 03/08/2018 | 03/08/2023 |
| DOL | DOL | | JAMES B RHYNDERS | | 91 COLLEGE AVENUE POUGHKEEPSIE NY 12603 | 12/04/2015 | 12/04/2020 |
| DOL | DOL | | JAMES C. DELGIACCO | | 722 8TH AVE WATERVLIET NY 12189 | 06/05/2018 | 06/05/2023 |
| DOL | DOL | | JAMES E RHYNDERS | | 91 COLLEGE AVENUE POUGHKEEPSIE NY 12603 | 12/04/2015 | 12/04/2020 |
| DOL | AG | | JAMES FALCONE | | SUITE 125 265 SUNRISE HIGHWAYROCKVILLE CENTRE NY 10457 | 04/07/2016 | 04/07/2021 |

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| DOL | DOL | | JAMES LIACONE | | 9365 WASHINGTON ST LOCKPORT IL 60441 | 07/23/2018 | 07/23/2023 |
| DOL | DOL | | JAMES RACHEL | | 9365 WASHINGTON ST LOCKPORT IL 60441 | 07/23/2018 | 07/23/2023 |
| DOL | DOL | | JAMES RHYNDERS SR | | 91 COLLEGE AVENUE POUGHKEEPSIE NY 12603 | 12/04/2015 | 12/04/2020 |
| DOL | DOL | | JAMES SICKAU | | 3090 SHIRLEY ROAD NORTH COLLINS NY 14111 | 04/19/2011 | 07/08/2020 |
| DOL | DOL | | JASON W MILLIMAN | | C/O ROCHESTER ACOUSTICAL P O BOX 799HILTON NY 14468 | 02/19/2016 | 02/19/2021 |
| DOL | DOL | ****5368 | JCH MASONRY & LANDSCAPING INC. | | 35 CLINTON AVE OSSINING NY 10562 | 09/12/2018 | 09/12/2023 |
| DOL | NYC | | JEFFREY CASSIDY | | 14 RAILROAD AVENUE VALHALLA NY 10595 | 05/15/2014 | 04/02/2020 |
| DOL | DOL | | JESSICA WHITESIDE | | C/O BRRESTORATION NY INC 140 ARCADIA AVENUEOSWEGO NY 13126 | 09/12/2016 | 09/12/2021 |
| DOL | AG | | JOHN ANTHONY MASSINO | | 36-49 204TH STREET BAYSIDE NY 11372 | 02/07/2018 | 02/07/2023 |
| DOL | DOL | | JOHN F. CADWALLADER | | 200 LATTA BROOK PARK HORSEHEADS NY 14845 | 03/08/2018 | 03/08/2023 |
| DOL | DOL | ****4612 | JOHN F. CADWALLADER, INC. | THE GLASS COMPANY | P O BOX 100 200 LATTA BROOK PARKHORSEHEADS NY 14845 | 03/08/2018 | 03/08/2023 |
| DOL | AG | ****0600 | JOHNCO CONTRACTING, INC. | | 36-49 204TH STREET BAYSIDE NY 11372 | 02/07/2018 | 02/07/2023 |
| DOL | DOL | | JON E DEYOUNG | | 261 MILL RD P.O BOX 296EAST AURORA NY 14052 | 07/29/2015 | 07/29/2020 |
| DOL | DOL | | JON E DEYOUNG | | 261 MILL RD P.O BOX 296EAST AURORA NY 14052 | 05/29/2019 | 05/29/2024 |
| DOL | DOL | | JORGE VILLALOBOS | | 94-25 57TH AVENUE - APT 5 ELMHURST NY 11373 | 01/12/2015 | 01/12/2020 |
| DOL | DOL | | JORI PEDERSEN | | 415 FLAGER AVE #302STUART FL 34994 | 10/31/2018 | 10/31/2023 |
| DOL | DOL | | JOSE CHUCHUCA | | 35 CLINTON AVE OSSINING NY 10562 | 09/12/2018 | 09/12/2023 |
| DOL | DOL | | JOSE MONTAS | | 27 BUTLER PLACE YONKERS NY 10710 | 03/18/2011 | 03/19/2020 |
| DOL | AG | | JOSEPH FALCONE | | SUITE 125 265 SUNRISE HIGHWAYROCKVILLE CENTRE NY 10457 | 04/07/2016 | 04/07/2021 |
| DOL | DOL | ****9273 | JOSEPH M LOVETRO | | P O BOX 812 BUFFALO NY 14220 | 08/09/2016 | 08/09/2021 |
| DOL | NYC | | JOSEPH MARTINO | | 1535 RICHMOND AVENUE STATEN ISLAND NY 10314 | 12/13/2017 | 12/13/2022 |
| DOL | DOL | | JOSEPH MARTONE | | 112 OSCAWANA HEIGHTS RD PUTNAM VALLEY NY 10542 | 03/13/2015 | 03/13/2020 |
| DOL | DOL | | JUANA MARTINEZ | | C/O LEAD CONSTRUCTION 27 BUTLER PLACEYONKERS NY 10710 | 03/19/2015 | 03/19/2020 |
| DOL | DOL | | JULIUS AND GITA BEHREND | | 5 EMES LANE MONSEY NY 10952 | 11/20/2002 | 11/20/3002 |
| DOL | DOL | ****5062 | K R F SITE DEVELOPMENT INC | | 375 LAKE SHORE DRIVE PUTNAM VALLEY NY 10579 | 01/23/2017 | 01/23/2022 |
| DOL | DOL | | KATIE BURDICK | | 2238 BAKER RD 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 | | KIM SOROCENSKI | | C/O SOLUTION MATTERS INC 198 NORWOOD ROADPORT JEFFERSON NY 11776 | 11/19/2015 | 11/19/2020 |
| DOL | DOL | ****3490 | L & M CONSTRUCTION/DRYWALL INC. | | 1079 YONKERS AVE YONKERS NY 10704 | 08/07/2018 | 08/07/2023 |
| DOL | DA | ****8816 | LAKE CONSTRUCTION AND DEVELOPMENT CORPORATION | | 150 KINGS STREET BROOKLYN NY 11231 | 08/19/1998 | 08/19/2998 |
| DOL | DOL | ****6224 | LAKESIDE FIRE SPRINKLERS LLC | | 125 CHAUTAUQUA AVENUE LAKEWOOD NY 14750 | 06/24/2015 | 06/24/2020 |
| DOL | AG | ****4643 | LALO DRYWALL, INC. | | 221 OLD FORD ROAD NEW PLATZ NY 12561 | 05/20/2016 | 05/20/2021 |

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| 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 RD PUTNAM VALLEY NY 10542 | 03/13/2015 | 03/13/2020 |
| 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 | ****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 |
| DOL | DOL | ****4388 | LEN.J CONSTRUCTION, LLC | | PO BOX 10007 ALBANY NY 12201 | 09/19/2017 | 09/19/2022 |
| DOL | DOL | ****4388 | LEN.J CONSTRUCTION, LLC | | PO BOX 10007 ALBANY NY 12201 | 09/19/2017 | 09/19/2022 |
| DOL | DOL | ****4388 | LEN.J CONSTRUCTION, LLC | | PO BOX 10007 ALBANY NY 12201 | 01/17/2017 | 09/19/2022 |
| DOL | DOL | ****4388 | LEN.J CONSTRUCTION, LLC | | PO BOX 10007 ALBANY NY 12201 | 09/19/2017 | 09/19/2022 |
| DOL | DOL | ****4388 | LEN.J CONSTRUCTION, LLC | | PO BOX 10007 ALBANY NY 12201 | 09/19/2017 | 09/19/2022 |
| DOL | DOL | ****4388 | LEN.J CONSTRUCTION, LLC | | PO BOX 10007 ALBANY NY 12201 | 08/14/2017 | 09/19/2022 |
| DOL | DOL | | LEROY NELSON JR | | PO BOX 10007 ALBANY NY 12201 | 09/19/2017 | 09/19/2022 |
| DOL | DOL | | LEROY NELSON JR | | PO BOX 10007 ALBANY NY 12201 | 09/19/2017 | 09/19/2022 |
| DOL | DOL | | LEROY NELSON JR | | PO BOX 10007 ALBANY NY 12201 | 09/19/2017 | 09/19/2022 |
| DOL | DOL | | LEROY NELSON JR | | PO BOX 10007 ALBANY NY 12201 | 09/19/2017 | 09/19/2022 |
| DOL | DOL | | LEROY NELSON JR | | PO BOX 10007 ALBANY NY 12201 | 08/14/2017 | 08/14/2022 |
| DOL | DOL | | LEROY NELSON JR | | PO BOX 10007 ALBANY NY 12201 | 01/17/2017 | 09/19/2022 |
| DOL | DOL | | LINDSEY R CRILL | | 143 FILLMORE AVENUE BUFFALO NY 14210 | 01/08/2015 | 01/08/2020 |
| DOL | DA | ****4460 | LONG ISLAND GLASS & STOREFRONTS, LLC | | 4 MANHASSET TRL RIDGE NY 11961 | 09/06/2018 | 09/06/2023 |
| DOL | AG | ****4216 | LOTUS-C CORP. | | 81-06 34TH AVENUE APT. 6EJACKSON HEIGHTS NY 11372 | 02/07/2018 | 02/07/2023 |
| DOL | AG | | LUIS MARTINEZ | LALO DRYWALL | 211 MAIN ST. NEW PALTZ NY 12561 | 05/20/2016 | 05/20/2021 |
| DOL | DOL | | M ANVER BEIG | | 142 EAST MARKET STREET LONG BEACH NY 11561 | 03/07/2017 | 03/07/2022 |
| DOL | AG | ****6957 | M B DIN CONSTRUCTION INC | | 8831 20TH AVENUE/SUITE 6E BROOKLYN NY 11214 | 11/17/2015 | 11/17/2020 |
| DOL | NYC | ****6317 | M S QUALITY CONSTRUCTION LLC | | 27 MAPLEWOOD AVENUE COLONIA NJ 07067 | 02/04/2015 | 02/04/2020 |
| DOL | DOL | | M. ANVER BEIG | | 142 EAST MARKET STREET LONG BEACH NY 11561 | 03/07/2017 | 03/07/2022 |
| DOL | NYC | | MACIEJ SONTOWSKI | | 27 MAPLEWOOD AVENUE COLONIA NJ 07067 | 02/04/2015 | 02/04/2020 |
| DOL | NYC | ****9590 | MACK GLASSNAUTH IRON WORKS INC | | 137 LIBERTY AVENUE BROOKLYN NY 11212 | 12/21/2015 | 12/21/2020 |
| 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 | NYC | | MAREK FABIJANOWSKI | | 50 MAIN ST WHITE PLAINS NY 10606 | 01/04/2019 | 01/04/2024 |
| 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 |

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| DOL | DOL | | MARVIN A STURDEVANT | | 29 MAPLEWOOD DRIVE BINGHAMTON NY 13901 | 02/21/2017 | 02/21/2022 |
| DOL | DOL | | MASONRY CONSTRUCTION, INC. | | 442 ARMONK RD MOUNT KISCO NY 10549 | 06/12/2018 | 06/12/2023 |
| DOL | DOL | ****3333 | MASONRY INDUSTRIES, INC. | | 442 ARMONK RD MOUNT KISCO NY 10549 | 06/12/2018 | 06/12/2023 |
| DOL | DOL | | MATTHEW IDEMA GENERAL CONTRACTORS INC | | 91 COLLEGE AVENUE POUGHKEEPSIE NY 12603 | 12/04/2015 | 12/04/2020 |
| DOL | DOL | | MATTHEW P. KILGORE | | 4156 WILSON ROAD EAST TABERG NY 13471 | 03/26/2019 | 03/26/2024 |
| 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 | | MCLEAN "MIKKI BEANE" | | 1229 JAMES STREET SYRACUSE NY 13203 | 05/02/2017 | 05/02/2022 |
| DOL | DOL | | MCLEAN "MIKKI" DRAKE | | 1229 JAMES STREET SYRACUSE NY 13203 | 05/02/2017 | 05/02/2022 |
| DOL | DOL | | MCLEAN M DRAKE-BEANE | | 1229 JAMES STREET SYRACUSE NY 13203 | 05/02/2017 | 05/02/2022 |
| DOL | DOL | ****9445 | MCLEAN M WALSH | ELITE PROFESSION AL PAINTING OF CNY | 1229 JAMES STREET SYRACUSE NY 13203 | 05/02/2017 | 05/02/2022 |
| DOL | DOL | ****9445 | MCLEAN M WALSH | ELITE PROFESSION AL PAINTING OF CNY | 1229 JAMES STREET SYRACUSE NY 13203 | 05/02/2017 | 05/02/2022 |
| DOL | NYC | ****5330 | METRO DUCT SYSTEMS INC | | 1219 ASTORIA BOULEVARD LONG ISLAND CITY NY 11102 | 04/16/2014 | 11/19/2020 |
| DOL | DOL | ****3368 | MICEK CONSTRUCTION CO INC | | 20 CROSS STREET FALCONER NY 14733 | 12/02/2014 | 12/02/2019 |
| DOL | DOL | | MICHAEL A PASCARELLA | | SUITE 100 2105 WEST GENESEE STREET SYRACUSE NY 13219 | 01/06/2016 | 01/06/2021 |
| DOL | NYC | | MICHAEL HIRSCH | | C/O MZM CORP 163 S MAIN STREET NEW CITY NY 10956 | 01/28/2016 | 01/28/2021 |
| DOL | DOL | | MICHAEL LENIHAN | | 1079 YONKERS AVE UNIT 4 YONKERS NY 10704 | 08/07/2018 | 08/07/2023 |
| DOL | AG | | MICHAEL RIGLIETTI | | 31 BAY ST BROOKLYN NY 11231 | 03/28/2018 | 03/28/2023 |
| DOL | DOL | | MICHAEL WILSON | WILSON BROTHER DRYWALL CONTRACTOR S | 36 ABERSOLD STREET ROCHESTER NY 14621 | 08/31/2015 | 08/31/2020 |
| DOL | NYC | | MILANCE HADZIC | | 22 CALIFORNIA AVE - STE 1 PATERSON NJ 07503 | 03/11/2015 | 03/11/2020 |
| DOL | DOL | ****4829 | MILESTONE ENVIRONMENTAL CORPORATION | | 704 GINESI DRIVE SUITE 29 MORGANVILLE NJ 07751 | 04/10/2019 | 04/10/2024 |
| 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 | DA | ****9786 | NATIONAL INSULATION & GC CORP | | 180 MILLER PLACE HICKSVILLE NY 11801 | 12/12/2018 | 12/12/2023 |
| 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 | ****1968 | NORTH AMERICAN IRON WORKS INC | | 1560 DECATUR STREET RIDGEMOUNT NY 11385 | 05/15/2015 | 05/15/2020 |

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| 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 | | ORSON ARROYO | | C/O METRO DUCT SYSTEMS 12-19 ASTORIA BOULEVARDLONG ISLAND CITY NY 11102 | 04/16/2014 | 11/19/2020 |
| DOL | NYC | ****9422 | PELIUM CONSTRUCTION, INC. | | 22-33 35TH ST. ASTORIA NY 11105 | 12/30/2016 | 12/30/2021 |
| DOL | DOL | | PETER M PERGOLA | | 3 WEST MAIN ST/SUITE 208 ELMSFORD NY 10523 | 01/23/2017 | 01/23/2022 |
| DOL | DOL | | PIERRE LAPORT | | 224 COUNTY HIGHWAY 138 BROADALBIN NY 12025 | 03/07/2017 | 03/07/2022 |
| DOL | DOL | ****1543 | PJ LAPORT FLOORING INC | | 224 COUNTY HIGHWAY 138 BROADALBIN NY 12025 | 03/07/2017 | 03/07/2022 |
| DOL | DOL | ****6895 | PROLINE CONCRETE OF WNY INC | | 3090 SHIRLEY ROAD NORTH COLLINS NY 14111 | 04/19/2011 | 07/08/2020 |
| DOL | DA | ****6817 | QUADRANT METAL BUILDINGS LLC | | 2740 SW MARTIN DOWNS BLVD PALM CITY FL 34990 | 08/25/2016 | 08/25/2021 |
| DOL | NYC | | RAMESHWAR ASU | | 137 LIBERTY AVENUE BROOKLYN NY 11212 | 12/21/2015 | 12/21/2020 |
| DOL | DOL | | RANA A KAHN | | 1973 81ST ST - SUITE A-5 BROOKLYN NY 11214 | 01/08/2015 | 01/08/2020 |
| DOL | NYC | | RANTIK PARIKH | | 13 LORIANN ROAD WARREN NJ 07059 | 07/15/2015 | 07/15/2020 |
| DOL | DOL | ****2633 | RAW POWER ELECTRIC CORP | | 3 PARK CIRCLE MIDDLETOWN NY 10940 | 09/16/2013 | 09/15/2019 |
| DOL | DOL | ****2633 | RAW POWER ELECTRIC CORP | | 3 PARK CIRCLE MIDDLETOWN NY 10940 | 01/30/2018 | 01/30/2023 |
| DOL | 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 | DA | | RIANN MULLER | | 2740 SW MARTIN DOWNS BLVD PALM CITY FL 34990 | 08/25/2016 | 08/25/2021 |
| DOL | DOL | ****9148 | RICH T CONSTRUCTION | | 107 WILLOW WOOD LANE CAMILLUS NY 13031 | 11/13/2018 | 11/13/2023 |
| DOL | DOL | | RICHARD MACONE | | 8617 THIRD AVE BROOKLYN NY 11209 | 09/17/2018 | 09/17/2023 |
| DOL | DOL | ****9148 | RICHARD TIMIAN | RICH T CONSTRUCTI ON | 108 LAMONT AVE SYRACUSE NY 13209 | 10/16/2018 | 10/16/2023 |
| DOL | DOL | | RICHARD TIMIAN JR. | | 108 LAMONT AVE SYRACUSE NY 13209 | 10/16/2018 | 10/16/2023 |
| DOL | DOL | | RICHARD TIMIAN JR. | | 108 LAMONT AVE SYRACUSE NY 13209 | 11/13/2018 | 11/13/2023 |
| DOL | DOL | ****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 A. VALERINO | | 3841 LANYARD COURT NEW PORT RICHEY FL 34652 | 07/09/2019 | 07/09/2024 |
| DOL | DOL | | ROBERT BRUNO | | 3 GAYLORD ST AUBURN NY 13021 | 11/15/2016 | 11/15/2021 |
| DOL | DOL | | ROBERT BRUNO | | 5 MORNINGSIDE DRIVE AUBURN NY 13021 | 05/28/2019 | 05/28/2024 |
| DOL | DOL | | ROBERT TORDELLA | | 125 CHAUTAUQUA AVENUE LAKEWOOD NY 14750 | 06/24/2015 | 06/24/2020 |
| DOL | DOL | ****3859 | ROCHESTER ACOUSTICAL CORP | | P O BOX 799 HILTON NY 14468 | 02/19/2016 | 02/19/2021 |
| DOL | DOL | | RODERICK PUGH | | 404 OAK ST SUITE 101SYRACUSE NY 13203 | 07/23/2018 | 07/23/2023 |
| DOL | DOL | ****4880 | RODERICK PUGH CONSTRUCTION INC. | | 404 OAK ST SUITE 101SYRACUSE NY 13203 | 07/23/2018 | 07/23/2023 |
| DOL | NYC | | RODNEY SCOTT | | 201 HEMPSTEAD AVENUE WEST HEMPSTEAD NY 11552 | 10/30/2015 | 10/30/2020 |

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| DOL | DOL | | ROMEO WARREN | | 161 ROBYN RD MONROE NY 10950 | 09/16/2013 | 09/15/2019 |
| DOL | DOL | | ROMEO WARREN | | 161 ROBYN RD MONROE NY 10950 | 01/30/2018 | 01/30/2023 |
| DOL | DOL | | ROSEANNE CANTISANI | | | 06/12/2018 | 06/12/2023 |
| DOL | DOL | | RYAN ALBIE | | 21 S HOWELLS POINT ROAD BELLPORT NY 11713 | 02/21/2017 | 02/21/2022 |
| DOL | DOL | ****3347 | RYAN ALBIE CONTRACTING INC | | 21 S HOWELLS POINT ROAD BELLPORT NY 11713 | 02/21/2017 | 02/21/2022 |
| DOL | DOL | ****1365 | S & L PAINTING, INC. | | 11 MOUNTAIN ROAD P.O BOX 408MONROE NY 10950 | 03/20/2019 | 03/20/2024 |
| DOL | NYC | | SABIR MUHAMMED | | SUITE B-8 782 PELHAM PARKWAY SOUTHBRONX NY 10462 | 04/21/2016 | 04/21/2021 |
| DOL | DOL | ****9874 | SALFREE ENTERPRISES INC | | 2821 GARDNER ROAD POMPEY NY 13138 | 08/26/2016 | 08/26/2021 |
| DOL | DOL | | SALVATORE A FRESINA | | | 08/26/2016 | 08/26/2021 |
| DOL | DOL | | SAM FRESINA | | | 08/26/2016 | 08/26/2021 |
| 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 | AG | | SERGIO RAYMUNDO | | 109 DUBOIS RD. NEW PALTZ NY 12561 | 05/20/2016 | 05/20/2021 |
| DOL | NYC | ****6597 | SHAIRA CONSTRUCTION CORP. | | 421 HUDSON STREET SUITE C5NEW YORK NY 10014 | 02/20/2019 | 02/20/2024 |
| 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 | | SHANE NOLAN | | 9365 WASHINGTON ST LOCKPORT IL 60441 | 07/23/2018 | 07/23/2023 |
| DOL | DOL | | SHULEM LOWINGER | | 11 MOUNTAIN ROAD 28 VAN BUREN DRMONROE NY 10950 | 03/20/2019 | 03/20/2024 |
| DOL | DOL | ****0816 | SOLAR ARRAY SOLUTIONS, LLC | | 9365 WASHINGTON ST LOCKPORT IL 60441 | 07/23/2018 | 07/23/2023 |
| DOL | DOL | ****4025 | SOLUTION MATTERS INC | | 198 NORWOOD ROAD PORT JEFFERSON NY 11776 | 11/19/2015 | 11/19/2020 |
| DOL | DOL | ****3496 | STAR INTERNATIONAL INC | | 89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427 | 08/11/2003 | 08/11/3003 |
| DOL | DOL | ****9933 | STEED GENERAL CONTRACTORS, INC. | | 1445 COMMERCE AVE BRONX NY 10461 | 05/30/2019 | 05/30/2024 |
| DOL | DOL | | STEFANOS PAPASTEFANOU, JR. A/K/A STEVE PAPASTEFANOU, JR. | | 256 WEST SADDLE RIVER RD UPPER SADDLE RIVER NJ 07458 | 05/30/2019 | 05/30/2024 |
| DOL | DOL | ****9751 | STEPHEN C WAGAR | | 544 OLD ROUTE 23 ACRE NY 12405 | 02/14/2017 | 02/14/2022 |
| DOL | DOL | | STEVE TATE | | 415 FLAGER AVE #302STUART FL 34994 | 10/31/2018 | 10/31/2023 |
| DOL | DOL | | STEVEN P SUCATO | | 15-68 208TH STREET BAYSIDE NY 11360 | 06/23/2016 | 06/23/2021 |
| DOL | DOL | | STEVEN TESTA | | 50 SALEM STREET - BLDG B LYNNFIELD MA 01940 | 01/23/2017 | 01/23/2022 |
| DOL | NYC | ****9432 | SUBLINK LTD | | 346 THIRD AVENUE PELHAM NY 10803 | 11/19/2015 | 11/19/2020 |
| DOL | DOL | ****1060 | SUNN ENTERPRISES GROUP, LLC | | 370 W. PLEASANTVIEW AVE SUITE 2.329HACKENSACK NJ 07601 | 02/11/2019 | 02/11/2024 |
| DOL | DOL | ****8209 | SYRACUSE SCALES, INC. | | 158 SOLAR ST SYRACUSE NY 13204 | 01/07/2019 | 01/07/2024 |
| DOL | DOL | ****7441 | T & T CONCRETE INC | | 2560 HAMBURG TURNPIKE P O BOX 367LACKAWANNA NY 14218 | 07/08/2015 | 07/08/2020 |
| DOL | DOL | | TALAILA OCAMPA | | 1207 SW 48TH TERRACE DEERFIELD BEACH FL 33442 | 01/16/2018 | 01/16/2023 |
| DOL | DOL | ****9852 | TAP STEEL INC | | ROUTE 26 3101 P O BOX 457CONSTABLEVILLE NY 13325 | 01/28/2016 | 01/28/2021 |
| DOL | DOL | ****5570 | TESTA CORP | | 50 SALEM STREET - BLDG B LYNNFIELD MA 01940 | 01/23/2017 | 01/23/2022 |

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| DOL | DOL | ****0887 | THE BRINSON PAINTING CORPORATION | | 72 TAUNTON PLACE BUFFALO NY 14216 | 04/14/2015 | 04/14/2020 |
| DOL | DOL | ****5766 | THE COKER CORPORATION | COKER CORPORATION | 2610 SOUTH SALINA ST SUITE 14SYRACUSE NY 13205 | 12/04/2018 | 12/04/2023 |
| DOL | DOL | ****8174 | THE DALRYMPLE CORPORATION | | UNIT 278 541 10TH STREET NWTALANTA 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 | | TIMOTHY A PALUCK | | C/O TAP STEEL INC RTE 26 3101/ P O BOX 457CONSTABLEVILLE NY 13325 | 01/28/2016 | 01/28/2021 |
| DOL | DOL | ****0600 | TOMSON ALLOYS RECYCLING INC | | 143 FILLMORE AVENUE BUFFALO NY 14210 | 01/08/2015 | 01/08/2020 |
| DOL | DOL | ****3453 | TORCHIA'S HOME IMPROVEMENT | | 10153 ROBERTS RD SAUQUOIT NY 13456 | 08/09/2016 | 08/09/2021 |
| DOL | DOL | ****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 | DOL | ****6392 | V.M.K CORP. | | 8617 THIRD AVE BROOKLYN NY 11209 | 09/17/2018 | 09/17/2023 |
| DOL | NYC | | VALERIE VISCONTI | | 346 THIRD AVENUE PELHAM NY 10803 | 11/19/2015 | 11/19/2020 |
| DOL | DOL | | VICTOR ALICANTI | | 42-32 235TH ST DOUGLASTON NY 11363 | 01/14/2019 | 01/14/2024 |
| DOL | DOL | | VICTOR ROTENBERG | | C/O GMDV TRANS INC 67048 182ND STREETFRESH MEADOWS NY 11365 | 06/24/2016 | 06/24/2021 |
| DOL | NYC | | VIKTAR PATONICH | | 2630 CROPSEY AVE BROOKLYN NY 11214 | 10/30/2018 | 10/30/2023 |
| DOL | NYC | | 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 | ****3296 | WESTERN NEW YORK CONTRACTORS, INC. | | 3841 LAYNARD COURT NEW PORT RICHEY FL 34652 | 07/09/2019 | 07/09/2024 |
| DOL | DOL | | WHITE PLAINS CARPENTRY CORP | | 442 ARMONK RD | 06/12/2018 | 06/12/2023 |
| DOL | DOL | | WILLIAM C WATKINS | | 1229 JAMES STREET SYRACUSE NY 13203 | 05/02/2017 | 05/02/2022 |
| DOL | DOL | | WILLIAM DEAK | | C/O MADISON AVE CONSTR CO 39 PENNY STREETWEST ISLIP NY 11795 | 11/02/2016 | 11/02/2021 |
| DOL | DOL | | WILLIE BRINSON | | 72 TAUNTON PLACE BUFFALO NY 14216 | 04/14/2015 | 04/14/2020 |
| DOL | DOL | ****6195 | WILSON BROTHER DRYWALL CONTRACTORS | | 36 ABERSOLD STREET ROCHESTER NY 14621 | 08/31/2015 | 08/31/2020 |
| DOL | DOL | ****4043 | WINDSHIELD INSTALLATION NETWORK, INC. | | 200 LATTA BROOK PARK HORSEHEADS NY 14845 | 03/08/2018 | 03/08/2023 |
| DOL | DOL | ****4730 | XGD SYSTEMS, LLC | TDI GOLF | 415 GLAGE AVE #302STUART FL 34994 | 10/31/2018 | 10/31/2023 |
| DOL | DOL | ****7345 | YES SERVICE AND REPAIRS CORPORATION | | 145 LODGE AVE HUNTINGTON STATION NY 11476 | 08/09/2016 | 08/09/2021 |
| DOL | DOL | | YURIY IVANIN | | C/O MOUNTAIN'S AIR INC 2471 OCEAN AVENUE-STE 7ABROOKLYN NY 11229 | 09/24/2012 | 09/18/2020 |
| DOL | NYC | | ZAKIR NASEEM | | 30 MEADOW ST BROOKLYN NY 11206 | 10/10/2017 | 10/10/2022 |
| DOL | NYC | ****8277 | ZHN CONTRACTING CORP | | 30 MEADOW ST BROOKLYN NY 11206 | 10/10/2017 | 10/10/2022 |

"General Decision Number: NY20190006 08/09/2019

Superseded General Decision Number: NY20180006

State: New York

Construction Types: Heavy and Highway

Counties: Clinton and Essex Counties in New York.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes and apartments up to and including 4 stories), HEAVY AND HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

| Modification Number | Publication Date |
|---------------------|------------------|
| 0 | 01/04/2019 |
| 1 | 03/01/2019 |
| 2 | 06/14/2019 |
| 3 | 07/12/2019 |
| 4 | 08/09/2019 |

BRNY0002-013 06/01/2018

| | Rates | Fringes |
|-----------------------------------|----------|---------|
| CEMENT MASON/CONCRETE FINISHER... | \$ 37.23 | 19.51+a |

FOOTNOTE:

a. PAID HOLIDAYS: Memorial Day, July the 4th, Labor Day, and Thanksgiving Day (provided the employee is employed (1) day before and (1) day after the holiday.

 CARP0291-006 07/01/2019

| | Rates | Fringes |
|------------------|----------|---------|
| CARPENTER | | |
| HEAVY & HIGHWAY | | |
| CONSTRUCTION | | |
| Carpenter..... | \$ 33.02 | 21.10 |
| Pile Driver..... | \$ 33.02 | 21.10 |

 ELEC0910-001 05/01/2019

| | Rates | Fringes |
|------------------|----------|-------------|
| ELECTRICIAN..... | \$ 35.00 | 5.75%+20.68 |

 ELEC1249-003 05/06/2019

| | Rates | Fringes |
|------------------------------|-------|---------|
| ELECTRICIAN (LINE | | |
| CONSTRUCTION: LIGHTING AND | | |
| TRAFFIC SIGNAL Including any | | |
| and all Fiber Optic Cable | | |
| necessary for Traffic Signal | | |

Systems, Traffic Monitoring
 systems and Road Weather
 information systems)

| | | |
|-------------------------------------------------------|----------|-------------|
| Flagman..... | \$ 27.00 | 6.75%+24.15 |
| Groundman (Truck Driver).... | \$ 36.00 | 6.75%+24.15 |
| Groundman Truck Driver (tractor trailer unit)..... | \$ 36.00 | 6.75%+24.15 |
| Lineman & Technician..... | \$ 45.00 | 6.75%+24.15 |
| Mechanic..... | \$ 36.00 | 6.75%+24.15 |

FOOTNOTE:

a. New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day, plus President's Day, Good Friday, Decoration Day, Election Day for the President of the United States and Election Day for the Governor of the State of New York, provided the employee works the day before or the day after the holiday.

 ELEC1249-004 05/06/2019

Rates Fringes

ELECTRICIAN (Line
 Construction)

Overhead and underground
 distribution and
 maintenance work and all
 overhead and underground
 transmission line work
 including any and all
 fiber optic ground wire,
 fiber optic shield wire or
 any other like product by
 any other name
 manufactured for the dual
 purpose of ground fault
 protection and fiber optic
 capabilities :

| | | |
|-------------------------------------------------------|----------|-------------|
| Flagman..... | \$ 31.23 | 6.75%+24.15 |
| Groundman digging machine operator..... | \$ 46.85 | 6.75%+24.15 |
| Groundman truck driver (tractor trailer unit)..... | \$ 41.64 | 6.75%+24.15 |

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------|
| Groundman Truck driver..... | \$ 41.64 | 6.75%+24.15 |
| Lineman and Technician..... | \$ 52.05 | 6.75%+24.15 |
| Mechanic..... | \$ 41.64 | 6.75%+24.15 |
| Substation: | | |
| Cable Splicer..... | \$ 57.26 | 6.75%+24.15 |
| Flagman..... | \$ 31.23 | 6.75%+24.15 |
| Ground man truck driver.... | \$ 41.64 | 6.75%+24.15 |
| Groundman digging machine operator..... | \$ 46.85 | 6.75%+24.15 |
| Groundman truck driver (tractor trailer unit).... | \$ 41.64 | 6.75%+24.15 |
| Lineman & Technician..... | \$ 52.05 | 6.75%+24.15 |
| Mechanic..... | \$ 41.64 | 6.75%+24.15 |
| Switching structures; railroad catenary installation and maintenance, third rail type underground fluid or gas filled transmission conduit and cable installations (including any and all fiber optic ground product by any other name manufactured for the dual purpose of ground fault protection and fiber optic capabilities), pipetype cable installation and maintenance jobs or projects, and maintenance bonding of rails; Pipetype cable installation | | |
| Cable Splicer..... | \$ 58.71 | 6.75%+24.15 |
| Flagman..... | \$ 32.02 | 6.75%+24.15 |
| Groundman Digging Machine Operator..... | \$ 48.03 | 6.75%+24.15 |
| Groundman Truck Driver (tractor-trailer unit).... | \$ 42.70 | 6.75%+24.15 |
| Groundman Truck Driver..... | \$ 42.70 | 6.75%+24.15 |
| Lineman & Technician..... | \$ 53.37 | 6.75%+24.15 |
| Mechanic..... | \$ 42.70 | 6.75%+24.15 |

FOOTNOTE:

a. PAID HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, Good Friday, Independence Day, Labor Day, Thanksgiving Day, Christmas Day, and Election Day for the President of the United States and Election Day for the Governor of New York State, provided the employee works two days before or two days after the holiday.

 ELEC1249-008 01/01/2019

| | Rates | Fringes |
|-------------------------------------------------------------------------|----------|-----------|
| ELECTRICIAN (Line Construction) | | |
| TELEPHONE, CATV FIBEROPTICS CABLE AND EQUIPMENT | | |
| Cable splicer..... | \$ 32.78 | 3%+4.93 |
| Groundman..... | \$ 16.49 | 3%+4.93 |
| Installer Repairman-Teledata Lineman/Technician-Equipment Operator..... | \$ 31.12 | 3%+4.93 |
| Tree Trimmer..... | \$ 25.79 | 3%+9.98+a |

a. New Year's Day, President's Day, Good Friday, Decoration Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, Day after Thanksgiving, Christmas Day.

 ENGI0106-001 07/01/2018

HEAVY & HIGHWAY

| | Rates | Fringes |
|----------------------------|----------|---------|
| Power equipment operators: | | |
| GROUP 1..... | \$ 43.47 | 26.05+a |
| GROUP 2..... | \$ 42.56 | 26.05+a |
| GROUP 3..... | \$ 39.99 | 26.05+a |
| GROUP 4..... | \$ 47.47 | 26.05+a |
| GROUP 5..... | \$ 46.47 | 26.05+a |
| GROUP 6..... | \$ 45.47 | 26.05+a |
| GROUP 7..... | \$ 45.08 | 26.05+a |

POWER EQUIPMENT OPERATOR CLASSIFICATIONS (HEAVY & HIGHWAY):

GROUP 1: Asphalt Curb Machine, Self Propelled, Slipform, Automated Concrete Spreader (CMI Type), Automatic Fine Grader, Backhoe (Except Tractor Mounted, Rubber Tired), Backhoe Excavator Full Swing (CAT 212 or similar type), Back Filling Machine, Belt Placer (CMI Type), Blacktop Plant (Automated), Boom truck , Cableway, Caisson Auger, Central Mix Concrete Plant (Automated), Concrete Curb Machine, Self Propelled, Slipform, Concrete Pump, Crane, Cherry Picker, Derricks (steel erection), Dragline, Overhead Crane (Gantry or Straddle type), Pile Driver, Truck Crane, Directional Drilling Machine, Dredge, Dual Drum Paver, Excavator (All Purpose Hydraulically Operated) (Gradall or Similar), Front End Loader (4 cu. yd. and Over), Head Tower (Sauerman or Equal), Hoist (Two or Three Drum), Holland Loader, Maintenance Engineer, Mine Hoist, Mucking Machine or Mole Pavement Breaker(SP) Wertgen; PB-4 and similar type, Power Grader, Profiler (over 105 H.P.) Quad 9, Quarry Master (or equivalent), Scraper, Fireman, Form Tamper, Grout Pump, Gunite Machine, Hammers (Hydraulic self-propelled), Hydra-Spiker, ride-on, Hydraulic Pump (jacking system), Hydro-Blaster (Water), Mulching Machine, Oiler, Parapet Concrete or Pavement, Shovel, Side Boom, Slip Form Paver, Tractor Drawn, BeltType Loader, Truck or Trailer Mounted Log , Chipper (Self Feeder), Tug Operator (Manned Rented Equipment Excluded), Tunnel Shovel

GROUP 2: Asphalt Paver, Backhoe (Tractor Mounted, Rubber Tired), Bituminous Recycler Machine, Bituminous Spreader and Mixer, Blacktop Plant (NonAutomated), Blast or Rotary Drill (Truck or Tractor Mounted), Boring Machine, Cage Hoist, Central Mix Plant (NonAutomated) and All Concrete Batching Plants, Cherry Picker (5 tons capacity and under), Concrete Paver (Over 16S), Crawler Drill, Self-contained, Crusher, Diesel Power Unit, Drill Rigs, Tractor Mounted, Front End Loader (Under 4 cu. yd.), Greaseman/Lubrication Engineer, HiPressure Boiler (15 lbs. and over), Hoist (One Drum), Hydro-Axe, Kolman Plant Loader and Similar Type Loaders, L.C.M. Work Boat Operator, Locomotive Mixer (for stabilized base selfpropelled), Monorail Machine, Plant Engineer, Profiler (105 H.P. and under), Grinder, Post Hole Digger and Post Driver, Power Broom (towed), Power Heaterman, Power Sweeper, Revinus Widener, Roller (Grade and Fill), Scarifier, ride-on, Shell Winder, Skid steer

loader (Bobcat or similar), Span-Saw, ride-on, Steam Cleaner, Pug Mill, Pump Crete Ready Mix Concrete Plant Refrigeration Equipment (for soil stabilization)Road Widener, Roller (all above subgrade), Sea Mule, Self-contained Ride-on Rock Drill, Excluding Air-Track Type Drill, Skidder, Tractor with Dozer and/or Pusher, Trencher. Tugger Hoist, Vermeer saw (ride on, any size or type), Winch, Winch Cat

GROUP 3: A Frame Winch Hoist on Truck , Articulated Heavy Hauler, Aggregate Plant, Asphalt or Concrete Grooving, Machine (ride on), Ballast Regulator, Ride-on Boiler (used in conjunction with production), Bituminous Heater, self-propelled, Boat (powered), Cement and Bin Operator, Compressors, Dust Collectors, Fork Lift, Generators, Pumps, Welding Machines, Light Plants, Heaters (hands-off equipment), Concrete Pavement Spreader and Finisher, Concrete Paver or Mixer (16S and under), Concrete Saw (self-propelled), Conveyor, Deck Hand, Directional Drill Machine Locator, Drill, (Core), Drill, (Well,) Farm Tractor with accessories, Fine Grade Machine, Tamper, ride-on, Tie Extractor, ride-on, Tie Handler, ride-on, Tie Inserter, ride-on, Tie Spacer, ride-on, Tire Repair, Track Liner, ride-on, Tractor, Tractor (with towed accessories), Vibratory Compactor, Vibro Tamp, Well Point

GROUP 4: Tower Cranes

GROUP 5: Cranes 50 tons and over

GROUP 6: Cranes 49 tons and below

GROUP 7: Master Mechanic

FOOTNOTE:

a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day

* IRON0012-002 07/01/2019

Rates Fringes

Ironworkers:

| | | |
|--------------------------------------------------------------------------------------------------------------------------|----------|-------|
| SHEETER..... | \$ 31.80 | 28.59 |
| STRUCTURAL, ORNAMENTAL, MACHINERY MOVER & RIGGERS, FENCE ERECTOR, REINFORCING, STONE DERRICKMAN, WELDER..... | \$ 31.55 | 28.59 |

LAB01822-001 07/01/2018

HEAVY & HIGHWAY

| | Rates | Fringes |
|--------------|----------|---------|
| Laborers: | | |
| GROUP 1..... | \$ 25.67 | 23.75+a |
| GROUP 2..... | \$ 25.47 | 23.75+a |
| GROUP 3..... | \$ 25.87 | 23.75+a |
| GROUP 4..... | \$ 26.07 | 23.75+a |
| GROUP 5..... | \$ 27.67 | 23.75+a |

LABORERS CLASSIFICATIONS (HEAVY & HIGHWAY)

GROUP 1. Basic Rate, Flagman Outboard and Hand Boats.

GROUP 2. Bull Float, Chain Saw, Concrete Aggregate Bin, Concrete Bootman, Gin Buggy, Hand or Machine Vibrator, Jack Hammer, Mason Tender, Mortar Mixer Paverment Breaker, Handlers of all Steel Mesh, Small Generators of Laborers' tools, installation of bridge drainage pipe, Pipe Layers, Vibrator type rollers, tamper, Drill doctor, tail or screw operator on asphalt paver, water pump operator (1 1/2" and single diaphragm) nozzle (asphalt, gunite, 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 Labor.

GROUP 3. All rock or drilling machine operators (except quarry master and similar type) Acetylene Torch operator, asphalt raker, powderman.

GROUP 4. Blaster, form setters, stone or granite curb setters.

GROUP 5. Hazardous Waste, Asbestos Abatement and Removal.

FOOTNOTE:

- a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

 PAIN0201-002 05/01/2019

Rates Fringes

Painters:

Zone #2 All of ESSEX COUNTY

Lead Abatement Workers,

| | |
|-------------------------------|-------|
| Structural Steel.....\$ 30.09 | 16.65 |
|-------------------------------|-------|

Painters, Drywall

| | |
|-------------------------------|-------|
| Finishers, Spray.....\$ 29.09 | 16.65 |
|-------------------------------|-------|

Zone #3 All of CLINTON

COUNTY

Lead Abatement Workers,

| | |
|-------------------------------|-------|
| Structural Steel.....\$ 30.09 | 15.45 |
|-------------------------------|-------|

Painters, Drywall

| | |
|-------------------------------|-------|
| Finishers, Spray.....\$ 29.09 | 15.45 |
|-------------------------------|-------|

 PAIN0806-003 10/01/2018

CLINTON AND ESSEX COUNTIES

Rates Fringes

Painters:

| | |
|--------------------------------------|-------|
| Structural Steel and Bridge.\$ 49.50 | 41.88 |
|--------------------------------------|-------|

 PLUM0773-001 05/01/2019

Rates Fringes

Plumber and Steamfitter

| | |
|-----------------------------|-------|
| CLINTON COUNTY.....\$ 37.50 | 30.98 |
|-----------------------------|-------|

| | |
|---------------------------|-------|
| ESSEX COUNTY.....\$ 38.50 | 30.98 |
|---------------------------|-------|

 * SHEE0083-001 06/01/2019

Rates Fringes

| | |
|---------------------------------|---------|
| Sheet metal worker.....\$ 33.73 | 33.04+a |
|---------------------------------|---------|

FOOTNOTE:

a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day. If any of these holidays fall on a Saturday or Sunday, either the preceding Friday or following Monday will be observed as the holiday.

TEAM0687-003 06/01/2018

| | Rates | Fringes |
|-----------------|----------|---------|
| Truck drivers: | | |
| HEAVY & HIGHWAY | | |
| CONSTRUCTION | | |
| GROUP 1:..... | \$ 25.82 | 25.16+a |
| GROUP 2:..... | \$ 26.04 | 25.16+a |

FOOTNOTE:

a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day, provided the employee has worked the day before and the day after the holiday.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Pick-ups, panel trucks, flatboy materials trucks (straight jobs), single axle dump trucks, dumpsters and receivers, greasers, truck tireman, parts chaser, tandems and batch trucks, mechanics, semi trailer, lowboy trucks, asphalt distributor trucks and agitator, mixer trucks and dumpcrete type vehicles, truck mechanic, fuel truck and bus

GROUP 2: Specialized earth moving equipment - euclid type or similar off-highway equipment, where not self-loaded, straddle (ross) carrier, self-contained concrete unit, off highway tandem back dump, twin engine equipment and double hitched equipment where not self loaded

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example:

PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator

U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

**OCR-CDBG
REQUIREMENTS**

EXHIBIT 4-1 CONTRACT PROVISIONS

1. EQUAL EMPLOYMENT OPPORTUNITY

The Contractor shall comply with E.O. 11246, "Equal Employment Opportunity," as amended by E.O. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and as supplemented by regulations at 41 CFR part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."

2. COPELAND "ANTI-KICKBACK" ACT (18 U.S.C. 874 AND 40 U.S.C. 276c)

The Contractor under this Agreement shall comply with applicable provisions of the Copeland "Anti-Kickback" Act (18 U.S.C. 874), as supplemented by Department of Labor regulations (29CFR part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in whole or in Part by Loans or Grants from the United States"). The Act provides that each contractor or subrecipient shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he is otherwise entitled. All suspected or reported violations shall be reported to the Federal awarding agency.

3. DAVIS-BACON ACT, AS AMENDED (40 U.S.C. 276a to a-7)

When required by Federal grant program legislation, the Contractor shall comply with the Davis-Bacon Act (40 U.S.C. 276a to a-7) and as supplemented by Department of Labor regulations (29CFR part 5, "Labor Standards Provisions Applicable to Contracts Governing Federally Financed and Assisted Construction"). Under this Act, contractors shall be required to pay wages to laborers and mechanics at a rate not less than the minimum wages specified in a wage determination made by the Secretary of Labor. In addition, contractors shall be required to pay wages not less than once a week. The Recipient shall place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation and the award of a contract shall be conditioned upon the acceptance of the wage determination. All suspected or reported violations shall be reported to the Federal awarding agency.

4. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT (40 U.S.C. 327-330)

Where applicable, the Contractor shall comply with Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-330), as supplemented by Department of Labor regulations (29 CFR part 5). Under Section 102 of the Act, each contractor shall be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than 1 ½ times the basic rate of pay for all hours worked in excess of 40 hours in the work week. Section 107 of the Act is applicable to construction work and provides that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

5. PATENT RIGHTS TO INVENTIONS MADE UNDER A CONTRACT AGREEMENT

Contract agreements for the performance of experimental, developmental, or research work shall provide for the patent rights of the Federal Government and the Recipient in any resulting invention in accordance with 37 CFR part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issues by the awarding agency.

6. CLEAN AIR ACT (42 U.S.C. 7401 ET SEQ.) AND THE FEDERAL WATER POLLUTION CONTROL ACT (33 U.S.C. 1251 ET SEQ.), AS AMENDED

The Contractor shall comply with all applicable standards, orders or regulations issues pursuant to the Clean Air Act (42 U.S.C. 7401 et seq.) And the Federal Water Pollution Control Act as amended (33 U.S.C. 1251 et seq.). Violations shall be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

7. SECTION 3 OF 12 U.S.C. 1701u OF THE HOUSING AND COMMUNITY DEVELOPMENT ACT OF 1968, AS AMENDED

The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (Section 3).

8. ADDITIONAL PROVISIONS

The Contractor shall comply with the following provisions under this contract:

- a. Any contract associated with this project title "Town of Moriah – Water and Sewer Upgrades" in excess of the small purchase threshold shall contain contractual provisions or conditions that allow for administrative, contractual, or legal remedies in instances by which a contractor violates or breaches the contract terms, and provides for such remedial actions as may be appropriate.
- b. All contracts associated with this project title "Town of Moriah – Water and Sewer Upgrades" in excess of \$10,000 shall contain suitable provisions for termination by the Town, including the manner by which such termination shall be effected and the basis for settlement.
- c. Except as otherwise required by statute, an award that requires the contracting (or subcontracting) for construction or facility improvements shall provide for the Town to follow its own requirements relating to bid guarantees, performance bonds, and payment bonds unless the construction contract or subcontract exceeds \$100,000. For those contracts or subcontracts exceeding \$100,000, the OCR may accept the bonding policy and requirements of the Town, provided the OCR has made a determination that the Federal Government's interest is adequately protected. If such a determination has not been made, the minimum requirements shall be as follows:
 - 1) A bid guarantee from each bidder equivalent to five percent of the bid price. The "bid guarantee" shall consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the bidder shall, upon

acceptance of this bid, execute such contractual documents as may be required within the time specified.

- 2) A performance bond on the part of the contractor for 100 percent of the contract price. A “performance bond” is one executed in connection with a contract to secure fulfillment of all the contractor’s obligations under such contract.
 - 3) A payment bond on the part of the contractor for 100 percent of the contract price. A “payment bond” is one executed in connection with a contract to assure payment as required by statute of all persons supplying labor and material in the execution of the work provided for in the contract.
 - 4) Where bonds are required in the situations described herein, the bonds shall be obtained from companies holding certificates of authority as acceptable sureties pursuant to 31 CFR part 223, “Surety Companies Doing Business with the United States.”
- d. The Town of Moriah, the NYS Office of Community Renewal, and the Comptroller General of the United States or any of their duly authorized representatives shall have access to any books, documents, papers and records of the Contractor which are directly pertinent to the activities covered by the Construction Contract for the purpose of making audits, examinations, excerpts and transcriptions. Said examination of records shall take place in the primary office of the Contractor. The Contractor shall maintain all required records for three (3) years after final payment is received and all other pending matters are closed.
 - e. The Contractor shall indemnify, defend and hold the NYS Housing Trust Fund Corporation, its employees and agents, harmless from and against any and all claims, actions, fines, demands, damages, losses, expenses and cost of every nature and including reasonable attorney’s fees incurred by, assessed or imposed against the NYS Housing Trust Fund Corporation to the fullest extent permitted by law arising out of the Contractor’s obligation under this contract.
 - f. All parties shall be bound by, and comply with all applicable Federal, State, and local laws and regulations, including but not limited to 24 CFR Parts 85 and 570.

EXHIBIT 4-2

SECTION 3 RIDER

Contractor must comply with and must ensure that the following language is included in all applicable subcontracts for work related to this Contract (the term “Contractor” as used herein shall also be deemed to mean “Subcontractor”):

1. Section 3 Clause (24 CFR 135.38)

- A. The work to be performed under this Agreement is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701 u (Section 3). The purpose of Section 3 is to ensure that Employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by Section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.
- B. The parties to this Agreement agree to comply with HUD’s regulations in 24 CFR Part 135, which implement Section 3. As evidenced by their execution of this Agreement, the parties to this Agreement certify that they are under no contractual or other impediments that would prevent them from complying with the Part 135 regulations.
- C. The Contractor agrees to send to each labor organization or representative of workers with which the Contractor has a collective bargaining agreement or other understand, if any, a notice advising the labor organization or workers’ representative of the Contractor’s commitments under this Section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the Section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.
- D. The Contractor agrees to include this Section 3 clause in every subcontract subject to compliance with regulations in 24 CFR Part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this Section 3 clause, upon a finding that the Subcontractor is in violation of the regulations in 24 DFR Part 135. The Contractor will not subcontract with any Subcontractor where the Contractor has notice knowledge that the Subcontractor has been found in violation of the regulations in 24 CFR Part 135.
- E. The Contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the Contractor is selected but before the

Agreement is executed, and (2) with persons other than those to whom the regulations of 24 CFR Part 135 require employment opportunities to be directed, were not filled to circumvent the Contractor's obligations under 24 CFR Part 135.

- F. Noncompliance with HUD's regulations in 24 CFR Part 135 may result in sanctions, termination of this Agreement for default, and debarment or suspension from future HUD assisted contracts.
 - G. With respect to work performed in connection with Section 3 covered Indian Housing Assistance, Section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this Agreement. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this Agreement that are subject to the provisions of Section 3 and Section 7(b) agree to comply with Section 3 to the maximum extent feasible, but not in derogation of compliance with Section 7(b).
2. Contractor shall maintain such records, and complete and submit forms as may be amended from time to time, as required by the NYS Office of Community Renewal ("OCR") and/or HUD including but not limited to the Section 3 New Hires Report and the Section 3 Business Certification Package. Such forms shall be submitted in accordance with the directions contained therein and at such other times as the OCR and/or HUD may direct.

PROJECT SIGN REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Project Funding Sign shall be fabricated by a professional sign manufacturer.
- B. Sign Fabrication:
 - 1. Sign Board: 4 feet x 8 feet medium density overlay exterior grade plywood with grade B surface veneers (MDO B-B EXT-APA).
 - 2. Exterior grade printed signs, such as closed cell PVC foamboard, mounted on APA exterior grade sheets are acceptable.
 - 3. Primer: As recommended by finish coat manufacturer for the substrate and finish material.
 - 4. Lettering and striping shall be uniform with sharp, neat profiles.
 - 5. Sign colors: See sign template included at the end of this Section.
 - 6. Logos for Fair Housing and Equal Opportunity shall be included as indicated on the sign template.
 - 7. Size of text and logos to be proportional to that shown on the sign template.
 - 8. All HCR funding sources shall be included in the white band with matching text.
 - 9. Optional information, limited to text only, such as local officials, developers, etc., may be placed in the white band. This optional text shall be visibly subordinate to the main sign graphics and text. If optional information is included, submit the proposed layout to the office administering the funding of the project for approval.

10. Supports: Treated D.F. posts.

2.2 SIGN DESIGN

- C. Project sign shall be designed in accordance with the sign template included at the end of this Section.

PART 3 - EXECUTION

3.1 SIGN INSTALLATION

- D. Install sign within one (1) week from commencement of work at the site.
- E. Submit a photograph of the installed sign to the office administering the funding of the project.
- F. Install sign in accordance with all laws and codes having jurisdiction.
- G. Erect sign in a prominent location, secure from vandalism.
- H. Provide individual signs at non-contiguous scattered site projects.
- I. Maintain each sign plumb, level and in good conditions for the duration of construction.
- J. Maintain each project sign at the property for 60 days after completion of the construction or initial occupancy, whichever duration is longer.

END OF SECTION

Project Sign Specifications



optional information, see Project Sign Master Specification

Pantone: Medium Purple



Blue Pantone: 2925

Andrew M. Cuomo, Governor

RuthAnne Visnauskas, Commissioner/CEO

Typeface: Arial & Arial Bold
Pantone: Medium Purple
Blue Pantone: 2925

Icons* may be printed in purple to keep the sign at two colors

DIVISION 1 – GENERAL REQUIREMENTS

SECTION 011000

SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Project information.
 - 2. Work covered by Contract Documents.
 - 3. Access to site.
 - 4. Work restrictions.
 - 5. Specification and drawing conventions.
 - 6. Miscellaneous provisions.
 - 7. Specification and drawing conventions.
- B. Related Requirements:
 - 1. Division 01 Section "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.3 PROJECT INFORMATION

- A. Project Identification: Water and Sewer Upgrades.
 - 1. Project Location: Ridge Lane, Oak Lane, 1st Lane, Elizabeth Street, in the Town of Moriah, NY 12974.
 - 2. Owner: Town of Moriah, 38 Park Place, Port Henry, NY 12974.
- B. Engineer: MJ Engineering and Land Surveying, P.C., 1533 Crescent Road, Clifton Park, NY 12065.

1.4 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of the Project is defined by the Contract Documents and consists of the following:
1. Rehabilitation of approximately 490 linear feet of 12-inch clay and steel gravity sanitary sewer piping via cured-in-place pipe (CIPP) lining.
 2. Rehabilitation of one (1) manholes including, but not limited to, bench repairs, and complete rehabilitation using crack fillers and lining system, as specified.
 3. Replacement of approximately 440 linear feet of 6-inch diameter clay gravity sanitary sewer with 8-inch diameter PVC, including installation of three (3) manholes.
 4. Replacement of approximately 275 linear feet of 8-inch diameter clay gravity sanitary sewer with 8-inch PVC, including installation of two (2) manholes.
 5. Replacement of sewer laterals to property line and connection to existing laterals.
 6. Replacement of approximately 700 linear feet of 6-inch diameter cast iron water main with 8-inch diameter ductile water main, valves, fittings, water main connections, and associated appurtenances.
 7. Water main testing and disinfection.
 8. Replacement of water services to property line and connection to existing water services.
 9. Abandonment of the existing cast iron water main.
 10. Site restoration including asphalt pavement replacement, concrete sidewalk replacement, topsoil, and seeding.
 11. Erosion and sediment control of the project site during construction.
 12. Work zone traffic control of the project site.
- B. Type of Contract:
1. Project will be constructed under a single prime contract.

1.5 ACCESS TO SITE

- A. General: Contractor shall have full use of Project site for construction operations during the construction period, unless specified otherwise. Contractor's use of Project site is limited only by Owner's right to perform work or to retain other contractors on portions of Project.
- B. Use of Site: Limit use of Project site to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
1. Limits: Confine construction operations to areas identified on Drawings.

2. Driveways, Walkways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, the public, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
3. Schedule deliveries to minimize use of driveways and entrances by construction operations.
4. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
5. All construction materials, equipment and vehicles shall be removed from the project site at the end of each work day and brought to a Town approved staging area.

1.6 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.
 1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work on the site to normal business working hours of 7:00 a.m. to 5:00 p.m., Monday through Friday, unless otherwise indicated.
- C. Existing Utility Interruptions: Do not interrupt utilities unless permitted under the following conditions:
 1. Notify Engineer not less than one (1) week in advance of proposed utility interruptions.
 2. Obtain Engineer's written permission before proceeding with utility interruptions.

1.7 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and scheduled on Drawings.
 3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012100

ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
 - 1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.
- B. Types of allowances include the following:
 - 1. Contingency allowances.
- C. Related Requirements:
 - 1. Divisions 02 through 33 Sections for items of Work covered by allowances.

1.3 ACTION SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

1.4 INFORMATIONAL SUBMITTALS

- A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.
- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.5 COORDINATION

- A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.6 CONTINGENCY ALLOWANCES

- A. Use the contingency allowance only as directed by Engineer for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.
- B. Contractor's overhead, profit, and related costs for products and equipment ordered by Owner under the contingency allowance are included in the allowance and are not part of the Contract Sum. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.
- C. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit margins.
- D. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

- A. Allowance No. 1: Include a contingency allowance of \$27,000 for use according to Owner's written instructions.

END OF SECTION 012100

SECTION 012200

UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for unit prices.
- B. Related Requirements:
 - 1. Division 01 Section "Contract Modification Procedures" for procedures for submitting and handling Change Orders.
 - 2. Division 01 Section "Quality Requirements" for general testing and inspecting requirements.

1.3 DEFINITIONS

- A. Unit price is an amount stated in the Bid Form, as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 PROCEDURES

- A. Unit prices include all necessary means & methods, materials, subcontractors, in addition to costs for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Progress payments for work bid on a lump sum price basis will be made according to the percentage of work complete.
- C. Progress payments for work bid on a unit price basis will be made according to the actual quantity of material in place and measured to the neat payment limits as shown on the drawings and as specified herein.

- D. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- E. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES (BASE BID)

A. ITEM 1 – MOBILIZATION & DEMOBILIZATION

1. Work Included:

- a. This Item includes all mobilization, demobilization, bonds and insurance, submissions and coordination, installation and maintenance of stabilized construction entrance(s), survey stakeout, temporary facilities, project meetings, miscellaneous work, project closeout, and all else incidental thereto as shown on the Drawings and as specified, with the exception of Items specifically included under other Items of the Contract.

2. Measurement:

- a. The quantity to be paid for under this Item shall be all labor, materials, tools, equipment, supervision, and incidentals necessary to complete the work as described above, and all else incidental thereto for which separate payment is not provided under other Items.

3. Payment:

- a. The Unit Price Bid for this Item shall be full compensation for furnishing all labor, materials, tools, equipment, supervision, and incidentals necessary to complete the work as described above.

B. ITEM 2 – WORK ZONE TRAFFIC CONTROL

1. Work Included:

- a. This Item includes all labor, materials, tools, equipment, supervision and incidentals required to furnish, install, and carry out all required work zone traffic control measures within the limits of and for the duration of the Contract, as shown on the Drawings, and as directed by the Town, and

specified herein except that specifically included under other items of the Contract. More specifically, this Item includes but is not limited to: set-up, maintenance, and tear-down of traffic control measures as shown on the Drawings; mobilization of barrier vehicles, labor for all work zone traffic control activities, including flagging operations; and coordination with Town for work zone traffic control timeframe.

2. Measurement:

- a. The quantity of work zone traffic control to be paid under the subdivisions of this Item shall be the number of days work zone traffic control measures that will be required for completing work within the limits shown on the Drawings and as specified herein.

3. Payment:

- a. The Unit Price Bid per each unit of this Item shall be full compensation for furnishing all labor, materials, tools, equipment, supervision, and incidentals necessary to carry out and maintain all work zone traffic control measures within the Contract limits as described in Section A of this Item, as shown on the Drawings, and as specified herein.

C. ITEM 3 – EROSION AND SEDIMENT CONTROL

1. Work Included:

- a. Contractor shall provide all necessary erosion control measures in accordance with the NYS Standards and Specifications for Erosion and Sediment Control. Chlorinated water shall not be discharged to the environment without first dechlorinating in accordance with AWWA C651.

2. Measurement:

- a. The payment for this Item shall include one Lump Sum cost, and shall be full compensation for furnishing all labor, materials, tools, equipment, supervision, and incidentals necessary to complete the work as described above, and all else incidental thereto for which separate payment is not provided under other Items.

3. Payment:

- a. The Unit Price Bid for this Item shall be full compensation for furnishing all labor, materials, tools, equipment, supervision, and incidentals necessary to provide temporary erosion and sediment controls as shown on the Drawings and specified herein.

D. ITEM 4A – UTILITY LOCATING – LEVEL A

1. Work Included:

- a. This Item includes all labor, materials, tools, equipment, supervision and incidentals required for the removal and backfill of all material necessary for the construction of test pits, and restoration (including rebedding utilities if necessary), except that Work specifically included for payment under other items of this Contract.
- b. Excavation of test pits shall not relieve the Contractor of the responsibility for protection of utilities. Each test pit shall be of sufficient dimension as to locate all utilities or conflicts within five (5) feet of the sanitary, storm sewer, and/or watermains as indicated on the Drawings to uncover utilities intended to be located.
- c. This Item also includes all necessary arrangements with the utility owners for test pit witnessing as they require, protection of utilities, and determination of the exact horizontal and vertical location of all pipes, conduits, ducts and other structures encountered.
- d. This Item includes all labor, materials, tools, equipment, supervision and incidentals required to test and certify fill materials and compaction densities for the completion of the test pits.

2. Measurement:

- a. The quantity of tests pits to be paid under the subdivisions of this Item shall be the number of each test pit excavated and backfilled where directed by the Engineer.

3. Payment:

- a. The Unit Price Bid for this Item shall be full compensation for furnishing all labor, materials, tools and equipment necessary to excavate and backfill test pits as described in Section A of this Item, as shown on the Drawings, and as specified in this Contract.

E. ITEM 4B – UTILITY LOCATING – LEVEL B

1. Work Included:

- a. This Item includes all labor, materials, tools, equipment, supervision and incidentals required to field locate, mark, and stakeout existing underground utilities and service connections prior to excavation as directed, except that Work specifically included for payment under other items of this Contract.

- b. Utility locating shall not relieve the Contractor of the responsibility for protection of utilities.
2. Measurement:
- a. The quantity to be paid under the subdivisions of this Item shall be the number of days that will be required for locating utilities within the limits shown on the Drawings or as directed by the Engineer.
3. Payment:
- a. The Unit Price Bid for this Item shall be full compensation for furnishing all labor, materials, tools and equipment necessary to provide utility locating as described in Section A of this Item, as shown on the Drawings, and as specified in this Contract.

F. ITEM 5 – EXISTING HYDRANT REMOVAL AND REINSTALLATION

1. Work Included:
- a. This Item includes all labor, materials, tools, equipment, supervision and incidentals required to disconnect, remove, store, reinstall, and test existing hydrant assemblies, as shown on the Drawings and as specified herein. More specifically, this Item includes but is not limited to: excavation, backfill, compaction, removal and reinstallation of existing hydrant, valve box removal, capping the existing main, new shutoff valve, restrained coupling, thrust blocks, polyethylene encasement, and transition fittings as shown and specified.
2. Measurement:
- a. The quantity to be paid for under this Item shall be based on each hydrant assembly removed and reinstalled, as indicated on the Drawings or as authorized by the Engineer.
3. Payment:
- a. The Unit Price Bid for each of the subdivisions under this Item shall be full compensation for furnishing all labor, materials, tools, and equipment necessary to remove and reinstall existing hydrant assemblies. Surface removals and restoration such as asphalt pavement, concrete sidewalk, and topsoil and seeding are included for payment under other items of this Contract.

G. ITEM 6 – EXISTING 6” GATE VALVE BOX REMOVAL

1. Work Included:

- a. This Item includes all labor, materials, tools, equipment, supervision and incidentals required to remove valve boxes servicing existing in-line gate valves, as shown on the Drawings and as specified herein. More specifically, this Item includes but is not limited to: excavation, backfill, and removal of existing valve boxes, as shown and specified.
- b. The removal of valve boxes located on hydrant laterals shall be paid for under Item 5 and is not included in this Item.

2. Measurement:

- a. The quantity to be paid for under this Item shall be based on the number of valve boxes removed, as indicated on the Drawings or as authorized by the Engineer.

3. Payment:

- a. The Unit Price Bid for each of the subdivisions under this Item shall be full compensation for furnishing all labor, materials, tools, and equipment necessary to remove existing gate valve boxes. Surface removals and restoration such as asphalt pavement, concrete sidewalk, and topsoil and seeding are included for payment under other items of this Contract.

H. ITEM 7 –SANITARY SEWER MAIN (GRAVITY) CIPP LINING

1. Work Included:

- a. This Item includes all labor, materials, tools, equipment, supervision and incidentals required to furnish, install, test, and inspect all sizes of existing sanitary sewer and perform traditional cured-in-place pipe (CIPP) lining of the existing sanitary sewer as shown on the Drawings and specified herein except that specifically included under other items of the Contract. More specifically, this Item includes but is not limited to: cleaning of existing sanitary sewer pipes; videography of sanitary sewer piping for pre-and post-installation of CIPP lining; installation of traditional CIPP lining; re-establishment of existing sanitary sewer service lateral connections, and cleaning/testing of newly installed CIPP liner.

2. Measurement:

- a. The quantity of CIPP lining to be paid under the subdivisions of this Item shall be the number of linear feet of CIPP lining indicated for installation within the limits shown on the Drawings or as ordered by the Engineer.

- b. No payment shall be made for any material identified in the subdivisions of this Item which is in excess or is not placed within the payment limits shown on the Drawings.

3. Payment:

- a. The Unit Price Bid per linear foot under each subdivision of this Item shall be full compensation for furnishing all labor, materials, tools and equipment necessary to furnish, deliver, and install, and test the CIPP lined sanitary sewer piping as described in Section A of this Item, as shown on the Drawings, and as specified in this Contract. Bypass pumping is included for payment under other items of this Contract.

I. ITEM 8 – BYPASS PUMPING

1. Work Included:

- a. This Item includes all labor, materials, tools, equipment and supervision required to furnish, install, test, maintain, and remove bypass pumping operations required to perform the work indicated on the Drawings and specified herein except that specifically included under other Items of the Contract.

2. Measurement:

- a. The quantity of bypass pumping to be paid under the subdivisions of this Item shall be the number of days required for bypass pumping operations for the proposed work indicated within the limits shown on the Drawings or ordered by the Engineer.

3. Payment:

- a. The Unit Price Bid for each day of the subdivisions under this Item, shall be full compensation for furnishing all labor, materials, tools and equipment necessary to furnish, install, test, maintain, and remove bypass pumping as described in Section A of this Item, as shown on the Drawings, and as specified in this Contract.

J. ITEM 9 – SANITARY SEWER MANHOLE REHABILITATION

1. Work Included:

- a. This Item includes all labor, materials, tools, equipment, and supervision required to furnish, install, maintain, and test manhole rehabilitation required to perform the work indicated on the Drawings and specified herein except that specifically included under other Items of the Contract.

This work includes, but is not limited to, benchwall repairs, pipe invert repairs, and a complete manhole liner system.

2. Measurement:

- a. The quantity of manhole restoration to be paid under the subdivisions of this Item shall be the number of manholes rehabilitated for the proposed work indicated within the limits shown on the Drawings or ordered by the Engineer.

3. Payment:

- a. The Unit Price Bid for each of the subdivisions under this Item, shall be full compensation for furnishing all labor, materials, tools and equipment necessary to furnish, install, maintain, and test of the manhole repairs and linings as described in Section A of this Item, as shown on the Drawings, and as specified in this Contract.

K. ITEM 10 - SANITARY SEWER MANHOLE INSTALLATION

1. Work Included:

- a. This Item includes all labor, materials, tools, equipment, supervision and incidentals required to install sanitary sewer manholes, furnish, install, test, and inspect all sizes and materials of proposed sanitary sewer manholes as shown on the Drawings and specified herein except that specifically included under other items of the Contract. More specifically, this Item includes but is not limited to: dewatering, excavation, trench excavation and support, pre-cast concrete manholes sections (base, intermediate, flat top, cone, riser rings), accessories, and installation, frames and covers, miscellaneous fittings, structure bedding, suitable structural backfill, compaction, and cleaning/testing of newly installed manholes.
- b. This Item also includes all labor, materials, tools, equipment, supervision and incidentals required to install drop piping in sanitary sewer manholes, as shown on the Drawings and specified herein except that specifically included under other items of the Contract.

2. Measurement:

- a. The quantity of sanitary sewer manholes to be paid under the subdivisions of this Item shall be the number of each sanitary manhole indicated for installation within the limits shown on the Drawings or as ordered by the Engineer.
- b. The quantity of sanitary sewer drop piping to be paid under the subdivisions of this Item shall be the linear feet of drop piping indicated

for installation within the limits shown on the Drawings or as ordered by the Engineer

- c. No payment shall be made for any material identified in the subdivisions of this Item which is in excess or is not placed within the payment limits shown on the Drawings, in other words for materials not used to backfill structures.
- d. No payment shall be made for material purchased and transported to the site to backfill excavations which were carried below the grades specified, or used for controlling groundwater.

3. Payment:

- a. The Unit Price Bid of each under each subdivision of this Item shall be full compensation for furnishing all labor, materials, tools and equipment necessary to furnish, deliver, install, and test the sanitary sewer manholes and drop piping, as described in Section A of this Item, as shown on the Drawings, and as specified in this Contract. In addition, labor and equipment required to install backfill material to subgrade is included in this Item. Surface removals and restoration such as asphalt pavement, concrete sidewalk, and topsoil and seeding are included for payment under other items of this Contract.

L. ITEM 11 – 8-INCH SANITARY SEWER MAIN REPLACEMENT

1. Work Included:

- a. This Item includes all labor, materials, tools, equipment, supervision and incidentals required to furnish, install, test, and inspect 8-inch PVC sanitary sewer piping as shown on the Drawings and specified herein except that specifically included under other items of the Contract. More specifically, this Item includes but is not limited to: dewatering, trench excavation and support, pipe material and installation, couplings and miscellaneous fittings, pipe zone bedding, pipe zone backfill, and suitable trench material, compaction, and cleaning/testing of newly installed pipes.

2. Measurement:

- a. The quantity of 8-inch sanitary sewer to be paid under the subdivisions of this Item shall be the number of linear feet of sanitary sewer piping indicated for installation within the limits shown on the Drawings or as ordered by the Engineer.

3. Payment:

- a. The Unit Prices Bid per each under each subdivision of this Item shall be full compensation for furnishing all labor, materials, tools and equipment necessary to furnish, deliver, and install, and test the 8-inch PVC sanitary sewer piping as specified in Section A of this Item, as shown on the Drawings, and as specified in this Contract. Surface removals and

restoration such as asphalt pavement, concrete sidewalk, and topsoil and seeding are included for payment under other items of this Contract.

M. ITEM 12- SANITARY SEWER LATERAL REPLACEMENT

1. Work Included:

- a. This Item includes all labor, materials, tools, equipment, and supervision required to replace existing sanitary sewer laterals, as well as re-establish the connection of the new 4-inch PVC sanitary lateral to the new sanitary sewer, or receiving manhole, as shown on the Drawings and specified herein. This includes but is not limited to excavation, dewatering, removal and disposal of existing sanitary lateral, installation of new 4-inch diameter PVC lateral, cleanout, and associated appurtenances for connection to the existing sanitary lateral at the property right-of-way line, pipe zone bedding, pipe zone backfill, suitable trench material, compaction, and cleaning/testing of the newly installed service lateral as shown on the Drawings and specified herein.

2. Measurement:

- a. The quantity of 4-inch sanitary sewer laterals to be paid under the subdivisions of this Item shall be the number of linear feet of sanitary sewer lateral piping indicated for installation within the limits shown on the Drawings or as ordered by the Engineer.
- b. No payment shall be made for any material identified in the subdivisions of this Item which is in excess or is not placed within the payment limits shown on the Drawings, in other words for materials not used to backfill piping.
- c. No payment shall be made for material purchased and transported to the site to backfill excavations which were carried below the grades specified, or used for controlling groundwater.

3. Payment:

- a. The Unit Prices Bid per each under each subdivision of this Item shall be full compensation for furnishing all labor, materials, tools and equipment necessary to remove, furnish, deliver, and install, and test the 4-inch PVC sanitary sewer laterals as specified in Section A of this Item, as shown on the Drawings, and as specified in this Contract. Surface removals and restoration such as asphalt pavement, concrete sidewalk, and topsoil and seeding are included for payment under other items of this Contract.

N. ITEM 13– 6-INCH GATE VALVES

1. Work Included:

- a. This Item includes all labor, materials, tools, equipment, supervision and incidentals required to furnish, install, and test 6-inch gate valves as shown on the Drawings or specified herein. This Item shall include, but not be limited to valves, valve boxes, polyethylene encasement, excavation, backfill, and compaction as shown and specified.

2. Measurement:

- a. The quantity to be paid for under this Item shall be based on the number of valves installed as indicated on the Drawings or as authorized by the Engineer.

3. Payment:

- a. The Unit Price Bid for this Item shall include the costs of all labor, tools, materials, equipment, supervision, and incidentals necessary to install each valve, valve box, and covers as specified or shown on the Drawings. Surface removals and restoration such as asphalt pavement, concrete sidewalk, and topsoil and seeding are included for payment under other items of this Contract.

O. ITEM 14 - FURNISHING AND INSTALLING DUCTILE IRON PIPE (DIP) WATER MAIN

1. Work Included:

- a. This Item includes all labor, materials, tools, equipment, supervision and incidentals necessary to furnish, install, test and inspect all DIP water mains of the size, class, depth, and materials shown on the Drawings and as specified herein, except that specifically included under other items of the Contract. More specifically, this item includes, but is not limited to, excavation/trench support, dewatering, backfill, compaction, piping materials, pressure/leakage testing, disinfection, and polyethylene encasement, as shown and specified.

2. Measurement:

- a. The quantity of pipe to be paid for under this Item shall be the number of linear feet of DIP water main installed within the limits shown on the Drawings or authorized by the Engineer.

3. Payment:

- a. The Unit Price Bid for this Item shall be full compensation for furnishing all labor, materials, tools and equipment necessary to furnish, install and test the DIP watermain as shown on the Drawings and specified, and not specifically included for payment under the other items of this Contract. Surface removals and restoration such as asphalt pavement, concrete sidewalk, and topsoil and seeding are included for payment under other items of this Contract.

P. ITEM 15 – CONNECTION TO COLLEGE STREET 6” WATER MAIN AT OAK LANE

1. Work Included:

- a. This Item includes all labor, materials, tools, equipment, supervision and incidentals required to disconnect the existing 6” water main at College Street and connect to the proposed main, as shown on the Drawings and as specified herein. More specifically, this Item includes but is not limited to: excavation, backfill, compaction, tee and 6” gate valve installation, cutting/removal/capping the existing main, pouring thrust blocks, miscellaneous fittings, restrained couplings, pressure/leakage testing, and disinfection, as shown and specified.

2. Measurement:

- a. The quantity to be paid for under each subdivision of this Item shall be all work associated with complete connection of the existing water main as shown on the Drawings and as specified herein.

3. Payment:

- a. The Unit Price Bid for this Item shall be full compensation for furnishing all labor, materials, tools, and equipment necessary to complete the connection of the existing water main to the new main, as shown on the Drawings and as specified herein. Surface removals and restoration such as asphalt pavement, concrete sidewalk, and topsoil and seeding are included for payment under other items of this Contract.

Q. ITEM 16 – CONNECTION TO COLLEGE STREET 6” WATER MAIN AT RIDGE LANE

1. Work Included:

- a. This Item includes all labor, materials, tools, equipment, supervision and incidentals required to disconnect the existing 6” water main at College Street and connect to the proposed main, as shown on the Drawings and as specified herein. More specifically, this Item includes but is not limited to: excavation, backfill, compaction, tee and 6” gate valve installation, cutting/removal/capping the existing main, pouring thrust blocks, miscellaneous fittings, restrained couplings, pressure/leakage testing, and disinfection, as shown and specified.

- b. Installation of 6” gate valve on College Street shall be paid for under Item 13.

2. Measurement:

- a. The quantity to be paid for under each subdivision of this Item shall be all work associated with complete connection of the existing water main as shown on the Drawings and as specified herein.

3. Payment:

- a. The Unit Price Bid for this Item shall be full compensation for furnishing all labor, materials, tools, and equipment necessary to complete the connection of the existing water main to the new main, as shown on the Drawings and as specified herein. Surface removals and restoration such as asphalt pavement, concrete sidewalk, and topsoil and seeding are included for payment under other items of this Contract.

R. ITEM 17A – REPLACE EXISTING WATER SERVICE (SAME SIDE)

1. Work Included:

- a. This Item includes all labor, materials, tools, equipment, and supervision needed to furnish, install, and test new 3/4" water services to replace existing water services, as authorized by Engineer. This Item shall include, but not be limited to, excavation, backfill, compaction, copper tubing, pipe fittings, pipe couplings/adapters, corporation stops, curb stops, curb boxes, and valve keys.
- b. This Item also includes the removal and disposal of existing water service piping, and curb boxes.
- c. This Item also includes extending the water service from the proposed curb box to connect to the existing water service in locations where the existing curb box is beyond the R.O.W.

2. Measurement:

- a. The quantity to be paid for under this Item shall be based on the number of water services replaced as authorized by the Engineer. For the purpose of bidding, Contractor shall assume each service will require 15 linear feet of tubing from the point of connection at the water main to the curb box.

3. Payment:

- a. The Unit Price Bid for this Item shall include the costs of all labor, tools, material, equipment, supervision, and incidentals necessary to replace

each water service as authorized by Engineer. Payment for this Item shall be based on the number of water services replaced as authorized by Engineer. Surface removals and restoration such as asphalt pavement, concrete sidewalk, and topsoil and seeding are included for payment under other items of this Contract.

S. ITEM 17B – REPLACE EXISTING WATER SERVICE (OPPOSITE SIDE)

1. Work Included:

- a. This Item includes all labor, materials, tools, equipment, and supervision needed to furnish, install, and test new 3/4” water services to replace existing water services, as authorized by Engineer. This Item shall include, but not be limited to, excavation, backfill, compaction, copper tubing, pipe fittings, pipe couplings/adapters, corporation stops, curb stops, curb boxes, and valve keys.
- b. This Item also includes the removal and disposal of existing water service piping, and curb boxes.
- c. This Item also includes extending the water service from the proposed curb box to connect to the existing water service in locations where the existing curb box is beyond the R.O.W.

2. Measurement:

- a. The quantity to be paid for under this Item shall be based on the number of water services replaced as authorized by the Engineer. For the purpose of bidding, Contractor shall assume each service will require 25 linear feet of tubing from the point of connection at the water main to the curb box.

3. Payment:

- a. The Unit Price Bid for this Item shall include the costs of all labor, tools, material, equipment, supervision, and incidentals necessary to replace each water service as authorized by Engineer. Payment for this Item shall be based on the number of water services replaced as authorized by Engineer. Surface removals and restoration such as asphalt pavement, concrete sidewalk, and topsoil and seeding are included for payment under other items of this Contract.

T. ITEM 18 – ASPHALT PAVEMENT REMOVAL AND REPLACEMENT

1. Work Included:

- a. This Item includes all labor, materials, tools, equipment, supervision and incidentals required to furnish and install all bituminous pavement on

Town roads, both permanent and temporary, as authorized by Engineer and which is in addition to that specifically included for payment under other Items. Included under this Item is all permanent and temporary pavement replacement necessitated by the construction of water or sewer main, within the pavement limits. Pavement replacement includes, but is not limited to, saw cutting and removing existing pavement, proof rolled subgrade, pavement subbase, binder course, tack coat, truing and leveling course, and top course, as shown on the Drawings and specified herein.

2. Measurement:

- a. The quantity which will be paid for under this Item is the actual weight of pavement in tons that is actually placed within the limits required for complete restoration and within the payment limits for pavement replacement as shown on the Drawings and specified herein or authorized by the Engineer.

3. Payment:

- a. The Unit Price Bid for this Item shall include all cost necessary to complete permanent pavement replacement, and all other work necessary to restore roadways as ordered by the Engineer, except that which is specifically included until other Items of this Contract.
- b. No additional payments will be made for pavement the Contractor has to replace which is beyond the pay limits shown or specified, but which is required because of the Contractor's operation or subsoil conditions.

U. ITEM 19 – CONCRETE SIDEWALK REMOVAL AND REPLACEMENT

1. Work Included:

- a. This Item includes all labor, materials, tools, equipment, supervision and incidentals required to remove existing concrete sidewalk, furnish and install all concrete sidewalk, as authorized by Engineer and which is in addition to that specifically included for payment under other Items. Included under this Item is all permanent sidewalk removal and replacement necessitated by the construction of water or sewer main, within the sidewalk limits. Sidewalk replacement includes, but is not limited to, proof rolled subgrade, sidewalk subbase, concrete, and appurtenances as shown on the Drawings and specified herein.

2. Measurement:

- b. The quantity which will be paid for under this Item is the actual area of sidewalk in square feet that is actually removed and replaced within the limits required for complete restoration and within the payment limits for

sidewalk replacement as shown on the Drawings and specified herein or authorized by the Engineer.

3. Payment:

- a. The Unit Price Bid for this Item shall include all cost necessary to complete sidewalk replacement, and all other work necessary to restore sidewalks as ordered by the Engineer, except that which is specifically included until other Items of this Contract.
- b. No additional payments will be made for sidewalk the Contractor has to replace which is beyond the pay limits shown or specified, but which is required because of the Contractor's operation or subsoil conditions.

V. ITEM 20 - TOPSOIL & SEEDING

1. Work Included:

- a. This Item includes all labor, materials, tools, equipment, supervision and incidentals needed to install topsoil and seed as authorized by Engineer and which is in addition to that specifically included for payment under other Items. This Item includes, but is not limited to, furnishing, installing, spreading, fertilizing, and maintaining topsoil and seed until a healthy stand of grass is established. This Item includes topsoil & seeding which is in addition to that specifically included for payment under other Items
- b. Placement of mulch to seeded areas is included in this Item.

2. Measurement:

- a. The quantity of topsoil and seeding to be paid for under this Item shall be the actual number of square yards of healthy grass established as authorized by the Engineer, except that which is specifically included under other Items of this Contract.

3. Payment:

- a. The Unit Price Bid for this Item shall be full compensation for furnishing all labor, materials, tools, equipment, supervision, and incidentals necessary for topsoil and seeding surface restoration as authorized by the Engineer, except that which is specifically included under other Items of this Contract.

W. ITEM 21 – RECORD DOCUMENTATION

1. Work Included:

- a. This Item includes all labor, materials, tools, equipment, and supervision required for complete record documentation as outlined in the Division 1

Specifications.

2. Measurement:

- a. The quantity to be paid for under this Item shall be all labor, materials, and equipment necessary to complete the work as described above, and all else incidental thereto for which separate payment is not provided under other Items.

3. Payment:

- a. The Unit Price Bid for this Item shall be for furnishing all labor, materials, tools, equipment, supervision, and incidentals necessary to prepare and provide record documentation as described above and specified herein.

X. ITEM 22 - ALLOWANCE NO. 1

1. Work Included:

- a. This Item includes all labor, materials, tools, equipment, and supervision necessary to complete field directed work as authorized by the Engineer.

2. Measurement:

- a. The measurement for payment will be based upon the mutually agreed upon method for work completed in accordance with the Contract Documents.

3. Payment:

- a. Payment for this Item will be based upon the unit prices listed in the Bid Schedule, a mutually agreed upon lump sum, or on a time and materials basis, as directed and approved by the Engineer. Unused portions of the Allowance will be credited to the Town upon completion of the work.

3.2 SCHEDULE OF ALTERNATE UNIT PRICES

A. ITEM 23 – REPLACE EXISTING 4” SEWER LATERAL (FROM PROPERTY LINE TO HOUSE)

1. Work Included:

- a. This Item includes all labor, materials, tools, equipment, and supervision required to replace existing sanitary sewer laterals, as well as re-establish the connection of the new 4-inch PVC sanitary lateral to the house, as ordered by the Engineer based on CCTV inspection of the lateral to be conducted by the Town. This includes but is not limited to excavation, dewatering, removal and disposal of existing sanitary lateral, installation

of new 4-inch diameter PVC lateral from cleanout to house, and associated appurtenances for connection to the existing sanitary lateral at the house, pipe zone bedding, pipe zone backfill, suitable trench material, compaction, and cleaning/testing of the newly installed service lateral as shown on the Drawings and specified herein.

2. Measurement:

- a. The quantity of 4-inch sanitary sewer laterals to be paid under the subdivisions of this Item shall be the number of linear feet of sanitary sewer lateral piping indicated for installation within the limits shown on the Drawings and as ordered by the Engineer based on CCTV inspection of the lateral to be conducted by the Town.
- b. No payment shall be made for any material identified in the subdivisions of this Item which is in excess or is not placed within the payment limits shown on the Drawings, in other words for materials not used to backfill piping.
- c. No payment shall be made for material purchased and transported to the site to backfill excavations which were carried below the grades specified, or used for controlling groundwater.

3. Payment:

- a. The Unit Prices Bid per each under each subdivision of this Item shall be full compensation for furnishing all labor, materials, tools and equipment necessary to remove, furnish, deliver, and install, and test the 4-inch PVC sanitary sewer laterals as specified in Section A of this Item, as shown on the Drawings, and as specified in this Contract. Surface removals and restoration such as asphalt pavement, concrete sidewalk, and topsoil and seeding are included for payment under other items of this Contract.

B. ITEM 24 - REPLACE EXISTING LEAD OR GALVANIZED SERVICE (FROM PROPERTY LINE TO HOUSE)

1. Work Included:

- a. This Item includes all labor, materials, tools, equipment, and supervision needed to furnish, install, and test new 3/4" water services to replace existing lead or galvanized water services from the property line to the house, as authorized by Engineer. This Item shall include, but not be limited to, excavation, backfill, compaction, copper tubing, and pipe fittings.
- b. This Item also includes the removal and disposal of existing lead or galvanized water service piping.

2. Measurement:

- a. The quantity to be paid for under this Item shall be based on the number of water services replaced as authorized by the Engineer. For the purpose of bidding, Contractor shall assume each service will require 10 linear feet of tubing from the property line to the house.

3. Payment:

- a. The Unit Price Bid for this Item shall include the costs of all labor, tools, material, equipment, supervision, and incidentals necessary to replace each water service as authorized by Engineer. Payment for this Item shall be based on the number of water services replaced as authorized by Engineer. Surface removals and restoration such as asphalt pavement, concrete sidewalk, and topsoil and seeding are included for payment under other items of this Contract.

END OF SECTION 012200

SECTION 012300

ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
 - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

- A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated revisions to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.

- D. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Add Alternate No. 1:

1. Item No. 23 - Replace existing 4" sewer lateral (from property line to house): This Item includes all labor, materials, tools, equipment, and supervision required to replace existing sanitary sewer laterals, as well as re-establish the connection of the new 4-inch PVC sanitary lateral to the house, as ordered by the Engineer based on CCTV inspection of the lateral conducted by the Town. This includes but is not limited to excavation, dewatering, removal and disposal of existing sanitary lateral, installation of new 4-inch diameter PVC lateral from cleanout to house, and associated appurtenances for connection to the existing sanitary lateral at the house, pipe zone bedding, pipe zone backfill, suitable trench material, compaction, cleaning/testing of the newly installed service lateral as shown on the Drawings and specified herein.
2. Item No. 24 - Replace existing lead or galvanized service (from property line to house): This Item includes all labor, materials, tools, equipment, and supervision needed to furnish, install, and test new 3/4" water services to replace existing lead or galvanized water services from the property line to the house, as authorized by Engineer. This Item shall include, but not be limited to, excavation, backfill, compaction, copper tubing, and pipe fittings.

END OF SECTION 012300

SECTION 012500

SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
 - 1. Division 01 Section "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.
 - 2. Divisions 02 through 33 Sections for specific requirements and limitations for substitutions.

1.3 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
 - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
 - 2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

1.4 ACTION SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form: Use CSI Form 13.1A
 - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:

- a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
 - b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. List of similar installations for completed projects with project names and addresses and names and addresses of Engineers and owners.
 - h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - i. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - j. Cost information, including a proposal of change, if any, in the Contract Sum.
 - k. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
 - l. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
3. Engineer's Action: If necessary, Engineer will request additional information or documentation for evaluation within 7 days of receipt of a request for substitution. Engineer will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

- a. Forms of Acceptance: Change Order, Construction Change Directive, or Engineer's Supplemental Instructions for minor changes in the Work.
- b. Use product specified if Engineer does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.6 PROCEDURES

- A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
 1. Conditions: Engineer will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Engineer will return requests without action, except to record noncompliance with these requirements:
 - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - b. Substitution request is fully documented and properly submitted.
 - c. Requested substitution will not adversely affect Contractor's construction schedule.
 - d. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - e. Requested substitution is compatible with other portions of the Work.
 - f. Requested substitution has been coordinated with other portions of the Work.
 - g. Requested substitution provides specified warranty.
 - h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is

uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

B. Substitutions for Convenience: Not allowed, unless otherwise indicated.

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

SECTION 012600

CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Requirements:
 - 1. Division 01 Section "Substitution Procedures" for administrative procedures for handling requests for substitutions made after the Contract award.

1.3 MINOR CHANGES IN THE WORK

- A. Engineer will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Engineer's Supplemental Instructions."

1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Engineer will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Work Change Proposal Requests issued by Engineer are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request or 10 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.

- b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - e. Quotation Form: Use CSI Form 13.6D, "Proposal Worksheet Summary," and Form 13.6C, "Proposal Worksheet Detail."
- B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Engineer.
- 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 - 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - 4. Include costs of labor and supervision directly attributable to the change.
 - 5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - 6. Comply with requirements in Division 01 Section "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
 - 7. Proposal Request Form: Use CSI Form 13.6A, "Change Order Request (Proposal)," with attachments CSI Form 13.6D, "Proposal Worksheet Summary," and Form 13.6C, "Proposal Worksheet Detail."

1.5 ADMINISTRATIVE CHANGE ORDERS

- A. Unit-Price Adjustment: See Division 01 Section "Unit Prices" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect measured scope of unit-price work.

1.6 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Work Changes Proposal Request, Engineer will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.7 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Engineer may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 - 1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 - 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 012900

PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Requirements:
 - 1. Section 012600 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 2. Section 013200 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
 - 1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:
 - a. Application for Payment forms with continuation sheets.
 - b. Submittal schedule.
 - c. Items required to be indicated as separate activities in Contractor's construction schedule.
 - 2. Submit the schedule of values to Engineer at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.

- B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
1. Identification: Include the following Project identification on the schedule of values:
 - a. Project name and location.
 - b. Name of Engineer.
 - c. Engineer's project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 2. Arrange the schedule of values in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or Division.
 - b. Description of the Work.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Orders (numbers) that affect value.
 - g. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
 - 1) Labor.
 - 2) Materials.
 - 3) Equipment.
 3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.
 4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
 5. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance.
 6. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.

7. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.
8. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Engineer and paid for by Owner.
 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
 1. Submit draft copy of Application for Payment seven days prior to due date for review by Engineer.
- C. Application for Payment Form: Use EJCDC Document C-620 as form for Applications for Payment.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Engineer will return incomplete applications without action.
 1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
 2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
 3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- E. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.

1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
 2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
 3. Provide summary documentation for stored materials indicating the following:
 - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
 - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
 - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.
- F. Transmittal: Submit three signed and notarized original copies of each Application for Payment to Engineer by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- G. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit conditional final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.
- H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of values.
 3. Contractor's construction schedule (preliminary if not final).
 4. Products list (preliminary if not final).
 5. Submittal schedule (preliminary if not final).

6. List of Contractor's staff assignments.
 7. List of Contractor's principal consultants.
 8. Copies of building permits if required.
 9. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 10. Initial progress report.
 11. Report of preconstruction conference.
 12. Certificates of insurance and insurance policies.
 13. Performance and payment bonds.
 14. Data needed to acquire Owner's insurance.
- I. Application for Payment at Substantial Completion: After Engineer issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificate(s) of Substantial Completion issued previously.
- J. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
 5. AIA Document G706A, "Contractor's Affidavit of Release of Liens." (To be provided by Contractor in addition to all Subcontractors thereof)
 6. AIA Document G707, "Consent of Surety to Final Payment."
 7. Contractor's Final Waiver of Lien
 8. Evidence that claims have been settled.
 9. When applicable, final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when

Owner took possession of and assumed responsibility for corresponding elements of the Work.

10. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 013100

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. General coordination procedures.
 - 2. Coordination drawings.
 - 3. Requests for Information (RFIs).
 - 4. Project meetings.
- B. Related Requirements:
 - 1. Division 01 Section "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
 - 2. Division 01 Section "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
 - 3. Division 01 Section "Closeout Procedures" for coordinating closeout of the Contract.

1.3 DEFINITIONS

- A. RFI: Request from Owner, Construction Manager, Engineer, or Contractor seeking information required by or clarifications of the Contract Documents.

1.4 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:

1. Name, address, and telephone number of entity performing subcontract or supplying products.
 2. Number and title of related Specification Section(s) covered by subcontract.
 3. Drawing number and detail references, as appropriate, covered by subcontract.
- B. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.
1. Post copies of list in project meeting room, in temporary field office and by each temporary telephone. Keep list current at all times.

1.5 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.
1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's construction schedule.
 2. Preparation of the schedule of values.

3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Project closeout activities.
- D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

1.6 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
1. Engineer will return RFIs submitted to Engineer by other entities controlled by Contractor with no response.
 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
1. Project name.
 2. Project number.
 3. Date.
 4. Name of Contractor.
 5. Name of Engineer.
 6. RFI number, numbered sequentially.
 7. RFI subject.
 8. Specification Section number and title and related paragraphs, as appropriate.
 9. Drawing number and detail references, as appropriate.
 10. Field dimensions and conditions, as appropriate.
 11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 12. Contractor's signature.

13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
 - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
- C. RFI Forms: AIA Document G716.
 1. Attachments shall be electronic files in Adobe Acrobat PDF format.
- D. Engineer's Action: Engineer will review each RFI, determine action required, and respond. Allow seven working days for Engineer's response for each RFI. RFIs received by Engineer after 1:00 p.m. will be considered as received the following working day.
 1. The following Contractor-generated RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for approval of Contractor's means and methods.
 - d. Requests for coordination information already indicated in the Contract Documents.
 - e. Requests for adjustments in the Contract Time or the Contract Sum.
 - f. Requests for interpretation of Engineer's actions on submittals.
 - g. Incomplete RFIs or inaccurately prepared RFIs.
 2. Engineer's action may include a request for additional information, in which case Engineer's time for response will date from time of receipt of additional information.
 3. Engineer's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 01 Section "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Engineer in writing within 10 days of receipt of the RFI response.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Include the following:
 1. Project name.
 2. Name and address of Contractor.
 3. Name and address of Engineer.
 4. RFI number including RFIs that were returned without action or withdrawn.

5. RFI description.
 6. Date the RFI was submitted.
 7. Date Engineer's response was received.
- F. On receipt of Engineer's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Engineer within seven days if Contractor disagrees with response.
1. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
 2. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

1.7 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.
1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Engineer of scheduled meeting dates and times.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Engineer, within three days of the meeting.
- B. Preconstruction Conference: Engineer will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Engineer, but no later than 15 days after execution of the Agreement.
1. Conduct the conference to review responsibilities and personnel assignments.
 2. Attendees: Authorized representatives of Owner, Engineer, Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 3. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing and long-lead items.

- d. Designation of key personnel and their duties.
 - e. Lines of communications.
 - f. Procedures for processing field decisions and Change Orders.
 - g. Procedures for RFIs.
 - h. Procedures for testing and inspecting.
 - i. Procedures for processing Applications for Payment.
 - j. Distribution of the Contract Documents.
 - k. Submittal procedures.
 - l. Preparation of record documents.
 - m. Use of the premises
 - n. Work restrictions.
 - o. Working hours.
 - p. Responsibility for temporary facilities and controls.
 - q. Construction waste management and recycling.
 - r. Parking availability.
 - s. Office, work, and storage areas.
 - t. Equipment deliveries and priorities.
 - u. First aid.
 - v. Security.
4. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Project Closeout Conference: Engineer will schedule and conduct a project closeout conference, at a time convenient to Owner and Engineer, but no later than 15 days prior to the scheduled date of Substantial Completion.
- 1. Conduct the conference to review requirements and responsibilities related to Project closeout.
 - 2. Attendees: Authorized representatives of Owner, Engineer, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:
 - a. Preparation of record documents.

- b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
 - c. Submittal of written warranties.
 - d. Preparation of Contractor's punch list.
 - e. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
 - f. Submittal procedures.
 - g. Responsibility for removing temporary facilities and controls.
4. Minutes: Entity conducting meeting will record and distribute meeting minutes.
- D. Progress Meetings: Engineer will conduct progress meetings at bi-weekly intervals.
- 1. Coordinate dates of meetings with preparation of payment requests.
 - 2. Attendees: In addition to representatives of Owner and Engineer, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.

- 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Quality and work standards.
 - 10) Status of correction of deficient items.
 - 11) Field observations.
 - 12) Status of RFIs.
 - 13) Status of proposal requests.
 - 14) Pending changes.
 - 15) Status of Change Orders.
 - 16) Pending claims and disputes.
 - 17) Documentation of information for payment requests.
4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
 - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013200

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Contractor's construction schedule.
 - 2. Construction schedule updating reports.
 - 3. Daily construction reports.
 - 4. Material location reports.
 - 5. Site condition reports.
 - 6. Special reports.
- B. Related Requirements:
 - 1. Division 01 Section "Submittal Procedures" for submitting schedules and reports.
 - 2. Division 01 Section "Quality Requirements" for submitting a schedule of tests and inspections.

1.3 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
 - 1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
 - 2. Predecessor Activity: An activity that precedes another activity in the network.
 - 3. Successor Activity: An activity that follows another activity in the network.

- B. Cost Loading: The allocation of the schedule of values for the completion of an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum unless otherwise approved by Engineer.
- C. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.
- D. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- E. Event: The starting or ending point of an activity.
- F. Float: The measure of leeway in starting and completing an activity.
 - 1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
 - 2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
 - 3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.
- G. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

1.4 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
 - 1. PDF electronic file.
- B. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
- C. Construction Schedule Updating Reports: Submit with Applications for Payment.
- D. Daily Construction Reports: Submit at weekly intervals.
- E. Material Location Reports: Submit at weekly intervals.
- F. Site Condition Reports: Submit at time of discovery of differing conditions.
- G. Special Reports: Submit at time of unusual event.

1.5 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- B. Coordinate Contractor's construction schedule with the schedule of values submittal schedule, progress reports, payment requests, and other required schedules and reports.
 - 1. Secure time commitments for performing critical elements of the Work from entities involved.
 - 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of final completion.
 - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- B. Activities: Treat each separate area as a separate numbered activity for each main element of the Work. Comply with the following:
 - 1. Activity Duration: Define activities so no activity is longer than 15 days, unless specifically allowed by Engineer.
 - 2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
 - 3. Submittal Review Time: Include review and resubmittal times indicated in Division 01 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
 - 4. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Engineer's administrative procedures necessary for certification of Substantial Completion.
 - 5. Punch List and Final Completion: Include not more than 15 days for completion of punch list items and final completion.

- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
 - 1. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Coordination with existing construction.
 - b. Use of premises restrictions.
 - c. Seasonal variations.
 - d. Environmental control.
 - 2. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
 - a. Subcontract awards.
 - b. Submittals.
 - c. Purchases.
 - d. Fabrication.
 - e. Sample testing.
 - f. Deliveries.
 - g. Installation.
 - h. Tests and inspections.
 - i. Curing.
- D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion.
- E. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
 - 1. Unresolved issues.
 - 2. Unanswered Requests for Information.
 - 3. Rejected or unreturned submittals.
 - 4. Notations on returned submittals.
 - 5. Pending modifications affecting the Work and Contract Time.
- F. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and

equipment required to achieve compliance and date by which recovery will be accomplished.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's construction schedule within 15 days of date established for the Notice to Proceed. Base schedule on the startup construction schedule and additional information received since the start of Project.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

2.3 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
 - 1. List of subcontractors at Project site.
 - 2. Approximate count of personnel at Project site.
 - 3. Equipment at Project site.
 - 4. Material deliveries.
 - 5. High and low temperatures and general weather conditions, including presence of rain or snow.
 - 6. Accidents.
 - 7. Meetings and significant decisions.
 - 8. Unusual events (see special reports).
 - 9. Stoppages, delays, shortages, and losses.
 - 10. Emergency procedures.
 - 11. Orders and requests of authorities having jurisdiction.
 - 12. Change Orders received and implemented.
 - 13. Construction Change Directives received and implemented.
 - 14. Substantial Completions authorized.
- B. Material Location Reports: At bi-weekly intervals, prepare and submit a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site. Indicate the following categories for stored materials:
 - 1. Material stored prior to previous report and remaining in storage.

2. Material stored prior to previous report and since removed from storage and installed.
 3. Material stored following previous report and remaining in storage.
- C. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.4 SPECIAL REPORTS

- A. General: Submit special reports directly to Owner and Engineer within one day of an occurrence. Distribute copies of report to parties affected by the occurrence.
- B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner and Engineer in advance when these events are known or predictable.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating: At bi-weekly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 3. As the Work progresses, indicate final completion percentage for each activity.
- B. Distribution: Distribute copies of approved schedule to Engineer, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
1. Post copies in Project meeting rooms and temporary field offices.
 2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have

completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200

SECTION 013233

PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Preconstruction photographs.
 - 2. Periodic construction photographs.
 - 3. Final completion construction photographs.
- B. Related Requirements:
 - 1. Section 013300 "Submittal Procedures" for submitting photographic documentation.
 - 2. Section 017700 "Closeout Procedures" for submitting photographic documentation as project record documents at Project closeout.

1.3 INFORMATIONAL SUBMITTALS

- A. Key Plan: Submit key plan of Project site with notation of vantage points marked for location and direction of each photograph. Indicate elevation or story of construction. Include same information as corresponding photographic documentation.
- B. Digital Photographs: Submit image files within 3 days of taking photographs.
 - 1. Digital Camera: Minimum sensor resolution of 8 megapixels.
 - 2. Format: Minimum 3200 by 2400 pixels, in unaltered original files, with same aspect ratio as the sensor, uncropped, date and time stamped, in folder named by date of photograph, accompanied by key plan file.
 - 3. Identification: Provide the following information with each image description in file metadata tag:
 - a. Name of Project.
 - b. Name and contact information for photographer.

- c. Name of Engineer.
 - d. Name of Contractor.
 - e. Date photograph was taken.
 - f. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
 - g. Unique sequential identifier keyed to accompanying key plan.
- C. Construction Photographs: Submit 2 prints of each photographic view within 7 days of taking photographs.
- 1. Format: 4-by-6-inch smooth-surface matte prints on single-weight, commercial-grade photographic paper; enclosed back to back in clear plastic sleeves that are punched for standard three-ring binder.
 - 2. Identification: On back of each print, provide an applied label or rubber-stamped impression with the following information:
 - a. Name of Project.
 - b. Name and contact information for photographer.
 - c. Name of Engineer.
 - d. Name of Contractor.
 - e. Date photograph was taken if not date stamped by camera.
 - f. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
 - g. Unique sequential identifier keyed to accompanying key plan.

1.4 USAGE RIGHTS

- A. Obtain and transfer copyright usage rights from photographer to Owner for unlimited reproduction of photographic documentation.

PART 2 - PRODUCTS

2.1 PHOTOGRAPHIC MEDIA

- A. Digital Images: Provide images in JPG format, produced by a digital camera with minimum sensor size of 8 megapixels, and at an image resolution of not less than 3200 by 2400 pixels.

PART 3 - EXECUTION

3.1 CONSTRUCTION PHOTOGRAPHS

- A. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
 - 1. Maintain key plan with each set of construction photographs that identifies each photographic location.
- B. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
 - 1. Date and Time: Include date and time in file name for each image.
 - 2. Field Office Images: Maintain one set of images accessible in the field office at Project site, available at all times for reference. Identify images in the same manner as those submitted to Engineer.
- C. Preconstruction Photographs: Before starting construction, take photographs of the Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Engineer.
 - 1. Flag excavation areas before taking construction photographs.
 - 2. Take photographs to show existing conditions adjacent to property before starting the Work.
 - 3. Take photographs of existing buildings either on or adjoining property to accurately record physical conditions at start of construction.
 - 4. Take additional photographs as required to record settlement or cracking of adjacent structures, pavements, and improvements.
- D. Periodic Construction Photographs: Take photographs weekly, with timing each month adjusted to coincide with the cutoff date associated with each Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken.
- E. Engineer-Directed Construction Photographs: From time to time, Engineer instruct photographer about number and frequency of photographs and general directions on vantage points. Select actual vantage points and take photographs to show the status of construction and progress since last photographs were taken.
- F. Final Completion Construction Photographs: Take color photographs after date of Substantial Completion for submission as project record documents. Engineer will inform photographer of desired vantage points.

END OF SECTION 013233

SECTION 013300

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Requirements:
 - 1. Section 012900 "Payment Procedures" for submitting Applications for Payment and the schedule of values.
 - 2. Section 013200 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
 - 3. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Engineer's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Engineer's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."
- C. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.4 ACTION SUBMITTALS

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for

review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Engineer and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
2. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.
 - a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
3. Format: Arrange the following information in a tabular format:
 - a. Scheduled date for first submittal.
 - b. Specification Section number and title.
 - c. Submittal category: Action; informational.
 - d. Name of subcontractor.
 - e. Description of the Work covered.
 - f. Scheduled date for Engineer's final release or approval.
 - g. Scheduled date of fabrication.

1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Engineer's Digital Data Files: Electronic digital data files of the Contract Drawings will not be provided by Engineer for Contractor's use in preparing submittals.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
 4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Engineer's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow 2 weeks for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Engineer will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 3. Resubmittal Review: Allow 2 weeks for review of each resubmittal.
- D. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:
1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
 2. Name file with submittal number or other unique identifier, including revision identifier.
 - a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).
 3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Engineer.
 4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Owner, containing the following information:
 - a. Project name.
 - b. Date.
 - c. Name and address of Engineer.
 - d. Name of Construction Manager.
 - e. Name of Contractor.
 - f. Name of firm or entity that prepared submittal.
 - g. Names of subcontractor, manufacturer, and supplier.
 - h. Category and type of submittal.
 - i. Submittal purpose and description.
 - j. Specification Section number and title.

- k. Specification paragraph number or drawing designation and generic name for each of multiple items.
 - l. Drawing number and detail references, as appropriate.
 - m. Location(s) where product is to be installed, as appropriate.
 - n. Related physical samples submitted directly.
 - o. Indication of full or partial submittal.
 - p. Transmittal number, numbered consecutively.
 - q. Submittal and transmittal distribution record.
 - r. Other necessary identification.
 - s. Remarks.
5. Metadata: Include the following information as keywords in the electronic submittal file metadata:
- a. Project name.
 - b. Number and title of appropriate Specification Section.
 - c. Manufacturer name.
 - d. Product name.
- E. Options: Identify options requiring selection by Engineer.
- F. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Engineer on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.
- G. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
- 1. Note date and content of previous submittal.
 - 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 - 3. Resubmit submittals until they are marked with approval notation from Engineer's action stamp.
- H. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

- I. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Engineer's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
 1. Submit electronic submittals via email as PDF electronic files.
 - a. Engineer will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
 2. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
 - a. Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.
 - b. Provide a notarized statement on original paper copy certificates and certifications where indicated.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.

4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams showing factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
 5. Submit Product Data before or concurrent with Samples.
 6. Submit Product Data in the following format:
 - a. PDF electronic file.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 42 inches.
 3. Submit Shop Drawings in the following format:
 - a. PDF electronic file.
- D. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
 2. Manufacturer and product name, and model number if applicable.
 3. Number and name of room or space.
 4. Location within room or space.
 5. Submit product schedule in the following format:

- a. PDF electronic file.
- E. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation."
- F. Application for Payment and Schedule of Values: Comply with requirements specified in Division 01 Section "Payment Procedures."
- G. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Division 01 Section "Quality Requirements."
- H. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Division 01 Section "Closeout Procedures."
- I. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of Engineers and owners, and other information specified.
- J. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.
- K. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- L. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- M. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- N. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- O. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- P. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

- Q. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
1. Name of evaluation organization.
 2. Date of evaluation.
 3. Time period when report is in effect.
 4. Product and manufacturers' names.
 5. Description of product.
 6. Test procedures and results.
 7. Limitations of use.
- R. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- S. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- T. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Engineer.
- B. Project Closeout and Maintenance Material Submittals: See requirements in Division 01 Section "Closeout Procedures."
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ENGINEER'S ACTION

- A. Action Submittals: Engineer will review each submittal, make marks to indicate corrections or revisions required, and return it. Engineer will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.
- B. Informational Submittals: Engineer will review each submittal and will not return it, or will return it if it does not comply with requirements. Engineer will forward each submittal to appropriate party.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Engineer.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Submittals not required by the Contract Documents may be returned by the Engineer without action.

END OF SECTION 013300

SECTION 014000

QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-assurance and -control services required by Engineer, Owner or authorities having jurisdiction are not limited by provisions of this Section.
- C. Related Requirements:
 - 1. Divisions 02 through 33 Sections for specific test and inspection requirements.

1.3 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with

requirements. Services do not include contract enforcement activities performed by Engineer.

- C. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.
- D. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- E. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- F. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
 - 1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).
- G. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.4 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Engineer for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Engineer for a decision before proceeding.

1.5 INFORMATIONAL SUBMITTALS

- A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.
- B. Qualification Data: For Contractor's quality-control personnel.
- C. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- D. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
 - 1. Specification Section number and title.
 - 2. Entity responsible for performing tests and inspections.
 - 3. Description of test and inspection.
 - 4. Identification of applicable standards.
 - 5. Identification of test and inspection methods.
 - 6. Number of tests and inspections required.
 - 7. Time schedule or time span for tests and inspections.
 - 8. Requirements for obtaining samples.
 - 9. Unique characteristics of each quality-control service.

1.6 CONTRACTOR'S QUALITY-CONTROL PLAN

- A. Quality-Control Plan, General: Submit quality-control plan within 10 days of Notice of Award, and not less than five days prior to preconstruction conference. Submit in format acceptable to Engineer. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's construction schedule.
- B. Quality-Control Personnel Qualifications: Engage qualified full-time personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.
 - 1. Project quality-control manager may also serve as Project superintendent.
- C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.

- D. Testing and Inspection: In quality-control plan, include a comprehensive schedule of Work requiring testing or inspection, including the following:
 - 1. Contractor-performed tests and inspections including subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections.
- E. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.
- F. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Engineer has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.7 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, and telephone number of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.
 - 8. Complete test or inspection data.
 - 9. Test and inspection results and an interpretation of test results.
 - 10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
 - 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 - 12. Name and signature of laboratory inspector.
 - 13. Recommendations on retesting and reinspecting.
- B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of technical representative making report.
 2. Statement on condition of substrates and their acceptability for installation of product.
 3. Statement that products at Project site comply with requirements.
 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 6. Statement whether conditions, products, and installation will affect warranty.
 7. Other required items indicated in individual Specification Sections.
- C. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.8 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.

- F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 - 1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
 - 1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
 - 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.9 QUALITY CONTROL

- A. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
 - 1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
 - 2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
 - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 - 3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.

4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
- B. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. **Manufacturer's Field Services:** Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 01 Section "Submittal Procedures."
- D. **Manufacturer's Technical Services:** Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.
- E. **Retesting/Reinspecting:** Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- F. **Testing Agency Responsibilities:** Cooperate with Engineer and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Engineer and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 6. Do not perform any duties of Contractor.
- G. **Associated Services:** Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 4. Facilities for storage and field curing of test samples.
- H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
1. Date test or inspection was conducted.
 2. Description of the Work tested or inspected.
 3. Date test or inspection results were transmitted to Engineer.
 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Engineer's reference during normal working hours.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Division 01 Section "Execution."
- B. Protect construction exposed by or for quality-control service activities.

- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 014200

REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Engineer's action on Contractor's submittals, applications, and requests, "approved" is limited to Engineer's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Engineer. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.4 ABBREVIATIONS AND ACRONYMS

- A. Abbreviations and acronyms are frequently used in the Specifications and other Contract Documents to represent the name of a trade association, standards-developing organization, authorities having jurisdiction, or other entity in the context of referencing a standard or publication. Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Thomson Gale's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S.", which are available in most libraries.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

SECTION 015000

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for work restrictions and limitations on utility interruptions.
 - 2. Section 312319 "Dewatering" for disposal of ground water at Project site.
 - 3. Section 321216 "Asphalt Paving" for construction and maintenance of asphalt pavement for temporary roads and paved areas.

1.3 USE CHARGES

- A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Engineer, occupants of Project, testing agencies, and authorities having jurisdiction.
- B. Water Service: Pay water-service use charges for water used by all entities for construction operations.
- C. Electric Power Service: Pay electric-power-service use charges for electricity used by all entities for construction operations.

1.4 INFORMATIONAL SUBMITTALS

- A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

- B. Erosion- and Sedimentation-Control Plan: Show compliance with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.
- C. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.

1.5 QUALITY ASSURANCE

- A. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.6 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Provide new materials. Undamaged, previously used materials in serviceable condition may be used if approved by the Engineer. Provide materials suitable for use intended.
- B. Pavement: Comply with Section 321216 "Asphalt Paving".
- C. Water: Provide potable water approved by local health authorities.

2.2 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

1. Locate facilities to limit site disturbance as specified in Section 011000 "Summary."
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.
 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
- C. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction.
- D. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

3.3 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:
 1. Provide construction for temporary offices, shops, and sheds located within construction area or within 30 feet of building lines that is noncombustible according to ASTM E 136. Comply with NFPA 241.
- B. Temporary Roads and Paved Areas: Construct and maintain temporary roads adequate for construction operations. Locate temporary roads within construction limits indicated on Drawings.
 1. Provide dust-control treatment that is non-polluting and non-tracking. Reapply treatment as required to minimize dust.
- C. Traffic Controls: Comply with requirements of authorities having jurisdiction.
 1. Protect existing site improvements to remain including curbs, pavement, and utilities.
 2. Maintain access for fire-fighting equipment and access to fire hydrants.
- D. Parking: Provide temporary parking areas for construction personnel.

- E. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.
 - 1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.
 - 2. Remove snow and ice as required to minimize accumulations.
- F. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 017300 "Execution."

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.
- B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
 - 1. Comply with work restrictions specified in Section 011000 "Summary."
- C. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, according to requirements of 2003 EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.
 - 1. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross tree- or plant- protection zones.
 - 2. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
 - 3. Clean, repair, and restore adjoining properties and roads affected by erosion and sedimentation from Project site during the course of Project.
 - 4. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.
- D. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.

- E. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.
- F. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Perform control operations lawfully, using environmentally safe materials.
- G. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

3.5 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 - 1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
 - 2. Remove temporary roads and paved areas not intended for or acceptable for integration into permanent construction. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
 - 3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."

END OF SECTION 015000

SECTION 015526

TRAFFIC MAINTENANCE AND PROTECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. The Work of this Section consists of maintaining traffic and protecting persons and property from damage within the limits that will be open to public vehicular traffic for the duration of this contract.
- B. Maintain traffic over a reasonably smooth traveled way marked by signs, delineators, guiding devices and other acceptable methods in conformance with the National Manual on Uniform Traffic Control Devices for Streets and Highways 2003 Edition (National MUTCD) and the New York State Supplement to the National Manual on Uniform Traffic Control Devices for Streets and Highways – 2003 Edition (NYS Supplement) available at: <https://www.nysdot.gov/divisions/operating/oom/transportation-systems/traffic-operations-section/mutcd>
- C. Contractor shall assume responsibility for conducting operations in a manner to insure the safety and convenience of all travelers and adjoining property owners within the limits of and for the duration of the contract.

1.3 SUBMITTALS

- A. Prior to the start of work, the Contractor shall submit any proposed changes to the traffic control plan to the Engineer for approval. Any changes which alter the basic concept of the plan must be approved by the Engineer.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Comply with the requirements of DOT Section 700 Materials as they apply to the various materials required for the Work of this Section.
- B. Provide sign panels of aluminum, galvanized steel or plywood with faces of reflective sheet material and non-reflective black characters conforming to DOT Section 730-13.
- C. Provide delineators, barricades and lighting for construction barricades in accordance with the requirements of National MUTCD and NYS Supplement. Where reflective materials are required, conform to DOT Section 730-05.02 except where glass or plastic buttons are used as delineators. Barricades, cones and drums may use reflective materials conforming to DOT Section 730-05.01.
- D. Provide pavement delineation of reflective paint or reflective pressure sensitive pavement marking tape. Line segments shall be a minimum of 4 inches wide and 36 inches long applied with the long axis of the segment parallel to the direction of traffic.

PART 3 - EXECUTION

3.1 GENERAL

- A. Remove construction equipment and materials from roadway during non-working hours or provide protection in such a manner that they will not constitute a traffic hazard.
- B. Conduct and schedule the Work in a manner that will minimize the time during which the traveling public will be exposed to hazards.
- C. Do not park employees personal vehicles within the work area in a manner that they will constitute a traffic hazard.
- D. Provide a traveled way suitable for two lanes of moving traffic. Keep traveled way reasonably smooth and hard at all times.
- E. Keep the traveled way of all public highways utilized for hauling materials to or from this project free of foreign objects that may fall or drop from transporting vehicles.
- F. Correct dusty conditions resulting from the Work by the use of calcium chloride and/or water. Distribute water uniformly by the use of suitable spray heads or spray bar. The Engineer will be the sole judge of the need for the application of water for dust control. Apply water at the intervals and locations ordered by the Engineer.

- G. Whenever it becomes necessary to maintain traffic on one lane, provide adequate traffic controls on the Section of Roadway on which vehicle traffic is maintained. Provide competent flag persons or traffic signals at the location which will in the judgment of the Engineer adequately and continuously control one-lane traffic.
- H. Provide a sufficient number of competent flag persons in areas where construction operations are in potential conflict with public vehicular traffic. Flag person shall wear orange hats or caps and vests in conformance with National MUTCD and NYS Supplement.
- I. Maintain safe and adequate ingress and egress to and from intersecting highways, residences and commercial establishments.
- J. The Contractor is not responsible for removal of snow and ice from pavements or traveled ways open to public vehicular traffic.
- K. Maintain existing and new drainage structures, culverts and ditches to adequately drain the traveled way.
- L. Provide, maintain, move and remove delineation and guiding devices to properly delineate a safe and reasonable roadway. Delineate areas on which it is unsafe to travel.
- M. Delineate dropoffs less than 6 inches by providing approved delineators at intervals of not more than 200 feet. Where the drop off is between 6 inches and 18 inches, the spacing between delineators shall not be more than 100 feet. Where the drop off is greater than 18 inches, a continuous delineation consisting of 2 inch or wider brightly colored flexible tape shall be used in addition to individual delineators provided they are properly painted and reflectorized in accordance with National MUTCD and NYS Supplement.
- N. Maintain existing highway signs, markers, delineators and their supports. Where necessary, relocate existing signs in conformance with National MUTCD and NYS Supplement. Replace signs lost or damaged as a result of contract operations.

3.2 CONSTRUCTION SIGNS

- A. Provide, maintain, move and remove reflectorized construction signs in accordance with the requirements of National MUTCD and NYS Supplement.
- B. Paint supports and backs of sign panels with two coats of white paint.
- C. Mount construction signs a minimum of 5 feet above the surface of the traveled way.

3.3 CONSTRUCTION BARRICADES

- A. Provide, maintain, move and remove lighted construction barricades in accordance with the requirements of National MUTCD and NYS Supplement.
- B. Provide flashing barricade lights of Type A, low intensity conforming to the requirements of National MUTCD and NYS Supplement.
- C. Hours of operation for barricade lights shall be from dusk to dawn.

3.4 PAVEMENT DELINEATION

- A. Provide pavement delineation in accordance with National MUTCD and NYS Supplement on each course of asphalt concrete upon which traffic will be maintained.
- B. Apply pavement delineation before the end of the working day.

3.5 OPENING ROADWAY TO TRAFFIC PRIOR TO CONTRACT ACCEPTANCE

- A. Maintain and protect traffic on any portion of pavement or structure ordered in writing by the Engineer or as shown on the drawings to be opened to traffic prior to contract acceptance.

3.6 REMOVAL OF TRAFFIC CONTROL DEVICES

- A. Promptly remove all delineators, signs, barricades and pavement workings when in the opinion of the Engineer their presence constitutes a hazard or inconvenience to the traveling public.
- B. Remove all remaining traffic control devices upon completion of the Work of this contract unless otherwise ordered in writing by the Engineer.

END OF SECTION 015526

SECTION 015720

TEMPORARY MAINTENANCE OF WASTEWATER FLOWS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Under this Section, the Contractor shall furnish all materials, labor, equipment, and power (i.e. fuel, temporary electric) to install and implement wastewater flow control measures to complete the specified sanitary sewer and manhole rehabilitation work. The wastewater flow control measures shall include, but not be limited to the following;
 - 1. Furnishing and installing temporary bypass pumping system including suction and discharge pipe, fittings and/or valves.
 - 2. Connecting bypass pumping system suction to sanitary sewer manhole upstream of piping and/or manhole to be rehabilitated, including installation of level sensing instrumentation in manhole.
 - 3. Connecting bypass pumping system discharge to manhole downstream of piping and/or manhole to be rehabilitated
 - 4. Blocking or plugging of sanitary sewer in upstream manholes.
- B. The Contractor shall be responsible for the operation and maintenance of the temporary wastewater flow control measures at each manhole throughout the duration of the project.
- C. The design, installation and operation of the wastewater flow control measures including temporary bypass pumping system shall be the Contractor's responsibility. The wastewater flow control system shall meet the requirements of all applicable codes and regulatory requirements.
- D. Wastewater flow control measures shall be employed to maintain uninterrupted wastewater flows, and to avoid sewer backup, surcharge, flooding or damage to property. Contractor shall be completely responsible for the violation of any law, or the creation of any danger to public health or damage to property, due to laxity in the diversion and bypassing of wastewater flows.
- E. Contractor is responsible for locating any existing utilities in the area the Contractor selects to locate the bypass pipelines. The Contractor shall locate his bypass pipelines to

minimize any disturbance to existing utilities and shall obtain approval of the pipeline locations from the Engineer prior to installation. All costs associated with relocating utilities and obtaining all approvals shall be paid by the Contractor.

- F. Contractor shall maintain traffic on driveways and access to parking areas, buildings and treatment system and structures during bypassing operations. Contractor shall provide all labor, signs, barricades, cones, flaggers and any additional equipment necessary to maintain traffic and complete the work.
- G. Contractor shall install level sensing instrumentation and connect bypass pumping system suction lines in such a manner that manholes are securely covered for pedestrian traffic at all times throughout the project. Any penetrations which are made into the manhole structures to install the bypass pumping system components shall be filled with non-shrink grout, watertight, upon completion of the project.

1.3 QUALITY CONTROL

A. Equipment Supplier Qualifications

- 1. The Contractor shall employ the services of an equipment supplier who is experienced in the design and operation of temporary bypass pumping systems. The equipment supplier shall provide at least five (5) references of projects of a similar size and complexity as this project performed by the firm within the past three years.

B. Sewer Flow Control (SFC) Plan

- 1. The Contractor shall submit a detailed Sewer Flow Control (SFC) Plan for diversion of wastewater flows during the sewer pipe and manhole rehabilitation work that fully represents and conforms to the requirements of these specifications. At a minimum the SFC plan shall cover methods, equipment, work force and safety measures to properly maintain diversion of flow for each work item where sewer flow control measures will be required. The SFC Plan shall include, but not be limited to the following;
 - a. Provide flow isolation and bypassing process schematic showing the following;
 - Staging area for bypass pumping equipment and control panel.
 - Location(s) for sewer plugging including method, type and size of plugs.
 - Location and method of installation of level sensing instrumentation for control of bypass pumping equipment.
 - Location and method of installing and connecting bypass pumping suction piping to upstream manhole.
 - Size, material, quantity, location and method of installation, anchoring and support of temporary suction and discharge piping and valves.
 - b. Anticipated duration of bypass pumping operations;
 - c. Discussion of bypass pumping system operation to meet the design capacity requirements specified within this Section and how system will be operated to provide uninterrupted wastewater service.

- d. Manufacturer's literature on plugs, bypass pumping equipment, instrumentation and controls. Provide number of bypass pumps, bypass pump sizes and pump capacities (flow and total dynamic head) to be utilized for bypass pumping operations;
- e. Plan and electrical schematic for providing temporary power/electrical service if bypass pumping equipment selected does not run on fuel; and
- f. Information on auto-cellular alarm dialer system including by-pass pumping faults/alarms used to activate dialer system, if system will be required to operate unsupervised.

1.4 SUBMITTALS

- A. Submit for review the following;
 - 1. Sewer Flow Control Plan (Preconstruction submittal);
 - 2. Product data on bypass pumping equipment, controls, piping and level sensing instrumentation;
 - 3. Product data on plugging and blocking equipment;

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 GENERAL

- A. Install, operate and maintain sewer flow control measures only after proper notification to the Owner. Coordinate wastewater bypass and flow interruptions with the Owner at least 10 days in advance.
- B. Begin work after plugs and/or temporary bypass pumping systems have been installed and tested under full operating conditions, including installation of new the above grade pump station bypass connections.

3.2 PLUGGING OR BLOCKING

- A. Isolate flow to the location of which work is to be performed by inserting a removable plug into the outlet piping of the upstream wastewater structure.
 - 1. Design of the plug shall allow all or any portion of the wastewater flow to be released in an emergency.
 - 2. Remove plug and restore normal flow following completion of the specified work.

3. No backups upstream of the plug shall be allowed to prevent settling of solids in the sanitary sewer and potential wastewater surcharging. Provide pumping and bypassing as required.

3.3 PUMPING AND BYPASSING

- A. When pumping and bypassing is required, the Contractor shall supply the pumps, conduits, piping, valves, pump controls, level sensing instrumentation, fuel, temporary electrical service/power and other equipment to divert the flow of wastewater around the location(s) in which work is to be performed. If wastewater flows cannot be restored at the end of each work day, the bypass pumping system will be required to be operated 24 hours per day until the work is completed and normal wastewater flows restored. Contractor shall provide a minimum of one (1) duty and one (1) standby pump.
- B. Bypass pumping system capacities for each pump station shall be as follows and based on one (1) duty pump in operation:
 1. Bypass for First Lane to Elizabeth Street lining: 6 GPM
 2. Bypass for College Street to Ridge Lane lining: 12 GPM
 3. Bypass for Ridge Lane replacement: 8 GPM
 4. Bypass for Oak Lane replacement: 8 GPM

* Total Dynamic Head pumping requirements are subject to size, material, routing, and elevations of bypass pumping suction and discharge piping.
- C. The standby pumping equipment shall be available for immediate operation and use in the event of an emergency or breakdown. The Contractor shall include one stand-by pump to be maintained on site such that no loss in bypass pumping capacity occurs in the event a bypass pump fails or needs to be taken offline.
- D. Bypass pumps shall be capable of handling wastewater solids up to 3 inch in diameter and be fully automatic self-priming units that do not require the use of foot-valves or vacuum pumps in the priming system. The pumps may be electric or diesel powered. Bypass pumps shall be constructed to allow dry running for long periods of time to accommodate the cyclical nature of wastewater flows. The by-pass pumping equipment shall provide a maximum noise disturbance of 69 decibels within 30 feet of the pumping equipment.
 1. The Contractor shall provide the necessary automatic stop/start controls for each pump which will control the pumps based on the wastewater level being measured in the upstream manhole. The controls shall also automatically call the standby pump to operate in the event of a high water level condition in the upstream manhole as well as in the event of a duty pump failure.
 2. Suction and Discharge Piping:

- a. To prevent the accidental spillage of flows, all suction and discharge systems shall be temporarily constructed of rigid pipe with positive, restrained joints. Under no circumstances will aluminum "irrigation" type piping or glued PVC pipe be allowed. Discharge hose will only be allowed in short sections and by specific permission from the engineer.
 - b. Discharge piping shall be of sufficient diameter such that the discharge velocities into the pipes are maintained below 7 ft/s and above 2 ft/s during all flow conditions and pumping operations.
 - c. Allowable piping materials shall be Quick-Disconnect steel pipe by Godwin Pumps of America, Inc. or approved equal or fused, high-density polyethylene pipe as manufactured by Phillips Driscopipe, Inc. or approved equal.
3. The Contractor shall be responsible for furnishing the necessary labor and supervision to set up and operate the pumping and bypassing system. If pumping is required on a 24-hour basis, engines shall be equipped in a manner to keep noise to a minimum and on-site personnel shall be provided to assure continuous operation. If on site-personnel is not provided on a 24 hour basis, then the by-pass pumping system shall include an auto-cellular dialer alarm system which shall notify Contractor and Owner of critical by-pass pumping system faults/alarms.
- E. Bypass pumps shall be as manufactured by Godwin Pumps of America, Inc, Godwin Dri-Prime Model NC100 pump-set or approved equal.

3.4 FIELD QUALITY CONTROL

- A. Testing and Inspection:
1. Contractor shall perform leakage and pressure tests of the bypass pumping suction and discharge piping using clean water prior to actual operation.
 2. Contractor shall inspect bypass pumping system every two hours to ensure that the system is working correctly.
- B. Maintenance Service:
1. The Contractor shall insure that the temporary pumping system is properly maintained and a responsible operator shall be on hand at all times when pumps are operating.

3.5 RESTORATION OF SERVICE

- A. The Contractor shall conduct his operations such that gravity wastewater flow is resumed at the end of each work day. Contractor shall also be responsible for returning pump stations to service at the end of each work day when bypass pumping operations are

planned for shutdown. Bypass operations shall not be taken offline until Contractor restores pump station service and verifies the station is operational.

- B. When gravity wastewater flow and/or pump station operation cannot be resumed at the end of each work day, Contractor shall be responsible for providing, operating and maintaining bypass pumping systems including Contractor's on-site personnel and/or auto-cellular dialer alarm system to assure continuous operation until gravity wastewater flow and/or pump station service can be restored.

3.6 FLOW CONTROL PRECAUTIONS

- A. When flow in wastewater conveyance piping is plugged, blocked, or bypassed, sufficient precautions shall be taken to prevent wastewater backup and surcharging to prevent damage to property and upstream sanitary sewer. The Contractor will be solely responsible for any damage caused by his operations and shall repair any damage due to lack of flow control at no additional cost to the Owner. At no time shall the Contractor's operations cause the discharge of wastewater to the surface.

3.7 SAFETY REQUIREMENTS

- A. Contractor shall be responsible for the safety of the Contractor's personnel, who shall be familiar with Safe Working Requirements in confined spaces.
- B. Contractor shall be responsible for providing all equipment, monitoring devices, safety measures and all other necessary protocols to perform the work. This includes, but is not limited to performing gas-free testing prior to entering each manhole, and periodically throughout the workday
- C. If dangerous, hazardous or explosive gases are detected, remove these by forced ventilation to a level permitting entry in accordance with OSHA regulations.

END OF SECTION

SECTION 016000

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
 - 1. Section 012100 "Allowances" for products selected under an allowance.
 - 2. Section 014200 "References" for applicable industry standards for products specified.

1.3 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

1.4 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.
 - 2. Engineer's Action: If necessary, Engineer will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Engineer will notify Contractor of approval or rejection of proposed comparable product request within 2 weeks of receipt of request, or 1 week of receipt of additional information or documentation, whichever is later.
 - a. Form of Approval: As specified in Section 013300 "Submittal Procedures."
 - b. Use product specified if Engineer does not issue a decision on use of a comparable product request within time allocated.

1.5 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 - 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 - 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 - 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

- C. Storage:
1. Store products to allow for inspection and measurement of quantity or counting of units.
 2. Store materials in a manner that will not endanger Project structure.
 3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
 5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 6. Protect stored products from damage and liquids from freezing.
 7. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Submittal Time: Comply with requirements in Section 017700 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.

2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Engineer will make selection.
5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
6. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

B. Product Selection Procedures:

1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
3. Products:
 - a. Nonrestricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.
4. Manufacturers:
 - a. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration: Engineer will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Engineer may return requests without action, except to record noncompliance with these requirements:

1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
3. Evidence that proposed product provides specified warranty.
4. List of similar installations for completed projects with project names and addresses and names and addresses of Engineers and owners, if requested.
5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECTION 017300

EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Field engineering and surveying.
 - 3. Installation of the Work.
 - 4. Cutting and patching.
 - 5. Protection of installed construction.
 - 6. Correction of the Work.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for limits on use of Project site.
 - 2. Section 013300 "Submittal Procedures" for submitting surveys.
 - 3. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For professional engineer.

- B. Certificates: Submit certificate signed by land surveyor certifying that location and elevation of improvements comply with requirements.
- C. Cutting and Patching Plan: Submit plan describing procedures at least 10 days prior to the time cutting and patching will be performed. Include the following information:
 - 1. Extent: Describe reason for and extent of each occurrence of cutting and patching.
 - 2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
 - 3. Products: List products to be used for patching and firms or entities that will perform patching work.
 - 4. Dates: Indicate when cutting and patching will be performed.
 - 5. Utilities: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.
 - a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.
- D. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.
- E. Final Property Survey: Submit 2 copies showing the Work performed and record survey data.

1.5 QUALITY ASSURANCE

- A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.
- B. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 - 1. Structural Elements: When cutting and patching structural elements, notify Engineer of locations and details of cutting and await directions from Engineer before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection
- C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Engineer for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction affecting the Work.
 - 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
 - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
- C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
 - 1. Description of the Work.
 - 2. List of detrimental conditions, including substrates.
 - 3. List of unacceptable installation tolerances.
 - 4. Recommended corrections.
- D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Engineer according to requirements in Section 013100 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Engineer promptly.
- B. General: Engage a land surveyor to lay out the Work using accepted surveying practices.
 - 1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
 - 2. Establish limits on use of Project site.
 - 3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
 - 4. Inform installers of lines and levels to which they must comply.
 - 5. Check the location, level and plumb, of every major element as the Work progresses.
 - 6. Notify Engineer when deviations from required lines and levels exceed allowable tolerances.
 - 7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.
- C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.

- D. Structure Lines and Levels: Locate and lay out control lines and levels for structures. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Engineer.

3.4 FIELD ENGINEERING

- A. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
 - 1. Do not change or relocate existing benchmarks or control points without prior written approval of Engineer. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Engineer before proceeding.
 - 2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.
- B. Benchmarks: Establish and maintain a minimum of 2 permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
 - 1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
 - 2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
 - 3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.
- C. Final Property Survey: Engage a land surveyor to prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by land surveyor, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.
 - 1. Show boundary lines, monuments, streets, site improvements and utilities, existing improvements and significant vegetation, adjoining properties, acreage, grade contours, and the distance and bearing from a site corner to a legal point.
 - 2. Recording: At Substantial Completion, have the final property survey recorded by or with authorities having jurisdiction as the official "property survey."

3.5 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.6 CUTTING AND PATCHING

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Existing Utility Services: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.
- F. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 - 4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
 - 5. Proceed with patching after construction operations requiring cutting are complete.
- G. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
 - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
 - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.

- H. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.7 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials of type to be stored.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls.
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.8 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 017300

SECTION 017700
CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
 - 5. Repair of the Work.
- B. Related Requirements:
 - 1. Section 013233 "Photographic Documentation" for submitting final completion construction photographic documentation.
 - 2. Section 017300 "Execution" for progress cleaning of Project site.
 - 3. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.

1.3 ACTION SUBMITTALS

- A. Product Data: For cleaning agents.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.4 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.6 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
 - 3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Engineer. Label with manufacturer's name and model number where applicable.
 - a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Engineer's signature for receipt of submittals.
 - 5. Submit test/adjust/balance records.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Advise Owner of pending insurance changeover requirements.
 - 2. Complete startup and testing of systems and equipment.
 - 3. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

4. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 5. Complete final cleaning requirements, including touchup painting.
 6. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Engineer, that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 2. Results of completed inspection will form the basis of requirements for final completion.

1.7 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:
1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."
 2. Certified List of Incomplete Items: Submit certified copy of Engineer's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Engineer. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
- B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.8 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction. Use CSI Form 14.1A.
1. Include the following information at the top of each page:
 - a. Project name.
 - b. Date.
 - c. Name of Engineer.
 - d. Name of Contractor.
 - e. Page number.
 2. Submit list of incomplete items in the following format:
 - a. MS Excel electronic file. Engineer will return annotated file.
 - b. PDF electronic file. Engineer will return annotated file.

1.9 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Engineer for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 2. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
- C. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
- C. Construction Waste Disposal: Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls."

3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
 - 1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
 - 2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that already show evidence of repair or restoration.
 - a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
 - 3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.

END OF SECTION 017700

SECTION 017839

PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for project record documents, including the following:
 - 1. Record Drawings.
 - 2. Miscellaneous record submittals.
- B. Related Requirements:
 - 1. Section 017700 "Closeout Procedures" for general closeout procedures.

1.3 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit copies of record Drawings as follows:
 - a. Initial Submittal:
 - 1) Submit PDF electronic files of scanned record prints and one of file prints.
 - 2) Engineer will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
 - b. Final Submittal:
 - 1) Submit record digital data files and three (3) sets of record digital data file plots.
- B. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit annotated PDF electronic files and directories of each submittal.
- C. Reports: Submit written report weekly indicating items incorporated into project record documents concurrent with progress of the Work, including revisions,

concealed conditions, field changes, product selections, and other notations incorporated.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
 - 1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an acceptable drawing technique.
 - c. Record data as soon as possible after obtaining it.
 - d. Record and check the markup before enclosing concealed installations.
 - e. Cross-reference record prints to corresponding archive photographic documentation.
 - 2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Changes made by Change Order or Work Change Directive.
 - d. Changes made following Engineer's written orders.
 - e. Details not on the original Contract Drawings.
 - f. Field records for variable and concealed conditions.
 - g. Record information on the Work that is shown only schematically.
 - 3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
 - 4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 - 5. Mark important additional information that was either shown schematically or omitted from original Drawings.

6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Record Prints: Organize record prints and newly prepared record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 2. Format: Annotated PDF electronic file with comment function enabled.
 3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
 4. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of Engineer.
 - e. Name of Contractor.

2.2 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- B. Format: Submit miscellaneous record submittals as PDF electronic file.
1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.
- B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for

construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Engineer's reference during normal working hours.

END OF SECTION 017839

DIVISION 2 – EXISTING CONDITIONS

SECTION 023313

SUBSURFACE UTILITY DESIGNATION AND POTHOLING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. The Project Site contains active, and possibly abandoned, subsurface utilities, including but not limited to communications, electric, natural gas, sanitary, stormwater, and water, that require protection during the execution of the work.
- B. The Contractor is responsible for protecting the subsurface utilities within the Limits of Work.

1.3 REFERENCES

- A. American Society of Civil Engineers, CI/ASCE 38-02, "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data."
- B. American Public Works Association, Uniform Color Code."

1.4 ACTION SUBMITTALS

- A. Subsurface utility mapping will be prepared showing the alignments of the designated subsurface utilities, the location of potholes, the depth the utility was encountered at in each pothole, manhole rim and invert elevations, and key spatial features. Manhole rim and invert elevations shall be shown to the nearest 0.1 feet.
- B. The horizontal and vertical datums (metadata) the surveying and mapping id referenced to shall be shown on the mapping.
- C. Certified subsurface utility mapping shall be submitted to the ENGINEER in hard copy (three certified copies), AutoCAD.DWG (Release 13 or earlier), and Adobe.PDF formats.

1.5 QUALITY ASSURANCE

A. Quality Control Submittals:

1. Submit detailed experience and qualification information about the underground utility locator service company and the persons that will be performing the Work. Detailed experience and qualification information shall include:
 - a. Minimum of five (5) years experience in field locating, marking and staking out of existing underground utilities and service connections.
2. Qualifying Experience: Project information of 5 similar projects, which the locator service company, had worked on during the past 5 years. Information shall include for each project:
 - a. Name and Address of project.
 - b. Dates worked on project.
 - c. Name and telephone Number of contact person at the project site for which the locator service was performed.
3. Description of types of utility locator equipment (investigation equipment) that company will utilize to perform the underground utility investigation.
4. Names of persons that the persons that will be performing the Work, including the number of years of experience and training that the persons have in the use of the equipment. Include copy of training certificates for locator equipment proving the person performing the locator service are trained on the equipment being used.
5. Submit Quality Control Submittals within 10 days of contract award.

1.6 DEFINITIONS

A. Utility Quality Levels:

1. Level A: Precise horizontal and vertical location of utilities obtained by the actual exposure (or verification of previously exposed and surveyed utilities) and subsequent measurement of subsurface utilities, usually at a specific point. Minimally intrusive excavation equipment is typically used to minimize the potential for utility damage. A precise horizontal and vertical location, as well as other utility attributes, is shown on plan documents. Accuracy is typically set to 15-mm vertical and to applicable horizontal survey and mapping accuracy as defined or expected by the project owner.

2. Level B: Information obtained through the application of appropriate surface geophysical methods to determine the existence and approximate horizontal position of subsurface utilities. Quality level B data should be reproducible by surface geophysics at any point of their depiction. This information is surveyed to applicable tolerances defined by the project and reduced onto plan documents.
- B. Subsurface Utility Designation – The collective tasks of identifying, tracing, and marking subsurface utilities utilizing active and passive geophysical instrumentation including, but not limited to, radio frequency (RF), ground penetrating radar (GPR), electromagnetic induction (EM), magnetometry, and/or acoustical devices.
 - C. Potholing – The excavation and exposing of subsurface utilities utilizing non-destructive methods (air and/or water lance with vacuum excavation and/or hand excavating) to confirm the presence, depth, size, and material of subsurface utilities.
 - D. Strategic Location – Location where excavation operations (e.g. trenching) could adversely impact or damage an existing subsurface utility.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 ASCE QUALITY LEVEL A SUBSURFACE UTILITY DESIGNATION

- A. The Contractor shall retain the services of an independent subsurface utility locating firm to expose subsurface utilities at strategic locations within the limits of work. Potholing shall be performed at locations where excavating activities will intersect, or are in close proximity (less than five feet) to an existing subsurface utility.
- B. The Contractor, in conjunction with the subsurface utility locating firm, will coordinate potholing activities with the Engineer. The Contractor shall include the costs for potholing at the number of locations listed in the Bid Schedule.
- C. The location, depth, and elevation of exposed subsurface utilities shall be located utilizing conventional or RTK GPS surveying techniques by a Land Surveyor Licensed in the State of New York.
- D. The location of each exposed utility shall be marked with a 1-inch by 1-inch wooden stake, painted or topped with an appropriately colored ribbon

in accordance with the Utility Location and Coordination Council (ULCC) color codes. The stake shall be situated directly above the utility and the type and depth of the utility shall be marked on the face of the stake.

- E. The excavation shall be backfilled upon completion with soils extracted from potholing operations and in accordance with Specification Section 312333.

3.2 ASCE QUALITY LEVEL B SUBSURFACE UTILITY DESIGNATION

- A. The Contractor shall retain the services of an independent subsurface utility locating firm to perform a Quality Level B subsurface utility investigation in accordance with ASCE Document 38-02 titled “Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data” to “designate” the subsurface utilities within the limits of work.
- B. Sanitary and storm lines shall be traced utilizing a traceable duct rodder to confirm the alignments of piping entering or exiting manholes within the limits of work.
- C. The invert elevations and pipe sizes shown on the existing conditions mapping shall be verified. The Contractor shall notify the Engineer if any significant discrepancies exist between the record and measured invert elevations.
- D. The “designated” subsurface utilities shall be located utilizing conventional or RTK GPS surveying techniques by a Land Surveyor Licensed in the State of New York. The Land Surveyor shall also locate key planimetric features (e.g. buildings, sidewalks, and edges of pavement) to facilitate the orientation of the subsurface utilities.
- E. The Land Surveyor shall locate surficial evidence indicating the presence of subsurface utilities (e.g. manholes, catch basins, trench drains, clean outs, outfalls, valves, meters, poles, vaults, electrical pull boxes, junction boxes, conduits, well casings, tracer wires, utility markers, markings, and pavement cuts).
- F. The survey shall be referenced horizontally and vertically to the existing project datums. If the project datums are unknown, then the survey shall be referenced horizontally to the North American Datum of 1983, 2011 adjustment (NAD83/2011) and projected on the appropriate State Plane Coordinate System, and vertically to the North American Vertical Datum of 1988 (NAVD88).
- G. Support and protect all utilities and service connections to remain in place.

- H. The Contractor will be responsible for maintaining subsurface utility markings throughout the duration of the project.
- I. Field Marking of underground utilities shall follow the American Public Works Association (APWA) uniform color code:
 - 1. White: Proposed Excavation.
 - 2. Pink: Temporary Survey Markings.
 - 3. Red: Electric power lines, cables, conduit and lighting cables.
 - 4. Yellow: Gas, oil, steam, petroleum and gaseous material.
 - 5. Orange: Communications, alarm, signal lines, cables or conduit.
 - 6. Blue: Potable water.
 - 7. Purple: Reclaimed water, irrigation and slurry lines.
 - 8. Green: Sewer and drain lines.
- J. All costs associated with the repair of underground utilities and service connections hit/damaged during the investigative work shall be the responsibility of the Contractor.

3.3 COORDINATION AND SCHEDULING

- A. The ASCE Quality Level B subsurface utility investigation shall be performed a minimum of 15 days before excavation activities commence. The subsurface utility mapping shall be submitted to the Engineer a minimum of 10 days before excavation activities commence.
- B. The Contractor and Engineer shall agree upon the number and location of potholes to be performed and potholing activities shall be scheduled such that potholing is completed before excavation activities commence within specified areas.

3.4 CONTINGENCIES

- A. In the event the Contractor encounters a subsurface utility that was not identified during the ASCE Quality Level B subsurface investigation, whether in service or abandoned, the Contractor shall notify immediately notify the Engineer, and document the location and depth the utility was encountered.

END OF SECTION 023313

DIVISION 31 – EARTHWORK

SECTION 310519.13

GEOTEXTILES FOR EARTHWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 sections, apply to this section.

1.2 SUMMARY

- A. Section Includes: Installation of geotextiles for:
 - 1. Separation.
 - 2. Stabilization.
 - 3. Sediment Control.
 - 4. Paving Fabric.
- B. Related Sections:
 - 1. Section 311000 “Site Clearing” for topsoil stripping and stockpiling.
 - 2. Section 312000 “Earth Moving” for excavation, filling, backfilling and rough grading.
 - 3. Section 321216 “Asphalt Paving” for placement of hot-mix asphalt pavement.
 - 4. Section 312513 “Erosion and Sediment Control” for installation of permanent and temporary erosion control measures.
 - 5. Section 329200 “Turfs and Grasses” for finish grading in turf and grass areas.

1.3 REFERENCES

- A. Comply with the latest edition of the following standards, as referenced herein.
 - 1. American Society for Testing and Materials (ASTM).
 - 2. American Association of State Highway and Transportation Officials (AASHTO).

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of the following manufactured products required:
 - 1. Geotextiles.

1.5 PROJECT CONDITIONS

A. Delivery:

1. Deliver sufficient materials to the site to prevent interruption of the work.
2. All materials shall be inspected by Contractor upon delivery. Contractor shall notify Engineer of any damage. Products received at the site torn, with holes, deteriorated, or otherwise damaged will not be approved and shall be returned and replaced at no expense to the Owner.

B. Storage:

1. All material shall be stored in strict accordance with the manufacturer's recommendations and as approved by the Engineer.
2. Do not store products directly on ground. Ship and store geotextile with suitable wrapping for protection against moisture and ultraviolet exposure. Store geotextile in way that protects it from elements, if stored outdoors, elevate and protect geotextile with waterproof cover.

C. Handling:

1. All material shall be handled in strict accordance with the manufacturer's recommendations and as approved by the Engineer.

PART 2 - PRODUCTS

2.1 GEOTEXTILES

A. Nonwoven Geotextile: Trench shall be lined with nonwoven geotextile fabric such as:

1. Amoco 4545
2. American Engineering Fabrics 480
3. Mirafi 140N
4. Or approved equal

B. Woven Geotextile: Woven ground stabilization fabric shall be:

1. Amoco 2002
2. American Engineering Fabrics 200W
3. Ling/Exxon GTF 200
4. Synthetic Industries 200ST
5. Mirafi 500X
6. Propex 200ST
7. Geotex 200ST
8. WINfab200W

9. Or approved equal

PART 3 - EXECUTION

3.1 PREPARATION

- A. Surfaces to be covered with geotextile fabric shall be smooth and free of rocks, sticks, roots, sharp objects, and all debris that may damage the fabric. The surface to be covered shall be firm and unyielding, with no sudden changes or breaks in grade. There shall be no standing water or excessive moisture on the surface when the fabric is placed.
- B. The compacted subgrade shall be maintained in a smooth, uniform and compacted condition during installation of the fabric.

3.2 PLACING GEOTEXTILE

- A. Place and overlap filter fabric in accordance with the manufacturer's installation instructions, unless otherwise shown.
- B. The fabric shall be cleaned of all debris or other materials that may negatively affect the fabric's performance.
- C. Mechanical equipment shall not be permitted to operate directly on the fabric unless authorized to do so by the manufacturer and approved by the Engineer.
 1. The fabric shall be placed as smooth and wrinkle-free as possible.
 2. When installing geotextile in trenches, swales, ditches, etc., overlap geotextile in the direction of flow.
 3. All areas of fabric damaged during installation as determined by the Engineer shall be repaired or replaced by the Contractor as specified at no additional cost to the Owner.
 4. Should the fabric be damaged during any step of the installation, the damaged section shall be repaired by covering it with a piece of fabric which extends at least 3 feet in all directions beyond the damaged area. The fabric shall be secured by sewing or bonding as approved by the Engineer.
 5. At time of installation, fabric will be rejected if it has defects, ribs, holes, flaws, deterioration, or damage incurred during manufacture, transportation, handling, or storage.
 6. Damaged materials shall be removed and replaced at no additional cost to the Owner.
 7. Fabric shall be placed with long dimension down slope.
 8. Fabric shall be protected at all times during construction from contamination by surface runoff and any fabric so contaminated shall be removed and replaced with uncontaminated fabric.

D. Seams and Overlaps of Geotextile:

1. All overlaps shall be a minimum of eighteen (18) inches.

3.3 COVER MATERIALS OVER GEOTEXTILES

- A. Granular materials shall be placed on geotextiles as shown on the Contract Drawings. During backdumping and spreading, a minimum depth of 6 inches of granular material shall be maintained at all times between the fabric and wheels of trucks or spreading equipment. All equipment used in spreading or traveling on the cover layer for any reason shall exert low ground pressures and shall be approved by the manufacturer and Engineer. Dozer blades, etc. shall not make direct contact with the fabric; however, if tears occur in the fabric during the spreading operation, the granular material shall be cleared from the fabric and the damaged area repaired as previously described.
- B. The granular material shall be spread in the direction of fabric overlap. Large fabric wrinkles which may develop during the spreading operations shall be folded and flattened in the direction of the spreading. Occasionally, large folds may reduce the fabric overlap width. Special care shall be given to maintain proper overlap and fabric continuity.
- C. All equipment spreading cover material or traveling on the cover layer shall avoid making sharp turns, quick stops or quick starts.
- D. Fabric shall be covered as soon as possible after placement to minimize exposure to sunlight. Fabric shall not be exposed for more than 5 days.

3.4 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Transport surplus satisfactory soil to designated storage areas on Owner's property. Stockpile or spread soil as directed by the Engineer.
 1. Remove waste materials, including unsatisfactory soil, trash and debris, and legally dispose of it off Owner's property.

END OF SECTION 310519.13

SECTION 311000

SITE CLEARING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Protecting existing vegetation to remain.
 - 2. Removing existing vegetation.
 - 3. Clearing and grubbing.
 - 4. Stripping and stockpiling topsoil.
 - 5. Removing above- and below-grade site improvements.
 - 6. Disconnecting, capping or sealing, removing site utilities and abandoning site utilities in place.
- B. Related Sections:
 - 1. Section 015000 "Temporary Facilities and Controls" for temporary utility services, construction and support facilities, security and protection facilities, and temporary erosion and sedimentation-control measures.
 - 2. Section 017300 "Execution" for field engineering and surveying.
 - 3. Section 330500 "Common Work Results for Utilities" for utility demolition.

1.3 DEFINITIONS

- A. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.
- B. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil; but in disturbed areas such as urban environments, the surface soil can be subsoil.
- C. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil and is the zone where plant roots grow.

- D. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction, and defined by a circle concentric with each tree with a radius 1.5 times the diameter of the drip line unless otherwise indicated.
- E. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.4 MATERIAL OWNERSHIP

- A. Except for stripped topsoil and other materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.5 INFORMATIONAL SUBMITTALS

- A. Existing Conditions: Documentation of existing trees and plantings, adjoining construction, and site improvements that establishes preconstruction conditions that might be misconstrued as damage caused by site clearing.
 - 1. Use sufficiently detailed photographs or videotape.
 - 2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plants designated to remain.
- B. Record Drawings: Identifying and accurately showing locations of capped utilities and other subsurface structural, electrical, and mechanical conditions.

1.6 PROJECT CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 - 2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.
- B. Salvable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated.
- C. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.
- D. Do not commence site clearing operations until temporary erosion- and sedimentation-control measures are in place.
- E. The following practices are prohibited within protection zones:
 - 1. Storage of construction materials, debris, or excavated material.

2. Parking vehicles or equipment.
 3. Foot traffic.
 4. Erection of sheds or structures.
 5. Impoundment of water.
 6. Excavation or other digging unless otherwise indicated.
 7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.
- F. Do not direct vehicle or equipment exhaust towards protection zones.
- G. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones.
- H. Soil Stripping, Handling, and Stockpiling: Perform only when the topsoil is dry or slightly moist.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Section 312000 "Earth Moving."
1. Obtain approved borrow soil material off-site when satisfactory soil material is not available on-site.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
- B. Protect existing site improvements to remain from damage during construction.
1. Restore damaged improvements to their original condition, as acceptable to Owner.

3.2 TREE AND PLANT PROTECTION

- A. General: Protect trees and plants remaining on-site according to requirements shown on the drawings.

- B. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by the Engineer.

3.3 EXISTING UTILITIES

- A. Locate, identify, disconnect, and seal or cap utilities indicated to be removed or abandoned in place.
 - 1. Arrange with utility companies to shut off indicated utilities.
- B. Locate, identify, and disconnect utilities indicated to be abandoned in place.
- C. Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Engineer not less than two days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Engineer's written permission.
- D. Removal of underground utilities is included in earthwork sections and utilities sections and Section 330500 "Common Work Results for Utilities."

3.4 CLEARING AND GRUBBING

- A. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.
 - 1. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.
 - 2. Use only hand methods for grubbing within protection zones.
 - 3. Chip removed tree branches and dispose of off-site.
- B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.
 - 1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches and compact each layer to a density equal to adjacent original ground.

3.5 TOPSOIL STRIPPING

- A. Remove sod and grass before stripping topsoil.
- B. Strip topsoil to depth of 6 inches in a manner to prevent intermingling with underlying subsoil or other waste materials.

1. Remove subsoil and nonsoil materials from topsoil, including clay lumps, gravel, and other objects more than 2 inches in diameter; trash, debris, weeds, roots, and other waste materials.
- C. Stockpile topsoil away from edge of excavations without intermixing with subsoil. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.
1. Limit height of topsoil stockpiles to 60 inches.
 2. Do not stockpile topsoil within protection zones.
 3. Dispose of surplus topsoil. Surplus topsoil is that which exceeds quantity indicated to be stockpiled or reused.
 4. Stockpile surplus topsoil to allow for respreading deeper topsoil.

3.6 SITE IMPROVEMENTS

- A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.
- B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.
1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut along line of existing pavement to remain before removing adjacent existing pavement. Saw-cut faces vertically.

3.7 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.

END OF SECTION 311000

SECTION 312000

EARTH MOVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

1. Preparing subgrades for walks and pavements.
2. Subbase course for concrete walks.
3. Subbase course and base course for asphalt paving.
4. Excavating and backfilling for buried utility structures.

- B. Related Sections:

1. Section 013233 "Photographic Documentation" for recording pre-excavation and earth moving progress.
2. Section 015000 "Temporary Facilities and Controls" for temporary controls, utilities, and support facilities.
3. Section 311000 "Site Clearing" for site stripping, grubbing, stripping and stockpiling topsoil, and removal of above- and below-grade improvements and utilities.
4. Section 312319 "Dewatering" for lowering and disposing of ground water during construction.
5. Section 315000 "Excavation Support and Protection" for shoring, bracing, and sheet piling of excavations.
6. Section 329200 "Turf and Grasses" for finish grading in turf and grass areas, including preparing and placing planting soil for turf areas.

1.3 REFERENCES

- A. Comply with the latest edition of the following standards, as referenced herein.
 1. American Society of Testing and Materials (ASTM).

2. American Association of State Highway and Transportation Officials (AASHTO).
3. New York State Department of Transportation (NYSDOT).

1.4 DEFINITIONS

- A. Backfill: Soil material or controlled low-strength material used to fill an excavation.
 1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
 2. Final Backfill: Backfill placed over initial backfill to fill a trench.
- B. Base Course: Aggregate layer placed between the subbase course and hot-mix asphalt paving.
- C. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.
- D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.
- E. Drainage Course: Aggregate layer supporting the slab-on-grade that also minimizes upward capillary flow of pore water.
- F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
 1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Engineer. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
 2. Bulk Excavation: Excavation more than 10 feet in width and more than 30 feet in length.
 3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Architect. Unauthorized excavation, as well as remedial work directed by Architect, shall be without additional compensation.
- G. Fill: Soil materials used to raise existing grades.
- H. Rock: Rock material in beds, ledges, unstratified masses, conglomerate deposits, and boulders of rock material 3/4 cu. yd. or more in volume that exceed a standard penetration resistance of 100 blows/2 inches when tested by a geotechnical testing agency, according to ASTM D 1586.

- I. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
- J. Subbase Course: Aggregate layer placed between the subgrade and base course for hot-mix asphalt pavement, or aggregate layer placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.
- K. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.
- L. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of the following manufactured products required:
 - 1. Controlled low-strength material, including design mixture.
 - 2. Warning tapes.
- B. Samples for Verification: For the following products, in sizes indicated below:
 - 1. Warning Tape: 12 inches long; of each color.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified testing agency.
- B. Material Test Reports: For each on-site and borrow soil material proposed for fill and backfill as follows:
 - 1. Classification according to ASTM D 2487.
 - 2. Laboratory compaction curve according to ASTM D 1557.
- C. Pre-excavation Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by earth moving operations. Submit before earth moving begins.

1.7 QUALITY ASSURANCE

- A. Geotechnical Testing Agency Qualifications: Qualified according to ASTM E 329 and ASTM D 3740 for testing indicated.
- B. Pre-Excavation Conference: Conduct conference at Project site.

1.8 PROJECT CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth moving operations.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 - 2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.
- B. Utility Locator Service: Notify utility locator service for area where Project is located before beginning earth moving operations.
- C. Do not commence earth moving operations until temporary erosion- and sedimentation-control measures, specified in Section 015000 "Temporary Facilities and Controls," are in place.
- D. The following practices are prohibited within protection zones:
 - 1. Storage of construction materials, debris, or excavated material.
 - 2. Parking vehicles or equipment.
 - 3. Foot traffic.
 - 4. Erection of sheds or structures.
 - 5. Impoundment of water.
 - 6. Excavation or other digging unless otherwise indicated.
 - 7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.
- E. Do not direct vehicle or equipment exhaust towards protection zones.
- F. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: Soil Classification Groups GW, GP, GM, SW, SP, and SM according to ASTM D 2487, Groups A-1, A-2-4, A-2-5, and A-3 according to AASHTO M 145, or a combination of these groups; free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.

- C. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D 2487, Groups A-2-6, A-2-7, A-4, A-5, A-6, and A-7 according to AASHTO M 145, or a combination of these groups.
 - 1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
- D. Subbase Course (Crusher Run): Materials shall consist solely of approved blast furnace slag or stone which is the product of crushing ledge rock NYSDOT Type 2.
 - 1. Materials shall be well graded from course to fine and free from organic or other deleterious materials, conforming to the requirements of NYSDOT Section 304, and meeting the following gradation requirements:

| TYPE | SIEVE | PERCENT PASSING |
|------|---------|-----------------|
| 2 | 2" | 100 |
| | 1/4" | 25-60 |
| | No. 40 | 5-40 |
| | No. 200 | 0-10 |

 - 2. Magnesium Sulfate soundness loss after 4 cycles shall be less than 20 percent for Type 4.
 - 3. Plasticity Index of material passing No. 40 sieve shall not exceed 5.0.
 - 4. Not more than 30 percent, by weight, of the particles retained on a 1/2" inch sieve shall consist of flat or elongated particles. A flat or elongated particle is defined as one which has its greatest dimension more than 3 times its least dimension.
 - 5. All material shall meet the specified gradation prior to placement. All processing shall be completed at the source.
- E. Bedding and Backfill Courses: Refer to Section 312333 "Trenching and Backfilling" for utility bedding specifications.
- F. Sand: ASTM C 33; fine aggregate.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth moving operations.
- B. Protect and maintain erosion and sedimentation controls during earth moving operations.

- C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

3.2 DEWATERING

- A. Refer to Section 312319 “Dewatering” for dewatering specifications.

3.3 EXCAVATION, GENERAL

- A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.
 - 1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.
 - 2. Remove rock to lines and grades indicated to permit installation of permanent construction without exceeding the following dimensions:
 - a. 24 inches outside of concrete forms other than at footings.
 - b. 12 inches outside of concrete forms at footings.
 - c. 6 inches outside of minimum required dimensions of concrete cast against grade.
 - d. Outside dimensions of concrete walls indicated to be cast against rock without forms or exterior waterproofing treatments.
 - e. 6 inches beneath bottom of concrete slabs-on-grade.
 - f. 6 inches beneath pipe in trenches, and the greater of 24 inches wider than pipe or 42 inches wide.

3.4 EXCAVATION FOR UTILITY TRENCHES

- A. Excavate utility trenches according to the requirements in Section 312333 “Trenching and Backfilling.”

3.5 SUBGRADE INSPECTION

- A. Notify Engineer when excavations have reached required subgrade.
- B. If Engineer determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.
- C. Proof-roll subgrade below the culvert with a pneumatic-tired and loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons to identify soft

pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.

1. Completely proof-roll subgrade in one direction, repeating proof-rolling in direction perpendicular to first direction. Limit vehicle speed to 3 mph.
 2. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Architect, and replace with compacted backfill or fill as directed.
- D. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
- E. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Engineer, without additional compensation.

3.6 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Engineer.
1. Fill unauthorized excavations under other construction, pipe, or conduit as directed by Architect.

3.7 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.8 BACKFILL

- A. Place and compact backfill in excavations promptly, but not before completing the following:
1. Construction below finish grade including, where applicable, subdrainage, dampproofing, waterproofing, and perimeter insulation.
 2. Surveying locations of underground utilities for Record Documents.
 3. Testing and inspecting underground utilities.
 4. Removing concrete formwork.
 5. Removing trash and debris.

6. Removing temporary shoring and bracing, and sheeting.
 7. Installing permanent or temporary horizontal bracing on horizontally supported walls.
- B. Place backfill on subgrades free of mud, frost, snow, or ice.

3.9 UTILITY TRENCH BACKFILL

- A. Place backfill according to the requirements of Section 312333 “Trenching and Backfilling.”
- B. Backfill voids with satisfactory soil while removing shoring and bracing.
- C. Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

3.10 SOIL FILL

- A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- B. Place and compact fill material in layers to required elevations as follows:
 1. Under grass and planted areas, use satisfactory soil material.
 2. Under walks and pavements, use satisfactory soil material.
 3. Under steps and ramps, use engineered fill.
 4. Under building slabs, use engineered fill.
 5. Under footings and foundations, use engineered fill.
- C. Place soil fill on subgrades free of mud, frost, snow, or ice.

3.11 SOIL MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
 1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
 2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.12 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Place backfill and fill soil materials in layers not more than 9 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.
- C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 1557:
 - 1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 95 percent.
 - 2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 92 percent.
 - 3. Under turf or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 85 percent.

3.13 GRADING

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
 - 1. Provide a smooth transition between adjacent existing grades and new grades.
 - 2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
- B. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
 - 1. Turf or Unpaved Areas: Plus or minus 1 inch.
 - 2. Walks: Plus or minus 1 inch.
 - 3. Pavements: Plus or minus 1/2 inch.

3.14 SUBBASE AND BASE COURSES UNDER PAVEMENTS AND WALKS

- A. Place subbase course and base course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place subbase course and base course under pavements and walks as follows:

1. Install separation geotextile on prepared subgrade according to manufacturer's written instructions, overlapping sides and ends.
 2. Place base course material over subbase course under hot-mix asphalt pavement.
 3. Shape subbase course and base course to required crown elevations and cross-slope grades.
 4. Place subbase course and base course 6 inches or less in compacted thickness in a single layer.
 5. Place subbase course and base course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.
 6. Compact subbase course and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D 1557.
- C. Pavement Shoulders: Place shoulders along edges of subbase course and base course to prevent lateral movement. Construct shoulders, at least 12 inches wide, of satisfactory soil materials and compact simultaneously with each subbase and base layer to not less than 95 percent of maximum dry unit weight according to ASTM D 1557.

3.15 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a qualified special inspector to perform the following special inspections:
1. Determine prior to placement of fill that site has been prepared in compliance with requirements.
 2. Determine that fill material and maximum lift thickness comply with requirements.
 3. Determine, at the required frequency, that in-place density of compacted fill complies with requirements.
- B. Testing Agency: Owner will engage a qualified geotechnical engineering testing agency to perform tests and inspections.
- C. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.
- D. Testing agency will test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2922, and ASTM D 2937, as applicable. Tests will be performed at the following locations and frequencies:

1. Paved and Building Slab Areas: At subgrade and at each compacted fill and backfill layer, at least one test for every 2000 sq. ft. or less of paved area or building slab, but in no case fewer than three tests.
 2. Foundation Wall Backfill: At each compacted backfill layer, at least one test for every 100 feet or less of wall length, but no fewer than two tests.
- E. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.

3.16 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
1. Scarify or remove and replace soil material to depth as directed by Architect; reshape and recompact.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.17 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 312000

SECTION 312319

DEWATERING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes construction dewatering.
- B. Related Requirements:
 - 1. Section 013233 "Photographic Documentation" for recording preexisting conditions and dewatering system progress.
 - 2. Section 312000 "Earth Moving" for excavating, backfilling, site grading, and controlling surface-water runoff and ponding.

1.3 ACTION SUBMITTALS

- A. Shop Drawings: For dewatering system, prepared by or under the supervision of a qualified professional engineer.
 - 1. Include plans, elevations, sections, and details.
 - 2. Show arrangement, locations, and details of wells and well points; locations of risers, headers, filters, pumps, power units, and discharge lines; and means of discharge, control of sediment, and disposal of water.
 - 3. Include layouts of piezometers and flow-measuring devices for monitoring performance of dewatering system.
 - 4. Include written plan for dewatering operations including sequence of well and well-point placement coordinated with excavation shoring and bracings and control procedures to be adopted if dewatering problems arise.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Field quality-control reports.

- C. Existing Conditions: Using photographs or video recordings, show existing conditions of adjacent construction and site improvements that might be misconstrued as damage caused by dewatering operations. Submit before Work begins.
- D. Record Drawings: Identify locations and depths of capped wells and well points and other abandoned-in-place dewatering equipment.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer that has specialized in design of dewatering systems and dewatering work.

1.6 FIELD CONDITIONS

- A. Project-Site Information: A geotechnical report has been prepared for this Project and is available for information only. The opinions expressed in this report are those of a geotechnical engineer and represent interpretations of subsoil conditions, tests, and results of analyses conducted by a geotechnical engineer. Owner is not responsible for interpretations or conclusions drawn from this data.
 - 1. Make additional test borings and conduct other exploratory operations necessary for dewatering according to the performance requirements.
 - 2. The geotechnical report is included elsewhere in Project Manual.
- B. Survey Work: Engage a qualified land surveyor or professional engineer to survey adjacent existing buildings, structures, and site improvements; establish exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks and record existing elevations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Dewatering Performance: Design, furnish, install, test, operate, monitor, and maintain dewatering system of sufficient scope, size, and capacity to control hydrostatic pressures and to lower, control, remove, and dispose of ground water and permit excavation and construction to proceed on dry, stable subgrades.
 - 1. Design dewatering system, including comprehensive engineering analysis by a qualified professional engineer.
 - 2. Continuously monitor and maintain dewatering operations to ensure erosion control, stability of excavations and constructed slopes, prevention of flooding in excavation, and prevention of damage to subgrades and permanent structures.

3. Prevent surface water from entering excavations by grading, dikes, or other means.
 4. Accomplish dewatering without damaging existing buildings, structures, and site improvements adjacent to excavation.
 5. Remove dewatering system when no longer required for construction.
- B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning dewatering. Comply with water- and debris-disposal regulations of authorities having jurisdiction.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by dewatering operations.
1. Prevent surface water and subsurface or ground water from entering excavations, from ponding on prepared subgrades, and from flooding site or surrounding area.
 2. Protect subgrades and foundation soils from softening and damage by rain or water accumulation.
- B. Install dewatering system to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.
1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
- C. Provide temporary grading to facilitate dewatering and control of surface water.
- D. Protect and maintain temporary erosion and sedimentation controls, which are specified in Section 015000 "Temporary Facilities and Controls," during dewatering operations.

3.2 INSTALLATION

- A. Install dewatering system utilizing wells, well points, or similar methods complete with pump equipment, standby power and pumps, filter material gradation, valves, appurtenances, water disposal, and surface-water controls.
1. Space well points or wells at intervals required to provide sufficient dewatering.

2. Use filters or other means to prevent pumping of fine sands or silts from the subsurface.
- B. Place dewatering system into operation to lower water to specified levels before excavating below ground-water level.
 - C. Provide sumps, sedimentation tanks, and other flow-control devices as required by authorities having jurisdiction.
 - D. Provide standby equipment on-site, installed and available for immediate operation, to maintain dewatering on continuous basis if any part of system becomes inadequate or fails.

3.3 OPERATION

- A. Operate system continuously until drains, sewers, and structures have been constructed and fill materials have been placed or until dewatering is no longer required.
- B. Operate system to lower and control ground water to permit excavation, construction of structures, and placement of fill materials on dry subgrades. Drain water-bearing strata above and below bottom of foundations, drains, sewers, and other excavations.
 1. Do not permit open-sump pumping that leads to loss of fines, soil piping, subgrade softening, and slope instability.
 2. Reduce hydrostatic head in water-bearing strata below subgrade elevations of foundations, drains, sewers, and other excavations.
 3. Maintain piezometric water level a minimum of 24 inches below bottom of excavation.
- C. Dispose of water removed by dewatering in a manner that avoids endangering public health, property, and portions of work under construction or completed. Dispose of water and sediment in a manner that avoids inconvenience to others.
- D. Remove dewatering system from Project site on completion of dewatering. Plug or fill well holes with sand or cut off and cap wells a minimum of 36 inches below overlying construction.

3.4 FIELD QUALITY CONTROL

- A. Observation Wells: Provide observation wells or piezometers, take measurements, and maintain at least the minimum number indicated; additional observation wells may be required by authorities having jurisdiction.
 1. Observe and record daily elevation of ground water and piezometric water levels in observation wells.

2. Repair or replace, within 24 hours, observation wells that become inactive, damaged, or destroyed. In areas where observation wells are not functioning properly, suspend construction activities until reliable observations can be made. Add or remove water from observation-well risers to demonstrate that observation wells are functioning properly.
 3. Fill observation wells, remove piezometers, and fill holes when dewatering is completed.
- B. Survey-Work Benchmarks: Resurvey benchmarks regularly during dewatering and maintain an accurate log of surveyed elevations for comparison with original elevations. Promptly notify Architect if changes in elevations occur or if cracks, sags, or other damage is evident in adjacent construction.
 - C. Provide continual observation to ensure that subsurface soils are not being removed by the dewatering operation.
 - D. Prepare reports of observations.

3.5 PROTECTION

- A. Protect and maintain dewatering system during dewatering operations.
- B. Promptly repair damages to adjacent facilities caused by dewatering.

END OF SECTION 312319

SECTION 312333

TRENCHING AND BACKFILLING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 sections, apply to this section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Trenching, backfilling, compacting, excavation support and disposal for utility installation.
- B. Related Sections:
 - 1. Section 013233 "Photographic Documentation" for recording pre-existing conditions and construction progress.
 - 2. Section 311000 "Site Clearing" for topsoil stripping and stockpiling.
 - 3. Section 312000 "Earth Moving" for excavation, filling and backfilling, and rough grading.
 - 4. Section 330500 "Common Work Results for Utilities" for installation of buried piping and utility demolition.

1.3 REFERENCES

- A. Comply with the latest edition of the following standards, as referenced herein:
 - 1. "Standard Specifications, Construction and Materials, New York State Department of Transportation, Office of Engineering."
 - 2. "Standard Specifications for Highway Materials and Methods of Sampling and Testing, American Association of State Highway and Transportation Officials (AASHTO)."
 - 3. American Society for Testing and Materials (ASTM).

1.4 ACTION SUBMITTALS

- A. Samples:

1. The Contractor shall furnish representative earth materials to the testing laboratory for analysis and report, as directed by the Engineer, or as outlined in the specifications.
- B. Test Results:
 1. The testing laboratory shall submit written reports of all tests, investigations, findings and recommendations to the Contractor and the Engineer.

1.5 QUALITY ASSURANCE

- A. The Contractor shall comply with the requirements for soil erosion and sedimentation control and other requirements of governmental authorities having jurisdiction, including the State.
- B. The Contractor shall provide and pay for all costs in connection with an approved independent testing facility to determine conformance of soils and aggregate with the specifications, in accordance with Section 014000 "Quality Requirements."

1.6 PROJECT CONDITIONS

- A. Notify the Engineer of any unexpected subsurface condition.
- B. Protect excavations by shoring, bracing, sheet piling, or by other methods, as required to ensure the stability of the excavation. Comply with OSHA requirements.
- C. Underpin or otherwise support structures adjacent to the excavation which may be damaged by the excavation. This includes service lines.
- D. Protection of Existing Utilities:
 1. Locate existing underground utilities in areas of work. If utilities are to remain in place, provide adequate means of support and protection during earthwork operations. Comply with OSHA requirements.
 2. Coordinate interruption and/or termination of utilities with the utility companies and the Owner.
 3. Provide a minimum of forty-eight (48) hours notice to the Owner and receive written notice to proceed before interrupting any utility.
- E. Demolish and completely remove from the site any existing underground utilities designated to be removed, as shown on the Drawings or as specified.
- F. Repair any damaged utilities as acceptable to the Owner, Engineer, and utility company at no additional cost to the Owner.
- G. Contractor shall comply with maintenance and protection requirements as approved by the authority having jurisdiction.

H. Protection of Persons and Property:

1. Barricade open excavations occurring as part of this work and post with warning lights, if required.
2. Operate warning lights as recommended by authorities having jurisdiction.
3. Protect structures, utilities, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.
4. Perform excavation within drip-line of trees to remain by hand, and protect the root system from damage or dryout to the greatest extent possible. Maintain moist conditions for root system and cover exposed roots with burlap. Paint cut roots of 1" diameter and larger with emulsified asphalt tree paint.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Pipe Zone Bedding (normal soil conditions): Sound, durable sand, gravel, stone or blends of these materials, free from organic, frozen or other deleterious materials, conforming to the requirements of NYSDOT Section 304 and meeting the following gradation requirements (NYSDOT Subbase Type 4):

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

- B. Pipe Zone Bedding (saturated soil conditions): Select mixture of graded crushed stone, free from organic, frozen or other deleterious materials, conforming to the requirements of NYSDOT Section 703-02 and meeting the following gradation requirements (NYSDOT Size 2):

| Sieve | Percent Passing |
|--------------|------------------------|
| 1 1/2" | 100 |
| 1 | 90 - 100 |
| 1/2" | 0 - 15 |

- C. Suitable Material: Sound, durable sand, gravel, stone or blends of these materials, free from organic, frozen or other deleterious materials, conforming to the requirements of NYSDOT 203-2.02C and meeting the following gradation requirements:

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

Run-of-trench material, meeting the above criteria, shall be considered suitable material and shall be used for trench backfill only after tested in accordance with Section 014000 "Quality Requirements" and approved by the Engineer. The Contractor shall pay for all additional testing required to determine the conformance of run-of-trench material, if at any time during the Work this material appears to be in non-conformance in the opinion of the Engineer.

PART 3 - EXECUTION

3.1 PRECONSTRUCTION MATERIAL QUALIFICATION TESTING

A. General:

1. Sufficient size samples shall be obtained from the potential borrow source to allow completion of tests listed in paragraph B below. Samples may be obtained from test borings, test pits, or from borrow pit faces provided that surficial dry or wet soil is removed to expose undisturbed earth. Tests listed below shall be performed on each sample obtained. A minimum of three (3) representative samples from each potential borrow source shall be furnished to the testing laboratory for prequalification testing. Test data shall be provided to the Engineer a minimum of 2 weeks prior to construction for approval of borrow source. Three test reports completed within three months prior to construction may be submitted for commercial earth borrow sources or suppliers of stone products (crushed stone or graded stone products) in lieu of prequalification tests as approved by the Engineer.

B. Material Tests:

1. Particle Size Analysis:
 - a. Method: ASTM D422
 - b. Number of Tests: One (1) per sample; three (3) per potential source.
 - c. Acceptance Criteria: Gradation within specified limits.
2. Maximum Density Determination:
 - a. Method: ASTM D1557 - Modified Proctor
 - b. Number of Tests: One (1) per sample; three (3) per potential source.
3. Re-establish gradation and maximum density of fill material if source is changed during construction.

3.2 PREPARATION

- A. Establish required lines, levels, contours and datum.
- B. Maintain benchmarks and other elevation control points; re-establish if disturbed or destroyed, at no additional cost to the Owner.

- C. Establish location and extent of existing utilities prior to commencement of excavation.

3.3 EXCAVATION

- A. All excavation shall be made to such depth as required and of the width shown on the Contract Drawings to provide suitable room for building the structures and laying the pipe(s) they are to contain and for sheeting, shoring, pumping and draining as necessary, and for removing peat, silt, or any other materials which the Engineer may deem unsuitable. Hand trench excavation may be required to protect existing utilities and structures.
- B. Trench excavation for pipes shall be made by open cut to accommodate the pipe or structure at the depths indicated on the Contract Drawings. Excavation shall be made to such a depth and to the width indicated on the Contract Drawings so as to allow a minimum of six (6) inches of pipe zone bedding to be placed beneath the bottom of all structures and barrels, bells or couplings of all pipes installed unless otherwise specified on the drawings.
- C. The bottom of the trench shall be accurately graded to provide a uniform layer of bedding material, as required, for each section of pipe. Trim and shape trench bottoms and leave free of irregularities, lumps, and projections.
- D. Stockpile excavated subsoil for reuse where directed or approved.
- E. Over excavation/undercut: If, in the opinion of the Engineer, existing material below the trench grade is unsuitable for properly placing bedding material and laying pipe, the Contractor shall excavate and remove the unsuitable material and replace the same with an approved pipe zone bedding material properly compacted.
- F. Stability of Excavation: Slope sides of excavations shall comply with local codes and ordinances having jurisdiction. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated. Maintain sides and slopes of excavation in safe condition until completion of backfilling.
- G. Removal of materials beyond the indicated subgrade elevations, without authorization by the Engineer, shall be classified as unauthorized excavation and shall be performed at no additional cost to the Owner.

3.4 DEWATERING

- A. Dewater the work area according to the requirements in Section 312319 "Dewatering."

3.5 BEDDING AND BACKFILLING

- A. All pipe trenches backfill (pipe zone bedding, pipe zone backfill and trench backfill) shall be compacted by tamping or rolling to achieve a minimum dry density of 90 percent of the modified Proctor maximum dry density of the material used (ASTM D1557). Backfill in pipe trenches to be covered with pavement shall be compacted to a minimum of 95 percent of modified Proctor maximum dry density. Backfill materials shall be placed with water content within plus or minus 4 percent of optimum moisture content per the modified Proctor method (ASTM D1557). Any water used for compaction shall be provided by the Contractor at his own expense. The Contractor is responsible for the repair of any trench settlement at no expense to the owner.
- B. Bedding and backfilling shall be accomplished in three stages unless otherwise specified on the Contract Drawings. The first stage shall involve placement of "pipe zone bedding" as a layer(s) of selected material required to support, or to stabilize unsound or unsatisfactory foundation conditions. The second stage shall involve placement of "pipe zone backfill" from the top of the bedding material up to one (1) foot above the pipe. The third stage involves the placement of "trench backfill" in the remainder of the trench up to the surface of the ground or the bottom of any special surface treatment subgrade elevation.
- C. The bedding material shall be placed in the trench after the trench has been excavated a minimum of six (6) inches below the bell of the pipe to permit the placing of not less than six (6) inches of bedding material unless otherwise specified on the Contract Drawings. Where, in the opinion of the Engineer, more than six (6) inches of bedding material shall be required, the excavation shall be performed and bedding placed to the depth ordered by the Engineer.
- D. Provide uniform bearing and support for each section of pipe at every point along the entire length, except where necessary to excavate for bell holes, pipe joints, or other required connections. Dig bell holes and depressions for joints after trench bottom has been graded. Dig no deeper, longer, or wider than needed to make the joint connection properly.
- E. The bedding material shall be placed to the full width of trench. The bedding material shall be placed in loose lifts not exceeding six (6) inches to the elevation shown on the Contract Drawings or directed by the Engineer. The bedding material shall be tamped and compacted to form a firm and even bearing surface.
- F. Pipe zone backfill shall be placed to the elevation shown on the Contract Drawings in loose lifts not-to-exceed six (6) inches in thickness, before compaction. The backfill shall be placed on both sides of the pipe at the same time and to approximately the same elevation. Any pipe that is damaged or moved out of alignment, regardless of cause, shall be replaced or realigned at the Contractor's expense. Each layer shall be thoroughly compacted by hand-tamping or mechanical means being careful not to damage the pipe. When the pipe zone

backfill reaches one (1) foot over the top of the pipe, the entire surface shall be compacted by mechanical means.

- G. The remainder, if any, of the trench above the pipe zone backfill shall be backfilled with suitable material in loose lifts not exceeding six (6) inches in thickness before compaction. Each layer shall be thoroughly compacted by mechanical means.

3.6 BACKFILLING AROUND STRUCTURES

- A. The Contractor shall not place backfill against any structure without obtaining the approval of the Engineer. No dumping shall be allowed where materials would flow against or around such structures. Backfill material shall be deposited in horizontal layers not exceeding 6 inches in loose thickness or as shown on the Contract Drawings and thoroughly compacted by hand or by mechanical means to the satisfaction of the Engineer.

3.7 SUSPENSION OF WORK

- A. Whenever the work is suspended, excavations shall be protected and the roadways, if any, left unobstructed. Within or adjacent to private property, material shall be stored at such locations as will not unduly interfere with traffic of any nature and in no case shall materials be stored in locations that will cause damage to existing improvements.

3.8 DISPOSAL OF MATERIAL

- A. Excess and unsuitable materials shall be disposed of by the Contractor on the site in an area approved by the Engineer or legally disposed of off- site at the Contractors expense.

3.9 FIELD QUALITY CONTROL

- A. Notify the Engineer at least three (3) working days in advance of all phases of filling and backfilling operations.
- B. In-place density testing shall be performed to ascertain the compacted density of the fill and backfill materials in accordance with the following methods:
 - 1. In-place relative density:
 - a. Method: AASHTO T238, Nuclear Method
- C. Perform initial density testing to verify that contractors proposed compaction effort will obtain the minimum required densities.
- D. In-place density tests on trench backfills shall be provided for every 500 cubic yards of fill and in vertical lifts not exceeding two (2) feet, and at least once daily.

- E. One particle size analysis (ASTM D422) and one modified Proctor compaction test (ASTM D698) shall be completed for every 5,000 cubic yards of material placed.
- F. The Engineer may direct additional tests to establish gradation, maximum density, and in-place density as required by working conditions, at the Contractor's expense.
- G. Acceptance Criteria: The criteria for acceptability of in-place fill shall be in-situ dry density and moisture content. If a test fails to qualify, the fill shall be further compacted and re-tested. Subsequent test failures shall be followed by removal and replacement of the material.

END OF SECTION 312333

SECTION 312513

EROSION AND SEDIMENT CONTROL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes:

1. Furnishing, installing, inspecting, maintaining, and removing soil and erosion control measures as shown on the Contract Documents or as ordered by the Engineer during the life of the contract to provide erosion and sediment control.
2. Temporary structural measures for erosion control protection to a critical area for an interim period. A critical area is any disturbed, denuded slope subject to erosion. These are used during construction to prevent offsite sedimentation. Temporary structural measures shall include check dams, construction road stabilization, stabilized construction entrance, dust control, rock dam, sediment basin, silt fence, storm drain inlet protection, straw/hay bale dike or other erosion control devices or methods as required.
3. Permanent structural measures for erosion control protection to a critical area. They are used to convey runoff to a safe outlet, remain in place, and continue to function after completion of construction. Permanent structural measures shall include land grading, riprap and rock outlets or other erosion control devices or methods as required.
4. Vegetative measures including mulch, protective vegetation, seed, straw/hay bale dike and topsoil.

- B. Related sections:

1. Section 312000 "Earth Moving" for excavation, filling, backfilling and rough grading.
2. Section 329113 "Soil Preparation" for placement of topsoil.
3. Section 329200 "Turfs and Grasses" for finish grading in turf and grass areas.

1.3 REFERENCES

- A. Comply with the latest edition of the following standards as referenced herein.
 - 1. Erosion and Sediment Control Guidelines: Conform to the latest edition of New York Standards and Specifications for Erosion and Sediment Control by the NYS Department of Environmental Conservation DOW (i.e., Bluebook). Refer to these guidelines for construction and maintenance of all items (Temporary and Permanent Structural, Vegetative and Biotechnical).
 - 2. Stormwater Management: Conform to the latest edition of New York State Stormwater Management Design Manual prepared by the Center for Watershed Protection for the NYS Department of Environmental Conservation.

1.4 DEFINITIONS – TEMPORARY STRUCTURAL MEASURES

- A. Silt Fence: A barrier of geo-textile fabric installed on contours across the slope to intercept runoff by reducing velocity. Replace after 1 year.
- B. Storm Drain Inlet Protection: A semi-permeable barrier installed around storm inlets to prevent sediment from entering a storm drainage system.
- C. Straw/Hay Bale Dike: Intercept sediment laden runoff by reducing velocity. Replace after three (3) months.

1.5 DEFINITIONS – VEGETATIVE MATERIALS MEASURES

- A. Mulches: Hay, straw, wood cellulose, fiber mats, flexible growth medium and other materials approved by the Owner's Representative.
- B. Protecting Vegetation: Protecting trees, shrubs, ground cover and other vegetation from damage.
- C. Temporary Seeding: Erosion control protection to a critical area for an interim period. A critical area is any disturbed, denuded slope subject to erosion.
- D. Permanent Seeding: Grasses established and combined with shrubs to provide perennial vegetative cover on disturbed, denuded, slopes subject to erosion.
- E. Straw/Hay Bale Dike: Intercept sediment laden runoff by reducing velocity. Replace after 3 months.
- F. Topsoil: Placed before permanent seeding or sod is installed.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Seeding: Permanent see Section 329200 “Turfs and Grasses.”

2.2 COMPANIES – TEMPORARY STRUCTURAL

- A. Mirafi, 365 South Holland Drive, Pendergrass, Ga, 30567, (888) 795-0808, www.mirafi.com.
- B. North American Green, 14649 Highway 41 North, Evansville, IN 47725, (800) 772-2040, www.nagreen.com. TURBIDITY BARRIERS
- C. Siltdam Inc., P.O. Box 960, Brockton MA, 02303, (800) 699-2374, www.spilldam.com.
- D. Nedia Enterprises, Inc., 22187 Vantage Pointe Place, Ashburn, VA 20148, (888) 725-6999, www.nedia.com.
- E. Belton Industries, 5600 Oakbrook Parkway, Norcross GA., 30093, (800) 225-4099, www.beltonindustries.com.
- F. KriStar, 1219 Briggs Ave., Santa Rosa, CA 95401, (800) 579-8819, www.kristar.com.
- G. Rolanka International Inc., 155 Andrew Drive, Stockbridge GA 30281, (800) 760-3215, www.rolanka.com.
- H. Apex Resources Inc., 12910 Shelbyville Road, Louisville, KY 40243 (888) 677-2739, www.apexr.com.
- I. MonoSol, LLC, 707 E. 80th PL., Merrillville, IN 46410 (800) 237-9552, www.terraloc.com.
- J. Brockton Equipment Inc., P.O. Box 960, Brockton, MA 02303 (800) 699-2374, www.spilldam.com.
- K. Aer-Flo Inc., 4455 18th St. East, Bradenton, FL 34203 (800) 823-7356, www.aerflo.com.
- L. Contech Construction Products Inc., 9025 Centre Point Drive, Suite 400, West Chester, Ohio 45069, (800) 338-1122, www.contech-cpi.com.

2.3 COMPANIES – VEGETATIVE

- A. Nedia Enterprises, Inc., 22187 Vantage Pointe Place, Ashburn, VA 20148, (888) 725-6999, www.nedia.com.

- B. Agrecol Corporation, 2918 Agriculture Drive, Madison, Wi, 53718, (608) 226-2544, www.agrecol.com.

PART 3 - EXECUTION

3.1 WORK AREAS

- A. The Engineer has the authority to limit the surface area of erodible earth exposed by earthwork operations and to direct the Contractor to provide immediate temporary or permanent erosion measures to minimize damage to property and contamination of watercourses and water impoundments. The Engineer may limit the area of clearing and grubbing and earthwork operations in progress commensurate with the Contractor's demonstrated capability in protecting erodible earth surfaces with temporary, permanent, vegetative or biotechnical erosion control measures.
- B. Schedule the work so as to minimize the time that earth areas will be exposed to erosive conditions. Provide temporary structural measures immediately to prevent any soil erosion.
- C. Provide temporary seeding on disturbed earth or soil stockpiles exposed for more than 14 days or for any temporary shutdown of construction. In spring, summer or early fall apply rye grass at a rate of 1 lb/ 1000 sq.ft. In late fall or early spring, apply certified Aroostook Rye at a rate of 2.5 lbs./ 1000 sq. ft. Apply hay or straw at a rate of 2 bales/ 1000 sq. ft. or wood fiber hydromulch at the manufacturer's recommended rate. Hay or straw shall be anchored.
- D. Coordinate the use of permanent controls or finish materials shown with the temporary erosion measures.
- E. All erosion and sediment control devices must be maintained in working order until the site is stabilized. All preventative and remedial maintenance work, including clean out, repair, replacement, re-grading, re-seeding, or re-mulching, must be performed immediately.
- F. After final stabilization has been achieved temporary sediment and erosion controls must be removed. Areas disturbed during removal must be stabilized immediately.
- G. No synthetic erosion control material, fencing or matting shall be part of the permanent installation.

END OF SECTION 312513

SECTION 315000

EXCAVATION SUPPORT AND PROTECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes temporary excavation support and protection systems.
- B. Related Requirements:
 - 1. Section 013233 "Photographic Documentation" for recording preexisting conditions and excavation support and protection system progress.
 - 2. Section 312000 "Earth Moving" for excavating and backfilling and for controlling surface-water runoff and ponding.
 - 3. Section 312319 "Dewatering" for dewatering excavations.
 - 4. Section 312333 "Trenching and Backfilling" and Section 330500 "Common Work Results for Utilities" for buried pipe installation.

1.3 REFERENCES

- A. Comply with the latest edition of the following standards, as referenced herein.
 - 1. American Society of Testing and Materials (ASTM)
 - 2. American Concrete Institute (ACI).
 - 3. "Standard Specifications, Construction and Materials, New York State Department of Transportation, Office of Engineering,"
 - 4. "Standard Specifications for Highway Materials and Methods of Sampling and Testing, American Association of State Highway and Transportation Officials (AASHTO)."

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1. Include construction details, material descriptions, performance properties, and dimensions of individual components and profiles, and calculations for excavation support and protection system.
- B. Shop Drawings: For excavation support and protection system, prepared by or under the supervision of a qualified professional engineer.
1. Include plans, elevations, sections, and details.
 2. Show arrangement, locations, and details of soldier piles, piling, lagging, tiebacks, bracing, and other components of excavation support and protection system according to engineering design.
 3. Indicate type and location of waterproofing.
 4. Include a written plan for excavation support and protection, including sequence of construction of support and protection coordinated with progress of excavation.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For professional engineer.
- B. Contractor Calculations: For excavation support and protection system. Include analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- C. Existing Conditions: Using photographs or video recordings, show existing conditions of adjacent construction and site improvements that might be misconstrued as damage caused by inadequate performance of excavation support and protection systems. Submit before Work begins.
- D. Record Drawings: Identify locations and depths of capped utilities, abandoned-in-place support and protection systems, and other subsurface structural, electrical, or mechanical conditions.

1.6 FIELD CONDITIONS

- A. Interruption of Existing Utilities: Do not interrupt any utility serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility according to requirements indicated:
1. Notify Owner/Engineer no fewer than 72-hours in advance of proposed interruption of utility.
 2. Do not proceed with interruption of utility without Owner's written permission.

- B. Project-Site Information: A geotechnical report has been prepared for this Project and is available for information only. The opinions expressed in this report are those of a geotechnical engineer and represent interpretations of subsoil conditions, tests, and results of analyses conducted by a geotechnical engineer. Owner is not responsible for interpretations or conclusions drawn from the data.
 - 1. Make additional test borings and conduct other exploratory operations necessary for excavation support and protection according to the performance requirements.
 - 2. The geotechnical report is included elsewhere in Project Manual.
- C. Survey Work: Engage a qualified land surveyor or professional engineer to survey adjacent existing buildings, structures, and site improvements; establish exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks and record existing elevations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Provide, design, monitor, and maintain excavation support and protection system capable of supporting excavation sidewalls and of resisting earth and hydrostatic pressures and superimposed and construction loads.
 - 1. Contractor Design: Design excavation support and protection system, including comprehensive engineering analysis by a qualified professional engineer.
 - 2. Prevent surface water from entering excavations by grading, dikes, or other means.
 - 3. Install excavation support and protection systems without damaging existing buildings, structures, and site improvements adjacent to excavation.
 - 4. Continuously monitor vibrations, settlements, and movements to ensure stability of excavations and constructed slopes and to ensure that damage to permanent structures is prevented.

2.2 MATERIALS

- A. General: Provide materials that are either new or in serviceable condition.
- B. Structural Steel: ASTM A 36/A 36M, ASTM A 690/A 690M, or ASTM A 992/A 992M.
- C. Steel Sheet Piling: ASTM A 328/A 328M, ASTM A 572/A 572M, or ASTM A 690/A 690M; with continuous interlocks.
 - 1. Corners: Site-fabricated mechanical interlock.

- D. Wood Lagging: Lumber, mixed hardwood, nominal rough thickness of 4 inches.
- E. Cast-in-Place Concrete: ACI 301, of compressive strength required for application.
- F. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.
- G. Tiebacks: Steel bars, ASTM A 722/A 722M.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards that could develop during excavation support and protection system operations.
 - 1. Shore, support, and protect utilities encountered.
- B. Install excavation support and protection systems to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
- C. Locate excavation support and protection systems clear of permanent construction so that construction and finishing of other work is not impeded.

3.2 SHEET PILING

- A. Before starting excavation, install one-piece sheet piling lengths and tightly interlock vertical edges to form a continuous barrier.
- B. Accurately place the piling, using templates and guide frames unless otherwise recommended in writing by the sheet piling manufacturer. Limit vertical offset of adjacent sheet piling to 60 inches. Accurately align exposed faces of sheet piling to vary not more than 2 inches from a horizontal line and not more than 1:120 out of vertical alignment.
- C. Cut tops of sheet piling to uniform elevation at top of excavation.

3.3 FIELD QUALITY CONTROL

- A. Survey-Work Benchmarks: Resurvey benchmarks regularly during installation of excavation support and protection systems, excavation progress, and for as long

as excavation remains open. Maintain an accurate log of surveyed elevations and positions for comparison with original elevations and positions. Promptly notify Architect if changes in elevations or positions occur or if cracks, sags, or other damage is evident in adjacent construction.

- B. Promptly correct detected bulges, breakage, or other evidence of movement to ensure that excavation support and protection system remains stable.
- C. Promptly repair damages to adjacent facilities caused by installation or faulty performance of excavation support and protection systems.

3.4 REMOVAL AND REPAIRS

- A. Remove excavation support and protection systems when construction has progressed sufficiently to support excavation and earth and hydrostatic pressures. Remove in stages to avoid disturbing underlying soils and rock or damaging structures, pavements, facilities, and utilities.
 - 1. Remove excavation support and protection systems to a minimum depth of 48 inches below overlying construction and abandon remainder.
 - 2. Fill voids immediately with approved backfill compacted to density specified in Section 312000 "Earth Moving."
 - 3. Repair or replace, as approved by Engineer, adjacent work damaged or displaced by removing excavation support and protection systems.

END OF SECTION 315000

DIVISION 32 – EXTERIOR IMPROVEMENTS

SECTION 321216

ASPHALT PAVING

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Hot-mix asphalt paving.
 - 2. Pavement marking paint.
- B. Related Sections:
 - 1. Section 312000 “Earth Moving” for excavation, filling, backfilling and rough grading.
 - 2. Section 310519.13 “Geotextiles for Earthwork” for installation of geotextile fabric.

1.3 REFERENCES

- A. Comply with the latest edition of the following standards, as referenced herein:
 - 1. “Standard Specifications, Construction and Materials, New York State Department of Transportation, Office of Engineering.”
 - 2. American Society for Testing and Materials (ASTM).
 - 3. American Association of State Highway and Transportation Officials (AASHTO).
 - 4. United States Environmental Protection Agency (USEPA).

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated, include the technical data and tested physical and performance properties.
 - 1. Job Mix Designs: Certification, by authorities having jurisdiction, of approval of each job mix proposed for the Work.
 - 2. Job Mix Designs: For each job mix proposed for the Work.

- B. Qualification Data: For qualified manufacturer and installer.
- C. Material Certificates: For each paving material, from manufacturer.
- D. Material Test Reports: For each paving material.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A paving mix manufacturer registered and approved by NYSDOT.
- B. Regulatory Requirements: Comply with materials, workmanship and other applicable requirements of the NYSDOT for asphalt paving work.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver pavement marking materials to Project site in original packages with seals unbroken and bearing manufacturer's labels containing brand name and type of material, date of manufacture and directions for storage.
- B. Store pavement marking materials in a clean, dry, protected location within temperature range required by manufacturer. Protect stored materials from direct sunlight.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or excessively damp, if rain is imminent or expected before time required for adequate cure, or if the following conditions are not met.
 - 1. Asphalt Base Course: Minimum surface temperature of 40 deg F and rising at time of placement.
 - 2. Asphalt Surface Course: Minimum surface temperature of 60 deg F at time of placement.
- B. Pavement Marking Paint: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 40 deg F for oil based materials or 55 deg F for water-based materials, and not exceeding 95 deg F.

PART 2 – PRODUCTS

2.1 AGGREGATES

- A. General: Use materials and gradations that have performed satisfactorily in previous installations.

- B. Coarse Aggregate: ASTM D 692, sound; angular crushed stone, crushed gravel, or cured, crushed blast-furnace slag.
- C. Fine Aggregate: AASHTO M 29, sharp edged natural sand or sand prepared from stone, gravel, cured blast-furnace slag, or combinations thereof.
 - 1. For hot-mix asphalt, limit natural sand to a maximum of 20 percent by weight of the total aggregate mass.
- D. Mineral Filler: AASHTO M 17, rock or slag dust, hydraulic cement, or other inert material.

2.2 ASPHALT MATERIALS

- A. Asphalt Concrete Paving: Conform to NYSDOT requirements of Section 400, Bituminous Pavements.
 - 1. Top Course: 12.5 mm Mix (NYSDOT Item Number 402.127303).
 - 2. Binder Course: 25.00 mm Mix (NYSDOT Item Number 402.257903).

2.3 AUXILIARY MATERIALS

- A. Herbicide: Commercial chemical for weed control, registered by the USEPA. Provide in granular, liquid, or wettable powder form.
- B. Sand: AASHTO M 29, Grade Nos. 2 or 3.
- C. Joint Sealant: AASHTO M 324, hot-applied, single-component, polymer-modified bituminous sealant.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Verify that subgrade is dry and in suitable condition to begin paving.
- B. Proceed with paving only after unsatisfactory conditions have been corrected.
- C. Verify that utilities, traffic loop detectors, and other items requiring a cut and installation beneath the asphalt surface have been completed and that asphalt surface has been repaired flush with adjacent asphalt prior to beginning installation of imprinted asphalt.

3.2 PATCHING

- A. Asphalt Pavement: Saw cut perimeter of patch and excavate existing pavement section to sound base. Excavate rectangular or trapezoidal patches, extending 12 inches into perimeter of adjacent sound pavement, unless otherwise indicated. Cut excavation faces vertically. Remove excavated material. Recompact existing unbound-aggregate base course to form new subgrade.
- B. Placing Patch Material: Fill excavated pavement areas with hot-mix asphalt base mix for full thickness of patch and, while still hot, compact flush with adjacent surface.

3.3 SURFACE PREPARATION

- A. General: Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces. Ensure that prepared subgrade is ready to receive paving.

3.3 HOT-MIX ASPHALT PLACING

- A. Machine place hot-mix asphalt on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand to areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness when compacted.
 - 1. Place hot-mix asphalt base course in number of lifts and thicknesses indicated.
 - 2. Place hot-mix asphalt surface course in single lift.
 - 3. Spread mix at minimum temperature of 250 deg F.
 - 4. Begin applying mix along centerline of crown for crowned sections and on high side of one-way slopes unless otherwise indicated.
 - 5. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt paving mat.
- B. Place paving in consecutive strips not less than 10 feet wide unless infill edge strips of a lesser width are required.
 - 1. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips. Complete a section of asphalt base course before placing asphalt surface course.
- C. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

3.4 JOINTS

- A. Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free of depressions, with same texture and smoothness as other sections of hot-mix asphalt course.
 - 1. Clean contact surfaces.
 - 2. Offset longitudinal joints, in successive courses, a minimum of 6 inches.
 - 3. Offset transverse joints, in successive courses, a minimum of 24 inches.
 - 4. Construct transverse joints at each point where paver ends a day's work and resumes work at a subsequent time.
 - 5. Compact joints as soon as hot-mix asphalt will bear roller weight without excessive displacement.
 - 6. Compact asphalt at joints to a density within 2 percent of specified course daily.

3.5 COMPACTION

- A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot, hand tampers or with vibratory-plate compactors in areas inaccessible to rollers.
 - 1. Complete compaction before mix temperature cools to 185 deg F.
- B. Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade and smoothness. Correct laydown and rolling operations to comply with requirements.
- C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:
 - 1. Average Density: 96 percent of reference laboratory density according to AASHTO T 245 but not less than 94 percent nor greater than 100 percent.
 - 2. Average Density: 92 percent of reference maximum theoretical density according to ASTM D 2041, but not less than 90 percent nor greater than 96 percent.
- D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.
- E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while asphalt is still hot; compact thoroughly.

- F. Repairs: Remove paved areas that are defective or contaminated with foreign materials and replace with fresh, hot-mix asphalt. Compact by rolling to specified density and surface smoothness.
- G. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.
- H. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.6 PAVEMENT MARKING

- A. Do not apply pavement marking paint until layout, colors and placement have been verified with Owner.
- B. Allow paving to age for 30 days before starting pavement marking.
- C. Sweep and clean surface to eliminate loose material and dust.
- D. Apply paint with mechanical equipment to produce pavement markings, of dimensions indicated, with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils.

3.7 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections. The Owner will engage and pay for tests and inspection services required under the scope of work in this section.
- B. Thickness: In-place compacted thickness of hot-mix asphalt courses will be determined according to ASTM D 3549.
- C. Surface Smoothness: Finished surface of each hot-mix asphalt course will be tested for compliance with smoothness tolerances.
- D. In-Place Density: Testing agency will take samples of uncompacted paving mixtures and compacted pavement according to AASHTO T 168.
 - 1. Reference maximum theoretical density will be determined by averaging results from four samples of hot-mix asphalt-paving mixture delivered to site, prepared according to ASTM D 2041, and compacted according to job-mix specifications.
 - 2. In-place density of compacted pavement will be determined by testing core samples according to ASTM D 1188 or ASTM 2726.
 - a. One core sample will be taken for every 1000 sq. yd. or less of installed pavement, with no fewer than 3 cores taken.

- b. Field density of in-place compacted pavement may also be determined by nuclear method according to ASTM D 2950 and correlated with ASTM D 1188 or ASTM D 2726.
- E. Replace and compact hot-mix asphalt where core tests were taken.
- F. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.

3.8 DISPOSAL

- A. Except for material indicated to be recycled, remove excavated materials from Project site and legally dispose of them in an USEPA-approved landfill.
 - 1. Do not allow milled materials to accumulate on-site.

END OF SECTION 321216

SECTION 321623

SIDEWALKS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Concrete sidewalks.
- B. Related Sections:
 - 1. Section 312000 “Earth Moving” for excavation, filling, backfilling and rough grading.

1.3 REFERENCES

- A. Comply with the latest edition of the following standards, as referenced herein:
 - 1. Comply with American Concrete Institute, ACI 301-05, for the Work of this Section unless otherwise indicated on the drawings or specified.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated, include the technical data and tested physical and performance properties.
 - 1. Concrete Design Mix: Submit proposed concrete design mix together with name and location of batching plant at least 28 days prior to the start of concrete work.
 - 2. Portland Cement: Brand and Manufacturer’s name.
 - 3. Air-entraining Admixture: Brand and manufacturer’s name.
 - 4. Water-reducing or High Range Water-reducing Admixture: Brand and manufacturer’s name.
 - 5. Curing and Anti-Spalling Compound: Manufacturer’s specifications and application instructions.

1.5 QUALITY ASSURANCE

- A. Concrete batching plants shall be currently approved as concrete suppliers by the New York State Department of Transportation.
- B. Performance Criteria: The following criteria are required for the products included in this section:
 - 1. Cast-in-place Concrete shall contain post-industrial and/or post-consumer recycled content as follows:
 - a. Fly Ash: ASTM C618, including Table 1, except for footnote A, Class F, except loss on ignition shall not exceed 4.0 percent. Concrete shall incorporate fly ash as a replacement for 15 percent (by weight) of the Portland cement. All design mixes are subject to review and approval by the Engineer.
 - b. GGBF (Ground Granulated Blast Furnace) Slag: Concrete shall incorporate GGBF slag as a replacement for at least 20 percent (by weight) of the Portland cement. All design mixes are subject to review and approval by the Engineer.
 - c. Certification of recycled content shall be in accordance with the SUBMITTALS Article above.
 - d. Recycled Steel: Reinforcing bar, steel wire, welded wire fabric, and miscellaneous steel accessories shall contain a minimum of 35 percent (combined) post-industrial/post-consumer recycled content (the percentage of recycled content is based on the weight of the component materials).
 - 2. Concrete manufactured within 500 miles (by air) of the project site shall be documented in accordance with the SUBMITTALS Article above.
 - 3. Steel reinforcement manufactured within 500 miles (by air) of the project site shall be documented in accordance with SUBMITTALS Article above.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Batch Ticket Information: Indicate on the delivery ticket the type, brand, and amount of fibrous concrete reinforcement material added to each batch of concrete.

PART 2 – PRODUCTS

2.1 CAST-IN-PLACE CONCRETE

- A. Normal weight, air entrained concrete with a minimum compressive strength of 4,000 psi with a minimum of 611 pounds of cement per cubic yard, at the end of 28 days.
1. Design Air Content: ASTM C 260, and on the New York State Department of Transportation's current "Approved List"; 6 percent by volume plus or minus 1.5 percent.
 2. Cement: ASTM C 150 Type I or II Portland cement. Minimum 6.5 bags or 611 pounds per cubic yard.
 3. Water: Potable.
 4. Slump: Maximum 4 inches; minimum 2 inches before the addition of any water-reducing admixtures or high-range water-reducing admixtures (superplasticizers) at the site. Except when a water-reducing admixture is used, maximum slump shall be 6 inches and when a high range water reducing admixture is used maximum slump shall be 8 inches.
 5. Water-reducing Admixture: ASTM C 494 / C 494M-04 Type A and on the New York State Department of Transportation's current "Approved List".
 6. High Range Water-reducing Admixture: ASTM C 494 / C 494M-04 Type F and on the New York State Department of Transportation's current "Approved List".
 7. Retarding Admixture: ASTM C 494, Type D, Water-reducing and retarding, for use in hot weather concreting, and on the New York State Department of Transportation's current "Approved List".
- B. Chemical Curing and Anti-Spalling Compound: ASTM C-309, Type 1D, Class B, with minimum 18 percent total solids content. No thinning of material allowed. The volatile organic compound (VOC) content of concrete curing compounds shall meet requirements of the EPA national AIM VOC regulations.
1. SureCure Emulsion, Kaufman Products, Inc. 3811 Curtis Avenue, Baltimore, MD 21226, (800) 637-6372.
 2. Cure & Seal by Symons Corp., 200 East Touhy Ave., PO Box 5018, Des Plaines, IL 60017-5018, (847) 298-3200.
 3. Kure-N-Seal by Sonneborn/ BASF Building Systems, 889 Valley Park Dr., Shakopee, MN 55379, (800) 433-9517.
 4. Day-Chem Cure & Seal UV 26 percent (J-22 UV) by Dayton Superior Corp., 721 Richard St., Miamisburg, OH 45342, (800) 745-3700.

5. Acrylseal HS by Master Builders/ BASF Building Systems, 23700 Chagrin Blvd., Cleveland, OH 44122, (800) 628-9990.

- C. Tie Wire: Black annealed wire, 16-1/2 gage or heavier.
- D. Bar Supports: Galvanized steel or AISI Type 430 stainless steel, and without plastic tips.
- E. Welded Wire Mesh: 6x6 – W2.9 x W2.9

2.2 JOINTS AND EMBEDDED ITEMS (Amendments to ACI 301, Section 5.3.2.6)

- A. Obtain bond at construction joints by the use of bonding agent (adhesive) or the use of cement grout.

PART 3 – EXECUTION

3.1 PREPARATION

- A. Do not use items of aluminum for mixing, chuting, conveying, forming, or finishing concrete. However, magnesium alloy tools may be used for finishing.
- B. Set forms true to line and grade and anchor rigidly in position.
- C. Space expansion joints equally at not more than 20'-0" on center unless otherwise indicated. Place expansion joints to isolate sidewalk from other structures and fixed objects.
- D. Place joint filler at expansion joints and where new concrete abuts existing concrete paving and fixed structures or appurtenances. Protect the top edge of the joint filler during concrete placement with a temporary cap and remove after concrete has been placed.

3.2 PLACING CONCRETE

- A. Consolidate concrete by spading, rodding, forking, or using an approved vibrator eliminating all air pockets, stone pockets, and honeycombing. Work and float concrete surface so as to produce a uniform texture.
- B. Locate construction joints, if any, at expansion joints.

3.3 FINISHING AND CURING

- A. Wait until bleeding is stopped before final finishing operations.
- B. Keep surface damp but not wet between initial strike off and final finish.

1. Utilize a fog spray, evaporative inhibitor, or midrange water reducer that is compatible with supplementary cementing materials to help control the amount of surface drying of the fresh concrete
- C. Use minimal working of the surface during finishing.
- D. Utilize a magnesium or wood float.
- E. Avoid the use of steel finishing trowels and utilize a concrete finishing machine when possible.
- F. Finish edges of walk and expansion and control joints with a 1/4 inch radius edging tool, 3/4" deep. Provide 1.5" wide smooth trowel finish at joint.
- G. Provide broom finish for walk surfaces, perpendicular to the line of travel.
- H. Apply curing and anti-spalling compound in accordance with the manufacturer's printed instructions.
- I. Apply curing immediately after final finish.
- J. Hot Weather Concreting: Comply with ACI 305R whenever the atmospheric temperature or the form surface temperature is at or above 90 degrees F., or climatic conditions of wind and/or low humidity will cause premature drying of the concrete.
- K. Curing Temperature: Maintain the temperature of the concrete at 50 degrees F. or above during the curing period. Keep the concrete temperature as uniform as possible and protect from rapid atmospheric temperature changes. Avoid temperature changes in concrete which exceeds 5 degrees F. in any one hour and 50 degrees F. in any 24-hour period.
- L. Provide tooled control joints 3/4" deep. Space control joints equally between expansion joints approximately 5'-0" on center, except where a different spacing is shown on the drawings.

END OF SECTION 321623

SECTION 329113

SOIL PREPARATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 sections, apply to this section.

1.2 SUMMARY

- A. Section includes the placement of topsoil. Minimum thickness is six (6) inches, for all areas disturbed during construction and not receiving other surface treatment.
- B. Related Sections:
 - 1. Section 311000 "Site Clearing" for topsoil stripping and stockpiling.
 - 2. Section 312000 "Earth Moving" for excavation, filling, backfilling and rough grading.
 - 3. Section 312333 "Trenching and Backfilling" for utility installation.
 - 4. Section 329200 "Turf & Grasses" for grass installation

1.3 DEFINITIONS

- A. Finish Grade: Elevation of finished surface of planting soil.
- B. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.
- C. Planting Soil: Standardized topsoil; existing, native surface topsoil; existing, in-place surface soil; imported topsoil; or manufactured topsoil that is modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- D. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or top surface of a fill or backfill before planting soil is placed.
- E. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.

- F. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil, but in disturbed areas such as urban environments, the surface soil can be subsoil.

1.4 ACTION SUBMITTALS

- A. Samples: Furnish earth materials to the testing laboratory for analysis and report.

1.5 INFORMATION SUBMITTALS

- A. Quality Control Reports: The testing laboratory shall submit written reports of all tests, investigations, and recommendations to the Contractor and the Engineer. Indicate quantities of materials necessary to bring topsoil into compliance with textural/gradation requirements. Indicate quantity of lime and quantity and analysis of fertilizer.

1.6 QUALITY ASSURANCE

- A. Provide and pay for all costs in connection with an approved independent testing facility to determine conformance of soils and aggregate with the specifications.
 - 1. Laboratory tests of the topsoil shall be performed by a certified testing laboratory, and shall perform tests for the following:
 - a. Sieve particle size analysis and gradient of mineral content
 - b. Chemical analysis of the following:
 - (1) pH and buffer pH
 - (2) percent of organic content
 - (3) nutrient levels of phosphorus, potassium magnesium, manganese, iron, zinc and calcium
 - (4) soluble salt
 - (5) cation exchange capacity (CEC)
 - c. Recommended fertilizer and rate of application for low and medium level nutrient soils.

1.7 PROJECT CONDITIONS

- A. Coordinate the placement of topsoil with the completion of all underground work including that of the other trades.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Topsoil: Natural, friable, fertile, fine loamy soil possessing the characteristics of representative topsoils in the vicinity which produces a heavy growth; free from

subsoil, objectionable weeds, litter, sods, stiff clay, stones larger than 1 inch in diameter, stumps, roots, trash, toxic substances, or any other material which may be harmful to plant growth or hinder planting operations. Contractor is to verify amount stockpiled and supply any additional as needed:

1. Topsoil shall contain not less than 4% nor more than 20% organic matter as determined by the wet combustion method (chronic acid reduction); topsoil shall have a pH value of not less than 5.5 nor more than 7.0;
2. Topsoil shall meet the following mechanical analysis:

| Size of Screen | % of Soil Passing |
|----------------|-------------------|
| 1" | 100 |
| ¼" | 97-100 |
| No. 100 | 40-60 |

3. Imported topsoil in which more than 60% of the material passing a No. 100 sieve shall be rejected. All percentages are to be based on the dry weight of the samples.

2.2 MATERIAL ACCEPTANCE

- A. Topsoil may be acquired from approved sites that are designated on the Drawings. If no sites are designated, material proposed for use as topsoil must be stockpiled, sampled, and tested prior to use.
- B. Topsoil containing foreign material may be rejected on the basis of visual examination by the Engineer, prior to testing.
- C. Acceptance of topsoil shall be based upon test results. Tested topsoil must be approved in writing by the Engineer before any material is used.

2.3 SOIL AMENDMENT

- A. Textural Amendments: Amend as necessary to conform to required composition by incorporating sand, peat, manure, or sawdust
- B. Fertilizer: Shall be delivered to the site, mixed as specified, in the original unopened standard size bags showing weight, analysis and name of manufacturer. Store fertilizer in a weatherproof place and in such a manner that it shall be kept dry and its effectiveness shall not be impaired.
 1. Percentages of nitrogen, phosphorus and potash shall be based on laboratory test recommendations. For the purpose of bidding, assume 10% nitrogen, 6% phosphorus and 4% potash by weight. At least 50% of the total nitrogen shall contain no less than 3% water-insoluble nitrogen. At least 60% of the nitrogen content shall be derived from superphosphate containing not less than 18%

phosphoric acid or bone meal containing 25% - 30% phosphoric acid and 2% - 3% nitrogen. Potash shall be derived from muriate of potash containing 55% - 60% potash.

2. Grass or sodded areas shall have fertilizer applied according to soil text report or as specified on the drawings.
- C. Organic Matter: Leaf matter and yard waste composted sufficiently to break down all woody fibers, seeds, and leaf structures, and free of toxic and non-organic matter. Organic matter shall be commercially prepared compost. Coarse sand shall be clean, sharp, natural sands free of limestone, shale and slate particles, ASTM C-33 fine aggregate with a Fines Modulus Index of 2.75 or greater.
- D. Limestone: Provide ground limestone in the producer's standard bags containing not less than 90 percent of calcium and magnesium carbonates equivalent to not less than 45 percent of the mixed oxides of calcium and magnesium and conforming to the following gradations:

| Sieve Designation | Percent Passing |
|-------------------|-----------------|
| No. 20 | 100 |
| No. 100 | 50-100 |

PART 3 - EXECUTION

3.1 STOCKPILING

- A. Stockpile topsoil from on-site sources or provide from off-site sources and stockpile, if on-site quantities are deficient.
- B. Stockpiles are to contain not less than 200 cubic yards or the minimum required for the project.
- C. Stockpiles are to have a height of at least 4' and be trimmed to uniform surfaces and slopes.
- D. The sites of all stockpiles and adjacent areas that have been disturbed are to be graded and put into an acceptable condition by seeding, as directed by the Engineer.

3.2 PREPARATION

- A. Disk, drag, harrow or hand rake subgrade to a depth of 3 inches to provide bond for topsoil. Topsoil, which must be transported across finished walks, shall be delivered in such a manner that no damage will be done to the walks. The Contractor shall be responsible for the repair of such damage.
- B. Before placing topsoil, rake subsoil surface clear of stones larger than 1½ inches, debris, and roots. Compact topsoil to form a layer with minimum depth of 4

inches in lawn areas and 12 inches in shrub beds. Topsoil shall be placed so that after final settlement there will be good drainage (and conforming to elevations shown on drawings). Contractor is to maintain surfaces and place any additional topsoil necessary to replace that which may have eroded before acceptance.

- C. Locations containing unsuitable subsoil shall be treated in one of the following manners:
1. Where unsuitability within the construction site is deemed by the Owner to be due to excessive compaction caused by heavy equipment or by the presence of boards, mortar, concrete or other construction materials in subgrade, and where the natural subsoil is other than AASHTO classification of A6 or 7, the Contractor shall loosen such areas with spikes, discs, or other means to loosen the soil to a condition acceptable by the Owner. The Contractor shall also remove all debris and objectionable material. Soil should be loosened to a minimal depth of 12 inches with additional loosening as required to obtain adequate drainage. Contractor may introduce peat moss, sand, or organic matter into the subsoil to obtain adequate drainage should he so desire. All such remedial measures shall be considered as incidental to the work and no extra payment shall be made for this part of the work; and,
 2. Where subgrade is deemed by the Owner to be unsuitable because the natural subsoil falls into an AASHTO classification of A6 or 7 and contains moisture in excess of 30%, then such a condition shall be rendered suitable by installation of a subdrainage system or by other means described elsewhere in these specifications. Where such conditions have not been known or revealed prior to planting time and where they have not been recognized in the preparation of drawings and specifications, then the Owner shall issue a change order to install the proper remedial measures, all of which shall be in addition to the contract sum.

3.3 TOPSOIL PLACEMENT

- A. Do not place topsoil when subsoil or topsoil is frozen, excessively wet, or otherwise detrimental to the Work.
- B. Mix soil amendments, lime, and fertilizer with topsoil before placement or spread on topsoil surface and mix thoroughly into entire depth of topsoil before planting or seeding. Delay mixing of fertilizer if planting or seeding will not occur within 3 days.
- C. Place 1/2 of total depth of topsoil and work into subgrade soil to create a transition layer. Place remainder of topsoil to depth after compacting to 75 percent where seeding and planting are scheduled.
- D. Uniformly distribute to within 1/2 inch of final grades. Fine grade topsoil eliminating rough or low areas and maintaining levels, profiles, and contours of subgrade to ensure positive drainage.

- E. Remove stones exceeding 1 inch, roots, sticks, debris, and foreign matter during and after topsoil placement.
- F. Remove surplus subsoil and topsoil from Site. Grade stockpile area as necessary and place in condition acceptable for planting or seeding.

3.4 LIMESTONE PLACEMENT

- A. Spread ground limestone evenly over the topsoiled surface. Incorporate limestone within the top 2 inches of soil prior to finish raking.
- B. Apply limestone at the following rate per 1000 square feet of topsoil area, corresponding to the hydrogen ion concentration (pH) shown by the soil chemical analysis:

| pH | RATE (lbs) |
|------------|-------------------|
| 4.5 to 5.0 | 150 |
| 5.0 to 5.5 | 100 |
| 5.5 to 6.0 | 50 |
| 6.0 to 6.8 | 25 |
| over 6.8 | 0 |

3.5 CLEANING

- A. Remove all surplus subsoil and topsoil from project site.
- B. Leave the site in clean, satisfactory condition ready to receive subsequent operations.

END OF SECTION 329113

SECTION 329200

TURFS AND GRASSES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Seeding.
 - 2. Hydroseeding.
- B. Related Sections:
 - 1. Section 311000 "Site Clearing" for topsoil stripping and stockpiling.
 - 2. Section 312000 "Earth Moving" for excavation, filling and backfilling, and rough grading.
 - 3. Section 329113 "Soil Preparation".

1.3 DEFINITIONS

- A. Duff Layer: The surface layer of native topsoil that is composed of mostly decayed leaves, twigs, and detritus.
- B. Finish Grade: Elevation of finished surface of planting soil.
- C. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.
- D. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. This includes insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. It also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.
- E. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. These include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.

- F. Planting Soil: Standardized topsoil; existing, native surface topsoil; existing, in-place surface soil; imported topsoil; or manufactured topsoil that is modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- G. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or top surface of a fill or backfill before planting soil is placed.
- H. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.
- I. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil, but in disturbed areas such as urban environments, the surface soil can be subsoil.

1.4 ACTION SUBMITTALS

- A. Product data for each type of product indicated:
 - 1. Hydro Mulch: Include product label and manufacturer's specifications and application rate.
- B. Sample:
 - 1. Include one pound of seed in vendor's unopened package with label and seed analysis.

1.5 QUALITY ASSURANCE

- A. Provide prepackaged seed readily available to the public with quality and purity equal to product of O.M. Scotts and Son, Marysville, OH. On-the-job or made-to-order mixes will not be accepted.

1.6 PROJECT CONDITIONS

- A. Delivery Storage and Handling
 - 1. Deliver fertilizer in manufacturer's standard size bags or cartons showing weight, analysis, and the name of the manufacturer. Store as approved by the Engineer.
 - 2. Store all seed at the site in a cool, dry place as approved by the Engineer. Replace any seed damaged during storage.
 - 3. Deliver seeds, 30 days in advance of anticipated use, in vendor's unopened packages bearing labels showing vendor's name and seed analysis by weight.

B. Scheduling

1. Time for Seeding: Sow grass seed between March 15th and May 15th or between August 15th and October 1st, except as otherwise approved in writing by the Engineer.

PART 2 - PRODUCTS

2.1 FERTILIZER

- A. Fertilizer: Commercial (5-10-5) inorganic, or organic, containing not less than 5 percent nitrogen, 10 percent available phosphoric acid and 5 percent water soluble potash.
- B. Other fertilizers with a 1-2-1 ratio, such as 10-20-10 or 6-12-6 may be substituted for above.

2.2 SEED

- A. Furnish fresh, clean, new-crop seed mixed in the proportions specified for species and variety, and conforming to Federal and State Standards.
- B. Acceptable material in a seed mixture other than pure live seed consists of nonviable seed, chaff, hulls, live seed of crop plants and inert matter. The percentage of weed seed shall not exceed 0.1 percent by weight.
- C. All seed will be rejected if the label or test analysis indicates any of the following contaminates: Timothy, Orchard Grass, Sheep Fescue, Meadow Fescue, Canada Blue Grass, Alta Fescue, Kentucky 31 Fescue and Bent Grass.
- D. Provide the following seed mixture:

| STANDARD MIXTURE | | | |
|-----------------------------|--------------------------|------------|-------------|
| AMOUNT BY WEIGHT IN MIXTURE | SPECIES OR VARIETY | PERCENTAGE | |
| | | PURITY | GERMINATION |
| 55% (MIN) | KENTUCKY BLUGRASS BLEND* | 95% | 80% |
| 25% (MIN) | RED FESCUE | 97% | 80% |
| 20% (MAX) | PERENNIAL RYE** | 98% | 85% |
| 100% | | | |

* Approximately equal proportions of 2 or more improved Bluegrass varieties as listed in the Cornell Recommendations for Turfgrass.

** One or more of the improved Ryegrass varieties as listed in the Cornell Recommendations for Turfgrass.

2.3 MULCH

- A. Dry Application, Straw: Stalks of oats, wheat, rye or other approved crops that are free of noxious weed seeds. Weight shall be based on a 15 percent moisture content.
- B. Hydro Application: Colored wood cellulose fiber product specifically designed for use as a hydro-mechanical applied mulch. Acceptable Product: Conwed Hydro Mulch, Conwed Fibers, 231 4th Street SW, Hickory, NC.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Seed Bed: Scarify soil to a depth of 2 inches in compacted areas. Smooth out unsightly variations, bumps, ridges and depressions which will hold water. Remove stones, litter or other objectionable material.
 - 1. Obtain written approval of seed bed from the Engineer before commencing seeding operations.

3.2 FERTILIZING

- A. Apply 5-10-5 fertilizer evenly at the rate of 20 pounds per 1000 sq ft or 1 pound of nitrogen per 1000 sq ft.

3.3 SEEDING

- A. Assume all risks when seed is sowed before approval of seed analysis.
- B. Do not seed when the wind velocity exceeds 5 miles per hour.
- C. Application Rate:
 - 1. As recommended by manufacturer.
- D. Dry Application: Sow seed evenly by hand or seed spreader on dry or moderately dry soil.
- E. Hydroseeding:
 - 1. Apply seeding materials with an approved hydroseeder.
 - 2. Fill tank with water and agitate while adding seeding materials. Use sufficient fertilizer, mulch and seed to obtain the specified application rate. Add seed to the tank after the fertilizer and mulch have been added. Maintain constant agitation to keep contents in homogeneous suspension. Prolonged delays in

application or agitation that may be injurious to the seed will be the basis of rejection of material remaining in tank.

3. Distribute uniformly a slurry mixture of water, seed, fertilizer and mulch at a minimum rate of 57 gallons per 1000 sq ft (2500 gallons per acre). The Engineer may order the amount of water increased if distribution of seeding materials is not uniform.

3.4 MULCHING

- A. Dry Application: Within 3 days after seeding, cover the seeded areas with a uniform blanket of straw mulch at the rate of 100 pounds per 1000 sq ft of seeded area.
- B. Hydro Application: Apply approved mulch in accordance with the manufacturer's written instructions and recommended rates of application.
- C. Dry Application, Jute Mesh: Within 3 days after seeding, cover sloped areas with a uniform blanket of jute mesh. Securely fasten jute mesh to slope with wire staples spaced 2 feet on center. Do not apply straw mulch over jute mesh.

3.5 LAWN ESTABLISHMENT

- A. Maintain the grass at heights between 1-1/2 inches and 2-1/2 inches and include a minimum of 2 mowings.
- B. Water and protect all seeded areas until final acceptance of the lawn.

3.6 FINAL ACCEPTANCE

- A. Final acceptance of lawn areas will be granted when a uniform stand of acceptable grass is obtained, with a minimum of 95% coverage. Portions of the lawn areas may be accepted at various times at the discretion of the Engineer.
- B. Unacceptable lawn areas, dry application: Reseed as specified and fertilized at one-half the specified rate.
- C. Unacceptable lawn areas, hydro application: Reseed, fertilize and mulch at one-half the specified rate, use full water rate.
- D. Once accepted, the Owner will assume all maintenance responsibilities.

END OF SECTION 329200

DIVISION 33 – UTILITIES

SECTION 330130.72
CURED IN PLACE PIPE LINING

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Provide all labor, materials, equipment, and services necessary to, and incidental to, clean, inspect by closed-circuit-television (CCTV), and rehabilitate underground sanitary sewer piping and laterals indicated on the Drawings. Rehabilitation of the sanitary sewer piping and laterals shall be by cured-in-place, full length, resin-impregnated tube inverted into the host pipe by means of a hydraulic head and cured by water or steam.

B. Related Requirements

1. Section 015720 “Temporary Maintenance of Wastewater Flows” for diversion of sewer flows.
2. Section 312000 “Earth Moving” for excavation, filling, backfilling and rough grading.
3. Section 330131 “Manhole Restoration” for the restoration of existing manholes.

1.3 REFERENCES

A. This specification references the following American Society for Testing and Materials (ASTM) standards and are made a part hereof insofar as they are applicable.

1. D256 - Standard Test Methods for Determining the Pendulum Impact Resistance of Notched Specimens of Plastics.
2. D638 - Standard Test Method for Tensile Properties of Plastics.
3. D790 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics.
4. D1784 - Standard Specification for Rigid Polyvinyl Chloride (PVC) Compounds and Chlorinated Polyvinyl Chlorinated (CPVC) Compounds.
5. D2122 - Standard Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings.

6. D2152 - Standard Test Method for Extrusion Quality using Acetone Emersion.
 7. D2444 - Standard Test Method for Determination of Impact Resistance.
 8. D 3681 - Standard Test Method for Chemical Resistance of Reinforced Thermosetting Resin Pipe in a Deflected Condition.
 9. F 1057 - Standard Test Method for Extrusion Quality using Heat Reversion.
 10. F1216 Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube.
- A. This specification references the following American Water Works Association (AWWA) standards and are made a part hereof insofar as they are applicable.
1. C950 - Standard for Fiberglass Pressure Pipe

1.4 SUBMITTALS

- A. Shop Drawings: Details of the lining procedure, lining elements and equipment depicting method of installation.
- B. Product Data:
1. Manufacturer's technical data, details, and specifications giving information on material composition, physical properties, and dimensions, including certification by the manufacturer that the materials are immune to corrosion from sewage and products resulting from the biological and chemical conversion of sewage constituents.
 2. Manufacturer's recommended procedures for handling, storing, and installation of the liner, including reinstatement of lateral service connections.
- C. Design Calculations:
1. For the rehabilitation of sewers by the inversion and curing of a resin-impregnated tube, submit structural design calculations and specification data sheets listing all parameters used in the liner design and thickness determinations based on Appendix X1 of ASTM F 1216.
 2. Calculations shall be prepared under and stamped by a Professional Engineer registered in the State of New York. Submit P.E. Certification form for all CIPP and Fold-and-Form Liner design data.
- D. Quality Control Submittals:

1. Test Reports: Furnish certified test data issued by an independent testing laboratory, demonstrating that the products used comply with the required physical properties.
2. Workers' Qualifications Data:
 - a. Submit the names and addresses of 3 previous trenchless sewer rehabilitation projects comparable in all ways to this project. Briefly describe the nature of each project.
 - b. Submit a letter certifying that the Supervisor and the Workers doing the liner Work have at least 2 years experience each in installing sewer liners of the type specified.

PART 2 - PRODUCTS

2.1 GENERAL MATERIAL REQUIREMENTS

- A. Characteristics: Designed to meet the following installation conditions:
 1. To match the configuration of the host pipe with a concave dimple appearing at each service connection.
 2. Able to negotiate pipeline bends of 90 degrees without splitting, rupturing or wrinkling of the liner material.
 3. Able to be expanded 25 percent larger than the host pipe diameter without splitting or rupturing of the liner material.
 4. ASTM D 1784 impact resistance equal to 5 or better.
 5. Manufactured with sufficient excess wall thickness to allow the liner to meet or exceed the DR requirements after being expanded during final installation.
 6. Continuously extruded or produced at the factory to effectively span the distance between manholes with no joints therebetween.
- B. Material Testing: Provide certification of inspection and testing at time of manufacture for defects in accordance with ASTM D 2122, D 2152 and D 2444. Liners shall be homogeneous, uniform in color, free of cracks, holes, foreign material and deleterious faults.

2.2 MATERIALS

- A. Cured-in-Place, Resin-Impregnated Felt Liner:
 1. Resin-Impregnated, flexible polyester felt thermally cured-in-place and meeting the following minimum physical properties:

- a. Flexural Modulus: 300,000 psi initial; 150,000 psi long-term.
 - b. Flexural Strength: 5000 psi.
 - c. Tensile Modulus: 250,000 psi initial; 152,000 psi long-term.
 - d. Tensile Strength: 4000 psi.
2. Custom designed by the manufacturer in accordance with ASTM F 1216 to meet the following conditions:
- a. AASHTO H-20 live load with two trucks passing.
 - b. Soil weight 120lbs./cf.
 - c. Maximum ground water level at ground surface.
 - d. Consideration of partially or fully deteriorated pipe based on the video inspection following cleaning of the host pipe.
 - e. 50-year service life.
 - f. Maximum felt content of the liner: 25 percent.
 - g. SDR of 50 or less dependent on deteriorated condition of host pipe. Wall thickness of the cured liner shall be determined by the design calculations required under Article 1.4 of this Section.
3. Resin shall be a polyester liquid thermosetting resin with associated catalysts suitable for the design conditions and curing process.
4. When cured the liner shall form a continuous, tight fitting, hard, impermeable lining chemically immune to corrosion from sewage and by-products, combined with a maximum abrasion resistance.
5. Fabricate the liner to a size that when reformed will tightly fit the host pipe.
- a. Tube shall consist of one or more layers of flexible needled felt, or an equivalent non-woven material.
 - b. Tube shall be capable of conforming to bends, offset joints, bells, and disfigured pipe sections.
 - c. Allow for longitudinal and circumferential expansion when sizing to achieve proper installation of the liner.
 - d. Verify dimensions in the field prior to delivery of the liner.
6. Verify length of liner prior to construction to effectively carry out installation and seal the liner at the inlet and outlet of each manhole.
7. Ensure that the correct liner is fabricated for the respective runs between each set of manholes.

PART 3 - EXECUTION

3.1 PRE- REHABILITATION CLEANING

- A. Remove foreign materials from the sewer piping as required to obtain tight seating of the new liner against a cleaned interior wall surface throughout the host pipe.
 - 1. Use hydraulically propelled, high velocity jet, or mechanically powered equipment as deemed necessary to satisfactorily remove dirt, grease, rocks, sand and other foreign materials including obstructions.
 - 2. Remove roots in a manner assuring complete removal from the joints.
 - a. Use mechanical equipment such as rodding machines, bucket machines, and winches in connection with root cutters and porcupines, plus other equipment such as high-velocity jet cleaners.
 - c. Chemical root treatment with a herbicide approved by the Engineer may be used at the Contractor's option to aid in the removal of roots. Application shall be in accordance with the manufacturer's printed recommendations and instructions. Damaged vegetation as designated by the Engineer shall be replaced at no cost to the Town.
 - 3. If cleaning an entire section between any two manholes can not be successfully performed from one of the manholes, the equipment shall be set up at the other manhole and cleaning attempted from the other direction. If, again, successful cleaning can not be performed or the equipment fails to traverse the entire distance between the two manholes, it will be assumed that a major blockage exists requiring a point repair and the cleaning effort shall be abandoned until the blockage is removed by open-cut excavation.
 - 4. Debris of every name and nature from sewer cleaning operation shall be legally disposed of off Site.

3.2 VIDEO INSPECTION

- A. Pre-Rehabilitation Inspection: Following thorough cleaning, conduct a video survey, in the presence of the Engineer, of each sewer section cleaned to verify adequacy of the cleaning in accordance with these specifications.
- B. Post-Rehabilitation Inspection: Conduct a video survey, in the presence of the Engineer, of each rehabilitated sewer section to verify adequacy of the liner installation and repairs in accordance with these specifications. Post-rehabilitation inspection shall be conducted following the specified post-rehabilitation cleaning procedures.
- C. Video Images:
 - 1. Full color, 360-degree side view projected on a state-of-the-art television monitor.
 - 2. Continuous logging action video taped for permanent record. Turn over to the Engineer one copy of all video tapes produced.

- D. Radial-head Camera Requirements:
1. Scanning system: 525 line, 60 Hz NTSC or 625 line, 50 Hz PAL.
 2. TV line resolution: 350(H) x 360(V).
 3. Minimum illumination: 10 lux or one footcandle (F=1.4).
 4. Remote functions:
 - a. Iris control (F1.4-F22).
 - b. Motorized focus control.
 - c. Automatic white balance.

3.3 INSTALLATION

- A. Adhere strictly to the liner manufacturer's standard procedures for proper installation under specific conditions. Procedures for liner installation are specific to the method used and vary with liner material, liner thickness, pipe size, pipe shape, etc.
- B. Cover irregular and sharp edges of the entrance to the host pipe to prevent damage to the liner during insertion.
- C. Installation of Inverted, Resin-Impregnated Tube Liner:
1. Resin-Impregnation (wet-out):
 - a. Protect tube and resin areas from sunlight and moisture.
 - b. Test operation of mixing and wet-out equipment prior to resin mixing to ensure that all components are in proper working order.
 - c. Following resin mixing, verify that resin temperatures have been taken and gel tests (accelerated curing tests of the resin reactivity) have been performed for proper evaluation of the resin mixture.
 - d. Pump the resin between the innermost layers of the tube. Verify by counting the tube layers.
 - e. Do not allow air entrainment in the wet-out process.
 - f. Pass the tube through a pair of rollers to uniformly distribute the resin. Gap spacing between the rollers shall be a minimum of twice the specified wall thickness of the cured-in-place liner. Verify the gap spacing with every 100 feet of wet-out.
 2. Inversion:
 - a. Protect the tube from injurious impact and unclean soiling matter (dirt, mud, fine debris, etc.).
 - b. Use inversion heads sized according to manufacturer's recommendations.

- c. Do not overstress the tube material or exceed 5 percent longitudinal stretch.
- d. Place thermocouples at both ends of the tube and at intermediate stations as required to monitor the curing process.
- e. Remove plastic films or coatings on the interior finish of the liner unless they are fully bonded to the absorbant tube material prior to installation.
- f. Allow the liner to cool below 100 degrees F. before releasing the pressure and cutting the ends.

3.4 FIELD QUALITY CONTROL

- A. Samples: Take samples as designated by the Engineer at not less than 5 random line sections for the entire project.
 - 1. Take samples at intermediate manholes or at termination points initiated through like diameter pipe held in place by a suitable heat sink.
 - 2. Samples shall have been heated, pressurized, and formed or shaped in a manner identical to the liner installation.
 - 3. Samples shall be large enough to provide a minimum of 3 specimens and recommended 5 specimens for flexural and tensile testing, as applicable.
- B. Testing: Submit samples to an independent laboratory for analysis to assure physical properties of the cured samples are in compliance with the referenced applicable ASTM standards.
 - 1. Deliver test reports to the Engineer for approval.
 - 2. Bear all testing costs.

3.5 SERVICE CONNECTION REINSTATEMENT

- A. Reinstate the existing service connections by using remotely controlled methods approved by the liner manufacturer and the Engineer.
 - 1. Activate the connections from the interior of the lined sewer by means of a remotely directed cutting device that locates the covered service connection and cuts away the liner pipe in such a way that a smooth edge is established.
 - 2. Liner shall be tight to the existing sewer pipe with no evidence of an annular space between the service pipe and the liner.
- B. Payment for each service connection reinstatement will be made at the unit bid price.

3.6 MANHOLE SEALING AND BENCHES

- A. Provide a watertight seal at the insertion and termination points in the manholes, in accordance with the manufacturer's recommendations.
 - 1. Neatly cut off the liner at least 4 inches from the manhole wall.

2. Provide a mortar/concrete bench adjacent to the liner segment within the manhole to support the liner sidewalls and to provide smooth merging of flows from other pipelines.

3.7 POST- REHABILITATION CLEANING

- A. Perform post-rehabilitation cleaning of all rehabilitated sewer piping in accordance with Section 3.1 contained herein.

3.8 FIELD TESTING AND ACCEPTANCE

- A. Field acceptance of the sewer rehabilitation Work shall be based on evaluation of the installation from post-installation TV videotapes, direct inspection where possible, and a review of the certified test data of the installed liner samples.
 1. Ground water infiltration of the liner shall be zero. Check by video inspection before doing service connection reinstatement.
 2. Chemically grouted pipe shall show no evidence of ground water infiltration during TV inspection.
 3. Service connections shall be open, clear and watertight.
 4. Liners shall be free of visual defects including pinholes, splits, cracks, lifts, kinks, delaminations and crazing.
 5. Interior surfaces of the liners shall have a smooth appearance, fitted tightly to the shape of the host pipe.
- B. Should inspection reveal a defective liner or unsatisfactory grout sealing, corrective measures shall be taken as approved by the Engineer, including replacement of the liner and regrouting if deemed necessary.

END OF SECTION

SECTION 330131

MANHOLE RESTORATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Provide all labor, materials, equipment, and services necessary for the safe and efficient restoration of manholes which are structurally stable, yet would benefit from sealing and reinforcing to extend their useful life.
- B. Manhole restoration shall include, at a minimum, complete cleaning and debris removal, bench/channel repair as required to achieve smooth curves free of deformities, crack sealer as required to accommodate proposed manhole linings, and the complete resurfacing of all interior manhole surfaces using the specified linings.
- C. Related Requirements
 - 1. Section 312000 "Earth Moving" for excavation, filling, backfilling and rough grading.
 - 2. Section 330130.72 "Cured in Place Pipe Lining" for pipe rehabilitation requirements.
 - 3. Section 333913 "Manhole Structures" for extension ring and frame/cover requirements.

1.3 SUBMITTALS

- A. Product Data: Catalog sheets, specifications, and application instructions for each material specified.
- B. Quality Control Submittals:
 - 1. Test Reports: Furnish certified test data issued by an independent testing laboratory, demonstrating that the products submitted comply with the required physical properties.
 - 2. Workers' Qualifications Data:
 - a. Submit the names and addresses of 3 previous cementitious repair projects. Briefly describe nature of each project.

- b. Submit a letter certifying the supervisor or foreman and the workers applying the repair materials have at least 2 years experience in the application of these materials.

1.4 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Manufacturer's Qualifications: The manufacturer shall have qualified technical representatives with the technical expertise to advise the Contractor of application procedures required for repair materials under the particular job conditions.
 - 2. Applicator's Qualifications: The person supervising the Work of this Section and the workers applying the cementitious repair mortars shall have had 2 years experience and shall have worked on 3 cementitious repair projects of comparable scope and complexity to the work of this project.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Storage and Protection: Comply with the manufacturer's printed instructions for material storage requirements.
- B. Deliver materials to the job site in original sealed containers clearly marked with manufacturer's name, brand, and material description.

1.6 PROJECT CONDITIONS

- A. Do not apply repair mortar until required restoration of substrate has been completed.
- B. Environmental Requirements:
 - 1. Do not apply materials to surfaces that contain free water or frost.
 - 2. Do not apply materials when the temperature is below 40 degrees F or will fall below that temperature within 24 hours.
- C. Safety Requirements:
 - 1. Conduct all operations in strict accordance with applicable federal, state and local safety codes and regulations, including OSHA requirements.
 - 2. Be familiar with Safe Working Requirements in confined spaces.
 - 3. Perform gas-free testing prior to entering each manhole, and periodically throughout the workday.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Material: Suitable industrial grade detergent and degreasing compound capable of removing bond-limiting surface contaminants.
 - 1. Recommended by manufacturer for cleaning concrete, brick and masonry surfaces to allow proper bond of epoxy crack repair material, hydraulic cement, polyurethane grout, and cement-base structural repair mortars and coatings.

- B. Epoxy Surface Crack Sealer for repair of non-leaking cracks:
 - 1. Epoxy-Resin-Base Bonding System: ASTM C 881, Type I or IV, Grade 3, Class A or B.

 - 2. Bond Strength: 2300 psi (15.9 MPa), ASTM C 882.

 - 3. Bond to Damp Concrete: 100 percent concrete failure, AASHTO T-237.

 - 4. Tensile Strength: 4500 psi (31.0 MPa).

 - 5. Acceptable Products: Concreseive paste SPL by Master Builders, Inc., 23700 Chagrin Blvd., Cleveland, OH 44122, Telephone: (216) 831-6910; EVA-POX Epoxy Paste No. 22 by Epoxy Industries, Inc., 460 So. Pearl St., Albany, NY 12202, Telephone: (518) 465-7802.

- E. Invert/Channel Repair
 - 1. Acceptable Product: PARSON RPM by Parson Environmental Products, Inc., or approved equal.

- F. Glass-Fiber Reinforced Liners:
 - 1. Integral cylinder and concentric manway reducer having a bearing surface on which a cast iron frame and cover atop standard concrete grade-extension rings can be supported and adjusted to grade.

 - 2. Dimensions:
 - a. Nominal inside cylinder diameter: Verify in field.
 - b. Manway reducer: Minimum 30-inch diameter clear opening.
 - c. Minimum wall thickness: 0.400 inch.

 - 3. Load Rating: AASHTO H-20.

 - 4. Material, Design and Manufacture Requirements: ASTM D3753.
 - a. Flexural strength (reducer): Circumferential - 15.4 x 103 psi; Axial - 17.2 x 103 psi.
 - b. Flexural strength (cylinder): Circumferential - 22.5 x 103 psi; Axial - 14.3 x 103 psi.

- c. Compressive strength: 18.9 x 10³ psi.
- 5. Acceptable Products: Alternative Lining Technologies, 10075 Sedroc Industrial Dr SW, Byron Center, MI 49315, (616) 583-7100.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect existing construction not required to be treated.
- B. Surface Preparation:
 - 1. Place a covering over the manhole floor to collect debris and prevent solids from entering the sewer piping.
 - 2. Pressure wash the interior of the manhole at 3500 psi or at a level sufficient to etch and thoroughly clean surfaces.
 - 3. Remove all loose and defective material.
- C. Prepare and install liner as indicated on the Drawing and in accordance with printed instructions of the manufacturer.
 - 1. Following preparation work on the interior surfaces of the manhole, commence application according to the manufacturer's recommended procedures.
 - a. Make precise cut-outs to accommodate existing pipe connections.
 - b. Provide uniform bearing of the bottom edge of the liner with the manhole bench.

END OF SECTION

SECTION 330500

COMMON WORK RESULTS FOR UTILITIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes:
 - 1. Installation, testing, and disinfection buried piping.
- B. Related Sections:
 - 1. Section 312000 "Earth Moving" for excavation, filling, backfilling and rough grading.
 - 2. Section 312333 "Trenching and Backfilling" for trenching, backfilling, compacting, excavation support and disposal for utility installation.
 - 3. Section 331100 "Water Utility Distribution Piping" for specific piping, valves, fittings, and appurtenances.

1.3 REFERENCES

- A. Comply with the latest edition of the following standards, as referenced herein.
 - 1. American Society of Testing and Materials (ASTM).
 - 2. American National Standards Institute (ANSI).
 - 3. American Water Works Association (AWWA).
 - 4. Uni-Bell Plastic Pipe Association.

1.4 ACTION SUBMITTALS

- A. Submit for approval a schedule for all proposed testing. Include proposed testing procedures indicating the sequence in which pipe sections will be tested and description of methods and equipment to be used.
- B. Field Test Reports: Submit results of field testing directly to Engineer with copy to Contractor.

1.5 PROJECT CONDITIONS

- A. Deliver and store materials within the Contract limits, as approved by Engineer.
- B. Handle materials carefully with approved handling devices in accordance with manufacturer's recommendations. Special care shall be exercised during delivery and storage to avoid damage to the materials.
- C. Do not drop or roll products off trucks. Products are not to be otherwise dragged, rolled, or skidded.
- D. Materials shall be stored on heavy wood blocking or platforms in accordance with the manufacturer's instructions and recommendations. Materials shall not be in contact with the ground and their interiors shall be maintained free from dirt and other foreign matter.
- E. Products cracked, gouged, chipped, dented, or otherwise damaged will not be approved and are to be removed and replaced at the Contractor's expense, unless the product can be repaired in a manner acceptable to the manufacturer and the Engineer. All repairs shall be at the Contractor's expense.

1.6 MATERIALS

- A. Conform to individual pipe specifications.

PART 2 - EXECUTION

2.1 UTILITY DEMOLITION

- A. Disconnect, demolish, and remove piped utility systems, equipment, and components indicated to be removed.
 - 1. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - 2. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material.
 - 3. Equipment to Be Removed: Disconnect and cap services and remove equipment.
 - 4. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make operational.
 - 5. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.

2.2 BURIED PIPE INSTALLATION

A. General:

1. Installation of all pipe, fittings, valves, specials and appurtenances shall be subject to the review and/or approval of the Engineer.
2. Install piping, valves and fittings as shown, specified and as recommended by the manufacturer and in conformance with referenced standards, and approved Shop Drawings.
3. Request instructions from Engineer before proceeding if there is a conflict between the manufacturer's recommendations and the Drawings or Specifications.
4. All piping and appurtenances shall be inspected by the Engineer prior to installation. Engineer's inspection will not relieve Contractor or manufacturer from responsibility for damaged products.
5. Present all conflicts between piping systems and equipment, structures or facilities to Engineer for determination of corrective measures before proceeding.
6. Take field measurements prior to installation to ensure proper fitting of Work. Uncover the existing pipelines sufficiently in advance of the proposed Work in order that the type and location of the existing pipes and joints and other information required to fabricate the proposed piping can be determined. Obtain whatever information is required to complete the connections of the proposed pipelines to the existing pipelines.
7. Carefully examine all piping for cracks, damage or other defects before installation. Immediately remove defective materials from the site, unless the defective materials can be repaired in a manner acceptable to the manufacturer and Engineer. Remove, replace or repair at the Contractor's expense piping found to be broken or defective.
8. Inspect interior of all piping and mating surfaces and remove all dirt, gravel, sand, debris or other foreign material before installation. Maintain the interior of all piping clean until acceptance of the completed Work. Prevent foreign matter from entering joint space.
9. Install buried piping accurately to line and grade shown, specified or directed, unless otherwise approved by the Engineer. Use accurate means of determining and checking the alignment and grade subject to the approval of the Engineer. Remove and relay piping that is incorrectly installed at Contractor's expense.
10. Do not lay piping in water, unless approved by the Engineer. Ensure that the water level in the trench is at least 6 inches below the bottom of piping. Maintain a dry trench until jointing and backfilling are complete, unless otherwise specified in these Specifications or approved by the Engineer.
11. Pipe laying work shall be conducted so that trenching operations are not advanced too far ahead of the pipe laying operation resulting in excessive

lengths of open trench. In general, open trench ahead of pipe laying shall not exceed 50 feet.

12. Where pipe crossings occur, the lower pipe shall be laid first and all backfill thoroughly compacted to the level of the higher pipe before the higher pipe is installed. Backfill material under such conditions may be earth, broken stone, or 2500 psi concrete.
13. Install piping so that the barrel of the piping and not the joints receives the bearing pressure from the trench bottom, or other bedding condition.
14. No piping shall be brought into position until the preceding length, valve, fitting, or special has been bedded and secured in place.
15. Whenever pipe laying is not actively in progress, the open ends of the piping shall be closed by a temporary plug or cap to prevent soil, water and other foreign matter from entering the piping.
16. Where required for inserting valves, fittings, special appurtenances, and closures, shall be made with a machine specially designed for cutting piping and in accordance with the manufacturer's instructions for field cutting of pipe. Make cuts carefully, without damage to piping, so as to leave a smooth end at right angles to the axis of the piping. Taper cut ends and file off sharp edges until smooth. Flame cutting will not be permitted. Replace and repair damaged piping.
17. Blocking under piping will not be permitted unless specifically approved by Engineer for special conditions.
18. Touch up protective and linings and coatings prior to installation.
19. Rotate piping to place outlets in proper position.

B. Bedding and Backfilling:

1. Bedded and installed piping in conformance with Section 312333 "Trenching and Backfilling" and as shown, except as otherwise specified.
2. No piping shall be laid until Engineer approves the bedding condition.
3. Excavation in excess of that required as shown on the Drawings or specified, which is not authorized by the Engineer, shall be at the Contractor's expense. Backfilling and compaction of the overexcavated areas shall be at the Contractor's expense.
4. Carefully and thoroughly compact all pipe bedding and fill up to the pipe centerline with hand-held pneumatic compactors.

C. Restraints, Supports, and Thrust Blocks:

1. Install restrained joints as shown, specified, required, and as recommended by manufacturer. Assembly of restrained joints shall be in strict accordance with manufacturer's recommendations.

2. Thrust Blocks:
 - a. Provide concrete thrust blocking to resist test pressure on all plugs, caps, tees, bends and other fittings in pressure piping systems unless otherwise shown on the Drawings.
 - b. Conform to the details for concrete thrust blocks and tie rods.
 - c. Concrete: 3000 psi, placed around the fittings to completely fill the space between the fittings and the undisturbed walls of the trench. Do not overlap any joint with concrete and place concrete so as not to interfere with removing or installing any of the jointing hardware.
3. Retainer Glands:
 - a. Provide retainer glands for joint restraint of ductile iron pipe, fittings, hydrants, and valves.
 - b. Retainer glands shall be Megalug Series 1100 as manufactured by EBAA or approved equal.
- D. Transitions From One Type of Pipe to Another:
 1. Provide all necessary adapters, specials and connection pieces required when connecting different types and sizes of pipe or connecting pipe made by different manufacturers.
- E. Work Affecting Existing Piping:
 1. Location of Existing Piping:
 - a. Locations of existing piping shown shall be considered approximate. Contractor shall perform subsurface investigations, as specified, to verify actual locations in the field.
 - b. Determine exact location of existing piping to make connections, relocate, replace or which may be disturbed during earth moving operations, or which may be affected by work in any way.
 - c. Coordinate all excavations with utility companies, Owner and Engineer.
 2. Taking Existing Pipelines Out of Service:
 - a. Do not take pipelines out of service unless specifically approved by Engineer.
 - b. Notify Engineer at least 48 hours prior to taking any pipeline out of service.

2.3 SPECIFIC PIPE INSTALLATION

- A. Ductile Iron Pipe (DIP):
 1. Install all ductile iron piping in accordance with ANSI/AWWA C600.

2. Lay pipe with bell and spigot joints with bells upstream. Lay water pipe on a continuously rising grade from low points to high points at service lines, hydrants or air valves.
3. Unless otherwise noted, minimum depth of pipe shall be 5'-0" measured from top of pipe to finished grade.
4. Field cut pipe for shorter than standard pipe lengths. Cut ends square, perpendicular to the pipe axis and properly beveled without damaging the pipe or cement mortar lining. Do not lay cut pipe within three lengths of a bend or at the end of a line.
5. Mechanical Joint Installation:
 - a. Thoroughly clean the last eight inches of the outside of the spigot and the inside of the bell with a wire brush to remove foreign matter and paint with a soap solution prior to assembling mechanical joints.
 - b. Slip the gland and soaped rubber ring on the spigot end of the pipe immediately after apply the soap solution.
 - c. Centrally locate the spigot in the bell and push the pipe forward to seat the spigot in the bell. Press the gasket into place evenly within the bells and move the gland along the pipe into position for bolting.
 - d. Insert bolts and hand tighten all nuts. Nuts spaced 180 degrees apart shall be tightened alternately in order to produce an equal pressure on all parts of the gland. Tighten all nuts with a torque-limiting wrench in accordance with the torque recommendations of the manufacturer.
 - e. Final assembly of pipe with harnessed joints shall conform to the requirements of the manufacturer. Tighten nuts with a torque-limiting wrench in accordance with the torque recommendations of the manufacturer.
6. Push-On Joint Installation:
 - a. Thoroughly clean the last eight inches of the outside of the spigot and the inside of the bell with a wire brush to remove foreign matter and paint with a soap solution prior to assembling mechanical joints.
 - b. Clean, flex, and then place the rubber gasket in the bell in accordance with the manufacturer's instructions. The gasket shall be smoothed out around the entire circumference of the bell to remove bulges and prevent interference with the proper entry of the spigot of the entering pipe section. A thin film of an approved lubricant may be applied to the surface of the gasket that will come in contact with the spigot of the entering pipe and/or the outside of the spigot of the entering pipe.
 - c. Centrally locate the spigot in the bell and push the pipe forward until it just makes contact with the gasket. After the gasket is compressed and before the spigot is installed entirely, check the gasket for proper positioning around the full circumference of the joint.

- d. Push or pull the spigot end of the entering pipe past the gasket until it makes contact with base of the bell. Where an unreasonable amount of force is required, remove the spigot of the entering pipe and verify proper positioning of the rubber gasket. Damaged gaskets shall not be used.
 - e. Two (2) bronze wedges shall be installed at each joint in the 10 o'clock and 2 o'clock positions. Care shall be taken to ensure that the wedges do not become displaced due to pipe movement during laying and backfilling.
7. Joint Deflection:
- a. When it is necessary to deflect pipe from a straight line, in either horizontal or vertical direction, the allowed deflection shall not exceed 80% of that specified in ANSI/AWWA C600 or in the manufacturer's installation instructions, whichever is less.
 - b. Deflect push-on joints after final joint assembly.
 - c. Deflect mechanical after joint assembly but prior to tightening bolts.
- B. Polyvinyl Chloride (PVC)
- 1. Install piping in a neat and workmanlike manner.
 - 2. Install lines inside of buildings and structures parallel to the walls and ceilings wherever possible.
 - 3. Install pipes to accurate lines and grades.
 - 4. All pipes shall be sloped so as to be self-draining.

2.4 FIELD QUALITY CONTROL

- A. General:
- 1. Notify Engineer at least 48 hours in advance of all testing.
 - 2. Provide all testing apparatus including pumps, hoses, gauges, fittings, temporary bulkheads, plugs, compressors and miscellaneous other required items.
 - 3. Provide temporary blocking and bracing or approved thrust and joint restraint to prevent joint separation and pipe movement during testing.
 - 4. Unless otherwise approved, conduct all tests in the presence of the Engineer and in the presence of local authorities having jurisdiction.
 - 5. Water Source:
 - a. Provide all water for testing, flushing and other water uses. The source of the water shall be subject to the approval of the Engineer.
 - b. The point of introduction of water for conducting tests shall be subject to the approval of the Engineer.
 - 6. All costs for tests shall be included in the Contractor's bid.

7. Locate, and repair or replace, section of piping which fail the test and retest until acceptance.
8. All proposed water service saddles and corporation valves shall be installed prior to testing.

B. Pressure Testing of Ductile Iron Pipe:

1. Test piping to 1.5 times the pipe working pressure, or 150 psi, whichever is greater. Measure test pressures at the lowest point in the pipe section and correct to the elevation of the gauge.
2. Relieve trapped air at the section high points through hydrants, or taps installed for this purpose, provided temporary installations are removed and plugged after acceptance.
3. Maintain the test pressure for a period of two (2) hours. At the end of the test period, if the test pressure remains constant, the pipe section shall have passed the test. If the pressure has dropped, it shall be brought back to the test pressure by pumping a known volume of water (by pumping from a graduated container or by metering) back into the pipe. The volume of water thus used, representing leakage from the pipe, shall be recorded. If the leakage is less than the allowable leakage specified below, the pipe shall have passed the test. If the leakage exceeds the allowable leakage specified, the Contractor shall locate the leak, permanently repair the section of pipe where the leak is occurring to the satisfaction of the Engineer, and retest the pipe as specified above.

C. Leakage Testing of Ductile Iron Pipe:

1. Conduct the leakage test concurrently with the pressure test.
2. The maximum allowed leakage is determined by the following formula:

$$L = \frac{N \times D \times P^{1/2}}{7400}$$

where L = allowable leakage, in gph
 where N = No. of joints in test section
 where D = nominal pipe diameter, in inches
 where P = average test pressure, in psig

D. Disinfection of Potable Water Mains

1. Disinfect all potable water mains in accordance with the latest version of AWWA C651, except that the placement of chlorine powder or tablets inside the pipe during installation shall not be allowed. Disinfect water mains after the piping has passed the pressure and leakage testing.
2. Flush the pipe with water at a minimum velocity of 2.5 feet per second (fps) to clear all foreign material from the pipe.
3. Apply a chlorine solution with a concentration between 50 parts per million (ppm) and 100 ppm. The chlorine solution shall remain in the piping for a minimum of 24 hours. The concentration at the end of this period shall be at

least 25 ppm in all sections of the main. Repeat the entire procedure if the residual is less than 25 ppm.

- a. While the chlorinated water is being added, all appurtenances (valves, hydrants, etc.) shall be operated so as to completely disinfect the new work.
 - b. Position valves so that the chlorine solution in the section being disinfected will not flow into water mains in active service.
 - c. Chlorine residual samples shall be taken as directed by the Engineer.
4. After the twenty four (24) hour retention period, flush the main until residual testing indicates that the chlorine concentration is approximately that of the neighboring service area.
- a. Dispose of heavily chlorinated water into sanitary sewer or tank truck.
 - b. Under no circumstances will the emptying of water onto roadways, or into ditches, culverts, streams or wetlands be allowed.
5. After disinfection and final flushing, and prior to placing the lines in service, collect bacteriological samples (both coliform and heterotrophic plate count) and submit samples to an approved testing laboratory. Two (2) consecutive sets of samples shall be taken at least 24 hours apart in accordance with AWWA C651. The collection points shall be as directed by the Engineer and local authority having jurisdiction.
- a. The testing laboratory performing the bacteriological analysis shall be acceptable to the Engineer.
 - b. Submit three (3) copies of the laboratory analysis to the Engineer.
 - c. Should safe results not occur after laboratory tests, the Contractor shall, at his expense, repeat the disinfection procedure until safe results are obtained. This includes a positive result for coliform or a measured heterotrophic plate count of greater than 500 colony-forming units per ML.
 - d. Contractor shall pay for all testing required.
6. All precaution shall be taken to maintain dry and sanitary conditions and prevent contamination of any piping. If, in the opinion of the Engineer, contamination has occurred, the Contractor shall repeat the disinfection procedure and testing at his cost and expense.

2.5 TESTING GRAVITY PIPELINES

- A. All gravity pipelines shall be tested for leakage by an exfiltration test. Air testing may be used in lieu of an exfiltration test subject to the approval of the Engineer.

B. Exfiltration Test

1. Leakage tests by exfiltration shall be made by creating a head in the pipeline to be tested by filling the line and either a manhole or temporary riser on one end of the line with water. The length of pipe to be tested shall be such that the head over the crown at the upstream end is not less than 2-ft and the head over the downstream crown is not more than 6-ft. The pipe shall be plugged by pneumatic bags or mechanical plugs in such a manner that the air can be released from the pipe while it is being filled with water. Before any measurements are made, the pipe shall be kept full of water long enough to allow absorption and the escape of any trapped air to take place. Following this, a test period of at least one hour shall begin. Provisions shall be made for measuring the amount of water required to maintain the water at a constant level during the test period.
2. If any joint shows an appreciable amount of leakage, the jointing material shall be removed and the joint repaired. If any pipe is defective, it shall be removed and replaced. If the quantity of water required to maintain a constant head in the pipe does not exceed 1.9 gallons per inch of diameter per day per 100-ft of pipe and if all the leakage is not confined to a few joints, workmanship shall be considered satisfactory.

C. Low Pressure Air Test

1. Low-pressure air tests shall be made with equipment specifically designed and manufactured for the purpose of testing pipelines using low-pressure air. The equipment shall be provided with an air regulator valve or air safety valve so set that the internal air pressure in the pipeline cannot exceed 8 psig. Pneumatic plugs shall have a sealing length equal to or greater than the diameter of the pipe to be tested. All air used shall pass through a single control panel.
2. Install plugs at manholes. Brace plugs securely as required for safety and allow no one in the manholes while pressurizing the line or during the test.
3. Low-pressure air shall be introduced into the sealed line until the internal air pressure reaches 4 psig. The internal air pressure in the sealed line shall not be allowed to exceed 8 psig. At least 2 minutes shall be allowed for the air pressure to stabilize in the section under test. After the stabilization period, the low-pressure air supply hose shall be quickly disconnected from the control panel. The time required in minutes for the pressure in the section under test to decrease from 3.5 to 2.5 psig shall not be less than that shown in Table 1 ASTM F1417.

4. If the pipe section does not pass the air test, sectionalize the section tested to determine the location of the leak. Once the leak has been located, repair and retest.

END OF SECTION 330500

SECTION 331100

WATER UTILITY DISTRIBUTION PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Pipe and fittings.
 - 2. Valves & Accessories.
- B. Related Sections:
 - 1. Section 312333 “Trenching and Backfill” for utility installation.
 - 2. Section 330500 “Common Work Results for Utilities” for installation of buried piping.

1.3 REFERENCES

- A. Comply with the latest edition of the following standards, as referenced herein:
 - 1. American Water Works Association (AWWA).
 - 2. American National Standards Institute (ANSI).

1.4 ACTION SUBMITTALS

- A. Submit two copies of the following to the Engineer for approval:
 - 1. Illustrations, specifications, and engineering data including the following: dimensions, materials, size, model, class, operating pressure, opening direction, weight, coatings, and linings for pipe, fittings, valves and appurtenances.
 - 2. Manufacturer’s instructions and recommendations for installation of pipe, fittings, valves, valve boxes and appurtenances.

3. Detailed layout drawings for all piping under this Section relating to the stationing and elevations shown on the Contract Drawings. Layout drawings shall be to scale at the same scale as shown on the Contract Drawings.
4. Certified shop tests for valves in accordance with the latest version of AWWA C509 or C515.
5. Detailed description of proposed field-testing including information and date pertaining to procedures and equipment.
6. Statement of compliance with ANSI/AWWA Specifications.

1.5 INFORMATION SUBMITTALS

- A. Manufacturer's instructions and warranties for installation of pipe, fittings, valves and valve boxes.

1.6 QUALITY ASSURANCE

- A. Certifications
 1. Submit a statement of compliance with ANSI/AWWA Specifications.
 2. Submit three (3) copies of the certified shop tests for valves tested in accordance with AWWA C509 or C515.
 3. Provide three (3) copies of the certificate that the required tests on the valves and fittings of the water service and the results of these tests are in accordance with AWWA C800.

PART 2 - PRODUCTS

2.1 PIPING MATERIALS

- A. Ductile Iron Piping (DIP) and Fittings
 1. All buried pressurized DIP shall be centrifugally cast Class 52 pipe minimum, unless otherwise specified, in accordance with the latest version of ANSI/AWWA C151/A21.51, and have Underwriters Laboratories, Factory Mutual and NSF 61 approvals.
 2. All buried pressurized DIP fittings shall be ductile iron or gray iron mechanical joint fittings in accordance with the latest version of ANSI/AWWA C110/21.10 or ductile iron compact fittings in accordance with the latest version of ANSI/AWWA/A21.53.
 3. All buried pressurized DIP and fitting joints shall be rubber-gasketed joints in accordance with the latest version of ANSI/AWWA C111/A21.11.

- a. Unless otherwise specified or shown on the drawings, all DIP shall be furnished with push-on or mechanical joints.
 - b. Two restrained push-on joints shall be installed on each ductile iron pipe within 4 feet of the wall of any structure or manhole through which it passes, with the closest such joint no further than 2 feet from the wall of the structure or manhole.
4. All buried DIP piping and fittings for all potable and non-potable water lines shall be cement-lined and seal-coated inside and out in accordance with the latest version of ANSI/AWWA C104/A21.4 except that the lining thickness shall be twice the standard thickness and never less than 1/8 inch.
 5. All buried DIP and fittings shall be furnished with a 1-mil thick standard petroleum asphaltic coating in accordance with the latest version of ANSI/AWWA C151/A21.15.
 6. Miscellaneous: Furnish all required joint accessories consisting of, but not limited to, gray or ductile iron glands, high-strength low alloy steel tee bolts and nuts, SBR rubber gaskets, and joint lubricant. T-bolts and nuts shall be Cor-Blue as manufactured by NSS Industries or approved equal.

B. Restrained Coupling

1. Restrained couplings shall provide a restrained joint for use in connecting ductile iron, oversized Cast Iron or PVC (IPS, C900, C909) pipes. The restraint coupling configuration shall be in conformance with AWWA C219.
2. Size: Restrained coupling shall be suitable for connection to existing pipe. Contractor shall field verify size of existing pipe for selection of applicable restrained coupling to be installed.
3. Castings: All cast components (end rings, center ring, and bolt guides) shall be constructed of ductile iron, meeting or exceeding the requirements of ASTM A 536, grade 65-45-12 or grade 60-40-18.
4. Grippers: Shall be constructed of ductile (nodular) iron, meeting or exceeding ASTM A 536, Grade 65-45-12 or Fe2Ni. Machine sharpened and heat treated and coated with Xylan 1424 for corrosion resistance.
5. Gaskets: Shall be SBR or NBR compounded for water service per ASTM D2000.
6. Bolts and Nuts: 5/8-11 bolts with 304 stainless steel heavy hex nuts. Fasteners shall be provided with anti-galling protection.
7. Coatings: Center ring shall be fusion bonded epoxy. End rings shall be fusion bonded epoxy or polyester coated.
8. Pressure Rating: Coupling shall be rated for a working pressure of 250 psi.

9. Restrained couplings shall be Alpha series as manufactured by Romac Industries, Inc., Hymax Grip series as manufactured by Hymax, or approved equal.

C. Piping Accessories

1. Polyethylene Encasement

- a. All buried DIP piping, fittings, and appurtenances shall be wrapped with polyethylene encasement in accordance with the latest version of ANSI/AWWA C105/A21.5.
- b. Polyethylene encasement shall be high density, cross-laminated polyethylene film conforming to the requirements of ASTM D4976 and AWWA C105.

2.2 VALVES AND ACCESSORIES

A. Gate Valves:

1. Shall be resilient wedge, non-rising stem type valves in conformance with AWWA C509 or C515. Valves shall be listed and approved by Underwriters Laboratories and Associated Factory Mutual Laboratories and shall be marked UL-FM. The valves shall be certified to NSF/ANSI 61, Drinking Water System Components – Health Effects.
 - a. Valve Body, Bonnet and O-Ring Plate: Ductile Iron, ASTM A-536 Grade 70-50-5.
 - b. Iron wedge, symmetrical & fully encapsulated with molded rubber per ASTM D249.
 - c. Valves shall be supplied with O-ring seals at all pressure retaining joints. No flat gaskets shall be allowed.
 - d. Valves shall be equipped with 2” square operating nut and shall be marked with an arrow indicating opening direction.
 - e. Stems: Cast Copper Alloy with integral collars. Stems shall be two (2) O-rings located above thrust collar and one (1) O-ring below. O-rings shall be replaceable with valve fully opened and operating under full pressure. The stems shall have two low torque thrust bearings located above and below the stem collar to reduce friction during operation.
 - f. Valve interior and exterior surfaces shall be fusion bonded epoxy coated in conformance with AWWA C550.
 - g. Working Pressure: 250 psi.
2. Direction of opening shall be as follows:
 - a. All valves shall be open left. Valve shall be marked with an arrow indicating this.

3. Underground gate valves shall have mechanical joint ends in conformance with AWWA C111 and provided with mechanical restraint accessories.
 4. Resilient wedge, non-rising stem type gates valves shall be as manufactured by Mueller Co., or approved equal.
 5. Each valve shall have maker's name, pressure rating, and year in which it was manufactured cast in the body. Prior to shipment from the factory, each valve shall be tested by hydrostatic pressure equal to the requirements of AWWA C509 or C515.
 6. Each gate valve shall be furnished complete with necessary nuts, bolts, studs, and gaskets.
 7. Furnish two (2) tee wrenches suitable for operation for buried service gate valves. Length to be determined by Engineer after valve has been installed underground.
- B. Valve Boxes
1. Valve Boxes shall be either:
 - a. For 4" thru 12" – Tyler 6855 series item 664-A, or approved equal, slide type.
- C. Curb Boxes
1. Curb boxes shall be Mueller Model H-10314 or approved equal, when located in concrete walks, and Mueller Model H-10334 or equal, when located in turf.
 2. Box length shall be 5'-6" +/- . Contractor to field verify length requirements prior to ordering.
 3. Size curb boxes according to service size.
- D. Compression Connections
1. All compression connections shall be manufactured in compliance with ANSI/AWWA C800 (latest revision).
 2. Brass components in contact with potable water conform to ASTM B584, UNS C89833 (latest revisions) and shall comply with the latest requirements of the Federal Safe Drinking Water Act.
 3. Compression connections shall be certified to NSF/ANSI 61 and NSF/ANSI 372.
 4. Brass components not in contact with potable water conform to ASTM B62 and ASTM B584, UNS C83600-85-5-5-5 (latest revisions)

5. Compression connections shall be Mueller Model H-15403N or approved equal.

E. Corporation Stops

1. Corporation Stops shall be manufactured in compliance with ANSI/AWWA C800 (latest revision).
2. Brass components in contact with potable water shall conform to ASTM B584, UNS C89833 (latest revision) and shall comply with the latest requirements of the Federal Safe Drinking Water Act.
3. Corporation stops shall be certified to NSF/ANSI 61 and NSF/ANSI 372.
4. Brass components not in contact with potable water conform to ASTM B62 and ASTM B584, UNS C83600-85-5-5-5 (latest revision).
5. Corporation Stops shall be Mueller Model H-15008 with compression style connection, or approved equal.
6. Size corporation stops according to service size.

F. Curb Stops

1. Curb Stops shall be manufactured in compliance with ANSI/AWWA C800 (latest revision).
2. Brass components in contact with potable water shall conform to ASTM B584, UNS C89833 (latest revision) and shall comply with the latest requirements of the Federal Safe Drinking Water Act.
3. Curb Stops shall be certified to NSF/ANSI 61 and NSF/ANSI 372.
4. Brass components not in contact with potable water conform to ASTM B62 and ASTM B584, UNS C83600-85-5-5-5 (latest revision)
5. Curb Stops shall be Mueller Oriseal Model H-15209 with compression style connection, or approved equal.
6. Size curb stops according to service size.

2.3 WATER SERVICE PIPING

- A. Soft Copper Tube: ASTM B88, Type K (ASTM B 88M, Type B), water tube, annealed temper.
1. Copper, Solder-Joint Fittings: ASME B16.18, cast-copper alloy or ASME B16.22, wrought-copper, solder-joint pressure type. Furnish only wrought-copper fittings if indicated.

PART 3 - EXECUTION

3.1 EARTHWORK

- A. Excavating, trenching, and backfilling are specified in Sections 312000 "Earth Moving" and 312333 "Trenching and Backfilling."

3.2 PIPING INSTALLATION

- A. Water utility piping shall be installed as specified in Section 330500 "Common Work Results for Utilities."

3.3 VALVE INSTALLATION

- A. All valves shall be installed in accordance with the latest version of AWWA C600.
- B. All materials shall be carefully inspected for defects in workmanship and materials; all debris and foreign material cleaned out of valve openings; all operating mechanisms operated to check their proper operation; and all nuts and bolts checked for tightness. Valves and other equipment, which do not operate easily, or are otherwise defective, shall be repaired or replaced at no additional cost to the Owner.
- C. All buried valves shall be cleaned and manually operated prior to installation. All buried valves shall be set vertically and the Contractor shall take careful measures to ensure that the valves are kept in the closed position.
- D. Valve boxes shall be set carefully, truly vertical and accurately centered over the valve, with the top at the finished grade elevation. Valve boxes shall be set so as not to transmit traffic loads to the valve.
- E. All valve and valve box installations shall conform to the details as shown on the Drawings.
- F. All valve locations shall be reviewed by the Engineer prior to valve installation.

3.4 IDENTIFICATION

- A. Materials are specified in Section 312000 "Earth Moving." Warning underground utility tape shall be installed 12" below finished grade for all ductile iron water main.

3.5 FIELD QUALITY CONTROL

- A. Testing of water utility piping is specified in Section 330500 “Common Work Results for Utilities.”

3.6 CLEANING

- A. Clean dirt and superfluous material from interior of piping. Flush with potable water.

END OF SECTION 331100

SECTION 333104

PLASTIC DRAINAGE PIPE (SANITARY)

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Provide all labor, materials, equipment, and services necessary to, and incidental to install plastic drainage pipe as indicated on the Drawings or as specified herein.
- B. Related Sections:
 - 1. Section 312000 "Earth Moving" for excavation, filling, backfilling and rough grading.
 - 2. Section 312333 "Trenching and Backfilling" for trenching and backfilling requirements.

1.3 SUBMITTALS

- A. Product Data: Manufacturer's specifications with all pertinent information regarding dimensions, fittings and installation instructions.

PART 2 PRODUCTS

2.1 GENERAL

- A. Each length of pipe and each fitting shall be marked in accordance with the applicable ASTM Designation.

2.2 PIPE AND FITTINGS

- A. PVC Sewer Pipe and Fittings (gravity; 4 inches Diameter and Larger): SDR 35 and ASTM D 3034.

2.3 SOLVENT CEMENTS

- A. Solvent cement used for joining plastic pipe and fittings shall meet the following designations for the various types of plastic pipe listed.
 - 1. PVC: ASTM D 2564.

PART 3 EXECUTION

3.1 INSPECTION

- A. Inspect all pipe and fittings before installation. Remove defective pipe and fittings from the site.
- B. Do not backfill before installation is inspected by the Engineer.

3.2 GENERAL

- A. Install pipe in accordance with the manufacturer's recommendations and as specified in ASTM D 2321.
- B. Join PVC pipe with solvent cemented joints as recommended by ASTM D 2855.

3.3 INSTALLATION

- A. Laying Pipe: Lay pipe to indicated line and grade with a firm uniform bearing for the entire length of the pipe. Excavate sufficient clearance at each bell or coupling to allow uniform bearing along the pipe barrel. Fill excess excavation with suitable material and tamp.
- B. Joints:
 - 1. Wipe inside of sockets and outside of pipe to be jointed, clean and dry.
 - 2. Install rubber gaskets in accordance with the manufacturer's specifications.
- B. Cleanouts:
 - 1. Construct cleanouts at the locations shown and as detailed on the drawings.
 - 2. Use PVC wyes, bends and pipe as indicated.
 - 3. Extend cleanout piping to grade and terminate with screw in brass plug installed in accordance with manufacturer's instructions.

3.4 FIELD QUALITY CONTROL

- A. Leakage testing is specified in Section 330500 “Common Work Results for Utilities.”

END OF SECTION

SECTION 333913

MANHOLE STRUCTURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Related Sections:
 - 1. Section 312000 “Earth Moving” for excavation, filling, backfilling and rough grading.
 - 2. Section 330500 “Common Work Results for Utilities” for installation of buried piping.
 - 3. Section 333104 “Plastic Drainage Pipe (Sanitary)”.

1.3 REQUIREMENTS OF REGULATORY AGENCIES

- A. Obtain necessary permits from local Authorities. Ascertain and comply with local requirements for materials, construction and restoration of pavement:

1.4 ACTION SUBMITTALS

- A. Shop Drawings: Show fabrication details and connections to adjacent Work.
- B. Product Data: Manufacturer’s catalog cuts, specifications, and installation instructions.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Precast Reinforced Square and Rectangular Concrete Structures:
 - 1. Riser Sections: ASTM C890.
 - 2. Keyed Joints:
 - a. Joint Sealant - Select One.

- 1) Mortar
 - 2) Rubber Gasket
 - 3) Butyl Joint Sealant
3. Load Rating: AASHTO HS-20 with 30% impact and 130 lb/cf equivalent soil pressure.
 4. Concrete for Precast Units: Air content 6 percent by volume with an allowable tolerance of plus or minus 1.5 percent. Minimum compressive strength of 4,000 psi after 28 days.
- B. Frames and Covers for Manholes:
1. Design of each shall be the same throughout the project unless otherwise specified or indicated on the drawings.
 2. Units shall meet AASHTO H20 wheel loading requirements. Manufacture, workmanship and certified proof-load tests shall conform to AASHTO M306-89-Standard Specification for Drainage Structure Castings.
 3. Material:
 - a. Cast iron: ASTM A48, Class 30B or 35B.
 - b. Delivered to Site free of any coatings, unless otherwise specified.
 4. Frames:
 - a. Round with a 24-inch clear opening.
 5. Covers:
 - a. Round 24-inch diameter.
 - b. Solid lid, top surface checkered and provided with suitable concealed lifting notches, and lettering cast into cover to indicate type of structure.
 6. Acceptable Manhole Frames and Covers: Pattern R-1557-A with platen cover by Neenah Foundry Company, P. O. Box 729, Neenah, WI 54957, (414) 729-3661.
- C. Coal Tar Epoxy Coating:
1. All precast structures shall be waterproofed on the outside with two (2) coats of a two component, polyamide cured, 68 percent solids by volume coating.
 - a. Acceptable Coating: Hi-Mil Sher-Tar B6940 by The Sherwin-Williams Company.
- D. Cast-in-Place Concrete for Manhole Invert Channels: Normal weight, air entrained concrete with a minimum compressive strength of 4,000 psi after 28 days.
1. Design Air Content: 6 percent by volume plus or minus 1.5 percent.

2. Cement: Minimum 610 pounds per cubic yard.
 3. Slump: Between 2 and 3 inches.
- E. Drop Piping:
1. SDR-35 PVC

2.2 PIPE TO MANHOLE / STRUCTURE CONNECTIONS

- A. A flexible pipe to manhole connector shall be used whenever a pipe penetrates through a precast concrete manhole or structure.
- B. The design of the connector shall provide a flexible, watertight seal between the pipe and concrete structure.
- C. Water tight seals for pipe connections shall be as manufactured by Trelleborg, Kor-N-Seal Series or GPT Industries, Link-Seal Series.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Seal joints between precast riser sections with butyl rope sealant. Fill voids on interior and exterior of joints with non-shrink grout.
- B. Structures upon completion shall be watertight.
- C. Paint exterior concrete surfaces of structure, with two coats of coal tar epoxy applied at 8-12 mils DFT per coat.
- D. Position tops of structures flush with finished grade.
- E. Form inverts in manholes on straight runs by the use of channel pipe. Form inverts in manholes at changes in direction or grade by making curved channels of concrete. Channels shall have a smooth surface free from irregularities.
- F. Cut laterals which will enter above the invert to correct length before installation. Do not cut after installation. Construct drops as shown.

END OF SECTION 333913