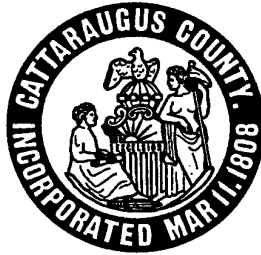


**Water Heater Replacement  
The Pines Healthcare  
Olean, New York 14760**

**BID NO. 31**

Prepared by:  
**Cattaraugus County  
Department of Public Works**

8810 Route 242  
Little Valley, NY 14755



**General Provisions and Bid Proposal Booklet**

**March 2020**

CATTARAUGUS COUNTY DEPARTMENT OF PUBLIC WORKS

Instructions to Bidders,  
Specifications and Related Documents

For

Water Heater Replacement  
The Pines Healthcare - Olean

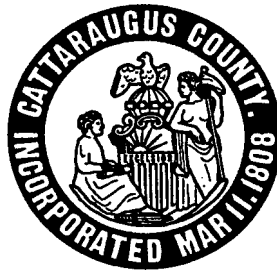
Cattaraugus County Department of Public Works

8810 Route 242

Little Valley, New York 14755

Tel. (716) 938-9121

Fax (716) 938-2754



# CATTARAUGUS COUNTY

## DEPARTMENT OF PUBLIC WORKS

*Development – Progress – Workmanship*

*Kathleen M. Ellis, Commissioner*

*Mark C. Burr, PE, Director of Engineering*

*Phone (716) 938 9121*



*8810 Route 242, Jack Ellis Drive*

*Little Valley, New York 14755*

*Fax (716) 938 2754*

### ADVERTISEMENT FOR BID

Sealed bids for **Water Heater Replacement – The Pines Healthcare, Olean, NY 14760**, according to specifications, will be received by the undersigned, at the Department of Public Works Facility, 8810 Route 242, Little Valley, New York, until **Monday, April 20, 2020 at 1:45 P.M.** after which they will be publicly opened at **2:00 P.M.** (at the *same location*), by the undersigned, under the direction of the Public Works Committee of the Cattaraugus County Legislature. Each bid, at the time it is received, will be stamped showing date and time of receipt. All bids must be sealed and clearly marked as follows: (Any bid not clearly marked will not be considered.)

#### **DPW BID #31 - Water Heater Replacement – The Pines Healthcare, Olean, NY 14760**

Contractors can view the site by contacting Chris Klemann at 716-498-5255 to schedule a time.

Final Request for Information shall be 4:00 P.M. **Friday, April 10, 2020**. Final addendum shall be issued **Tuesday, April 14, 2020** at 2:00 P.M.

Copies of the proposed Contract Documents, Plans, Specifications and Instructions to Bidders will be available **Friday, March 27, 2020**, and may be secured at Cattaraugus County Department of Public Works, 8810 Route 242, Little Valley, New York 14755. Phone Dawn Smith at 938-9121, ext. 2465, or email to [dasmith@cattco.org](mailto:dasmith@cattco.org). All questions and RFI's to be directed to Wendel; 375 Essjay Road, Suite 200, Williamsville, NY 14221@ 716-688-0766 Attn: Todd Phillips, [tphillips@wendelcompanies.com](mailto:tphillips@wendelcompanies.com). The specifications for this project will be available for examination at The Builders Exchange of the Southern Tier, Inc. - West, 65 East Main St., Falconer, NY 14733 and on their web site. (STBA website at: <https://bxstier.com> Login Page: <http://login.onlineplanservice.com/SP/code.aspx> Password: **NYBX20-01499-31**)

Cattaraugus County Local Law 12-2012 as amended by Local Law 5-2015 requires that the County provide a copy of the Cattaraugus County Vendor Responsibility Form to the low bidder. The low bidder will have 5 business days to return the completed form unless the form was mailed by the county to the vendor, in which case they will have 10 business days from the date of the mailing to return the form. Failure by the low bidder to submit the form within the above time frame will lead to the automatic rejection of their bid. The contractor must also ensure that all subcontractors who contract to work on the Project for consideration in the amount of \$35,000 or greater, complete this form and submit it to the County for approval within 5 days of the preconstruction meeting. The contractor must also submit, in writing, a request for waiver for any subcontractors whose contract is for less than \$35,000. Failure to do so may lead to the rejection of the subcontractor at the County's discretion.

Currently the Commissioner of Public Works has approved the CCA-2 (New York State Vendor Responsibility Questionnaire For-Profit Construction) with attachments A, B, and C to serve as the Cattaraugus County Vendor Responsibility Form.

**All bids must be sent or delivered to Cattaraugus County Department of Public Works, 8810 Route 242, Little Valley, NY 14755. Attention: Dawn Smith.**

All bids must be accompanied by a NON-COLLUSIVE BIDDING CERTIFICATE and Bid Bond in the amount of 5% of bid total. All substitutions are to be submitted at time of bid as per the contract documents. No substitutions will be considered after the bid date. Any bid submitted without such certification and bid bond will not be accepted. Any bid not meeting ALL specifications will not be considered. Cattaraugus County reserves the right to reject any or all bids, to waive any informalities, and to accept the lowest responsible bid.

John Searles  
County Administrator  
County Center - 303 Court Street  
Little Valley, New York 14755

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Construction Drawings (Under Separate Cover)

**\* To be completed by All Bidders and returned with bid.**

**\*\* To be completed by the Apparent Low Bidder.**

## **SECTION A**

### **LUMP SUM PRICE BID SCHEDULE**

The Contractor shall furnish all materials, equipment, tools and labor of every kind required to complete the **Water Heater Replacement - The Pines Healthcare, Olean** and perform all other work and incidental work in the most substantial and workmanlike manner, and do everything required by the Contract Documents as defined herein.

The total bid price shall be the sum of all materials, installation and labor costs as defined herein. Lump sum bid price shall be entered both in words and numerically in the spaces provided. In the event of a discrepancy the words will be used for tabulation purposes.

**BID FORMS OMITTED FROM  
SPECIFICATION BOOKS**

TO OBTAIN BID FORMS PLEASE CONTACT

DAWN SMITH AT 716-938-9121 EXT. 2465

OR SEND EMAIL REQUEST TO:

**[dasmith@cattco.org](mailto:dasmith@cattco.org)**



BID BOND

Sec. 38 – Highway law

KNOW ALL MEN BY THESE PRESENTS, That .....

(Name of Contractor)

(Address)

(hereinafter called the "Principal") and the .....  
a corporation created and existing under the laws of the State of....., having its principal office in the City of ..... (hereinafter called the "Surety"), are held and firmly bound unto Cattaraugus County (hereinafter called the "County") in the full just sum of Five Percent (5%) of Attached Bid, good and lawful money of the United States of America, for the payment of which said sum of money, well and truly to be made and done, the said Principal binds themselves (himself/herself, itself), their (his/hers, its) heirs, executors and administrators, successors and assigns, and the said Surety binds itself, its successors and assigns jointly and severally, firmly by these presents:

Signed, sealed and dated this 20.....A.D.

WHEREAS, the said Principal has submitted to the Cattaraugus County Commissioner of Public Works, a bid for

(Description of Project)

AND

WHEREAS, under the terms of the Laws of the State of New York as above indicated, the said Principal has filed or intends to file this bond to guarantee that the Principal will execute all required contract proposal documents and furnish such faithful performance or other bonds as may be required by law in accordance with the terms of the Principal's said proposal.

NOW, THEREFORE, the condition of the foregoing obligation is such, that if the said Principal shall promptly execute and submit, and the Commissioner of Public Works shall accept, all required contract proposal documents including such faithful performance bond or other bonds as may be required by law in accordance with the terms of the Principal's said proposal, then this obligation shall be null and void, otherwise to remain in full force and virtue.

IN TESTIMONY WHEREOF, the said Principal has hereunto set his/her (their, its) hand and seal and the said Surety has caused this instrument to be signed by its..... President and its .....Secretary, and its corporate seal to be hereunto affixed, the day and year first above written.

Signed, sealed and delivered in the presence of:

(Corporate seal of ..... (L.S.)

Principal if a ..... (L.S.)  
corporation)

..... (L.S.)

**Principal**

(Corporate seal of Surety Co.) ..... Company

of .....

By .....

(Title of Officer)

Attest.....

(Title of Officer)

(Acknowledgment by principal, unless it is a corporation)  
STATE OF NEW YORK

SS:

COUNTY OF .....

On this ..... day of ..... 20....., before me personally came  
....., to me known and known to me to be the person described in and who executed the  
foregoing instrument, and acknowledged that he/she executed the same.

.....  
Notary Public                      County

(Acknowledgment by principal, if a corporation)  
STATE OF NEW YORK

SS:

COUNTY OF .....

On this ..... Day of .....20....., before me personally came  
....., to me known who being by me duly sworn, did depose and say that he/she  
resides in .....; that he/she is the ..... of the  
.....; the corporation described in and which executed the foregoing instrument; that  
he/she knew the seal of said corporation; that the seal affixed to said instrument was such corporate seal; that  
it was so affixed by order of the Board of Directors of said corporation, and that he/she signed his/her name  
thereto by like order.

.....  
Notary Public                      County

(Acknowledgment by Surety Company)  
STATE OF NEW YORK

SS:

COUNTY OF .....

On this ..... day of ..... 20....., before me personally came  
....., to me known, who being by me duly sworn, did depose and say that he/she resides  
in .....; that he/she is the ..... of the..... ; the  
corporation described in and which executed the within instrument; that he/she knows the seal of said  
corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by the order  
of the Board of Directors of said corporation, and that he/she signed his/her name there to by like order.

.....  
Notary Public                      County

**2008 WICKS REFORM – SUBCONTRACTOR INFORMATION**

Pursuant to the 2008 Wicks Law Reform, \_\_\_\_\_  
(Company Name of Bidder)  
submit with our bid the following sub-contractor(s) and the agreed upon amounts for

Project No. \_\_\_\_\_  
Titled \_\_\_\_\_

**Trade: Electric**

<i>Name and Address of Subcontractor</i>	<u>Amount</u>
1. _____	_____
<i>Description of work:</i> _____	

**Trade: Plumbing**

<i>Name and Address of Subcontractor</i>	<u>Amount</u>
1. _____	_____
<i>Description of work:</i> _____	

**Trade: Mechanical**

<i>Name and Address of Subcontractor</i>	<u>Amount</u>
1. _____	_____
<i>Description of work:</i> _____	

Dated \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Legal name of person, partnership, joint venture or corporation:  
\_\_\_\_\_  
(if corporation, affix corporate seal)

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

Title \_\_\_\_\_

**SEAL IN SEPARATE ENVELOPE AND SUBMIT ALONG WITH PROPOSAL**

**2008 WICKS REFORM – SUBCONTRACTOR INFORMATION**  
**ACKNOWLEDGMENT FOR SUBCONTRACTOR INFORMATION**

THE LEGAL ADDRESS OF THE BIDDER

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Telephone No. \_\_\_\_\_ Facsimile No. \_\_\_\_\_

**If a Corporation**

Name	Address
_____ President _____	
_____ Secretary _____	
_____ Treasurer _____	

**If a Partnership**

Name of Partners	Address
_____	_____
_____	_____
_____	_____

**If a Joint Venture**

Name of Members	Address
_____	_____
_____	_____
_____	_____

**If an Individual**

Name of Individual	Address
_____	_____
_____	_____
_____	_____

**BIDDER INFORMATION SHEET**

NAME OF BIDDER: \* \_\_\_\_\_

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

PHONE NUMBER: \_\_\_\_\_

TYPE OF ENTITY: CORPORATION \_\_\_\_\_ PARTNERSHIP \_\_\_\_\_ INDIVIDUAL \_\_\_\_\_

IF A NON-PUBLICLY OWNED CORPORATION:

NAME OF CORPORATION: \_\_\_\_\_

LIST OF PRINCIPAL STOCKHOLDERS (HOLDING OVER 5% OF OUTSTANDING SHARES):

\_\_\_\_\_  
\_\_\_\_\_

LIST OF OFFICERS: \_\_\_\_\_

\_\_\_\_\_

LIST OF DIRECTORS: \_\_\_\_\_

\_\_\_\_\_

DATE OF ORGANIZATION: \_\_\_\_\_

IF A PARTNERSHIP:

PARTNERS: \_\_\_\_\_

\_\_\_\_\_

NAME OF PARTNERSHIP: \_\_\_\_\_

DATE OF ORGANIZATION: \_\_\_\_\_

- IF THE BUSINESS IS CONDUCTED UNDER AN ASSUMED NAME, A COPY OF THE CERTIFICATE REQUIRED TO BE FILED UNDER THE NEW YORK GENERAL BUSINESS LAW MUST BE ATTACHED.

## **NON-COLLUSIVE BIDDING CERTIFICATION**

### **REQUIRED BY SECTION 103-D OF GEN. MUNICIPAL LAW**

Section 103-d, GML, "Statement of non-collusion in bids and proposals to political subdivision of the state."

Every bid or proposal hereafter made to a political subdivision of the state or any public department, agency or official thereof where competitive bidding is required by statute, rule, regulation or local law, for work or services performed or to be performed or goods sold or to be sold, shall contain the following statement subscribed by the bidder and affirmed by such bidder as true under the penalties of perjury: Non-collusive bidding certification.

"(a) By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of knowledge and belief:

- (1) The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;
  - (2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly to any other bidder or to any competitor; and
  - (3) No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition."
- (b) A bid shall not be considered for award nor shall any award be made where (a)(1)(2) and (3) above have not been complied with; provided however, that if in any case the bidder cannot make the foregoing certification, the bidder shall so state and shall furnish with the bid a signed statement which sets forth in detail the reasons therefore. Where (a)(1)(2) and (3) above have not been complied with, the bid shall not be considered for award nor shall any award be made unless the head of the purchasing unit of the political subdivision, public department, agency or official thereof to which the bid is made, or his/her designee, determines that such disclosure was not made for the purpose of restricting competition.

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

2.\* Any bid hereafter made to any political subdivision of the state or any public department, agency or official thereof by a corporate bidder for work or services performed or to be performed or goods sold or to be sold, where competitive bidding is required by statute, rule, regulation, or local law, and where such bid contains the certification referred to in subdivision one of this section, shall be deemed to have been authorized by the board of directors of the bidder, and such authorization shall be deemed to include the signing and submission of the bid and the inclusion therein of the certificate as to non-collusion as the act and deed of the corporation.

\* So in original, No subd. 1 has been designated.

**NON-COLLUSIVE BIDDING CERTIFICATION**

**BY EXECUTING THIS DOCUMENT, THE CONTRACTOR AGREES TO:**

- 1. Perform all work listed in accordance with the Contract Documents at the lump sum price.
- 2. All the terms and conditions of the non-collusive bidding certifications required by Section 103-d of the General Municipal Law;
- 3. Certification of Specialty Items category selected, if contained in this proposal;
- 4. Certification of any other clauses required by this proposal and contained herein.

\_\_\_\_\_  
 (Legal Name of Person, Corporation, or Firm Which  
 is Submitting Bid or Proposal)

Date: \_\_\_\_\_

BY: \_\_\_\_\_  
 (Signature of Person Representing Above)

AS: \_\_\_\_\_  
 (Official Title of Signator in Above Firm)

(Acknowledgment by Individual Contractor, If a Corporation)

STATE OF NEW YORK        )  
   ) SS:  
 COUNTY OF                    )

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_, before me personally came \_\_\_\_\_, to me known and known to me to be the person who executed the above instrument, who being duly sworn by me, did depose and say that he/she resides at \_\_\_\_\_, and that he/she is the \_\_\_\_\_ of the corporation described in and which executed the above instrument, and that he/she signed his/her name thereto on behalf of said Corporation by order of the Board of Directors of said Corporation.

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

(Acknowledgment by Co-Partnership Contractor)

STATE OF NEW YORK )

) SS:

COUNTY OF )

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_, before me personally came \_\_\_\_\_, to me known and known to me to be the person described in and who executed the above instrument, who, being duly sworn by me, did for himself/herself depose and say that he/she is a member of the firm of \_\_\_\_\_, consisting of himself/herself and \_\_\_\_\_, and that he/she executed the foregoing instrument in the firm name of \_\_\_\_\_ and that he/she had authority to sign same, and did duly acknowledge to me that he/she executed same as the act and deed of said firm of \_\_\_\_\_ for the uses and purposes mentioned herein.

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

(Acknowledgment by Individual Contractor)

STATE OF NEW YORK )

) SS:

COUNTY OF )

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

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



NON-COLLUSIVE BIDDING CERTIFICATION BIDDER INFORMATION

**Bidder to provide information listed below:**

Bidder Address: \_\_\_\_\_  
 Street or P.O. Box No.

\_\_\_\_\_

City

\_\_\_\_\_

State Zip

Federal Identification No.: \_\_\_\_\_

Name of Contact Person: \_\_\_\_\_

Phone # of Contact Person: \_\_\_\_\_

**If Bidder is a Corporation:**

President's Name & Address:

\_\_\_\_\_

Secretary's Name & Address:

\_\_\_\_\_

Treasurer's Name & Address:

\_\_\_\_\_

**If Bidder is a Partnership:**

Partner's Name & Address:

\_\_\_\_\_

Partner's Name & Address:

\_\_\_\_\_

**If Bidder is a Sole Proprietorship:**

Owner's Name & Address:

\_\_\_\_\_

**REPORTING VIOLATIONS OF NON-COLLUSIVE BIDDING PROCEDURES, MISCONDUCT, OR  
OTHER PROHIBITED CONTRACT ACTIVITIES**

**NEW YORK STATE INSPECTOR GENERAL HOTLINE.** Reports of New York State Governmental Misconduct may be made in strict confidence to the New York State Inspector General on the Toll Free Statewide HOTLINE or by writing to the Office of the Inspector General. The Toll Free Statewide HOTLINE telephone number is 1-800-367-4448 and calls will be answered between 9:00 A.M. and 5:00 P.M., Monday thru Friday. The address of the Office of the State Inspector General is the State Capitol, Executive Chamber, Albany, New York 12224.

REFERENCE SHEET

All bidders are required to complete this form providing three references of past performance. References should involve projects and/or service situations of similar size, scope, and character of work to this Bid. References must have had dealings with the Bidder within the last thirty-six (36) months. The County reserves the right to contact any or all of the references supplied for an evaluation of past performance in order to establish the responsibility of the Bidder before the actual award of the Bid and/or Contract. Completion of the Reference Form is required.

BIDDER'S NAME: \_\_\_\_\_

DATE FILED: \_\_\_\_\_

REFERENCE'S NAME: \_\_\_\_\_

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

TELEPHONE: \_\_\_\_\_ CONTACT PERSON: \_\_\_\_\_

REFERENCE'S NAME: \_\_\_\_\_

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

TELEPHONE: \_\_\_\_\_ CONTACT PERSON: \_\_\_\_\_

REFERENCE'S NAME: \_\_\_\_\_

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

TELEPHONE: \_\_\_\_\_ CONTACT PERSON: \_\_\_\_\_

LOCAL LAW NUMBER 12- 2012 AMENDED BY LOCAL LAW NUMBER 5- 2015  
COUNTY OF CATTARAUGUS, NEW YORK

Pursuant to Section 10 of the Municipal Home Rule Law and Section 103  
of the General Municipal Law.

A LOCAL LAW ESTABLISHING UNIFORM GUIDELINES FOR  
DETERMINING THE RESPONSIBILITY OF BIDDERS

BE IT ENACTED by the Legislature of the County of Cattaraugus ("the County"), as follows:

Section 1. Legislative Intent. It is the intent of this Local Law to enhance the County's ability to identify the lowest "responsible bidder" on public works construction projects by instituting more comprehensive submission requirements and an evaluation system which is in compliance with New York State General Municipal Law. The County, based upon its experience, has determined that quality workmanship, efficient operation, safety, and timely completion of projects are not necessarily assured by awarding a public works contract solely on the basis of the low price. This Local Law establishing uniformity of guidelines for determining the responsibility of apparent low bidders will assure efficient use of taxpayer dollars, will promote public safety, and is in the public interest.

Section 2. Applicability. This Local Law shall apply to construction projects subject to the competitive bidding requirements of General Municipal Law §103 and advertised for bids on or after the effective date.

Section 3. Public Works. For purposes of this Local Law, the term "public works" shall mean the following: any constructing, altering, reconstructing, repairing, rehabilitating, refinishing, refurbishing, remodeling, remediating, renovating, custom fabricating, maintenance, landscaping, improving, moving, wrecking, painting, decorating, demolishing, and adding to or subtracting from any public building, structure, highway, roadway, street, alley, bridge, sewer, drain, ditch, sewage disposal plant, water work, parking facility, railroad, excavation, or other project, development, real property, or improvement, or to any part thereof, whether or not the performance of the work herein described involves the addition to, or fabrication into, any structure, project or development, real property or improvement herein described of any material or article of merchandise, which is paid for out of public funds in an amount exceeding the threshold for bidding established by the General Municipal Law. The term also includes any public works leased by the County under a lease containing an option to purchase exceeding the threshold for bidding public works projects established by the General Municipal Law.

Section 4. Cattaraugus County Vendor Responsibility Form and Procedure.

- A. A questionnaire (which shall be titled the "Cattaraugus County Vendor Responsibility Form"), hereinafter "the Form", shall be prepared and, as he/she may deem appropriate, revised by the Cattaraugus County Commissioner of Public Works ("Commissioner").
- B. The Commissioner shall provide the Form to the apparent low bidder on all County public works projects.
- C. The County shall promptly notify the apparent low bidder of its status as such and provide such entity with a copy of the Form either in electronic or paper format. The most current version of the Form shall also be posted on the Cattaraugus County website.
- D. The apparent low bidder shall file the Form in in the Office of the Commissioner not more than five (5) business days after receiving it or, if the form is mailed to the apparent

- E. Low bidder, within ten (10) business days after the date of mailing.
- F. In the event that the apparent low bidder fails to file the fully completed Form in the Commissioner's Office within the required time, its bid will be rejected and any bid bond submitted may, at the County's sole discretion, be forfeited.
- G. If the apparent low bidder is deemed not responsible, or fails to submit the Form within the required time, then the next lowest bidder will be deemed the apparent low bidder and so on until the lowest bidder is deemed responsible and selected as the lowest responsible bidder.
- H. Not later than five (5) calendar days prior to a final determination that the apparent low bidder is not responsible, the County will notify the bidder of same, in writing, and by certified mail, return receipt, stating the reasons. Except in the case of the rejection of an apparent low bid solely because the vendor failed to timely submit a completed Form, such notice shall set forth a time, date and place for the apparent low bidder to appear and be heard, not less than five (5) business days after such notice is served.
- I. Subcontractors proposed to be used on a project must also complete and submit the Form within five (5) days after the preconstruction meeting before the subcontractor is approved by the County. Failure by a subcontractor to submit the Form or unsatisfactory responses to questions may lead to rejection of the bid of the subcontractor at the County's discretion.
- J. If the bid of the apparent low bidder appears disproportionately low when compared with estimates obtained by or on behalf of the County and/or compared to other bids submitted (10% or greater disparity), the County reserves the right to inquire further of the apparent low bidder to determine whether the bid contains mathematical errors, omissions and/or erroneous assumptions, and whether the apparent low bidder has the capability to perform and complete the contract for the bid amount.
- K. If a bidder is found to have willfully violated New York Labor Law §220 within the previous five (5) years, that bidder shall automatically be deemed "not responsible" and its bid shall be rejected unless the Commissioner, subject to review by the Public Works Committee of the Cattaraugus County Legislature, determines otherwise. In all other cases, based on all of the information collected pursuant to this local law and any other factor deemed relevant, the Commissioner, or other department heads soliciting public works bids, shall determine if the apparent lowest bidder is in fact "responsible."

#### Section 5. Additional Requirements.

- A. Contractors and all subcontractors shall classify their workers as employees rather than as independent contractors, unless those workers meet the definition of "independent contractor" as defined by the Internal Revenue Service, and shall treat said employees accordingly for purposes of workers' compensation insurance coverage, unemployment insurance, employment taxes, and social security taxes.
- B. The contractors and all subcontractors shall submit certified payrolls to the Commissioner.

Section 6. Procedure. Cattaraugus County will make its own determinations of responsibility for low bidders. A bidder recognized by the state as a responsible vendor must still satisfy the requirements of this local law by submitting the required Cattaraugus County Vendor Responsibility Form within the required time frame.

Section 7. Incomplete Submissions by Bidders and Subcontractors. It is the sole responsibility of the contractor to comply with all submission requirements to the County. The submission requirements also apply to all subcontractors, except that the contractor shall submit all subcontractor questionnaires to the County of Cattaraugus for approval. Failure to submit the Form may lead to the rejection of the bid of the subcontractor at the County's discretion.

Contractor submissions deemed non-responsive will result in automatic rejection of the bid.

Section 8. Materiality. The requirements of this Local Law are a material part of the bid documents and the contract and the successful bidder shall insert this Local Law in all subcontracts.

Section 9. Severability. If any clause, sentence, paragraph, subdivision, section or part of this Local law or the application thereof, to any person, individual, corporation, firm, partnership, entity or circumstance, shall be adjudged by any court of competent jurisdiction to be invalid or unconstitutional such order of Judgment shall not affect, impair, or invalidate the remainder thereof, but shall be confined in its operation to the clause, sentence, paragraph, subdivision, section or part of this Local law or in its application to the person, individual, corporation, firm, partnership, entity, or circumstance directly involved In the controversy in which such judgment or order shall be rendered.

Section 10. Other Local Laws. Any prior Local Law or portion thereof in conflict with this Local Law is hereby repealed.

Section 11. Effective Date. This Local Law shall take effect upon filing in the Office of the Secretary of State, in accordance with Section 27 of the New York State Municipal Home Rule Law.

**BID FOR PERFORMANCE OF CONTRACT WITH CATTARAUGUS COUNTY LEGISLATURE**  
**LITTLE VALLEY, NEW YORK**

TO: Cattaraugus County Legislature, Little Valley, New York, herein after called the County.

The undersigned, desiring to interpose a bid to provide services for **Water Heater Replacement - The Pines Healthcare, Olean** for Cattaraugus County Department of Public Works, does hereby accept all terms, conditions, and agreements contained and set forth in the Notice to Bidders, Instructions to Bidders, Minimum Specifications, Non-Collusive Bidding Certification, Legal Status Information and Bid for Performance of Contract with Cattaraugus County Legislature and does hereby certify, agree and propose as follows:

The undersigned declares that he/she has examined all of the attached documents, and hereby proposes and agrees that, if this bid is accepted, he/she will contract with the County, such contract incorporating the provisions of the documents attached hereto, to furnish all the materials and services and do all the work specified in the attached documents in the manner and time herein specified and according to the requirements as herein set forth, and to take in full payment therefore the bid prices set forth on the preceding specification sheets.

If this proposal is accepted by the County and the undersigned fails to contract as aforesaid, within ten days (not including Sunday) from the date of notice from the County to him/her, then the County may at its option, determine that the bidder has abandoned his/her right to enter into the contract and thereupon the bid and acceptance shall be null and void.

The full name and residences of all persons and parties interested in the foregoing bid as principals are as follows: (Individuals or partnership bids only)

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**INDIVIDUAL, PARTNERSHIP OR CORPORATE USE**

The undersigned certifies, under penalty of perjury, that he/she is fully authorized to sign this bid.

Name and Address of Bidder:

Authorized Signature and Title:

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Signature

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Title

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Date

“Iran Divestment Act of 2012”

“Iranian Energy Sector Divestment”

Pursuant to State Finance Law § 165-a, the Commissioner of General Services is required to develop a list of persons it determines engage in investment activities in Iran, which is defined as provision of goods, services or credit of \$20,000,000 or more, relating to the energy sector.

General Municipal Law § 103-g(4) states as follows:

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

The below signed bidder affirms the following as true under penalties of perjury:

- a. “By submission of this bid, the bidder identified herein and each person signing on behalf of the 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 its knowledge and belief that this bidder is not on the list created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the state finance law.”

Corporate or Company Name

By:

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

Sworn to before me this

\_\_\_\_\_ Day of \_\_\_\_\_, 20\_\_\_\_\_

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



This AGREEMENT made as of the \_\_\_\_\_ day of \_\_\_\_\_ in the year 20\_\_\_\_ by and between the County of Cattaraugus, a municipal corporation hereinafter called the "County" and \_\_\_\_\_ hereinafter called the "Contractor".

WITNESSETH that the County and Contractor in consideration of the mutual covenants hereinafter set forth, agree as follows:

Article 1. WORK. The Contractor will perform all Work as shown in the Contract Documents for the completion of the Project generally described as **Water Heater Replacement - The Pines Healthcare, Olean, Cattaraugus County, New York.**

(a) The Contractor shall furnish all of the materials and do all the Work required for the replacement of the structure and all other incidental work detailed in the contract documents.

Article 2. ENGINEER. The Project has been designed by Cattaraugus County. Cattaraugus County will hire an Engineer to represent the County in connection with implementation of the Project and is hereinafter called the ENGINEER. The County and the ENGINEER will provide all on-site observation services, and County observation personnel will also be referred to as the ENGINEER.

Article 3. CONTRACT TIME. Time of beginning, rate of progress and time of completion are essential conditions of the Contract. The Contractor shall commence work within ten (10) days of the effective date of the Contract, unless written consent is given by the County to begin at a later date. All work shall be completed on or before **July 31, 2020.**

Article 4. CONTRACT PRICE. The County shall pay the Contractor for the performance of the Work in accordance with the Lump Sum Bid indicated in the bid documents.

Article 5. PAYMENTS. The County shall make payments on the account of the Contract as follows:

- (a) Upon request from the Contractor, the Engineer and the County will review and approve statements prepared by the Contractor for the total quantity of work properly completed by the Contractor as of a specified date noted on the statement. No such statement, however, will be reviewed by the Engineer and County within one month after the start of Work under contract, or at intervals of less than one month. The County will pay the Contractor 95% of the amount of each statement, less prior payments, forty-five (45) days after approval of the statement. Neither statement nor payment shall mean that any Work is accepted. The statements should be based on the percent complete of each subtask noted in the Unit Price schedule.

- (b) The 5% of the value of completed Work withheld from the Contractor will be paid to the Contractor by the County upon: (1) the completion of all Work to the satisfaction of the Engineer and the County; and (2) the Contractor has filed with the County a certification of payment of all labor and materials and certificate of release of liens in connection with this agreement.
- (c) The acceptance by the Contractor of the final payment of amounts withheld from the Engineer's statements shall be and shall operate as a release to the County and the Engineer of all claims and of all liability to the Contractor for all things done or furnished in connection with this Work and for every act and neglect of the County and Engineer and others relating to or arising out of this Work.
- (d) The County reserves the right, at any time, to modify or change the Plans or Specifications as deemed necessary and the Agreement shall not be invalidated thereby however;
- (e) If the Contractor considers that he/she is being required to perform extra work for which no Change Order has been issued, then he/she shall serve Written Notice upon the County prior to such extra work is performed. On failure to serve this Notice, all rights of the Contractor to be paid therefore shall be forfeited.

Article 6. CONTRACT DOCUMENTS. The Contract Documents which comprise the Contract between the Owner and the Contractor are attached hereto and made a part hereof and consist of the following:

(a) The General Provisions and Proposal Booklet titled "**Water Heater Replacement - The Pines Healthcare, Olean.**"

- (b) Drawings and Plans
- (c) Any Modifications, including Addenda, duly delivered before the execution of this Agreement, and Change Orders incorporated after the Agreement is signed.
- (d) Bonds and Insurance instruments.

Article 7. MISCELLANEOUS.

- (a) Terms used in this Agreement shall have the same meanings which are defined in this bid package.
- (b) The Contractor shall furnish a faithful performance surety bond on a form approved by the County in an amount equal to 100 percent of the Contract Price, and shall have as a surety thereon a surety company or companies authorized to do business in New York State. He/She likewise will furnish a Labor and Material Bond to guarantee the payment of all labor and materials supplied in connection with this Agreement.
- (c) Neither the County nor the Contractor shall, without the prior written consent of the other, assign or sublet in whole or in part his/her interest under any of the Contract Documents and,

- (d) Specifically, the Contractor shall not assign any monies due or to become due without the prior written consent of the County.
- (e) The County and the Contractor each binds himself/herself, his/her partners, successors, assigns and legal representatives to the other party hereto in respect of all covenants, agreements and obligations contained in the Contract Documents.
- (f) The Contract Documents constitute the entire agreement between the County and the Contractor and may only be altered, amended or repealed by a duly executed written instrument.

Article 8. CONTRACTOR REPRESENTATIONS. The Contractor is experienced in the use and interpretation of plans and specifications such as those included in these Contract Documents. He/She has carefully reviewed these and all of the Contract Documents and has found them free of ambiguity and sufficient for bid purposes. He/She has based his/her bid solely on these documents not relying on any explanation or interpretation, oral or written, from any other source.

Article 9. CONTRACT PROVISIONS. The parties to the attached contract, license, lease, amendment or other agreement of any kind (hereinafter, "the contract" or "this contract") agree to be bound by the following clauses which are hereby made a part of the contract (the word "Contractor" herein refers to any party other than the County of Cattaraugus, whether a contractor, licensor, licensee, lessor, lessee or any other party). In the event of a conflict between the terms of the contract (including any and all attachments thereto and amendments thereof) and the terms of this Article, the terms of this Article shall control.

(a) Non-Assignment Clause

In accordance with Section 109 of the General Municipal Law, this contract may not be assigned by the Contractor, or its right, title or interest therein assigned, transferred, conveyed, sublet or otherwise disposed of without the previous consent, in writing, of the County and any attempts to assign the contract without the County's written consent are null and void.

(b) Workers' Compensation Benefits

In accordance with Section 108 of the General Municipal Law, this contract shall be void and of no force and effect unless the Contractor shall provide and maintain coverage during the life of this contract for the benefit of such employees as are required to be covered by the provisions of the Workers' Compensation Law.

(c) Non-Discrimination Requirements

In accordance with Article 15 of the Executive Law (also known as the Human Rights Law) and all other State and Federal statutory and constitutional non-discrimination provisions, the Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex, national origin, age, disability or marital status. Furthermore, in accordance with Section 220-e of the Labor Law, if this is a contract for the construction, alteration or repair of any public building or

public work or for the manufacture, sale or distribution of materials, equipment or supplies, and to the extent that this contract shall be performed within the State of New York, Contractor agrees that neither it nor its subcontractors shall, by reason of race, creed, color, disability, sex or national origin: (a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the performance of work under this contract. If this is a building service contract as defined in Section 230 of the Labor Law, then, in accordance with Section 239 thereof, Contractor agrees that neither it nor its subcontractors shall, by reason of race, creed, color, national origin, age, sex or disability (a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the performance of work under this contract. Contractor is subject to fines of \$50.00 per person per day for any violation of Section 220-e or Section 239 as well as possible termination of this contract and forfeiture of all monies due hereunder for a second or subsequent violation.

(d) Wage and Hours Provisions

If this is a public work contract covered by Article 8 of the Labor Law or a building service contract covered by Article 9 thereof, neither Contractor's employees nor the employees of its subcontractors may be required or permitted to work more than the number of hours or days stated in said statute, except as otherwise provided in the Labor Law and as set forth in prevailing wage and supplement schedules issued by the State Labor Department. Furthermore, Contractor and its subcontractors must pay at least the prevailing wage rate and pay or provide the prevailing supplements, including the premium rates for overtime pay, as determined by the State Labor Department in accordance with the Labor Law.

(e) Non-Collusive Bidding Requirement

In accordance with Section 103-d of the General Municipal Law, if this contract was awarded based upon the submission of bids, Contractor warrants, under penalty of perjury, that its bid was arrived at independently and without collusion aimed at restricting competition. Contractor further warrants that, at the time Contractor submitted its bid, an authorized and responsible person executed and delivered to the County a non-collusive bidding certification on Contractor's behalf.

(f) Set-Off Rights

The County shall have all of its common law and statutory rights of set-off. These rights shall include, but not be limited to, the County's option to withhold for the purposes of set-off any monies due to the Contractor under this contract up to any amounts due and owing to the County with regard to this contract.

(g) Record-Keeping Requirement

The Contractor shall establish and maintain complete and accurate books, records, documents, accounts and other evidence directly pertinent to performance under this contract for a period of six (6) years following final payment or the termination of this contract, whichever is later, and any extensions thereto. The County Treasurer or County Administrator or any other person or entity authorized to conduct an

examination, as well as the agency or agencies involved in this contract, shall have access to such books, records, documents, accounts and other evidential material during the contract term, extensions thereof and said such (6) year period thereafter for the purposes of inspection, auditing and copying. "Termination of this contract", shall mean the later of completion of the work of the contract or the end date of the term stated in the contract.

(h) Governing Law

This contract shall be governed by the laws of the State of New York except where the Federal supremacy clause requires otherwise.

(i) No Arbitration and Service of Process

Disputes involving this contract, including the breach or alleged breach thereof, may not be submitted to binding arbitration (except where statutorily authorized) but must, instead, be heard in a court of competent jurisdiction of the State of New York. Contractor hereby consents to service of process upon it by registered or certified mail, return receipt requested.

(j) Approval by County Legislature

This contract is subject to, and conditioned upon, approval by the Cattaraugus County Legislature.

(k) Postponement, Suspension, Abandonment or Termination of Contract

The County shall have the right to postpone, suspend, abandon or terminate this contract, and such actions shall in no event be deemed a breach of contract. In the event of any termination, postponement, delay, suspension or abandonment, the Contractor shall deliver to the County all data, reports, plans, or other documentation related to the performance of this contract, including but not limited to guarantees, warranties, as-built plans and shop drawings. In any of these events, the County shall make settlement with the Contractor upon an equitable basis as determined by the County which shall fix the value of the work which was performed by the Contractor prior to the postponement, suspension, abandonment or termination of this contract. This clause shall not apply to this contract if the contract contains other provisions applicable to postponement, suspension or termination of the contract.

(l) Indemnification

The Contractor shall defend, indemnify, and save harmless against Cattaraugus County, its officers, employees, and the Engineer from all suits, actions, or claims of any character brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of such Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act of omission, neglect, or misconduct of the Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims on amounts arising or recovered under the Workers' Compensation Law, or any other law, ordinance, order, or decree; and so much of the money due the

Contractor under and by virtue of his Contract as shall be considered necessary by the County for such purpose, may be retained for the use of the County; or, in case no money is due, his/her surety may be held until such suit or suits, action or actions, claim or claims for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the County; except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he/she is adequately protected by public liability and property damage insurance.

The Contractor agrees to make no claim for damages for delay in the performance of this contract occasioned by any act or omission to act of the County or the Engineer or any of its representatives, and the Contractor agrees that any such claim shall be fully compensated for by an extension of time to complete the performance of work as provided herein. This indemnification shall include all costs and disbursements incurred by the County and the Engineer in defending any suit, including attorney's fees.

(m) Conflict of Interest

- (1) The Contractor warrants that to the best of the Contractor's knowledge and belief, there are no relevant facts or circumstances which could give rise to an organizational conflict of interest, as herein defined, or that the Contractor has disclosed all such relevant information to the County.
- (2) An organizational conflict of interest exists when the nature of the work to be performed under this contract may, without some restriction on future activities, either result in an unfair competitive advantage to the Contractor or impair the Contractor's objectivity in performing the work for the County.
- (3) The Contractor agrees that if an actual or potential organizational conflict of interest is discovered after award, the Contractor will make a full disclosure in writing to the County. This disclosure shall include a description of actions which the Contractor has taken or proposes to take, after consultation with the County, to avoid, mitigate, or minimize the actual or potential conflict.
- (4) The County may terminate this contract in whole or in part, if it deems such termination necessary to avoid an organizational conflict of interest. If the Contractor was aware of a potential organizational conflict of interest prior to award, or discovered an actual or potential conflict after award and did not disclose or misrepresented relevant information to the County, then the County may terminate the contract, or pursue such other remedies as may be permitted by law or this contract. The terms of Clause (k) of this Section or other applicable contract provision regarding termination shall apply to termination by the County pursuant to this clause.
- (5) The Contractor further agrees to insert in any subcontract hereunder, provisions which shall conform to the language of this clause.

(n) Requests for Payment

All requests for payment by the Contractor must be submitted on forms supplied and approved by the County. Each payment request must contain such items of information and supporting documentation as required by the County, and shall be all inclusive for the period of time covered by the payment request.

(o) Performance of Work Required

The Contractor agrees that during the performance of the work required pursuant to this Agreement, the Contractor and all officers, employees, agents or representatives working under the Contractor's direction shall strictly comply with all local, state or federal laws, ordinances, rules or regulations controlling or limiting in any way the performance of the work required by this Agreement. Furthermore, each and every provision of law required to be inserted in this Agreement shall be deemed so inserted, and the Agreement shall be read and enforced as if such provisions were so inserted.

The Contractor further agrees to insert in any subcontract hereunder, provisions which shall conform substantially to the language of this clause, including this paragraph.

(p) Independent Contractor Status

It is understood that the Contractor is an independent Contractor and shall not be considered an agent of the County nor shall any of the Contractor's employees or agents be considered sub-agents for the County. The final contract will be between the County and the Contractor and is not intended and shall not be construed to create the relationship of agent, servant, employee, partnership, joint venture, or association between County and Contractor. The employees and agents of one party are not the employees or agents of the other party for any purpose whatsoever. The Contractor understands and agrees that all persons performing work pursuant to the final contract are for purposes of workers' compensation liability, solely employees of the Contractor and not employees of the County. The Contractor shall be solely liable and responsible for furnishing any and all workers' compensation benefits to any person as a result of any injuries arising from or connected with any work performed by or on behalf of the Contractor hereunder. The employees and agents of each party shall while on the premises of the other party, comply with all rules and regulations of the premises including, but not limited to security requirements. The Contractor agrees to comply with the non-discrimination employment policies as required by applicable state and federal laws and regulations regarding employment discrimination. The Contractor assures the County that in accordance with applicable law it does not, and agrees that it will not, discriminate in any manner on the basis of age, color, creed, national origin, race, religious belief, sexual preference, or handicap.

(q) No-Waiver

In the event that the terms and conditions of the Agreement are not strictly enforced by the County, such non-enforcement shall not act as or be deemed to act as a waiver or modification of this Agreement, nor shall such non-enforcement prevent the County from enforcing each and every term of this Agreement thereafter.

(r) Severability

If any provision of this Agreement is held invalid by a court of law, the remainder of this Agreement shall not be affected thereby if such remainder would then continue to conform to the laws of the State of New York.

(s) Liquidated Damages

The contractor shall be assessed a penalty of **\$1000 per day** and any additional inspection and engineering costs for work not complete within the specified time frame.



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

Attest

\_\_\_\_\_

\_\_\_\_\_

By: County

Attest

\_\_\_\_\_

\_\_\_\_\_

By: Contractor

ACKNOWLEDGMENT OF COUNTY

STATE OF NEW YORK            )SS  
COUNTY OF CATTARAUGUS )

On this \_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_, before me, the undersigned, a Notary Public in and for said State, personally appeared \_\_\_\_\_, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity, and that by his/her signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

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

ACKNOWLEDGMENT OF CONTRACTOR (OUTSIDE NEW YORK STATE)

STATE OF \_\_\_\_\_)SS:  
COUNTY OF \_\_\_\_\_)

On this \_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_, before me, the undersigned, a Notary Public in and for said State, personally appeared \_\_\_\_\_, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument and that such individual made such appearance before the undersigned in the City/Town of \_\_\_\_\_ in State of \_\_\_\_\_.

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

ACKNOWLEDGMENT OF CONTRACTOR (WITHIN NEW YORK STATE)

STATE OF NEW YORK                    )SS:  
COUNTY OF \_\_\_\_\_)

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

(SEAL)  
Notary Public

\_\_\_\_\_

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## PART 1 BIDDING REQUIREMENTS AND CONDITIONS

### 1.1 NOTICE TO BIDDERS (ADVERTISEMENT)

Sealed bids for the **Water Heater Replacement - The Pines Healthcare, Olean, NY 14760**, will be received under the direction of the County Administrator at the Cattaraugus County Department of Public Works Facility, 8810 Route 242, Little Valley, New York until **Monday, April 20, 2020 at 1:45 p.m.**, after which they will be publicly opened at **2:00 p.m.** (at the same location), under the direction of the Public Works Committee of the Cattaraugus County Legislature. Each bid, at the time received, will be stamped by a clock showing date and time of receipt.

Copies of the Contract Plans and Documents may be examined at no expense at the following location:

Cattaraugus County Department of Public Works  
8810 Route 242  
Little Valley, New York 14755  
(716) 938-9121

Copies of the Contract Plans and Documents may be obtained electronically from the Cattaraugus County Department of Public Works.

Questions regarding the contract documents for this project may be directed to Todd Phillips, Wendel, 535 Washington Street, Buffalo, New York at (716) 688-0766.

All bids must be written in ink on the forms provided. The bid must be accompanied by a certified check, cashier's check, or bid bond made payable to "Treasurer, Cattaraugus County", in the amount of 5% of the bid, as a guarantee that if the Contract is awarded to the bidder, he/she will sign the Contract and furnish a satisfactory performance bond. If a bidder should fail to sign the Contract and deliver the performance bond within ten (10) calendar days after he/she has received the Contract, then he/she shall forfeit the proposal guaranty.

In compliance with the provisions of Section 115 (Prevailing Rate of Wage), Public Law 627, the minimum wages paid laborers and mechanics are included in wage schedules that are set out in the bid proposal.

Cattaraugus County Local Law 12-2012 as amended by Local Law 5-2015 requires that the County provide a copy of the Cattaraugus County Vendor Responsibility Form to the low bidder. The low bidder will have 5 business days to return the completed form unless the form was mailed by the county to the vendor, in which case they will have 10 business days from the date of the mailing to return the form. Failure by the low bidder to submit the form within the above time frame will lead to the automatic rejection of their bid. The contractor must also ensure that all subcontractors who contract to work on the Project for consideration in the amount of \$35,000 or greater, complete this form and submit it to the County for approval within 5 days of the preconstruction meeting. The contractor must also submit, in writing, a request for waiver for any subcontractors whose contract is for less than \$35,000. Failure to do so may lead to the rejection of the subcontractor at the County's discretion.

Currently the Commissioner of Public Works has approved the CCA-2 (New York State Vendor Responsibility Questionnaire for-Profit Construction) with attachments A, B and C to serve as the Cattaraugus County Vendor Responsibility Form.

The County of Cattaraugus reserves the right to reject any or all bids, to waive any informality in any bids, and to award the Contract in the County's best interest. The County reserves the right to make the award within forty-five (45) calendar days after the date of the bid opening during which period bids shall not be withdrawn.

## 1.2 PREQUALIFICATION OF BIDDERS

The County reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the County that such bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein. Conditional bids will not be accepted.

## 1.3 PROPOSAL GUARANTY

Proposals shall be accompanied by a proposal guaranty in the form of a certified check, cashier's check, or bid bond in the amount of five percent (5%) of the total amount bid. It shall be made payable to "Treasurer, Cattaraugus County".

## 1.4 DELIVERY OF PROPOSALS

Each proposal must be submitted in a sealed envelope clearly marked to indicate its contents. Sealed proposals must be delivered to the Cattaraugus County Commissioner of Public Works at or before the date, time and location specified herein. No responsibility shall be attached to the Commissioner of Public Works or his representatives for the premature opening of any proposal not properly labeled. Bidders assume all responsibilities and risks associated with mail or courier delivery. When sent by mail, the sealed proposal must be addressed to the County at the address and in care of the official in whose office the bids are to be received. All proposals shall be filed prior to the time and at the place specified in the "Notice to Bidders". Proposals received after the time for opening of bids will be returned to the bidder unopened.

## 1.5 NOTICE OF SPECIAL CONDITIONS

The contractor's attention is particularly called to those parts of the contract documents and specifications which deal with the following:

- A. Insurance requirements - Item 6.4
- B. Prevailing wage rates required by N.Y.S. Labor Law – Section E
- C. Standard Specifications, NYSDOT dated May 1, 2017, including all updates.

## 1.6 DISQUALIFICATION OF BIDDERS

Any one or more of the following may be considered as sufficient cause for the disqualification of a bidder and the rejection of his/her proposal.

- (a) More than one proposal for the same work from an individual, firm or corporation under the same or different names.
- (b) Evidence of collusion among bidders. Participants in such collusion will receive no recognition as bidders for any future work with the County until any such participant shall have been reinstated as a qualified bidder.
- (c) Lack of competency and adequate machinery, plant and other equipment, as revealed by the financial statements and experience questionnaire.
- (d) Unsatisfactory performance record as shown by past work for any owner judged from the standpoint of workmanship and progress.
- (e) Uncompleted work which, in the judgment of the County, might hinder or prevent the prompt completion of this work if awarded.
- (f) Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force at the time of letting.
- (g) Violation of New York Labor Law §220 within the previous five (5) years.
- (h) Failure to comply with any qualification regulations of the County.

## PART 2 AWARD AND EXECUTION OF CONTRACT

### 2.1 CONSIDERATION OF PROPOSALS

In accordance with General Municipal Law, after the proposals are opened and read, they will be compared on the basis the current gross summary in a manner hereafter described for which the work will be performed according to the plans and specifications together with the unit price for each of the separate items as called for. The lowest bid shall be determined by the County on the basis of the gross lump sum for which the entire work will be performed, arrived at by a correct computation of all items specified in the proposal therefore at the unit prices stated in the proposal (if any). If a conflict arises within the bid proposal, then the words will be used for the final tabulation.

The right is reserved to reject any or all proposals, to waive technicalities, to advertise for new proposals, or to proceed to do the work otherwise, if in the judgment of the Commissioner the best interests of the County will be promoted thereby.

### 2.2 CANCELLATION OF AWARD

The County reserves the right to cancel the award of any Contract at any time before the execution of the Contract by all parties without any liability against the County.

### 2.3 RETURN OF PROPOSAL GUARANTY

All proposal guaranties, except those of the three lowest bidders, will be returned immediately following the opening and checking of the proposals. That of the successful bidder will be returned after a satisfactory bond has been furnished and the Contract has been executed. The remaining two guaranties will be returned within ten (10) calendar days following the award of the Contract.

### 2.4 BONDS

The successful bidder shall at the time of the execution of the Contract, furnish a performance bond and a payment bond each in an amount equal to the full amount of the Contract. The purpose of such bonds is to assure the faithful performance of this Contract as well as the payment of all persons performing labor and furnishing materials in connection with this Contract. The form of the bonds and the security shall be acceptable to the County.

Negotiable securities, satisfactory to the County, in an amount equal to that specified for the Contract bond, may be deposited with the County in lieu of such Contract bond and shall be subject to all the conditions of such bond and to such agreements as may be required by the County.



## 2.5 FAILURE TO EXECUTE CONTRACT

Failure of the Contractor to execute the Agreement and file acceptable performance and payment bonds within ten (10) calendar days from the date of the *Notice of Award* (see form on Page D-20) after he/she has received the Contract form shall be just cause for the annulment of the award, and for the forfeiture of the proposal guaranty. The proposal guaranty shall become the property of the County, not as a penalty, but in liquidation of damages sustained. Award may then be made to the next lowest responsible bidder or the work may be re-advertised and constructed under a new Contract or otherwise as the County may decide.

## PART 3 SCOPE OF WORK

### 3.1 RESPONSIBILITY OF THE CONTRACTOR

The Contractor will be held responsible for the execution of a satisfactory and complete piece of work, in accordance with the true intent of the drawings and specifications. He/She shall provide, without extra charge, all incidental items required as a part of his work including layout and survey, even though not particularly specified or indicated. If he/she has good reason for objecting to the use of any material, appliance, or method of construction as shown or specified, then he/she shall report such objections to the Engineer, and if approved by the Engineer, shall obtain proper adjustment before the Contract is made, and then shall proceed with the work with the understanding that a satisfactory job will be required. The Contractor is solely responsible for site safety and adherence to OSHA regulations.

#### General Scope of Work:

The Work includes: cleaning, repairs and painting of existing siding and trim; masonry repointing of precast trim pieces; painting exterior doors; install new FRP door and frame; sealant replacement over entire building; and includes other Work indicated in the Contract Documents.

### 3.2 ONE-CALL NOTIFICATION TRAINING CERTIFICATION

The Contractor certifies that its excavator(s), operator(s), and/or subcontractor(s), if any, have completed the training and education program provided by the One-Call Notification System pursuant to Article 36 of the NYS General Business Law and any other provider authorized by the Public Service Commission to administer such training and education program. The Contractor shall submit certificates of training with its bid.

## PART 4 CONTROL OF WORK

### 4.1 AUTHORITY OF ENGINEER

The Commissioner of Public Works will be represented by the Engineer who will observe the work done under the Contract on a part time basis throughout construction.

The Engineer shall inspect work performed, review materials to be used, and stop and reject work and materials found to be not in accordance with the plans and specifications. His/Her authority shall cover all phases of the work. In the event that questions should arise concerning the interpretation or changes of plans and specifications or to the acceptability of the work, the Contractor shall submit his/her questions, in writing, to the Engineer. These questions shall be forwarded to the Commissioner of Public Works along with the Engineer's recommendations.

The Engineer may place on the job other personnel who shall observe the work as his/her direct representatives. Their authority shall consist of observing the work under the Contract, rejecting any defective material used and temporarily suspending any work improperly performed. They will not have any authority to make changes or alterations in the plans and specifications, nor be permitted to act as foremen for the Contractor.

Any work done or materials used without scheduling suitable observation by the Engineer or his/her authorized representative as noted may be ordered removed and replaced at the Contractor's expense.

### 4.2 SUBSTANTIAL COMPLETION AND FINAL ACCEPTANCE OF WORK

When in the opinion of the Engineer the Contractor has substantially completed the project or a specified area of a project so that the County can occupy or utilize the project for the use it was intended, the Engineer shall recommend to the Commissioner of Public Works to issue a Certificate of Substantial Completion (See form on page D-22).

When in the opinion of the Engineer the Contractor has fully performed the work under the Contract, the Engineer shall recommend to the Commissioner of Public Works the acceptance of the work so completed. If the Commissioner of Public Works accepts the recommendation of the Engineer, then he/she shall notify the Contractor by letter of such acceptance, and copies of such acceptance shall be sent to other interested parties.

### 4.3 GENERAL GUARANTY:

Neither the final certificate of payment nor any provision in the contract documents nor partial or entire occupancy of the premises by the County shall constitute acceptance of work not done in accordance with the contract documents or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship.

The Contractor shall remedy any defects in the work and pay for any damage to other work resulting there from, which shall appear within a period of two (2) years from the date of substantial completion. The County will give notice of observed defects with reasonable promptness.

#### 4.4 CONTRACTOR'S PERSONNEL

The Contractor shall place in charge of the work a competent and reliable English-speaking Superintendent, who shall have the authority to act for the Contractor and who shall be acceptable to the Engineer. This Superintendent must be present at all times during the working day to receive directions and orders given by the Engineer or his/her representatives. All workers must have sufficient skill and experience to properly perform the work assigned to them. Any person employed by the Contractor who the Engineer may deem incompetent or unfit to perform the work shall at once be discharged and shall not again be employed on projects for the County at that specific task.

#### 4.5 COOPERATION WITH UTILITIES

It shall be the Contractor's duty to notify all utility companies or other parties affected within a time frame as not to affect the schedule prior to all necessary adjustment of the public or private utility fixtures and other appurtenances within or adjacent to the limits of construction. The Contractor shall notify the Engineer in writing describing the need for, and extent of, utility adjustments and the anticipated schedule.

It is understood and agreed upon that the Contractor has considered in his/her bid all of the permanent and temporary utility appurtenances in their present or relocated positions as shown on the plans and that no additional compensation will be allowed for any delays, inconveniences, or damage sustained by him due to any interference from the utility appurtenances or the operation of moving them by the utility owners. The Contractor will be responsible for any fees required by the utility owners for temporary locations.

## PART 5 CONTROL OF MATERIALS

### 5.1 CERTIFICATE OF ACCEPTABILITY

All certificates of acceptability of materials required by the specifications shall be supplied by the Contractor at no expense to the County. The Engineer shall have the right to approve of the laboratories or fabricators that will issue the certificates.

The cost of the inspection by the Engineer of any plants not approved by the County shall be borne by the Contractor. This shall include, but not be limited to, plants employed to provide mobile concrete and steel reinforcement.

## PART 6 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

### 6.1 SUBCONTRACTORS, MATERIALMEN AND LABORERS

The Contractor shall furnish the Engineer, before final payment is authorized; an affidavit that all labor and material associated with the work in any way is paid for in full. The Contractor shall indemnify and hold the County and the Engineer harmless from any lien or claim which may be made or filed after such payment by any subcontractor, material man or laborer in connection with work performed hereunder.

### 6.2 RESPONSIBILITY FOR DAMAGE CLAIMS

The Contractor shall indemnify and save harmless Cattaraugus County, its officers, employees and the Engineer, from all suits, actions, or claims of any character brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of the Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims on amounts arising or recovered under the Workers' Compensation Law, or any other law, ordinance, order, or decree; and so much of the money due the Contractor under and by virtue of his/her Contract as shall be considered necessary by the County for such purpose, may be retained for the use of the County; or, in case no money is due, his/her surety may be held until such suit or suits, action or actions, claim or claims for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the County; except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he/she is adequately protected by public liability and property damage insurance.

The Contractor agrees to make no claim for damages for delay in the performance of this contract occasioned by any act or omission to act of the County or the Engineer, or any of its representatives, and the Contractor agrees that any such claim shall be fully compensated for by an extension of time to complete the performance of work as provided herein.

### 6.3 NO WAIVER OF LEGAL RIGHTS

The County shall not be precluded or stopped by a measurement, estimate or certificate made either before or after the completion and acceptance of the work and payment therefore, from showing the true amount and character of the work performed and materials furnished by the Contractor, nor from showing that any such measurement, from recovering from the Contractor or his/her sureties, or both, such damage as it may sustain by reason of his/her failure to comply with the terms of the Contract. Neither the acceptance by the County, or any representative of the County, nor any extension of time, nor any possession taken by the County shall operate as a waiver of any portion of the Contract or of any power herein reserved, or of any right to damages. A waiver of any breach of the Contract shall not be held to be a waiver of any other or subsequent breach.

## 6.4 INSURANCE

The Contractor shall procure and maintain at its own expense and without expense to the County, until final acceptance by the County, of the work covered by the contract, insurance for liability for damages imposed by law, of the kinds and in the amounts hereinafter provided, with insurance companies authorized to do such business in the County covering all operations under the contract whether performed by it or its subcontractors. Within ten (10) days of the Notice to Award and prior to the commencement of any work the Contractor shall furnish to the Cattaraugus County Human Resources a certificate or certificates of insurance in form satisfactory to the Cattaraugus County Human Resources Personnel Officer showing that it has complied with this Section, which certificate or certificates shall provide that the policies shall not be changed or canceled until thirty (30) days written notice has been given to the Cattaraugus County Human Services Department. Failure to supply a satisfactory certificate with ten (10) days after the Notice of Award may result in the cancellation of award and for the forfeiture of the Contractor's bid security, in the sole discretion of the County. The types of insurance are as follows:

- A. Workers' Compensation Insurance. A policy covering the obligations of the Contractor in accordance with the provisions of the Workers' Compensation Law, covering all operations under the contract, whether performed by it or its subcontractor and also under the Disability Benefits Law. The contract, shall be void and of no effect unless the person or corporation making or executing same shall secure compensation and disability benefits coverage for the benefit of, and keep insured during the life of the contract, such employees in compliance with the provisions of the Workers' Compensation Law.
- B. Liability and Property Damage Insurance. Policies following the 1986 Insurance Services Office formats shall be provided. Unless otherwise specifically required by special provision, each policy shall not be amended or contain deductible clauses or coverage exclusions of any nature and shall have limits not less than shown on the sample Certificate of Liability Insurance (Column A – Construction & Maintenance) on page D-15.

For all damages arising during the policy period, shall be furnished in the types (a1.) through (e.) as described below. An umbrella type policy, dedicated to this contract, may be used to meet these limits.

- a1. Contractor's Liability Insurance issued to and covering the liability for damages imposed by law upon the Contractor with respect to all work performed by him under the agreement;
- a2. Contractor's Liability Insurance issued to and covering the liability for damages imposed by law upon EACH SUBCONTRACTOR with respect to all work performed by said subcontractor under the agreement;
- b. Contractor's Protective Liability Insurance issued to and covering the liability for damages imposed by law upon the Contractor with respect to all work under the agreement performed for the Contractor by subcontractors;
- c. Completed Operations' Liability Insurance issued to and covering the liability for damages imposed by law upon the Contractor and each subcontractor arising between the date of final cessation of the work and the date of final acceptance thereof, out of that part of the work performed by each;

- d. Protective Liability Insurance issued to and covering the liability for damages imposed by law upon Cattaraugus County and the Commissioner of Public Works and all employees of the County both officially and personally, any municipality in which the work is being performed, and/or any public benefit corporation, railroad, or public utility whose property or facilities are affected by the work or any consultant inspecting engineer or inspector working for or on the project, and their agents or employees,, with respect to all operations under the agreement by the Contractor or its subcontractors, including omissions and supervisory acts of the State, municipality, public benefit corporation or consultant. Specifically, this includes, but is not necessarily limited to the parties listed below.

Failure to list a firm, organization or municipality, etc. does not eliminate the requirement to provide such coverage.

If the Contractor elects to use the same policy for more than one project, then it must provide with the insurance certificate the Aggregate Limits of Insurance (per project) Endorsement indicating the specific project site and contract number;

- e. Commercial General Liability (Premises, Existence, Hazard) Liability Insurance (formerly called Owner's, Landlord's and Tenant's Liability Insurance) issued to and covering the liability for damages imposed by law upon Cattaraugus County and the Commissioner of Public Works and all employees of the County both officially and personally, any municipality in which the work is being performed, and/or any public benefit corporation, railroad, or public utility whose property or facilities are affected by the work or any consultant inspecting engineer or inspector working for or on the project, and their agents or employees, with respect to temporarily opening any portion of the County construction project under this agreement, until the construction or reconstruction pursuant to the agreement has been accepted by the County. Specifically, this includes, but is not necessarily limited to the parties listed on page D-15 (Column A – Construction & Maintenance).

Failure to list a firm, organization or municipality, etc. does not eliminate the requirement to provide such coverage. This coverage will not be required for contracts involving only turf establishment, landscaping, or traffic signals, which do not involve work on the roadway.

- C. Automobile Liability and Property Damage Insurance. A policy covering the use in connection with the work covered by the Contract Documents of all owned, non-owned and hired vehicles bearing, or, under the circumstances under which they are being used, required by the Motor Vehicle Laws of the State of New York to bear license plates.”

#### List of Additional Insured Parties

County of Cattaraugus, 303 Court Street, Little Valley, NY 14755



## 6.5 LITIGATION

In the event any litigation shall arise from this contract, the laws of the State of New York shall control any litigation, regardless of which party shall institute such action.

**APPENDIX "A"**  
**COUNTY OF CATTARAUGUS STANDARD INSURANCE REQUIREMENTS**

The insurance companies providing these coverages acknowledge that the Named Insured is entering into a contract with the County of Cattaraugus in which the Named Insured agrees to defend, hold harmless, and indemnify the County, its officials, employees, and agents against all claims resulting from work performed, material handled, and services rendered. In some circumstances it will be necessary to require alternate coverage and limits which will be defined in the bid specifications, contract, lease or agreement. The alternate coverage and limits should be evidenced on the certificate in lieu of the standards printed below.

**Minimum Coverage Limits are as Follows:**

	A	C	Ca	D	F	G	Ga
	Construction & Maintenance	Professional	Low Risk Professional	Property Leased to Others or Use of Facilities	Livery	All Purpose Public Entity, Concessionaire	Low Risk All Purpose Public Entity
<b>** COMMERCIAL GENERAL LIABILITY</b>	\$2,000,000 Agg. \$1,000,000 Occ.	\$2,000,000 Agg. \$1,000,000 Occ.	\$1,000,000 Agg. \$ 500,000 Occ.	\$2,000,000 Agg. \$1,000,000 Occ.	\$2,000,000 Agg. \$1,000,000 Occ.	\$2,000,000 Agg. \$1,000,000 Occ.	\$1,000,000 Agg. \$ 500,000 Occ.
Prem. - Ops.	Include	Include	Include	Include	Include	Include	Include
Prods. - Compl. Ops.	Include	Include	Include	Include	Include	Include	Include
Indep. Contractor	Include	Include	Include	Include	Include	Include	Include
Contractual	Include	Include	Include	Include	Include	Include	Include
BF Property Damage	Include			Include			
X,C,U	Include						
Personal Injury	Include	Include	Include	Include	Include	Include	Include
Liquor Law				Include			
Host Liquor				Include			
<b>** AUTO LIABILITY</b>	\$1,000,000 CSL	\$1,000,000 CSL	\$1,000,000 CSL	\$1,000,000 CSL	\$1,000,000 CSL	\$1,000,000 CSL	\$1,000,000 CSL
Owned	Include	Include	Include	Include	Include	Include	Include
Hired	Include	Include	Include	Include	Include	Include	Include
Non-Owned	Include	Include	Include	Include	Include	Include	Include
<b>** EXCESS LIABILITY</b>	\$3,000,000	\$1,000,000		\$1,000,000	\$3,000,000	\$1,000,000	
WORKERS' COMP.	Statutory or Proof of Exemption	Statutory or Proof of Exemption	Statutory or Proof of Exemption	Statutory or Proof of Exemption	Statutory or Proof of Exemption	Statutory or Proof of Exemption	Statutory or Proof of Exemption
EMPLOYER'S LIABILITY	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
<b>*** PROFESSIONAL LIAB.</b>		\$3,000,000 Agg. \$1,000,000 Occ.	\$1,000,000 Agg. \$ 500,000 Occ.				

\* The Comprehensive/Commercial General Liability limits can be met by one or more policies, or in combination with an Excess and/or Umbrella Liability policy. The COI must indicate if the coverage trigger in an 'Occurrence' form or a 'Claims-made' form.

\*\* 'Claims-made' policies shall continue to provide evidence of coverage three (3) years after completion of work or product delivery.

\*\*\* Cattaraugus County MUST be named as Additional Insured for all acts of Named Insured pursuant to this contract.

Professional Liability policies are not required to have the County as Additional Insured

**Each policy, as allowed by law, shall be endorsed stating that the contractor's insurers agree to waive any rights of subrogation against the County of Cattaraugus because of payments for any injury or damages arising out of work performed under this contract.**

## PART 7 PROSECUTION AND PROGRESS

### 7.1 NOTICE TO PROCEED

The "Notice to Proceed" (see form on page D-21) will stipulate the date on which it is expected the Contractor will begin the work. Commencement of work by the Contractor shall be deemed and taken as a waiver of this notice on his part. In no case, however, shall the Contractor begin work prior to the date of the signing of the Contract.

### 7.2 PROSECUTION OF WORK

The Contractor shall start construction operations on the part of the project approved by the Engineer, or set forth in the approved Progress Schedule. The work shall be conducted in such manner and with sufficient materials, equipment, and labor as are considered necessary to insure its completion in accordance with the plans and specifications as interpreted by the Engineer, by the date set forth in the Agreement. Should the prosecution of the work for any reason be discontinued, the Contractor shall notify the Engineer at least 24 hours in advance of resuming operations.

### 7.3 TEMPORARY SUSPENSION OF WORK

The Engineer shall have the authority to suspend the work wholly or in part by written order for such period as he/she may deem necessary due to unsuitable weather, to conditions considered unfavorable for the suitable prosecution of the work, or to carry out orders given or to perform any provisions of the Contract.

### 7.4 DATE OF COMPLETION OF CONTRACT WORK

The Contractor shall perform fully, entirely, and in a satisfactory and acceptable manner the work contracted, by the date stipulated in the Agreement.

In adjusting the Agreement date for the completion of the project, all strikes, lock-outs, unusual delays in transportation, or any condition over which the Contractor has no control, and also any suspensions ordered by the Engineer for causes not the fault of the Contractor, shall be excluded from the computation of the contract time for completion of the work. No allowance will be made for delays or suspensions of the prosecution of the work due to the fault of the Contractor.

### 7.5 TERMINATION OF CONTRACT

If the Contractor is adjudged bankrupt or makes an assignment for the benefit of creditors or a receiver is appointed for the Contractor or any insolvency arrangement proceedings are instituted by or against him, or if the Contractor fails after seven (7) days' notice to supply enough properly skilled workers or proper materials or fails to prosecute the work with such diligence as will insure its completion by the Agreement date or shall in any other respect commit a breach of his/her Agreement and fail to remedy the same within seven (7) days after notice thereof, then the County may, by twenty-four (24) hours written notice, terminate the Contractor's right to proceed with the balance of the work or with any portion thereof and may take possession of the work and complete it by Contract or otherwise. The County may utilize such materials, plant and equipment as may be on the site of the work.

## 7.6 FAILURE TO COMPLETE WORK ON TIME

When the work embraced in the Contract is not completed on or before the date specified therein, engineering and inspection expenses incurred by the County upon the work from the completion date originally fixed in the Agreement to the final date of completion of the work may be charged to the Contractor and be deducted by the County from any payment due the Contractor. Consideration of any extra work or supplemental Contract work added to the original Contract as well as extenuating circumstances beyond the control of the Contractor, will be given due consideration by the County before assessing engineering and inspection charges against the Contractor. The Contractor will be responsible for any delays resulting from causes within the Contractor's control, including inefficient operations, and the Commissioner of Public Works shall be the sole judge of whether such charges shall be assessed against the Contractor.

## 7.7 ASSIGNMENT

Assignment of the contract shall be in accordance with Section 109 of the General Municipal Law as follows:

### **§109. Assignment of public contracts**

1. A clause shall be inserted in all specifications or contracts hereafter made or awarded by any officer, board or agency of a political subdivision, or of any district therein, prohibiting any contractor, to whom any contract shall be let, granted or awarded, as required by law, from assigning, transferring, conveying, subletting or otherwise disposing of the same, or of his/her right, title, or interest therein, or his/her power to execute such contract, to any other person or corporation without the previous consent in writing of the officer, board or agency awarding the contract.
2. If any contractor, to whom any contract is let, granted or awarded, as required by law, by any officer, board or agency of a political subdivision, or of any district therein, shall without the previous written consent specified in subdivision one of this section, assign, transfer, convey, sublet or otherwise dispose of such contract, or his/her right, title, or interest therein, or his/her power to execute such contract, to any other person or corporation, the officer, board or agency which let, made, granted or awarded such contract shall revoke and annul such contract, and the political subdivision or district therein, as the case may be, and such officer, board or agency shall be relieved and discharged from any and all liability and obligations growing out of such contract to such contractor, and to the person or corporation to which such contract shall have been assigned, transferred, conveyed, sublet or otherwise disposed of, and such contractor, and his/her assignees, transferees or sublessees shall forfeit and lose all moneys theretofore earned under such contract, except so much as may be required to pay his/her employees. The provisions of this section shall not hinder, prevent, or affect an assignment by any such contractor for the benefit of his/her creditors made pursuant to the laws of this state.

## PART 8 MEASUREMENT, PAYMENT, AND RECORD KEEPING

### 8.1 PAYMENTS ON CONTRACT

Payments to the Contractor for work satisfactorily completed will be made monthly in the amount of 95% of the work completed. No monthly payment will be rendered for less than 10% of the Contract amount or \$1,000, whichever is less. The payments will be based on the completed percentage of each unit bid as shown in the Itemized schedule.

The attention of persons intending to make proposals is specifically called to the provisions of Section 70 and 71 of the Lien Law in relation to funds being received by a Contractor for a public improvement. These provisions declare that the funds received by the Contractor shall constitute trust funds in the hands of such Contractor to be applied first to the payment of certain claims.

No certificate approving or authorizing the first partial payment, or in the event taxes shall be found due in accordance with this Section after the first payment to the Contractor, then no certificates approving or authorizing any final payment shall be made to a foreign Contractor unless such Contractor furnishes satisfactory proof that all taxes due by such Contractor under the provisions of Articles 9, 9A, 16, and 16A of the Tax Law have been paid. The certificate of the State Tax Commission to the effect that all such taxes have been paid shall be conclusive proof of the payment of such taxes.

The term "Foreign Contractor" as used in the preceding paragraph means in the case of an individual, a person who is a legal resident of another state or foreign country; and in the case of a firm or co-partnership, one having one or more partners who is a legal resident of another State or foreign country and in the case of a corporation, one having its principal place of business in another State or foreign country.

### 8.2 DIFFERING SITE CONDITIONS

The Contractor shall promptly, and before the conditions are disturbed, give a written notice to the Engineer of (1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract, or (2) unknown physical conditions at the site of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract.

The Engineer shall investigate the site conditions promptly after receiving the notice. If the conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performing any part of the work under this contract, whether or not changed as a result of the conditions, then an equitable adjustment shall be made under this clause and the contract modified in writing accordingly.

No request by the Contractor for an equitable adjustment to the contract under this clause shall be allowed, unless the Contractor has given the written notice required; provided, that the time prescribed above for giving written notice may be extended by the Engineer.

### 8.3 RECORD KEEPING

In conformance with Cattaraugus County Local Law 12-2012, the contractor and all its subcontractors will submit the following payroll related information to the County on a biweekly basis. Such information shall include, at a minimum, name of employee, title of employee, time reported for work and time left work for each day.

This information is separate from the certified payrolls required for projects governed by Article 8 of the Labor Law.

## NOTICE OF AWARD

TO: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### PROJECT Description:

#### **Water Heater Replacement - The Pines Healthcare, Olean**

The County has considered the Bid submitted by you for the above-described work in response to its Advertisement for Bid No. 31 opened April 20, 2020.

You are hereby notified that your Bid has been accepted in the amount of \$\_\_\_\_\_.

You are required by the General Provisions to execute the Agreement and furnish the required Contractor's Performance Bond and Payment Bond within ten (10) calendar days from the date of this Notice of Award.

If you fail to execute such Agreement and to furnish the Bonds within the ten (10) days from the date of this Notice, then the County will be entitled to consider all your rights arising out of Cattaraugus County's acceptance of your Bid as abandoned and as a forfeiture of your Bid Bond. Cattaraugus County will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this Notice of Award to Cattaraugus County.

Dated this\_\_ day of \_\_\_\_\_ in the year 2020.

OWNER: Cattaraugus County

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

TITLE: Director of Engineering, Department of Public Works

### ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged by

\_\_\_\_\_

Dated this \_\_\_\_\_ day of \_\_\_\_\_ in the year \_\_\_\_\_.

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

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

**NOTICE TO PROCEED**

DATE: \_\_\_\_\_

**PROJECT: Water Heater Replacement - The Pines Healthcare, Olean**

TO: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

You are hereby notified to commence work in accordance with the Agreement dated \_\_\_\_\_, on or before \_\_\_\_\_. All work shall be completed on or before \_\_\_\_\_ and final payment shall be submitted within 45 calendar days of completion of work.

You are required to return an acknowledged copy of this Notice of Proceed to Cattaraugus County

CATTARAUGUS COUNTY

Owner

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

Title: Director of Engineering, Department of Public Works

**ACCEPTANCE OF THIS NOTICE**

Receipt of the above Notice to Proceed is hereby acknowledged by

\_\_\_\_\_

Dated this \_\_\_\_\_ day of \_\_\_\_\_ in the year \_\_\_\_\_.

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

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



# CERTIFICATE OF SUBSTANTIAL COMPLETION

**DATE:**

**PROJECT: Water Heater Replacement - The Pines Healthcare, Olean**

TO: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The performed under this contract has been inspected by authorized representatives of the County, Contractor and Engineer and the Project was found to be substantially completed in accordance with the contract documents.

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## DEFINITION OF SUBSTANTIAL COMPLETION

The date of substantial completion of a project or a specified area of a project is the date when the construction is sufficiently completed, in accordance with the contract documents, as modified by any change orders agreed to by the parties, so that the County can occupy or utilize the project or specified area of the project for the use it was intended.

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A tentative list of items to be completed or corrected is attached hereto. This list may not be exhaustive, and the failure to include an item on it does not alter the responsibility of the Contractor to complete all the work in accordance with the contract documents

\_\_\_\_\_  
Engineer

By \_\_\_\_\_  
Authorized Representative

Date \_\_\_\_\_

The Contractor accepts the above Certificate of Substantial Completion and agrees to complete and correct the items on the tentative list with the time indicated.

\_\_\_\_\_  
Contractor

By \_\_\_\_\_  
Authorized Representative

Date \_\_\_\_\_

The County Accepts the project or specified area of the project as substantially complete and will assume full possession of the project or specified are of the project at \_\_\_\_\_(time), on \_\_\_\_\_(date).

Cattaraugus County

By\_\_ Authorized Representative

Date \_\_\_\_\_

## **SECTION E**

### **DEPARTMENT OF LABOR CONTRACT REQUIREMENTS AND PREVAILING WAGE RATE SCHEDULES**

Labor classifications not appearing on the following rate sheets can be used only with the consent of the Commissioner of Public Works and then the rate to be paid will be given by the Commissioner of Public Works after advising with the State Department of Labor.

All requests for minimum wage rates for additional occupations shall be directed through the County.

The bidder shall take into account in his/her bid all changes in wage rates and supplements that may be forthcoming during the time the contract is in force.

The Contractor in the execution of the work under the contract in accordance with the provisions of the specifications and the special provisions to the specifications may submit job orders to and may also request the referral of lists of qualified applicants for the work of the NEW YORK STATE EMPLOYMENT SERVICE.

# PREVAILING WAGE SCHEDULE

## FOR ARTICLE 8 PUBLIC WORK PROJECT

**Location:** Cattaraugus County

**Project Type:** Water Heater Replacement - The Pines Healthcare, Olean

**PRC#:** 2020003778

**Effective dates of schedule provided by NYS DOL:** July 2019 through June 2020.

A unique Prevailing Wage Case Number (PRC#) has been assigned to the schedule(s) for this project.

The current schedule(s) of the prevailing rates and prevailing hourly supplements for the project referenced above may be accessed at the New York State Department of Labor website @ <http://wpp.labor.state.ny.us/wpp/showFindProject.do?method=showIt>. Updated PDF copies of your schedule can be accessed by entering the assigned PRC# at the proper location on the website.

For policy or rate questions call the NYS Department of Labor in Buffalo at (716) 847-7159. If you do not have internet access, you may contact the Cattaraugus County DPW, **Dawn Smith** at (716) 938-2465 to request a copy of the prevailing rate schedule provided for this project.

# CATTARAUGUS COUNTY

## DEPARTMENT OF PUBLIC WORKS

*Development – Progress – Workmanship*

*Kathleen M. Ellis, Commissioner*

*Devin M. Blue, Deputy Commissioner*

*Mark C. Burr, PE, Director of Engineering*



*8810 Route 242, Jack Ellis Drive*

*Little Valley, New York 14755*

*Phone (716) 938 9121 | Fax (716) 938 2754*

**PROJECT TITLE: Water Heater Replacement – The Pines Healthcare, Olean, NY 14160**

### **AFFIDAVIT OF COMPLIANCE AND RECEIPT OF PREVAILING WAGE SCHEDULE**

The Contractor named below certifies receipt of Prevailing Wage Rate Schedule and is in compliance with all labor laws and regulations of the State of New York and the United States of America including the following:

1) **PREVAILING WAGE RATE:**

The contractor agrees to comply with the schedule of wages applicable to the performance of the said contract and the statutory requirements and rules of the State of New York. The Contractor named below certifies that they have received the Prevailing Wage Rate Schedule **PRC# 2020003778**.

2) **SOCIAL SECURITY TAXES:**

The contractor promises and agrees to pay the taxes measured by the wages of their employees required by the Federal Social Security Act and all amendments thereto, and to accept the exclusive liability for said taxes.

\_\_\_\_\_  
Company

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

\_\_\_\_\_  
Signature Date

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

Subscribed and Sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_ 20 \_\_\_\_

By \_\_\_\_\_

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



Andrew M. Cuomo, Governor

Roberta Reardon, Commissioner

Cattaraugus County DPW  
Dawn Smith, Procurement Specialist  
8810 Route 242  
Little Valley NY 14755

Schedule Year 2019 through 2020  
Date Requested 03/26/2020  
PRC# 2020003778

Location Pines Healthcare & Rehab Ctr  
Project ID# PinesOleanBoiler  
Project Type Asbestos Abatement, Demo of Existing Hot Water Boiler and existing piping. Install 4 new domestic hot water boilers, piping, insulation and associated appurtenances.

### 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](http://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 ["Request for a dispensation to work overtime" form \(PW30\)](#) and ["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](http://www.labor.ny.gov).

Upon receiving the original schedule, the Department of Jurisdiction (Contracting Agency) is REQUIRED to provide complete copies to all prime contractors who in turn MUST, by law, provide copies of all applicable county schedules to each subcontractor and obtain from each subcontractor, an affidavit certifying such schedules were received. If the original schedule expired, the contractor may obtain a copy of the new annual determination from the NYSDOL website [www.labor.ny.gov](http://www.labor.ny.gov).

The Commissioner of Labor makes an annual determination of the prevailing rates. This determination is in effect from July 1st through June 30th of the following year. The annual determination is available on the NYSDOL website [www.labor.ny.gov](http://www.labor.ny.gov).

## Payrolls and Payroll Records

Every contractor and subcontractor MUST keep original payrolls or transcripts subscribed and affirmed as true under penalty of perjury. As per Article 6 of the Labor law, contractors and subcontractors are required to establish, maintain, and preserve for not less than six (6) years, contemporaneous, true, and accurate payroll records. 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, by 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.

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

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

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

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

## **Interest and Penalties**

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

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

## **Debarment**

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

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

## **Criminal Sanctions**

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

## **Discrimination**

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

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

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

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

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

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

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

### **Workers' Compensation**

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

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

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

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

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

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

### **Unemployment Insurance**

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



Andrew M. Cuomo, Governor

Roberta Reardon, Commissioner

Cattaraugus County DPW

Dawn Smith, Procurement Specialist  
8810 Route 242  
Little Valley NY 14755

Schedule Year 2019 through 2020  
Date Requested 03/26/2020  
PRC# 2020003778

Location Pines Healthcare & Rehab Ctr  
Project ID# PinesOleanBoiler  
Project Type Asbestos Abatement, Demo of Existing Hot Water Boiler and existing piping. Install 4 new domestic hot water boilers, piping, insulation and associated appurtenances.

### 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



### **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' concern regarding 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. This change does not affect the Department's ability to request and receive the entire social security number from employers during its public work/ prevailing wage investigations.

### **Construction Industry Fair Play Act: Required Posting for Labor Law Article 25-B § 861-d**

Construction industry employers must post the "Construction Industry Fair Play Act" notice in a prominent and accessible place on the job site. Failure to post the notice can result in penalties of up to \$1,500 for a first offense and up to \$5,000 for a second offense. The posting is included as part of this wage schedule. Additional copies may be obtained from the NYS DOL website, [www.labor.ny.gov](http://www.labor.ny.gov). <https://labor.ny.gov/formsdocs/ui/IA999.pdf>

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.ny.gov](mailto:dol.misclassified@labor.ny.gov) .

### **Worker Notification: (Labor Law §220, paragraph a of subdivision 3-a)**

This provision is an addition to the existing 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 job classification. The required notification will be provided with each wage schedule, may be downloaded from our website [www.labor.ny.gov](http://www.labor.ny.gov) or be made available upon request by contacting the Bureau of Public Work at 518-457-5589. \*In the event the required information will not fit on the pay stub, an accompanying sheet or attachment of the information will suffice.

(05.19)

**To all State Departments, Agency Heads and Public Benefit Corporations  
IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND**

## **Budget Policy & Reporting Manual**

# **B-610**

### **Public Work Enforcement Fund**

*effective date December 7, 2005*

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#### **1. Purpose and Scope:**

This Item describes the Public Work Enforcement Fund (the Fund, PWEF) and its relevance to State agencies and public benefit corporations engaged in construction or reconstruction contracts, maintenance and repair, and announces the recently-enacted increase to the percentage of the dollar value of such contracts that must be deposited into the Fund. This item also describes the roles of the following entities with respect to the Fund:

- New York State Department of Labor (DOL),
- The Office of the State of Comptroller (OSC), and
- State agencies and public benefit corporations.

#### **2. Background and Statutory References:**

DOL uses the Fund to enforce the State's Labor Law as it relates to contracts for construction or reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law. State agencies and public benefit corporations participating in such contracts are required to make payments to the Fund.

Chapter 511 of the Laws of 1995 (as amended by Chapter 513 of the Laws of 1997, Chapter 655 of the Laws of 1999, Chapter 376 of the Laws of 2003 and Chapter 407 of the Laws of 2005) established the Fund.

#### **3. Procedures and Agency Responsibilities:**

The Fund is supported by transfers and deposits based on the value of contracts for construction and reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law, into which all State agencies and public benefit corporations enter.

Chapter 407 of the Laws of 2005 increased the amount required to be provided to this fund to .10 of one-percent of the total cost of each such contract, to be calculated at the time agencies or public benefit corporations enter into a new contract or if a contract is amended. The provisions of this bill became effective August 2, 2005.

**To all State Departments, Agency Heads and Public Benefit Corporations  
IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND**

OSC will report to DOL on all construction-related ("D") contracts approved during the month, including contract amendments, and then DOL will bill agencies the appropriate assessment monthly. An agency may then make a determination if any of the billed contracts are exempt and so note on the bill submitted back to DOL. For any instance where an agency is unsure if a contract is or is not exempt, they can call the Bureau of Public Work at the number noted below for a determination. Payment by check or journal voucher is due to DOL within thirty days from the date of the billing. DOL will verify the amounts and forward them to OSC for processing.

For those contracts which are not approved or administered by the Comptroller, monthly reports and payments for deposit into the Public Work Enforcement Fund must be provided to the Administrative Finance Bureau at the DOL within 30 days of the end of each month or on a payment schedule mutually agreed upon with DOL.

Reports should contain the following information:

- Name and billing address of State agency or public benefit corporation;
- State agency or public benefit corporation contact and phone number;
- Name and address of contractor receiving the award;
- Contract number and effective dates;
- Contract amount and PWEF assessment charge (if contract amount has been amended, reflect increase or decrease to original contract and the adjustment in the PWEF charge); and
- Brief description of the work to be performed under each contract.

Checks and Journal Vouchers, payable to the "New York State Department of Labor" should be sent to:

Department of Labor  
Administrative Finance Bureau-PWEF Unit  
Building 12, Room 464  
State Office Campus  
Albany, NY 12240

Any questions regarding billing should be directed to NYSDOL's Administrative Finance Bureau-PWEF Unit at (518) 457-3624 and any questions regarding Public Work Contracts should be directed to the Bureau of Public Work at (518) 457-5589.





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](mailto:dol.misclassified@labor.ny.gov). All complaints of fraud and violations are taken seriously. You can remain anonymous.**

**Employer Name:**

IA 999 (09/16)



# 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](http://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](http://www.comptroller.nyc.gov) – click on Bureau of Labor Law.

Contractor Name: \_\_\_\_\_

Project Location: \_\_\_\_\_



## Requirements for OSHA 10 Compliance

Article 8 §220-h requires that when the advertised specifications, for every contract for public work, is \$250,000.00 or more the contract 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 or 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 518-457-5589.

## WICKS

Public work projects are subject to the Wicks Law requiring separate specifications and bidding for the plumbing, heating and electrical work, when the total project's threshold is \$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 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 the 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.

Contractors must pay subcontractors within a 7 days period.

(07.19)

## 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](http://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

**Cattaraugus County General Construction**

**Boilermaker** **03/01/2020**

**JOB DESCRIPTION** Boilermaker **DISTRICT 12**

**ENTIRE COUNTIES**  
 Allegany, Cattaraugus, Chautauqua, Chemung, Erie, Genesee, Livingston, Monroe, Niagara, Ontario, Orleans, Schuyler, Steuben, Wayne, Wyoming, Yates

**WAGES**

Per hours:	07/01/2019	01/01/2020
		Additional
Boilermaker	\$ 34.10	\$ 1.25

The wage rate will be 90% of the above for Maintenance work on boilers less than 100,000 pph.

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

**SUPPLEMENTAL BENEFITS**

Per hour: \$ 30.15\*

\*NOTE: \$28.91 of this amount is for every Hour "Paid"

**OVERTIME PAY**

See (B, E, Q) on OVERTIME PAGE

**HOLIDAY**

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

**REGISTERED APPRENTICES**

1st Term at 12 Months  
 Terms 3-8 at 6 Months

Per Hour:

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

Supplemental Benefits per hour:

1st to 6th	\$ 29.15**
7th to 8th	\$30.15***

\*\*NOTE: \$27.91 of this amount is for every Hour "Paid"

\*\*\*NOTE: \$28.91 of this amount is for every Hour "Paid"

12-7

**Carpenter - Building** **03/01/2020**

**JOB DESCRIPTION** Carpenter - Building **DISTRICT 12**

**ENTIRE COUNTIES**

Chautauqua

**PARTIAL COUNTIES**

Allegany: Entire county except the Township of Alfred.  
 Cattaraugus: Entire county except the Township of Perrysburg and the Village of Gowanda.

**WAGES**

Per hour:	07/01/2019
Carpenter	\$ 27.10
Floorlayer	27.10
Certified Welder	28.10
Hazardous Waste Worker	28.60
Diver-Dry Day	28.10
Dive Tender	28.10
Diver-Wet Day**	61.25



Hazardous Waste Worker: Hazardous sites requiring personal protective equipment.

\*\* Diver rate applies to all hours worked on the day of dive.

Depth pay for divers:	0' to 80'	no additional fee
	81' to 100'	additional \$0.50 per foot
	101' to 150'	additional \$0.75 per foot
	151' and deeper	additional \$1.25 per foot
Penetration pay:	0' to 50'	no additional fee
	51' to 100'	additional \$0.75 per foot
	101' and deeper	additional \$1.00 per foot

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work Schedule,' as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

**SUPPLEMENTAL BENEFITS**

Per hour worked:

Carpenter(s)	\$ 19.45
Diver Wet	19.45
Diver Dry & Tender	19.45

**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:

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

Indentured Prior to 1/1/2016

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

Indentured After 01/01/2016

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

Supplemental benefits per hour worked:

1st	2nd	3rd	4th	5th
\$11.69	\$11.69	\$14.29	\$14.29	\$14.29

12-276B-All

**Carpenter - Building**

**03/01/2020**

**JOB DESCRIPTION** Carpenter - Building

**DISTRICT** 12

**ENTIRE COUNTIES**

Erie

**PARTIAL COUNTIES**

Cattaraugus: Townships of Persia and Perrysburg

**WAGES**

Per hour: 07/01/2019

Building:

Carpenter	\$ 32.40
FloorLayer	32.40
Certified Welder	33.40
Hazardous Waste Worker	33.90
Diver-Dry Day	33.40
Diver Tender	33.40
Diver-Wet Day***	61.25

Hazardous Waste Worker: Hazardous sites requiring personal protective equipment.

\*\*\* Diver rate applies to all hours worked on the day of dive.

Depth pay for divers:	0' to 80'	no additional fee
	81' to 100'	additional \$0.50 per foot
	101' to 150'	additional \$0.75 per foot
	151' and deeper	additional \$1.25 per foot
Penetration pay:	0' to 50'	no additional fee
	51' to 100'	additional \$0.75 per foot
	101' and deeper	additional \$1.00 per foot

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work schedule' as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

**SUPPLEMENTAL BENEFITS**

Per hour worked:

Carpenter(s)	\$ 28.18
Diver(s)	28.18

**OVERTIME PAY**

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

**HOLIDAY**

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

**REGISTERED APPRENTICES**

Wages per hour:

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

Indentured Prior to 01/01/2016

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

Indentured After 01/01/2016

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

Supplemental Benefits per hour worked:

1st	2nd	3rd	4th	5th
\$11.75	\$11.75	\$14.35	\$14.35	\$14.35

12-276B-Cat

**Carpenter - Building / Heavy&Highway**

**03/01/2020**

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

**SUPPLEMENTAL BENEFITS**

Per hour:

Journeyman	\$ 23.10
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**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**

**03/01/2020**

**JOB DESCRIPTION** Carpenter - Heavy&Highway

**DISTRICT** 12

**ENTIRE COUNTIES**

Allegany, Cattaraugus, Chautauqua

**WAGES**

Per hour: 07/01/2019

Carpenter	\$ 31.23
Certified Welder	32.73
Diver-Dry Day	32.23
Diver-Wet Day**	56.23
Dive Tender	32.23
Hazardous Waste Worker	33.23
Pile Driver	35.11
Millwright	33.38
Effluent & Slurry Diver-Dry Day	48.35
Effluent & Slurry Diver-Wet Day	84.35

Hazardous Waste Worker: Hazardous sites requiring personal protective equipment.

\*\* Diver rate applies to all hours worked on the day of the dive.

Depth pay for divers:	0' to 50'	no additional fee
	51' to 100'	additional \$0.50 per foot
	101' to 150'	additional \$0.75 per foot
	151' to 200'	additional \$1.25 per foot
Penetration pay:	0' to 50'	no additional fee
	51' to 100'	additional \$0.75 per foot
	101' to deeper	additional \$1.00 per foot

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

**SUPPLEMENTAL BENEFITS**

Per hour worked:

Carpenter(s)	\$ 23.10
Diver Wet	24.44
Diver Dry & Tender	24.44
Pile Driver	25.05

**OVERTIME PAY**

See (B, E, Q) on OVERTIME PAGE

**HOLIDAY**

Paid: See (2, 17) on HOLIDAY PAGE  
 Overtime: See (5, 6) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Wages per hour:

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

Indentured Prior to 01/01/2016

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

Indentured After 01/01/2016

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

Supplemental benefits per hour worked:

1st	2nd	3rd	4th	5th
\$11.55	\$11.55	\$14.15	\$14.15	\$14.15

12-276HH-All

**Electrician**

**03/01/2020**

**JOB DESCRIPTION** Electrician

**DISTRICT 3**

**ENTIRE COUNTIES**

Erie

**PARTIAL COUNTIES**

Cattaraugus: Only the Townships of Ashford, East Otto, Ellicottville, Farmersville, Freedom, Franklinville, Lyndon, Machias, Mansfield, New Albion, Otto, Perrysburg, Persia and Yorkshire.

Genesee: Only the Townships of Alabama, Alexander, Darien, Oakfield, Pembroke and that portion of the Towns of Batavia and Elba that are west of Little Tonawanda Creek; Tonawanda Creek; the City limits of Batavia (in effect prior to Feb. 1, 1970) and State Highway 98 north of the City of Batavia, then north on Highway 98 to the Orleans County line.

Wyoming: Only the Townships of Arcade, Attica, Bennington, Eagle, Java, Orangeville, Sheldon and Wethersfield.

**WAGES**

Per hour:	07/01/2019	06/01/2020
		Additional
Electrician*	\$ 35.64	\$1.80

\* Includes teledata work

When shift work is mandated either in the job specification or by the contracting agency the following premiums apply:

17.3% for work from 4:30PM - 1:00AM

31.4% for work from 12:30AM - 9:00AM

Additional \$0.50/hr in shafts over 25 ft. deep and in underground tunnels over 75 ft. long.

Additional \$0.75/hr for work on toothpicks, structural steel, temporary platforms, swinging scaffolds, boatswain chairs, smoke stacks or water towers 30 ft above the floor or for work on rolling scaffolds and ladders over 50 ft.

Additional \$1.50/hr for Cable Splicers on such work as lead, and shielded cable and splices or terminations on cable 5KV and above.

Additional \$1.00/hr for Hot work (Atomic plants).

Additional \$2.00/hr for work on radio, TV, light towers and floating platforms or climbing ladders in excess of 100 ft. high.

**SUPPLEMENTAL BENEFITS**

Per hour:

\$ 28.10\*

\* NOTE - add 3% of the posted straight time or applicable premium wage rate.

**OVERTIME PAY**

See (B, E, Q) on OVERTIME PAGE

**HOLIDAY**

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

**REGISTERED APPRENTICES**

Wages per hour:

Hour terms at the following wages:

0 to 1000 to 2000 to 3500 to 5000 to 6500 to 8000  
 \$ 13.20 \$ 14.25 \$ 16.05 \$ 19.60 \$ 24.95 \$ 28.50

Supplemental benefits per hour:

0 to 2000 to 6500 to 8200  
 \$ 12.51\* \$ 22.75\* \$ 28.10\*

\* NOTE - add 3% of the posted straight time or applicable premium wage rate.

3-41

**Electrician**

**03/01/2020**

**JOB DESCRIPTION** Electrician

**DISTRICT 3**

**ENTIRE COUNTIES**

Chautauqua

**PARTIAL COUNTIES**

Allegany: Only the Townships of Alma, Bolivar, Centerville, Clarksville, Cuba, Friendship, Genesee, New Hudson, Rushford, Wirt and that portion of the Townships of Amity, Angelica, Belfast, Caneadea and Scio that are west of the Genesee River.  
 Cattaraugus: Only the Townships of Allegany, Carrollton, Cold Spring, Conewango, Dayton, Great Valley, Hinsdale, Humphrey, Ischua, Leon, Little Valley, Napoli, Olean, Portville, Red House, Randolph, Salamanca and South Valley.

**WAGES**

Per hour:	07/01/2019	01/01/2020 Additional	01/01/2021 Additional
Electrician*	\$ 36.51	\$ 1.70	\$ 1.90

\* Includes teledata work.

When shift work is mandated either in the job specification or by the contracting agency the following premiums apply:

17.3% for work from 4:30PM - 1:00AM

31.4% for work from 12:30AM - 9:00AM

Additional 15% above wage for work 40' above floor, or in underground mines or tunnels or from suspension-type personnel lift equipment.

**SUPPLEMENTAL BENEFITS**

Per hour:

\$ 22.41\*

NOTE - add 3% of the posted straight time or applicable premium wage rate.

\* NOTE - \$10.72 of this amount is paid at straight time, the remaining balance of \$11.69 is paid at the same premium as the wages.

**OVERTIME PAY**

See (B, \*E, Q) on OVERTIME PAGE

\* Double-time for all work on Saturday in excess of 10 hours.

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Wages per hour:

Hour terms at the following percentage of Journeyman's wage:

0 to 1000	1001 to 2000	2001 to 2750	2751 to 3500	3501 to 4250	4251 to 5000	5001 to 5750	5751 to 6600	6601 to 7350	7351 to 8200
40%	45%	55%	60%	65%	70%	75%	80%	85%	90%

Supplemental benefits per hour:

07/01/2018

\$ 8.27	\$ 8.27	\$ 14.89*	\$ 15.27*	\$ 18.32*	\$ 18.90*	\$ 19.49*	\$ 20.07*	\$ 20.66*	\$ 21.24*
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NOTE - add 3% of the posted straight time or applicable premium wage rate to all terms.

\* Note - \$10.72 of this amount is paid at straight time, the remaining balance is paid at the same premium as the wages.

3-106

**Elevator Constructor**

**03/01/2020**

**JOB DESCRIPTION** Elevator Constructor

**DISTRICT 3**

**ENTIRE COUNTIES**

Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming

**WAGES**

Per hour:	07/01/2019
Elevator Constructor	\$ 49.81
Helper	34.87

**\*\* IMPORTANT NOTICE - EFFECTIVE 04/01/2009 \*\***

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

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

**SUPPLEMENTAL BENEFITS**

Per hour:	\$ 33.71
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Note - add 6% of regular hourly rate for all hours worked.

**OVERTIME PAY**

See (D, O) on OVERTIME PAGE

**HOLIDAY**

Paid:	See (5, 6, 15, 16) on HOLIDAY PAGE
Overtime:	See (5, 6, 15, 16) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Wages per hour:

One year (1,700 hour each) terms at the following percentage of Journeyman's wage:

1st*	2nd	3rd	4th
55%	65%	70%	80%

Supplemental benefits per hour:

\$ 33.71

\* Note - 0-6 months of the 1st year term is paid at 50% of Journeyman's wage with no Supplemental benefits.

Note - add 6% of regular hourly rate for all hours worked.

3-14

**Glazier**

**03/01/2020**

**JOB DESCRIPTION** Glazier

**DISTRICT 3**

**ENTIRE COUNTIES**

Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming

**WAGES**

Per hour:	07/01/2019	05/01/2020	05/01/2021
		Additional	Additional
Glazier	\$ 27.12	\$ 1.20	\$ 1.20
Working off Suspended			
Scaffold (Swing Stage)	28.12	1.20	1.20
Maintenance	16.94*	0.85	0.90

\* Note - This rate to be used only for all repair and replacement work such as glass breakage, glass replacement, door repair and board ups.

**\*\* IMPORTANT NOTICE \*\***

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

**SUPPLEMENTAL BENEFITS**

Per hour:	
Journeymen Glazier	\$ 22.50
Maintenance	14.20

**OVERTIME PAY**

See (B, E2, F, R) on OVERTIME PAGE

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE for Glazier and Glazier Apprentices.  
 Paid: See (5, 6) on HOLIDAY PAGE for Maintenance  
 Overtime: See (5, 6) on HOLIDAY PAGE.

**REGISTERED APPRENTICES**

Wages per hour:

Glazier: 1000 hour terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th	5th	6th	7th	8th
50%	55%	60%	65%	70%	75%	80%	90%

Supplemental benefits per hour:

1st & 2nd terms	\$ 7.95
3rd & 4th terms	8.80
All other terms	10.20

3-660

**Insulator - Heat & Frost**

**03/01/2020**

**JOB DESCRIPTION** Insulator - Heat & Frost

**DISTRICT 3**

**ENTIRE COUNTIES**

Allegany, Cattaraugus, Chautauqua, Erie, Niagara, Wyoming

**PARTIAL COUNTIES**

Genesee: Only the Townships of Alabama, Alexander, Darien, Oakfield and Pembroke.

**WAGES**

Per Hour: 07/01/2019  
 Heat & Frost Insulator \$ 33.70

**SUPPLEMENTAL BENEFITS**

Per hour: \$ 23.89

**OVERTIME PAY**

See (B, \*E, \*\*Q) on OVERTIME PAGE  
 \* Note - Double time after 10 hours on Saturday.  
 \*\* Note - Triple time on Labor Day if WORKED.

**HOLIDAY**

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

**REGISTERED APPRENTICES**

Wages per hour:

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

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

Supplemental Benefits per hour:

1st and 2nd	\$ 18.99
All other terms	\$ 23.89

3-4

**Ironworker**

**03/01/2020**

**JOB DESCRIPTION** Ironworker

**DISTRICT 3**

**ENTIRE COUNTIES**

Cattaraugus, Chautauqua

**PARTIAL COUNTIES**

Allegany: Entire county except the Towns of Birdsall, Burns and Grove.  
 Erie: All except the Town of Grand Island north of Whitehaven Road.  
 Genesee: Only the Townships of Alabama, Alexander, Darien and Pembroke  
 Steuben: Only the Townships of Canisteo, Freemont, Greenwood, Hartsville, Hornell, Hornellsville, Howard, Jasper, Troupsburg and West Union  
 Wyoming: Only the Townships of Arcade, Attica, Bennington, Eagle, Gainsville, Java, Orangeville, Pike, Sheldon, Warsaw and Wethersfield.

**WAGES**

Per hour:	07/01/2019	07/01/2020 Additional	07/01/2021 Additional
Structural	\$ 31.10	\$ 1.25	\$ 1.25
Ornamental	31.10	1.25	1.25
Layout	31.10	1.25	1.25
Rodmen	31.10	1.25	1.25
Reinforcing	31.10	1.25	1.25
Welders	31.10	1.25	1.25
Riggers & Mach. Movers	31.10	1.25	1.25
Curtain Wall Erector	31.10	1.25	1.25
Window Erector	28.75	1.25	1.25
Fence Erector	29.67	1.25	1.25

**SUPPLEMENTAL BENEFITS**

Per hour:

Fence erectors	\$ 27.15
All others	28.65

**OVERTIME PAY**

See (B, E, Q) on OVERTIME PAGE

**HOLIDAY**

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

**REGISTERED APPRENTICES**

Wages per hour:

One year terms at the following wage:

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

Supplemental benefits per hour:

1st	2nd	3rd	4th
\$ 12.08	\$ 21.66	\$ 23.02	\$ 24.39

3-6

**Laborer - Building**

**03/01/2020**

**JOB DESCRIPTION** Laborer - Building

**DISTRICT 3**

**ENTIRE COUNTIES**

Allegany, Chautauqua

**PARTIAL COUNTIES**

Cattaraugus: Entire county except the Town of Perrysburg and the Village of Gowanda.

**WAGES**

Per hour:	07/01/2019	07/01/2020 Additional	07/01/2021 Additional
Basic and Flagman	\$ 24.27	\$ 1.00	\$ 1.10
Blaster, Nozzelman, Curb	25.27	1.00	1.10
and Flatwork Formsetter not	25.27	1.00	1.10
on structures, Pipelayer	25.27	1.00	1.10
Work 40 ft. and up	24.42	1.00	1.10
Hazardous Waste	25.77	1.00	1.10
Deleader & Asbestos Removal	26.27	1.00	1.10
OSHA Level C or	26.27	1.00	1.10
greater protective suit or	26.27	1.00	1.10
any anti-contamination	26.27	1.00	1.10
clothing is required	26.27	1.00	1.10
With supplied air respirator	27.27	1.00	1.10

**\*\* 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. Saturday may be used as a make-up day at time and one half of the hourly rate.



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: \$ 17.27

**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:

1000 hour terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th
70%	80%	85%	90%

Supplemental benefits per hour:

\$ 17.27

3-621b

**Laborer - Building** **03/01/2020**

**JOB DESCRIPTION** Laborer - Building

**DISTRICT** 3

**ENTIRE COUNTIES**

Erie

**PARTIAL COUNTIES**

Cattaraugus: Only the Townships of Perrysburg and the Village Gowanda.

**WAGES**

CLASS A: Basic, Safety Man, Flagman, Tool Room Man, Nurseryman, Demolition Worker, Top Man, Wrecker, IBC Barriers Except on Structures, Guard Rail, Asphalt Shovelers, Foundation Laborer over 8' in Depth, Hod Carriers, Plaster Tender, Plaster Scaffold Builder, Pneumatic Gas, Electric Tool Operator including all forms of Busters, Jackhammers and Chipping Guns, Steel Burners.

CLASS B: Mortar Mixer, Asphalt Smoothers, Pneumatic Gas, Electric Tool Operator including all forms of Busters, Jackhammers and Chipping Guns over 8' in depth.

CLASS C: Worker on any Swing Scaffold, Blaster, Plumbing Laborer, Wagon Drill Operator, Bottomman (caisson or cofferdam), Laser Setter, Asphalt Rakers, Asphalt Screed Man.

CLASS D: Stone Cutter, Curb Setter and Flag Layer.

CLASS E: Wearing of replaceable cartridge respirator.

CLASS F: Asbestos Removal, Deleader.

CLASS G: Hazardous Waste Worker.

Per hour:	07/01/2019	07/01/2020
Building Laborer:		Additional
CLASS A	\$ 27.88	\$ 1.75
CLASS B	28.05	1.75
CLASS C	28.16	1.75
CLASS D	28.63	1.75
CLASS E	28.88	1.75
CLASS F	29.38	1.75
CLASS G	29.88	1.75

**SUPPLEMENTAL BENEFITS**

Per hour: \$ 25.90

**OVERTIME PAY**

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

**HOLIDAY**

Paid: See (22) on HOLIDAY PAGE  
 Overtime: See (5, 6) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Wages per hour:

Hour terms at the following percentage of Journeyman's wage:

0 to 500 to 1000 to 1500 to 2000 to 2500 to 3000 to 4000  
 55% 60% 65% 70% 75% 80% 90%

Supplemental benefits per hour:

\$ 25.90

3-210b

**Laborer - Heavy&Highway**

**03/01/2020**

**JOB DESCRIPTION** Laborer - Heavy&Highway

**DISTRICT 3**

**ENTIRE COUNTIES**

Allegany, Cattaraugus

**PARTIAL COUNTIES**

Chautauqua: Only the Townships of Busti, Carroll, Chautauqua, Clymer, Ellery, Ellicott, Ellington, French Creek, Gerry, Harmony, Kiantone, Mina, North Harmony, Poland, Sherman, Stockton and the City of Jamestown.

**WAGES**

GROUP A: Basic, Drill Helper, Flagman, Outboard and Hand Boats. Chain Saw, Concrete Aggregate Bin, Concrete Bootmen, Gin Buggy, Hand or Machine Vibrator, Jack Hammer, Mason Tender, Mortar Mixer, Pavement Breaker, Handlers of Steel Mesh, Small Generators for Laborers' Tools, Pipe Layers, Vibrator Type Rollers, Tamper, Drill Doctor, Water Pump Operator (2" and Single Diaphragm), Nozzle (Asphalt, Guniting, Seeding, and Sand Blasting), Laborers on Chain Link Fence Erection, Rock Splitter and Power Unit, Pusher Type Concrete Saw and all other Gas, Electric, Oil and Air Tool Operators, Wrecking Laborer, Grade Checker.

GROUP B: All Rock or Drilling Machine Operators (Except Quarry Master and Similar Type), Acetylene Torch Operators and Powderman. Blasters, Curb and Flatwork Formsetters not on structures, Stone or Granite Curb Setters, Designated Asphalt Rakers (not on cold patch), Tail or Screw Operator on Asphalt Paver.

Per hour:	07/01/2019	07/01/2020	07/01/2021
		Additional	Additional
GROUP A	\$ 27.84	\$1.50	\$1.50
GROUP B	28.24	\$1.50	\$1.50

Hazardous waste removal, lead abatement, asbestos abatement add \$ 1.50

**SUPPLEMENTAL BENEFITS**

Per hour:

\$ 22.15

**OVERTIME PAY**

See (B, E, Q) on OVERTIME PAGE

**HOLIDAY**

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

**REGISTERED APPRENTICES**

Wages per:

1000 hour terms at the following percentage of Journeyman's wage:

1st 2nd 3rd 4th  
 70% 80% 85% 90%

Supplemental benefits per hour:

\$ 22.15

3-621h Zone 1

**Lineman Electrician**

**03/01/2020**

**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)

	07/01/2019	05/04/2020
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)

	07/01/2019	05/04/2020
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)

	07/01/2019	05/04/2020
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	\$ 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.

**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**

**03/01/2020**

**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	\$ 4.73	\$ 4.73
	*plus 3% of wage paid	*plus 3% of wage paid	*plus 3% of wage paid

\*The 3% is based on the hourly wage paid, straight time rate or premium rate.

**OVERTIME PAY**

See (B, E, Q) on OVERTIME PAGE

NOTE: WAGE CAP...Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 16) on HOLIDAY PAGE

6-1249LT - Teledata

**Lineman Electrician - Traffic Signal, Lighting** **03/01/2020**

**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 are applicable for installation, testing, operation, maintenance and repair on all Traffic Control (Signal) and Illumination (Lighting) projects, Traffic Monitoring Systems, and Road Weather Information Systems. Includes digging of holes for poles, anchors, footer foundations for electrical equipment; assembly of all electrical materials or raceway; placing of fish wire; pulling of cables, wires or fiber optic cable through such raceways; splicing of conductors; dismantling of such structures, lines or equipment.

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**

**03/01/2020**

**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**

**03/01/2020**

**JOB DESCRIPTION** Mason - Building

**DISTRICT 5**

**ENTIRE COUNTIES**

Chautauqua

**PARTIAL COUNTIES**

Allegany: Entire county except the Townships of Alfred, Almond, Andover and Burns.  
 Cattaraugus: Entire county except the Township of Perrysburg and the Village of Gowanda.

**WAGES**

Per hour:	07/01/2019	07/01/2020	07/01/2021
Building:		Additional	Additional
Bricklayer Cement	\$ 31.83	\$ 1.00	\$ 1.15
Mason, Plasterer, Stone			
Mason, Tuck Pointer			

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	\$ 20.87
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**OVERTIME PAY**

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

\*Note - Or other conditions beyond the employer's control such as fire or natural disaster.

**HOLIDAY**

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

**REGISTERED APPRENTICES**

Wages per hour:

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

1st	2nd	3rd	4th
\$ 19.08	\$ 21.90	\$ 25.21	\$ 28.53

Supplemental benefits per hour:

1st	2nd	3rd	4th
\$ 12.46	\$ 14.93	\$ 16.91	\$ 18.88

5-3B - Jam - Z2

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**Mason - Building** **03/01/2020**

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**JOB DESCRIPTION** Mason - Building **DISTRICT 3**

**ENTIRE COUNTIES**

Erie, Niagara

**PARTIAL COUNTIES**

Cattaraugus: Only the Township of Perrysburg and the Village of Gowanda.

**WAGES**

Per hour: 07/01/2019  
Plasterer \$ 30.15

Additional \$3.00/hr for work on swing stage over 20 feet.

**SUPPLEMENTAL BENEFITS**

Per hour:  
\$ 20.49

**OVERTIME PAY**

Exterior work only See ( B, E, E2, Q ) on OVERTIME PAGE.  
All other work See ( B, E, Q ) on OVERTIME PAGE.

**HOLIDAY**

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

**REGISTERED APPRENTICES**

Wages per hour:

Hour terms at the following dollar amounts:

0 to 1000	to 2000	to 3000	to 4000	to 4700	to 5400	to 6000	to 7000	to 8000
\$ 12.00	\$ 14.00	\$ 15.00	\$ 16.00	\$ 17.00	\$ 18.00	\$ 19.00	\$ 20.00	\$ 21.00

Supplemental benefits per hour:

Hour terms at the following dollar amounts:

0 to 4000	to 4700	to 5400	to 6000	to 8000
\$ 2.50	\$ 3.50	\$ 4.50	\$ 5.50	\$ 7.50

3-9-Pltr

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**Mason - Building** **03/01/2020**

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**JOB DESCRIPTION** Mason - Building **DISTRICT 5**

**ENTIRE COUNTIES**

Erie, Niagara

**PARTIAL COUNTIES**

Cattaraugus: Only the Township of Perrysburg and the Village of Gowanda.

**WAGES**

Per Hour: 07/01/2019  
Building:  
Bricklayer \$ 31.49  
Stone Mason 31.49  
Tuck Pointer 31.49

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 \$ 28.34

**OVERTIME PAY**

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

\*Note - Or other conditions beyond the employer's control such as fire or natural disaster.

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Wages per hour:

1250 hour terms at the following wage:

1st	2nd	3rd	4th
\$ 24.87	\$ 25.39	\$ 27.12	\$ 29.63

Supplemental benefits per hour:

1st	2nd	3rd	4th
\$ 10.95	\$ 16.43	\$ 20.70	\$ 24.20

5-3B-Z3

**Mason - Building / Heavy&Highway**

**03/01/2020**

**JOB DESCRIPTION** Mason - Building / Heavy&Highway

**DISTRICT 3**

**ENTIRE COUNTIES**

Erie

**PARTIAL COUNTIES**

Cattaraugus: Only the Township of Perrysburg and the Village of Gowanda.

**WAGES**

Per hour:	07/01/2019	07/01/2020
		Additional
Cement Mason	\$ 30.00	\$ 1.25

Additional \$0.25 per hr for Swing scaffold or exterior scaffold 42' or higher.  
 Additional \$1.00 per hr when required to wear respirator.

**SUPPLEMENTAL BENEFITS**

Per hour: \$ 31.67

**OVERTIME PAY**

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

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Wages per hour:

750 hour terms at the following dollar amounts:

1st	2nd	3rd	4th	5th	6th
\$ 15.00	\$ 16.50	\$ 19.50	\$ 22.50	\$ 25.50	\$ 28.50

Supplemental benefits per hour:

1st	2nd	3rd	4th	5th	6th
\$ 8.41	\$ 11.36	\$ 11.23	\$ 14.42	\$ 16.47	\$ 19.69

3-111Erie

**Mason - Heavy&Highway**

**03/01/2020**

**JOB DESCRIPTION** Mason - Heavy&Highway

**DISTRICT 5**

**ENTIRE COUNTIES**

Allegany, Broome, Chautauqua, Chemung, Chenango, Cortland, Delaware, Genesee, Livingston, Monroe, Ontario, Orleans, Otsego, Schuyler, Seneca, Steuben, Tioga, Tompkins, Wayne, Wyoming, Yates

**PARTIAL COUNTIES**

Cattaraugus: Entire county except in the Township of Perrysburg and the Village of Gowanda only the Bricklayer classification applies.  
 Erie: Only the Bricklayer classification applies.  
 Niagara: Only the Bricklayer classification applies.

**WAGES**

Per hour:	07/01/2019	07/01/2020	07/01/2021
Heavy & Highway:		Additional	Additional
Cement Mason	\$ 31.28	\$ 1.00	\$ 1.15
Bricklayer	31.28		

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 \$ 22.23

**OVERTIME PAY**

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

**HOLIDAY**

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

**REGISTERED APPRENTICES**

Wages per hour:

1500 hour terms at the following percentage of Journeyman's wage:

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

Supplemental benefits per hour:

1st term \$ 13.93  
 2nd - 4th term 22.23

5-3h

**Mason - Tile Finisher**

**03/01/2020**

**JOB DESCRIPTION** Mason - Tile Finisher

**DISTRICT 5**

**ENTIRE COUNTIES**

Chautauqua

**PARTIAL COUNTIES**

Allegany: Entire County with the exception of the Towns of Alfred, Almond, Andover and Burns.  
 Cattaraugus: With the exception of the Township of Perrysburg and the Village of Gowanda.

**WAGES**

Per hour:	07/01/2019	07/01/2020	07/01/2021
Building:		Additional	Additional
Marble, Slate, Terrazzo and Tile Finisher	\$ 27.00	\$ 1.00	\$ 1.15

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: \$ 17.81

**OVERTIME PAY**

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

\*Note - Or other conditions beyond the employer's control such as fire or natural disaster.

**HOLIDAY**

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

**REGISTERED APPRENTICES**

Wages per hour:

1st and 2nd term 1200 hours and 3rd term 1300 hours at the following percentage of Journeyman's rate:

1st	2nd	3rd
\$ 18.03	\$ 21.37	\$ 22.28

Supplemental benefits per hour:

1st	2nd	3rd
\$ 8.78	\$ 9.94	\$ 13.53

5-3TF - Z2

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**Mason - Tile Finisher**

**03/01/2020**

**JOB DESCRIPTION** Mason - Tile Finisher

**DISTRICT 5**

**ENTIRE COUNTIES**

Erie, Niagara, Orleans

**PARTIAL COUNTIES**

Cattaraugus: Only the Township of Perrysburg and the Village of Gowanda.

**WAGES**

Per hour: 07/01/2019

Building:

Marble, Slate, Terrazzo \$ 29.30  
and Tile Finisher

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

**SUPPLEMENTAL BENEFITS**

Per hour: \$ 16.13

**OVERTIME PAY**

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

\*Note - Or other conditions beyond the employer's control such as fire or natural disaster.

**HOLIDAY**

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

**REGISTERED APPRENTICES**

Wages per hour:

1200 hours 1st and 2nd term and 1300 hours 3rd term at the following wage:

1st	2nd	3rd
\$ 18.74	\$ 21.31	\$ 24.13

Supplemental benefits per hour:

1st	2nd	3rd
\$ 8.44	\$ 10.43	\$ 12.17

5-3TF - Z3

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**Mason - Tile Setter**

**03/01/2020**

**JOB DESCRIPTION** Mason - Tile Setter

**DISTRICT 5**

**ENTIRE COUNTIES**

Erie, Niagara, Orleans

**PARTIAL COUNTIES**

Cattaraugus: Only in the Township of Perrysburg and the Village of Gowanda.

**WAGES**

Per hour: 07/01/2019  
 Building:  
 Marble, Slate, Terrazzo and Tile Setter \$ 31.97

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: \$ 27.36

**OVERTIME PAY**

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

\*Note - Or other conditions beyond the employer's control such as fire or natural disaster.

**HOLIDAY**

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

**REGISTERED APPRENTICES**

Wages per hour:

1250 hour terms at the following wage:

1st	2nd	3rd	4th
\$ 24.65	\$ 25.12	\$ 26.89	\$ 29.93

Supplemental benefits per hour:

1st	2nd	3rd	4th
\$ 10.87	\$ 16.35	\$ 20.53	\$ 23.45

5-3TS - Z3

**Mason - Tile Setter**

**03/01/2020**

**JOB DESCRIPTION** Mason - Tile Setter

**DISTRICT** 5

**ENTIRE COUNTIES**

Chautauqua

**PARTIAL COUNTIES**

Allegany: Entire County with the exception of the towns of Alfred, Almond, Andover and Burns.  
 Cattaraugus: With the exception of the Township of Perrysburg and the Village of Gowanda.

**WAGES**

Per hour:	07/01/2019	07/01/2020	07/01/2021
Building:		Additional	Additional
Marble, Slate, Terrazzo and Tile Setter	\$ 32.19	\$ 1.00	\$ 1.15

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 \$ 18.16

**OVERTIME PAY**

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

\*Note - Or other conditions beyond the employer's control such as fire or natural disaster.

**HOLIDAY**

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

**REGISTERED APPRENTICES**

Wages per hour:

One year terms at the following percentage of Joureyman's wage:

1st	2nd	3rd	4th
\$ 20.14	\$ 23.24	\$ 26.32	\$ 29.42

Supplemental benefits per hour:

1st	2nd	3rd	4th
\$ 9.99	\$ 11.95	\$ 13.92	\$ 15.88

5-3TS - Z2

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**Millwright** **03/01/2020**

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**JOB DESCRIPTION** Millwright **DISTRICT 7**

**ENTIRE COUNTIES**  
 Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Herkimer, Madison, Seneca, Tioga, Yates

**WAGES**

Per Hour	07/01/2019	07/01/2020 Additional
Building	\$ 28.18	\$ 1.60
Heavy & Highway*	30.18	1.60

\*Effective 5/1/2019, all Heavy and Highway Millwright construction will be paid at the rate indicated above.

- NOTE - ADDITIONAL PREMIUMS PAID FOR THE FOLLOWING WORK LISTED BELOW (amount subject to any overtime premiums):
- Certified Welders shall receive \$1.75 per hour in addition to the current Millwright's rate, provided he/she is directed to perform certified welding.
  - On building projects, 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.
  - H/H work performed on hazardous waste sites where employees are required to wear protective gear shall receive an additional \$2.00 per hour over the Millwright H/H rate for all hours worked on the day protective gear was worn
  - An employee performing the work of a machinist shall receive \$2.00 per hour in addition to the current Millwright's rate. For the purpose 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	\$ 22.05
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**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 a Saturday shall be observed the preceding Friday.

**REGISTERED APPRENTICES**

WAGES: (1) year terms at the following percentage of Journeyman's wage.

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

SUPPLEMENTAL BENEFITS per hour worked:

Appr. 1st year	\$ 10.50
Appr. 2nd year	18.59
Appr. 3rd year	19.74
Appr. 4th year	20.90

7-1163 Zone 2

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**Operating Engineer - Building** **03/01/2020**

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**JOB DESCRIPTION** Operating Engineer - Building **DISTRICT 12**

**ENTIRE COUNTIES**

Cattaraugus, Chautauqua, Erie, Orleans, Wyoming

**PARTIAL COUNTIES**

Genesee: Only that portion of the county that lies west of a line down the center of Route 98 excluding that area that lies within the City of Batavia.

**WAGES**

CLASS A: Air Hoist, All Boom Type Equipment, All Pans and Carry-Alls, Archer Hoist, Asphalt Curb and Gutter Machines, Asphalt Roller, Asphalt Spreader or Paver, Automatic Fine Grade Machine (CMI or similar, first and second operator), Backhoe and Pullhoe, Backhoe and Pullhoe (tractor mounted, rubber tired), Back Filling Machine, Belt Placer (CMI or similar type), Bending Machine (Pipe), Bituminous Spreader and Mixer, Blacktop Plants (Automated and Non-automated), Blast or Rotary Drill (Truck or Track Mounted), Blower for Burning Brush, Boiler (when used for power), Boom Truck (excluding pick-up and delivery), Boring Machine, Bulldozer, Cableway, Cage Hoist, Caisson Auger, Central Mix Plant (and all concrete batching plants), Cherry Picker, Concrete Cleaning Decontamination Machine Operator, Concrete Curb and Gutter Machine, Concrete Curing Machine, Concrete Cutters (Vermeer or Similar Type), Concrete Mixer (over 1/2 cu yd.), Concrete Pavement Spreaders and Finishers, Concrete Paver, Concrete Pump, Conveyor, Core Drill, Crane, Crusher, Decon of Equipment, Derrick, Dragline, Dredge, Drill Rig (Tractor Mounted), Dual Drum Paver, Electric Pump used in conjunction with Well Point Systems, Elevating Grader (self propelled or towed), Elevator, Excavator (all purpose, hydraulically operated), Farm Tractor with Accessories, Fine Grade Machine, Forklift, Front End Loader, Generator (10 outlets or more), Gradall, Grader, Grout or Guniting Machine, Head Tower, Heavy Equipment Robotics Operator/Mechanic, Helicopter (when used for hoisting), Hoist (one drum), Hoisting Engine, Horizontal Directional Drill Locator, Horizontal Directional Drill Operator, Hydraulic Boom, Hydraulic Hammer (self-propelled), Hydraulic Pipe Jack Machine (or similar type machine), Hydraulic Rock Expander (or similar type machine), Hydraulic System Pumps, Hydro Crane, Hydro Hammer (or similar type), Industrial Tractor, Jersey Spreader, Kolman Plant Loader (and similar type loaders), Laser Screed, Locomotive, Lubrication Truck, Maintenance Engineer, Maintenance, Lubrication Unit or Truck, Mine Hoist, Mixer for Stabilized Base (self-propelled), Monorail, Motorized Hydraulic Pin Puller, Motorized Hydraulic Seeder, Mucking Machine, Mulching Machine, Multiple Drum Hoist (more than one drum in use), Overhead Crane, Peine Crane (or similar type), Pile Driver, Plant Engineer, Pneumatic Mixer, Post Hole Digger and Driver, Power Broom, Pumpcrete, Push Button Hoist, Push or Snatch Cat, Quarry Master or equivalent, Road Widener, Rock Bit Sharpener (all types), Roller (all), Rolling Machine (pipe), Rotomill, Scissors Trucks, Lift, or Boom Lift of any type (when used for hoisting), Scoopmobile, Shovel, Sideboom, Skidsteer/Bobcat (Similar Type), Skimmer, Slip Form Paver (CMI or similar type), Snorkel/Vacuum Truck, Strato-Tower, Stump Chipping Machine, Tire Truck and Drivers performing tire repair (exclude outside vendor), Towed Roller, Tractor Drawn Belt-Type Grader/Loader, Tractor Shovel, Tractor with Towed Accessories, Tractor (when using winch power), Tractors, Trencher, Truck Crane, Truck Mechanic and Helper (exclude Teamsters when repairing their own trucks), Tunnel Shovel, Tube Finisher (CMI and similar type), Ultra High Pressure Waterjet Cutting Tool System Operator/Mechanic, Vacuum Blasting Machine Operator/Mechanic, Vibratory Compactor, Vibro Tamp, Well Drilling Machine, Well Point, Winch, Winch Truck with A Frame.

CLASS B: Aggregate Bin, Aggregate Plant, Apprentice Engineer, Apprentice Engineer Driver, Articulated Off Road Material Hauler, Boiler (used in conjunction with production), CMI and similar type Concrete Spreads (Apprentice Engineer), Cement Bin, Chipping Machine and Chip Spreader, Compressors (4 or less), Compressors (any size, but subject to other provisions for Compressors, Dust Collectors, Generators, Mechanical Heaters, Pumps, Welding Machines - four of any type or combination), Concrete Mixer (1/2 cu. yd. and under), Fireman, Form Tamper, Form Trucks (excluding Teamster or delivery), Fuel Truck or Drivers (exclude Teamster or delivery), Heaters, Heating Boiler (used for temporary heat), Helper on Lubrication Unit or Truck, Jeep Trencher, Power Heaterman, Power Plant in excess of 10 K.W., Pumps, Revinus Widener, Steam Boilers (if manning or license by local law is required), Steam Cleaner (when used for cleaning equipment on the job site), Welding Machine (1 machine over 300 amps or 2 or 3 machines regardless of amps).

Operating Engineer- Building:

Per hour:	07/01/2019
Class A	\$ 37.21
Class B	32.73
Crane(Up to 60 Tons)	38.71
" (61 to 199 Tons)	40.71
" (200 to 399 Tons)	41.21
" (400 Tons or more)	41.71

Additional \$5.00/hr. for Any Tower Crane

Additional \$2.50/hr. for Hazardous Work Site

Additional \$1.00/hr. for Tunnel Work

**SUPPLEMENTAL BENEFITS**

Per Hour:

Journeyman \$ 29.85\*\*

\*\*Note: For Overtime Hours \$21.65 of this amount is paid a straight time, the remaining balance of \$8.20 is paid at the same premium as the wage.

**OVERTIME PAY**

See (B, E, \*E2, P, \*\*V) on OVERTIME PAGE

\* Only Saturdays between October 15th and April 15th.

**HOLIDAY**

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

**REGISTERED APPRENTICES**

Wages per hour:  
 1 year Terms

1st	2nd	3rd	4th
\$27.05	\$27.94	\$28.82	\$29.71

Supplemental benefits Per Hour:  
 All Apprentices \$28.95\*\*

\*\*Note: For Overtime Hours \$21.65 of this amount to be paid a straight time rate remaining balance of \$7.30 is paid at same premium as the wage.

12-17b

**Operating Engineer - Heavy&Highway**

**03/01/2020**

**JOB DESCRIPTION** Operating Engineer - Heavy&Highway

**DISTRICT** 12

**ENTIRE COUNTIES**

Cattaraugus, Chautauqua, Erie, Orleans, Wyoming

**PARTIAL COUNTIES**

Genesee: Only that portion of the county that lies west of a line down the center of Route 98 excluding that area that lies within the City of Batavia.

**WAGES**

CLASS A: Air Hoist, All Boom Type Equipment, All Pans and Carry-Alls, Asphalt Curb and Cutter Machines, Asphalt Roller, Asphalt Spreader or Paver, Automatic Fine Grade Machine (CMI or similar, first and second operator), Backhoe and Pullhoe (all), Back Filling Machine, Belt Placer (CMI or similar type), Bending Machine (pipe), Bituminous Spreader and Mixer, Blacktop Plant (all), Blast or Rotary Drill (Truck or Track Mounted), Blower for Burning Brush, Boiler (when used for power), Boom Truck, Boring Machine, Bulldozer, Cableway, Cage Hoist, Caisson Auger, Central Mix Plant (and all Concrete Batching Plants), Cherry Picker, Concrete Cleaning Decontamination Machine, Concrete Curb and Gutter Machine, Concrete Curing Machine, Concrete Mixer (over 1/2 cu. yd.), Concrete Pavement Spreaders and Finishers, Concrete Paver, Concrete Pump, Concrete Saw (self propelled), Conveyor, Convoing Vehicles Convoing Engineer's Equipment, Core Drill, Crane, Crusher, Decontamination of Equipment, Derrick, Dragline, Dredge, Drill Rig (Tractor Mounted), Dual Drum Paver, Electric Pump used in conjunction with Well Point Systems, Elevating Grader (self propelled or towed), Elevator, Excavator (all purpose, hydraulically operated), Farm Tractor with Accessories, Fine Grade Machine, Forklift, Front End Loader, Gradall, Grader, Grout or Guniting Machine, Head Tower, Heavy Equipment Robotics Operator/Mechanic, Hoist (all types), Hoisting Engine, Horizontal Directional Drill Locator, Horizontal Directional Drill Operator, Hydraulic Boom, Hydraulic Hammer (self propelled), Hydraulic Pipe Jack Machine, (or similar type machine), Hydraulic Rock Expander (or similar type machine), Hydraulic System Pumps, Industrial Tractor, Jersey Spreader, Kolman Plant Loader (and similar type Loaders), Laser Screed, Locomotive, Log Skidder (similar type), Maintenance Engineer, Maintenance, Lubrication Unit or Truck, Mine Hoist, Mixer for Stabilized Base (self propelled), Monorail, Motorized Hydraulic Pin Puller, Motorized Hydraulic Seeder, Mucking Machine, Mulching Machine, Overhead Crane, Parts Chasing, Peine Crane (or similar type), Pile Driver, Plant Engineer, Pneumatic Mixer, Post Hole Digger and Post Driver, Power Broom, Pump Crete, Push Button Hoist, Push or Snatch Cat, Quarry Master (or equivalent), Road Widener, Rock Bit Sharpener (all types), Roller (all), Rolling Machine (Pipe), Rotomill, Scoopmobile, Shovel, Side Boom, Skidsteer/Bobcat (similar type), Skimmer, Slip Form Paver (CMI or similar, first and second operator), Snorkel/Vacuum Truck, Strato-Tower, Tire Truck & Repair, Towed Roller, Tractor Drawn Belt-Type Grader/Loader, Tractor Shovel, Tractor with Towed Accessories, Tractors (when using winch power), Trencher, Truck Crane, Tug Boats, Tunnel Shovel, Tube Finisher (CMI and similar), Vacuum Blasting Machine Operator/Mechanic, Vibratory Compactor, Vibro Tamp, Waterjet Cutting Tool System Operator/Mechanic (Ultra High Pressure), Well Drilling Machine, Well Point, Winch, Winch Truck with A Frame.

CLASS B: Aggregate Bin, Aggregate Plant, Apprentice Engineer, Apprentice Engineer Driver, Articulated Off Road Material Hauler, CMI and similar type Concrete Spreads (Apprentice Engineer), Cement Bin, Chipping Machine and Chip Spreader, Compressors (4 or less), Compressors: any size, but subject to other provisions for Compressors, Dust Collectors, Generators, Mechanical Heaters, Pumps, Welding Machines (four of any type or combination), Concrete Mixer (1/2 cu. yd. and under), Fireman, Form Tamper, Fuel Truck, Heating Boiler (used for temporary heat), Helper on Lubrication Unit or Truck, Jeep Trencher, Power Heaterman, Power Plant in excess of 10 K.W., Pumps (4" or over), Revinus Widener, Steam Cleaner, Stump Chipping Machine, Welding Machine (1 machine over 300 amps or 2 or 3 machines regardless of amps).

Operating Engineer- Heavy/Highway, Sewer/Water, Tunnel:

Per hour:	07/01/2019
Class A	\$ 38.99
Class B	34.49
Crane(boom over 100ft)	39.74
" (boom over 200ft)	39.99
" (boom over 300ft)	40.49

Additional \$3.00/hr. for Lattice Boom

Additional \$3.00/hr. for Hydraulic Crane over 60 tons  
Additional \$2.50/hr. for Hazardous Work Site  
Additional \$1.00/hr. for Tunnel Work  
Additional \$3.00/hr. for Mandated Off-Shift Work

**SUPPLEMENTAL BENEFITS**

Per hour:

Journeyman \$ 31.16\*

\*Note: For Overtime Hours \$23.46 of the amount paid at straight time, the remaining balance of \$7.70 is paid at the same premium as the wage.

**OVERTIME PAY**

See (B, E, Q, T, \*V) on OVERTIME PAGE

**HOLIDAY**

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

\*, \*\* NOTE: If Holiday falls on a Sunday it will be celebrated on Monday  
\*\*\*, \*\*\*\* NOTE: If employee works that Monday use "T" under Overtime Pay.

**REGISTERED APPRENTICES**

Wages per hour:  
Apprentices at 1 year terms

1st	2nd	3rd	4th
\$31.49	\$32.49	\$33.49	\$34.49

Supplemental Benefits

All Apprentices \$30.76\*

Note: For Overtime Hours \$23.46 of this amount is paid at straight time , the remaining balance of \$7.30 is paid at the same premium as the wage.

12-17 hh/sw/t

**Operating Engineer - Survey Crew** **03/01/2020**

**JOB DESCRIPTION** Operating Engineer - Survey Crew

**DISTRICT** 12

**ENTIRE COUNTIES**  
Cattaraugus, Chautauqua, Erie, Orleans, Wyoming

**PARTIAL COUNTIES**  
Genesee: Only that portion of the county that lies west of a line down the center of Route 98 excluding that area that lies within the City of Batavia.

**WAGES**  
These rates apply to Building and Heavy Highway.

Per hour:  
SURVEY CLASSIFICATIONS:

- Party Chief - One who directs a survey party.
- Instrument Person - One who operates the surveying instruments.
- Rod Person - One who holds the rods and assists the Instrument Person.

07/01/2019

Party Chief	\$ 41.51
Instrument Person	39.15
Rod Person	27.10

Additional \$3.00 per hr. for work in a Tunnel.  
Additional \$2.50 per hr. for EPA or DEC certified toxic or hazardous waste work.

**SUPPLEMENTAL BENEFITS**

Per hour worked:

Journeyman \$ 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 Person wage:

07/01/2019

0-1000 Hrs	60%
1001-2000 Hrs	70%
2001-3000 Hrs	80%

SUPPLEMENTAL BENEFITS per hour worked:

0-1000 Hrs	\$ 16.21
1001-2000 Hrs	18.92
2001-3000 Hrs	21.63

12-17D Sur

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**Operating Engineer - Survey Crew - Consulting Engineer**

**03/01/2020**

**JOB DESCRIPTION** Operating Engineer - Survey Crew - Consulting Engineer

**DISTRICT** 12

**ENTIRE COUNTIES**

Cattaraugus, Chautauqua, Erie, Orleans, Wyoming

**PARTIAL COUNTIES**

Genesee: Only that portion of the county that lies west of a line down the center of Route 98 excluding that area that lies within the City of Batavia.

**WAGES**

These rates apply to feasibility and preliminary design surveying, line of grade surveying for inspection or supervision of construction when performed under a Consulting Engineer Agreement.

Per hour:

SURVEY CLASSIFICATIONS:

Party Chief - One who directs a survey party.

Instrument Person - One who operates the surveying instruments.

Rod Person - One who holds the rods and assists the Instrument Person.

07/01/2019

Party Chief	\$ 41.51
Instrument Person	39.15
Rod Person	27.10

**SUPPLEMENTAL BENEFITS**

Per hour worked:

Journeyman	\$ 26.80
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**OVERTIME PAY**

See (B, E, P, T) on OVERTIME PAGE

**HOLIDAY**

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

**REGISTERED APPRENTICES**

WAGES: 1000 hour terms based on the Percentage of Rod Persons Wage:

07/01/2019

0-1000	60%
1001-2000	70%
2001-3000	80%

SUPPLEMENTAL BENEFITS per hour worked:

0-1000	\$ 16.21
1001-2000	18.92

2001-3000

21.63

12-17D Con Eng

**Painter**

**03/01/2020**

**JOB DESCRIPTION** Painter

**DISTRICT 3**

**ENTIRE COUNTIES**

Allegany, Erie, Genesee, Niagara, Orleans, Wyoming

**PARTIAL COUNTIES**

Cattaraugus: Entire County except the Townships of Conewango, Leon, Napoli, New Albion, Randolph and South Valley.

Chautauqua: Only the Townships of Awkright, Dunkirk, Hanover, Pomfret, Portland, Sheridan and Villenova.

Livingston: Only the Townships of North Dansville, Nunda, Ossian, Portage, Sparta, Spring Water and West Sparta.

Steuben: Only the Townships of Avoca, Canisteo, Cohocton, Dansville, Fremont, Greenwood, Hartsville, Hornellsville, Howard, Jasper, Prattsburg, Pulteney, Troupsburg, Tuscarora, Urbana, Wayland, Wayne, Woodhull, West Union, Wheeler, and the City of Hornell.

**WAGES**

Per hour:	07/01/2019	05/01/2020 Additional
Basic Rate (Brush & Roll)	\$ 26.45	\$ 1.00
Spray painting, wallcovering	26.45	1.00
Abrasive and hydroblasting	26.45	1.00
Taping/DryWall Finisher	26.95	1.00
Skeleton Steel*	27.20	1.00

\* Skeleton Steel: No floors, walls or ceiling are constructed, including radio and television towers, flagpoles, smokestacks, cranes and the abatement of coatings with lead, asbestos and/or arsenic, etc. All work within the confines of a plant shall be paid the skeleton steel rate (except in-plant tank work (see Tank Rate)).

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

**SUPPLEMENTAL BENEFITS**

Per hour:

\$ 25.34

**OVERTIME PAY**

Exterior work only See ( B, E4, F\*, R ) on OVERTIME PAGE.

All other work See ( B, F\*, R ) on OVERTIME PAGE.

\* Note - Saturday is payable at straight time if the employee misses work, except where a doctor's or hospital verification of illness is produced Monday through Friday when work was available to the employee.

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Wages per hour:

Painter/Decorator: 750 hour terms at the following percentage of Journeyman's Basic wage rate:

1st	2nd	3rd	4th	5th	6th	7th	8th
50%	55%	60%	65%	70%	75%	80%	90%

Taper/Drywall Finisher: 750 hour terms at the following percentage of Journeyman's Taper wage:

1st	2nd	3rd	4th	5th	6th
50%	55%	60%	65%	75%	85%

Supplemental benefits per hour:

Painter/Decorator and Taper/Drywall Finisher:

1st	2nd	3rd	4th	5th	6th	7th	8th
\$ 2.30	\$ 4.30	\$ 5.30	\$ 5.80	\$ 6.30	\$ 6.80	\$ 7.30	\$ 7.55

3-4-Buf, Nia, Olean

**Painter**

**03/01/2020**

**JOB DESCRIPTION** Painter

**DISTRICT 3**

**ENTIRE COUNTIES**

Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Cortland, Delaware, Erie, Genesee, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Wayne, Wyoming, Yates

**WAGES**

Per hour:	07/01/2019	05/01/2020
		Additional
Bridge	\$ 38.50	\$ 1.05
Tunnel	38.50	1.05
Tank*	36.50	1.05

For Bridge Painting Contracts, ALL WORKERS on and off the bridge (including Flagmen) are to be paid Painter's Rate; the contract must be ONLY for Bridge Painting.

Tank rate applies to indoor and outdoor tanks, tank towers, standpipes, digesters, waste water treatment tanks, chlorinator tanks, etc. Covers all types of tanks including but not limited to steel tanks, concrete tanks, fiberglass tanks, etc.

Note an additional \$1.00 per hour is required when the contracting agency or project specification requires any shift to start prior to 6:00am or after 12:00 noon.

**SUPPLEMENTAL BENEFITS**

Per hour:	\$ 28.70
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**OVERTIME PAY**

Exterior work only See ( B, E4, F\*, R ) on OVERTIME PAGE.

All other work See ( B, F\*, R ) on OVERTIME PAGE.

\*Note - Saturday is payable at straight time if the employee misses work, except where a doctor's or hospital verification of illness is produced Monday through Friday when work was available to the employee.

**HOLIDAY**

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

**REGISTERED APPRENTICES**

Wages per hour:

750 hour terms at the following percentage of Journeyman's wage rate:

1st	2nd	3rd	4th	5th	6th
50%	55%	60%	65%	75%	85%

Supplemental benefits per hour:

1st & 2nd terms	\$ 5.45
3rd & 4th terms	5.45
5th & 6th terms	6.45

3-4-Bridge, Tunnel, Tank

**Painter**

**03/01/2020**

**JOB DESCRIPTION** Painter

**DISTRICT 3**

**ENTIRE COUNTIES**

**PARTIAL COUNTIES**

Cattaraugus: Only the Townships of Conewango, Leon, Napoli, New Albion, Randolph and South Valley.

Chautauqua: Only the Townships of Busti, Carroll, Charlotte, Chautauqua, Cherry Creek, Clymer, Ellery, Ellicott, Ellington, French Creek, Gerry, Harmony, Kiantone, Mina, North Harmony, Poland, Ripley, Sherman, Stockton, Westfield and the City of Jamestown.

**WAGES**

Per hour:	07/01/2019	05/01/2020
		Additional
Brush & Roller, taping, wallcovering, swing & bosun under 3 stories or under 35 ft	\$ 26.15	\$ 1.00
Swing & bosun over 3 stories or over 35 feet, steel painting	26.15	1.00
All spraying, steam cleaning & sandblasting, all toxic coating	26.40	1.00
Stacks	26.40	1.00
	26.80	1.00
	26.80	1.00
	27.45	1.00

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:

\$ 18.08

**OVERTIME PAY**

Exterior work only See ( B, E4, F\*, R ) on OVERTIME PAGE.

All other work See ( B, F\*, R ) on OVERTIME PAGE.

\* Note - Saturday is payable at straight time if the employee misses work, except where a doctor's or hospital verification of illness is produced Monday through Friday when work was available to the employee.

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Wages per hour:

Painter/Decorator: 750 hour terms at the following percentage of Journeyman's Basic wage rate:

1st	2nd	3rd	4th	5th	6th	7th	8th
50%	55%	60%	65%	70%	75%	80%	90%

Taper/Drywall Finisher: 750 hour terms at the following percentage of Journeyman's Taper wage:

1st	2nd	3rd	4th	5th	6th
50%	55%	60%	65%	75%	85%

Supplemental benefits per hour:

Painter/Decorator and Taper/Drywall Finisher:

1st	2nd	3rd	4th	5th	6th	7th	8th
\$ 2.30	\$ 4.30	\$ 5.30	\$ 5.80	\$ 6.30	\$ 6.80	\$ 7.30	\$ 7.55

3-4-Jamestown

**Painter - Metal Polisher**

**03/01/2020**

**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**

**03/01/2020**

**JOB DESCRIPTION** Plumber

**DISTRICT 3**

**ENTIRE COUNTIES**

Erie, Niagara, Wyoming

**PARTIAL COUNTIES**

Allegany: Only the Townships of Allen, Angelica, Belfast, Caneadea, Centerville, Granger, Hume, New Hudson and Rushford  
 Cattaraugus: Only the Townships of Ashford, Dayton, East Otto, Ellicottville, Farmersville, Franklinville, Freedom, Leon, Lyndon, Machias, Mansfield, New Albion, Otto, Perrysburg, Persia and Yorkshire.  
 Chautauqua: Only the Townships of Arkwright, Charlotte, Cherry Creek, Dunkirk, Hanover, Pomfret, Portland, Ripley, Sheridan, Stockton, Villenova, Westfield, City of Dunkirk and Village of Fredonia.  
 Genesee: Only the Townships of Alabama, Alexander, Batavia, Darien, Elba, Oakfield, Pembroke and the City of Batavia.  
 Orleans: Only the Townships of Ridgeway, Shelby and Yates.

**WAGES**

Per hour: 07/01/2019

Plumber	\$ 35.60
Steamfitter	\$ 35.60

Note - Add 10% (ten-percent) to wage when HAZMAT training is required or when OSHA compliant respirator protection is required.

**SUPPLEMENTAL BENEFITS**

Per hour: \$ 25.86

Note - \$3.40 of this amount must be paid at the same premium as the wage.

**OVERTIME PAY**

See (\*B, \*\*E, Q) on OVERTIME PAGE

\* Double time after 11 hours per day on Weekdays.

\*\* Double time after 10 hours per day on Saturday.

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 16) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Wages per hour:

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

1st	2nd	3rd	4th	5th
45%	55%	65%	75%	90%

Note - Add 10% (ten-percent) to wage when HAZMAT training is required or when OSHA compliant respirator protection is required.

Supplemental benefits per hour:

\$ 21.30

Note - \$3.40 of this amount must be paid at the same premium as the wage.

**Plumber**

**03/01/2020**

**JOB DESCRIPTION** Plumber

**DISTRICT 3**

**ENTIRE COUNTIES**

**PARTIAL COUNTIES**

Allegany: Only the Townships of Alma, Amity, Bolivar, Clarksville, Cuba, Friendship, Genesee, Wirt and that portion of Scio which lies west of Rt. 19.

Cattaraugus: Only the Townships of Allegany, Carrollton, Conewango, Cold Spring, Great Valley, Hinsdale, Humphrey, Ischua, Little Valley, Napoli, Olean, Portville, Randolph, Red House, Salamanca, South Valley, the City of Olean, the City of Salamanca, and the Allegany Indian Reservation.

Chautauqua: Only the Townships of Busti, Carroll, Chautauqua, Clymer, Ellery, Ellicott, Ellington, French Creek, Gerry, Harmony, Kiantone, Mina, North Harmony, Poland, Sherman, and the City of Jamestown.

**WAGES**

Per hour: 07/01/2019

Plumber \$ 34.03  
Steamfitter \$ 34.03

Note - Add 10% (ten-percent) to wage when HAZMAT training is required or when OSHA compliant respirator protection is required.

**SUPPLEMENTAL BENEFITS**

Per hour: \$ 25.86

Note - \$3.40 of this amount must be paid at the same premium as the wage.

**OVERTIME PAY**

See (\*B, \*\*E, Q) on OVERTIME PAGE

\* Double time after 11 hours per day on Weekdays.

\*\* Double time after 10 hours per day on Saturday.

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 16) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Wages per hour:

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

1st	2nd	3rd	4th	5th
45%	55%	65%	75%	90%

Note - Add 10% (ten-percent) to wage when HAZMAT training is required or when OSHA compliant respirator protection is required.

Supplemental benefits per hour:

\$ 21.30

Note - \$3.40 of this amount must be paid at the same premium as the wage.

3-22-Southern

**Roofer**

**03/01/2020**

**JOB DESCRIPTION** Roofer

**DISTRICT 3**

**ENTIRE COUNTIES**

Allegany, Cattaraugus, Chautauqua

**WAGES**

Per hour: 07/01/2019

Roofer \$ 31.00  
Waterproofer 31.00

Asbestos Removal with respirator or protective suit add \$1.00 per hour.

**SUPPLEMENTAL BENEFITS**

Per hour: \$ 13.95

**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:

750 hour terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th	5th	6th
50%	50%	60%	70%	80%	90%

Supplemental benefits per hour:

1st & 2nd terms	\$ 0.58
All other terms	13.95

3-210

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**Sheetmetal Worker** **03/01/2020**

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**JOB DESCRIPTION** Sheetmetal Worker **DISTRICT 3**

**ENTIRE COUNTIES**  
 Cattaraugus, Chautauqua

**WAGES**

Per hour:	07/01/2019	07/01/2020	07/01/2021
Sheet Metal Worker	\$ 27.75	\$0.75	\$0.75

Additional \$1.00 per hour for work performed at a height of fifty (50) feet or more on boatswains chair, swing (of any type), picks and plank.

The following premiums apply when shift work is mandated in the job specification or by the contracting agency:

- 15% when the majority of the hours are worked between the hours of 3:30PM - 1:00AM
- 20% when the majority of the hours are worked between the hours of 11:00PM - 9:00AM

**SUPPLEMENTAL BENEFITS**

Per hour: \$ 23.53

**OVERTIME PAY**

See (B, E, Q) on OVERTIME PAGE

**HOLIDAY**

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

**REGISTERED APPRENTICES**

Wages per:

1000 hour year terms:

1st	2nd	3rd	4th	5th	6th	7th	8th
\$ 13.88	\$ 14.99	\$ 16.10	\$ 17.21	\$ 18.32	\$ 19.43	\$ 20.54	\$ 21.65

Supplemental Benefits

07/01/2019

1st term	\$ 13.29
2nd term	13.84
3rd term	16.04
4th term	16.70
5th term	17.36
6th term	18.02
7th term	18.68
8th term	19.33

3-112-Jamestown

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**Sprinkler Fitter** **03/01/2020**

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**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 \$ 34.91  
 Fitter

**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

**Teamster - Building / Heavy&Highway 03/01/2020**

**JOB DESCRIPTION** Teamster - Building / Heavy&Highway

**DISTRICT 3**

**ENTIRE COUNTIES**

Cattaraugus, Chautauqua

**PARTIAL COUNTIES**

Allegany: Entire county except the Townships of Alfred, Almond, Burns and West Almond.

**WAGES**

GROUP 1: Warehousemen, Yardmen, Truck Helpers, Panel Trucks, Flatboy Material Trucks (straight jobs), Single Axle Dump Trucks, Dumpsters, Material Checkers and Receivers, Greasers, Truck Tirmen, Mechanics Helpers and Parts Chasers, 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 Trucks.

GROUP 2: Specialized Earth Moving Equipment, Euclid type, or similar off-highway where not self-loading and self-contained concrete mobile unit, Off-highway Tandem Back-Dump, Twin Engine Equipment and Double-Hitched Equipment where not self-loading, Water Tanks, Sprinkler Trucks and Winch Trucks.



Per hour: 07/01/2019  
GROUP 1 \$ 38.31  
GROUP 2 38.31

Add \$ 2.00 when required to use personal protection when performing hazardous waste removal work.  
Add \$ 2.00 while operating articulating truck.

**SUPPLEMENTAL BENEFITS**

Per hour: \$ 14.78

**OVERTIME PAY**

See (B, E, Q) on OVERTIME PAGE

**HOLIDAY**

Paid: See (5, 20) on HOLIDAY PAGE  
Overtime: See (5, 6) on HOLIDAY PAGE

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**Welder**

**03/01/2020**

**JOB DESCRIPTION** Welder

**DISTRICT 1**

**ENTIRE COUNTIES**

Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuylar, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

**WAGES**

Per hour 07/01/2019

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)

- |   |  |
|---|--|
| <input type="checkbox"/> 01 DOT                                   | <input type="checkbox"/> 07 City   |
| <input type="checkbox"/> 02 OGS                                   | <input type="checkbox"/> 08 Local School District  |
| <input type="checkbox"/> 03 Dormitory Authority                   | <input type="checkbox"/> 09 Special Local District, i.e.,<br>Fire, Sewer, Water District |
| <input type="checkbox"/> 04 State University<br>Construction Fund | <input type="checkbox"/> 10 Village  |
| <input type="checkbox"/> 05 Mental Hygiene<br>Facilities Corp.    | <input type="checkbox"/> 11 Town   |
| <input type="checkbox"/> 06 OTHER N.Y. STATE UNIT                 | <input type="checkbox"/> 12 County   |
|   | <input type="checkbox"/> 13 Other Non-N.Y. State<br>(Describe)                           |

3. SEND REPLY TO  check if new or change)  
Name and complete address: \_\_\_\_\_

Telephone:(    )

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 :

- |  |   |
|--|---|
| <input type="checkbox"/> Construction (Building, Heavy<br>Highway/Sewer/Water) | <input type="checkbox"/> Guards, Watchmen                                   |
| <input type="checkbox"/> Tunnel  | <input type="checkbox"/> Janitors, Porters, Cleaners,<br>Elevator Operators |
| <input type="checkbox"/> Residential   | <input type="checkbox"/> Moving furniture and<br>equipment                  |
| <input type="checkbox"/> Landscape Maintenance                                 | <input type="checkbox"/> Trash and refuse removal                           |
| <input type="checkbox"/> Elevator maintenance                                  | <input type="checkbox"/> Window cleaners                                    |
| <input type="checkbox"/> Exterminators, Fumigators                             | <input type="checkbox"/> Other (Describe)                                   |
| <input type="checkbox"/> Fire Safety Director, NYC Only                        |   |

9. Has this project been reviewed for compliance with the Wicks Law involving separate bidding? YES  NO

10. Name and Title of Requester \_\_\_\_\_

**Signature**



NEW YORK STATE DEPARTMENT OF LABOR  
Bureau of Public Work - Debarment List

**LIST OF EMPLOYERS INELIGIBLE TO BID ON OR BE  
AWARDED ANY PUBLIC WORK CONTRACT**

Under Article 8 and Article 9 of the NYS Labor Law, a contractor, sub-contractor and/or its successor shall be debarred and ineligible to submit a bid on or be awarded any public work or public building service contract/sub-contract with the state, any municipal corporation or public body for a period of five (5) years from the date of debarment when:

- Two (2) final determinations have been rendered within any consecutive six-year (6) period determining that such contractor, sub-contractor and/or its successor has WILLFULLY failed to pay the prevailing wage and/or supplements;
- One (1) final determination involves falsification of payroll records or the kickback of wages and/or supplements.

The agency issuing the determination and providing the information, is denoted under the heading 'Fiscal Officer'. DOL = New York State Department of Labor; NYC = New York City Comptroller's Office; AG = New York State Attorney General's Office; DA = County District Attorney's Office.

**Debarment Database:** To search for contractors, sub-contractors and/or their successors debarred from bidding or being awarded any public work contract or subcontract under NYS Labor Law Articles 8 and 9, or under NYS Workers' Compensation Law Section 141-b, access the database at this link: <https://applications.labor.ny.gov/EDList/searchPage.do>

**For inquiries where WCB is listed as the "Agency", please call 1-866-546-9322**



**NYSDOL Bureau of Public Work Debarment List 02/03/2020**

**Article 8**

AGENCY	Fiscal Officer	FEIN	EMPLOYER NAME	EMPLOYER DBA NAME	ADDRESS	DEBARMENT START DATE	DEBARMENT END DATE
DOL	NYC	****9839	A.J.S. PROJECT MANAGEMENT, INC.		149 FIFTH AVENUE NEW YORK NY 10010	12/29/2016	12/29/2021
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	NYC		AGOSTINHO TOME		405 BARRETTO ST BRONX NY 10474	05/31/2018	05/31/2023
DOL	DOL		AJ TORCHIA		10153 ROBERTS RD SAUQUOIT NY 13456	08/09/2016	08/09/2021
DOL	DOL	****3344	ALL CATASTROPHE CONSTRUCTION TEAM INC	ACT INC	6409 LAND O LAKES BLVD LAND O LAKES FL 34638	11/10/2015	11/10/2020
DOL	DOL	****8740	ALLSTATE ENVIRONMENTAL CORP		C/O JOSE MONTAS 27 BUTLER PLACEYONKERS NY 10710	03/18/2011	03/19/2020
DOL	DOL		AMADEO J TORCHIA	TORCHIA'S HOME IMPROVEMENT	10153 ROBERTS RD SAUQUOIT NY 13456	08/09/2016	08/09/2021
DOL	NYC		AMJAD NAZIR		2366 61ST ST BROOKLYN NY 11204	12/15/2016	12/15/2021
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	NYC		ANTHONY J SCLAFANI		149 FIFTH AVE NEW YORK NY 10010	12/29/2016	12/29/2021
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		ARSHAD MEHMOOD		168-42 88TH AVENUE JAMAICA NY 11432	11/20/2019	11/20/2024
DOL	DOL		ARVINDER ATWAL		65 KENNETH PLACE NEW HYDE PARK NY 11040	07/19/2017	07/19/2022
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	****5532	ATWAL MECHANICALS, INC		65 KENNETH PLACE NEW HYDE PARK NY 11040	07/19/2017	07/19/2022



**NYS DOL Bureau of Public Work Debarment List 02/03/2020**

**Article 8**

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	AG		AVTAR SINGH		116-24 127TH STREET SOUTH OZONE PARK NY 11420	12/22/2015	12/22/2020
DOL	AG		BALDEV SINGH		116-24 127TH STREET SOUTH OZONE PARK NY 11420	12/22/2015	12/22/2020
DOL	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	NYC		CALVIN WALTERS		465 EAST THIRD ST MT. VERNON NY 10550	09/09/2019	09/09/2024
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

**NYSDOL Bureau of Public Work Debarment List 02/03/2020**

**Article 8**

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
DOL	DOL		CHRISTOPHER J MAINI		19 CAITLIN AVE JAMESTOWN NY 14701	09/17/2018	09/17/2023
DOL	DOL		CHRISTOPHER PAPASTEFANOU A/K/A CHRIS PAPASTEFANOU		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 AVENUEATLANTA 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	NYC		DALJIT KAUR BOPARAI		185-06 56TH AVE FRESH MEADOW NY 11365	10/17/2017	10/17/2022
DOL	DOL		DANICA IVANOSKI		61 WILLETT ST. PASSAIC NJ 07503	10/26/2016	10/26/2021
DOL	DOL		DARIAN L COKER		2610 SOUTH SALINA ST SUITE 2CSYRACUSE NY 13205	12/04/2018	12/04/2023
DOL	DOL		DARYL T RIEKS		C/O RIEKS CONTRACTING LLC 4804 GAHWILER ROADAUBURN NY 13021	05/01/2015	05/01/2020
DOL	NYC	****7707	DASSLE CONTRACTING INC		213-37 39TH AVE/SUITE 120 BAYSIDE NY 11360	05/08/2015	05/08/2020
DOL	DOL		DAVID MARTINEZ		C/O EMPIRE TILE INC 6 TREMONT COURTHUNTINGTON STATION NY 11746	03/08/2016	03/08/2021
DOL	NYC		DAVID WEINER		14 NEW DROP LANE 2ND FLOORSTATEN ISLAND NY 10306	11/14/2019	11/14/2024
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 55POUGHQUAG 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 REPAI 145 LODGE AVEHUNTINGTON 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 STREETLONG ISLAND CITY NY 11106	09/02/2015	09/02/2020
DOL	NYC		DIMITRIOS TSOUMAS		35-12 19TH AVENUE ASTORIA NY 11105	08/02/2017	08/02/2022
DOL	DOL	****3242	DONALD R. FORSAY	DF LAWN SERVICE	1835 DAANSEN RD. PALMYRA NY 14522	05/16/2017	05/16/2022
DOL	DOL		DONALD R. FORSAY		1835 DAANSEN RD. PALMYRA NY 14522	05/16/2017	05/16/2022

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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 B INGHAMTON NY 13904	02/04/2016	02/04/2021
DOL	NYC		DUARTE LOPES		66-05 WOODHAVEN BLVD. STE 2 REGO PARK NY 11374	04/20/2017	04/20/2022
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	NYC	****4269	EAST PORT EXCAVATION & UTILITIES		601 PORTION RD RONKONKOMA NY 11779	11/18/2016	11/18/2021
DOL	DOL	****0780	EMES HEATING & PLUMBING CONTR		5 EMES LANE MONSEY NY 10952	01/20/2002	01/20/3002
DOL	DOL	****3270	EMPIRE TILE INC		6 TREMONT COURT HUNTINGTON STATION NY 11746	03/08/2016	03/08/2021
DOL	NYC	****5917	EPOCH ELECTRICAL, INC		97-18 50TH AVE CORONA NY 11368	04/19/2019	04/19/2024
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 DR MONROE NY 10950	03/20/2019	03/20/2024
DOL	DOL		FAY MATTHEW		C/O CHAMPION CONSTRUCTION 2131 SCHENECTADY AVENUE BROOKLYN NY 11234	11/18/2015	11/18/2020
DOL	DOL		FAZIA GINA ALI-MOHAMMED	C/O CHAMPION CONSTRUCTION	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 AVENUE HARRISON 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	NYC		FRANK MAINI		1766 FRONT ST YORKTOWN HEIGHTS NY 10598	01/09/2018	01/09/2023
DOL	NYC	****6616	G & G MECHANICAL ENTERPRISES, LLC.		1936 HEMPSTEAD TURNPIKE EAST MEDOW NY 11554	11/29/2019	11/29/2024
DOL	DOL		GABRIEL FRASSETTI			04/10/2019	04/10/2024
DOL	DOL		GALINDA ROTENBERG		C/O GMDV TRANS INC 67-48 182ND STREET FRESH MEADOWS NY 11365	06/24/2016	06/24/2021
DOL	DOL		GEOFF CORLETT		415 FLAGGER AVE #302 STUART 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	NYC	****3164	GLOBE GATES INC	GLOBAL OVERHEAD DOORS	405 BARRETTO ST BRONX NY 10474	05/31/2018	05/31/2023
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 KUEMMEL		58-83 54TH STREET MASPETH NY 11378	02/26/2016	02/26/2021

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DOL	NYC	****3228	HEIGHTS ELEVATOR CORP.		1766 FRONT ST YORKTOWN HEIGHTS NY 10598	01/09/2018	01/09/2023
DOL	DOL		HENRY VAN DALRYMPLE		2663 LANTERN LANE ATLANTA GA 30349	12/01/2015	12/01/2020
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 KASSELIS		32 PENNINGTON AVE WALDWICK NJ 07463	05/30/2019	05/30/2024
DOL	AG		J A M CONSTRUCTION CORP		SUITE 125 265 SUNRISE HIGHWAY ROCKVILLE CENTRE NY 10457	04/07/2016	04/07/2021
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 HIGHWAY ROCKVILLE CENTRE NY 10457	04/07/2016	04/07/2021
DOL	DOL		JAMES LIACONE		9365 WASHINGTON ST LOCKPORT IL 60441	07/23/2018	07/23/2023
DOL	DOL		JAMES RACHEL		9365 WASHINGTON ST LOCKPORT IL 60441	07/23/2018	07/23/2023
DOL	DOL		JAMES RHYNDERS SR		91 COLLEGE AVENUE POUGHKEEPSIE NY 12603	12/04/2015	12/04/2020
DOL	DOL		JAMES SICKAU		3090 SHIRLEY ROAD NORTH COLLINS NY 14111	04/19/2011	07/08/2020
DOL	DOL		JASON W MILLIMAN		C/O ROCHESTER ACOUSTICAL P O BOX 799 HILTON NY 14468	02/19/2016	02/19/2021
DOL	DOL	****5368	JCH MASONRY & LANDSCAPING INC.		35 CLINTON AVE OSSINING NY 10562	09/12/2018	09/12/2023
DOL	NYC		JEFFREY CASSIDY		14 RAILROAD AVENUE VALHALLA NY 10595	05/15/2014	04/02/2020
DOL	NYC		JENNIFER GUERRERO		1936 HEMPSTEAD TURNPIKE EAST MEADOW NY 11554	11/29/2019	11/29/2024
DOL	DOL		JESSICA WHITESIDE		C/O BRRESTORATION NY INC 140 ARCADIA AVENUE OSWEGO NY 13126	09/12/2016	09/12/2021
DOL	AG		JOHN ANTHONY MASSINO		36-49 204TH STREET BAYSIDE NY 11372	02/07/2018	02/07/2023
DOL	DOL		JOHN 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	DOL		JOHN GOCEK		14B COMMERCIAL AVE ALBANY NY 12065	11/14/2019	11/14/2024
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 296 EAST AURORA NY 14052	07/29/2015	07/29/2020
DOL	DOL		JON E DEYOUNG		261 MILL RD P.O BOX 296 EAST AURORA NY 14052	05/29/2019	05/29/2024
DOL	DOL		JORI PEDERSEN		415 FLAGER AVE #302 STUART 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

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DOL	AG		JOSEPH FALCONE		SUITE 125 265 SUNRISE HIGHWAY ROCKVILLE CENTRE NY 10457	04/07/2016	04/07/2021
DOL	NYC		JOSEPH FOLEY		66-05 WOODHAVEN BLVD. STE 2 REGO PARK NY 11374	04/20/2017	04/20/2022
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		JOY MARTIN		2404 DELAWARE AVE NIGARA FALLS NY 14305	09/12/2018	09/12/2023
DOL	DOL		JUANA MARTINEZ		C/O LEAD CONSTRUCTION 27 BUTLER PLACE YONKERS 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	NYC		K.S. CONTRACTING CORP.		29 PHILLIP DRIVE PARSIPPANY NJ 07054	02/13/2017	02/13/2022
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
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	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

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DOL	DOL		LEROY NELSON JR		PO BOX 10007 ALBANY NY 12201	01/17/2017	09/19/2022
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. 6E JACSON HEIGHTS NY 11372	02/07/2018	02/07/2023
DOL	NYC		LUBOMIR PETER SVOBODA		27 HOUSMAN AVE STATEN ISLAND NY 10303	12/26/2019	12/26/2024
DOL	AG		LUIS MARTINEZ	LALO DRYWALL	211 MAIN ST. NEW PALTZ NY 12561	05/20/2016	05/20/2021
DOL	NYC		M & L STEEL & ORNAMENTAL IRON CORP.		27 HOUSMAN AVE STATEN ISLAND NY 10303	12/26/2019	12/26/2024
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 DRIVE BINGHAMTON NY 13904	02/04/2016	02/04/2021
DOL	DOL		MARK MIONIS		6409 LAND O LAKES BLVD LAND O LAKES FL 34638	11/10/2015	11/10/2020
DOL	NYC		MARTINE ALTER		1010 NORTHERN BLVD. GREAT NECK NY 11021	03/09/2017	03/09/2022
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	NYC		MATINA KARAGIANNIS		97-18 50TH AVE CORONA NY 11368	04/19/2018	04/19/2023
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 PROFESSIO AL PAINTING OF CNY	1229 JAMES STREET SYRACUSE NY 13203	05/02/2017	05/02/2022
DOL	DOL	****9445	MCLEAN M WALSH	ELITE PROFESSIO 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

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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	NYC	****9926	MILLENNIUM FIRE PROTECTION, LLC		325 W. 38TH STREET SUITE 204 NEW YORK NY 10018	11/14/2019	11/14/2024
DOL	NYC	****0627	MILLENNIUM FIRE SERVICES, LLC		14 NEW DROP LNE 2ND FLOOR STATEN ISLAND NY 10306	11/14/2019	11/14/2024
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	NYC	****3826	MOVING MAVEN OF NY, INC.		1010 NORTHERN BLVD. GREAT NECK NY 11021	03/09/2017	03/09/2022
DOL	NYC	****3550	MOVING MAVEN, INC		1010 NORTHERN BLVD. GREAT NECK NY 11021	03/09/2017	03/09/2022
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 RIDGWOOD NY 11385	05/15/2015	05/15/2020
DOL	DOL	****6966	NORTH COUNTRY DRYWALL AND PAINT		23167 COUNTY ROUTE 59 DEXTER NY 13634	10/24/2016	10/24/2021
DOL	DOL	****0065	NORTHEAST LANDSCAPE AND MASONRY ASSOC		3 WEST MAIN ST/SUITE 208 ELMSFORD NY 10523	01/23/2017	01/23/2022
DOL	DOL	****1845	OC ERECTERS, LLC A/K/A OC ERECTERS OF NY INC.		1207 SW 48TH TERRACE DEERFIELD BEACH FL 33442	01/16/2018	01/16/2023
DOL	NYC	****0818	ONE TEN RESTORATION, INC.		2366 61ST ST BROOKLYN NY 11204	12/15/2016	12/15/2021
DOL	NYC		ORSON ARROYO		C/O METRO DUCT SYSTEMS 12-19 ASTORIA BOULEVARD LONG ISLAND CITY NY 11102	04/16/2014	11/19/2020
DOL	NYC		PARESH SHAH		29 PHILLIP DRIVE PARSIPPANY NJ 07054	02/13/2017	02/13/2022
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

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DOL	NYC	****4532	PROFESSIONAL PAVERS CORP.		66-05 WOODHAVEN BLVD. REGO PARK NY 11374	04/20/2017	04/20/2022
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	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	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	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 CONSTRUCTION	108 LAMONT AVE SYRACUSE NY 13209	10/16/2018	10/16/2023
DOL	DOL		RICHARD TIMIAN JR.		108 LAMONT AVE SYRACUSE NY 13209	10/16/2018	10/16/2023
DOL	DOL		RICHARD TIMIAN JR.		108 LAMONT AVE SYRACUSE NY 13209	11/13/2018	11/13/2023
DOL	DOL	****8618	RIEKS CONTRACTING LLC		4804 GAHWILER ROAD AUBURN NY 13021	05/01/2015	05/01/2020
DOL	DOL		ROBBYE BISSEsar		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	NYC		ROBERT HOHMAN		149 FIFTH AVE NEW YORK NY 10010	12/29/2016	12/29/2021
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 AVE WEST HEMPSTEAD NY 11552	10/30/2015	10/30/2020
DOL	DOL		ROMEO WARREN		161 ROBYN RD MONROE NY 10950	01/30/2018	01/30/2023
DOL	DOL		RONALD MESSen		14B COMMERCIAL AVE ALBANY NY 12065	11/14/2019	11/14/2024
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	DOL	****7730	S C MARTIN GROUP INC.		2404 DELAWARE AVE NIAGARA FALLS NY 14305	09/12/2018	09/12/2023
DOL	NYC		SABIR MUHAMMED		SUITE B-8 782 PELHAM PARKWAY SOUTHBRONX NY 10462	04/21/2016	04/21/2021
DOL	DOL		SALVATORE A FRESINA			08/26/2016	08/26/2021



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DOL	DOL		SAM FRESINA			08/26/2016	08/26/2021
DOL	NYC	****0349	SAM WATERPROOFING INC		168-42 88TH AVENUE APT.1 AJAMAICA NY 11432	11/20/2019	11/20/2024
DOL	NYC		SANDEEP BOPARAI		185-06 56TH AVE FRESH MEADOW NY 11365	10/17/2017	10/17/2022
DOL	NYC	****2117	SCOTT ELECTRICAL SERVICE, LLC.		201 HEMPSTEAD AVE 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 GILLET PA 16923	03/12/2018	03/12/2023
DOL	DOL		SHANE BURDICK		2238 BAKER ROAD GILLET PA 16923	03/12/2018	03/12/2023
DOL	DOL		SHANE NOLAN		9365 WASHINGTON ST LOCKPORT IL 60441	07/23/2018	07/23/2023
DOL	DOL		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	****6844	STEAM PLANT AND CHX SYSTEMS INC.		14B COMMERCIAL AVENUE ALBANY NY 12065	11/14/2019	11/14/2024
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	NYC		STEVEN GOVERNALE		601 PORTION RD RONKONKOMA NY 11779	11/18/2016	11/18/2021
DOL	DOL		STEVEN MARTIN		2404 DELWARE AVE NIAGARA FALLS NY 14305	09/12/2018	09/12/2023
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	NYC	****5863	SUKHMANY CONSTRUCTION, INC.		185-06 56TH AVE FRESH MEADOW NY 11365	10/17/2017	10/17/2022
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
DOL	DOL	****0887	THE BRINSON PAINTING CORPORATION		72 TAUNTON PLACE BUFFALO NY 14216	04/14/2015	04/14/2020
DOL	DOL	****5766	THE COKER CORPORATION	COKER CORPORATIO N	2610 SOUTH SALINA ST SUITE 14SYRACUSE NY 13205	12/04/2018	12/04/2023
DOL	DOL	****8174	THE DALRYMPLE CORPORATION		UNIT 278 541 10TH STREET NWTALANTA GA 30318	12/01/2015	12/01/2020

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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	****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	NYC	****7361	VIABLE HOLDINGS, INC.	MOVING MAVEN	1010 NORTHERN BLVD. GREAT NECK NY 11021	03/09/2017	03/09/2022
DOL	DOL		VICTOR ALICANTI		42-32 235TH ST DOUGLSTON 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 CROSEY 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	NYC	****3673	WALTERS AND WALTERS, INC.		465 EAST AND THIRD ST MT. VERNON NY 10550	09/09/2019	09/09/2024
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

# SECTION F

# TECHNICAL SPECIFICATIONS

## SECTION 011000 - SUMMARY

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Work covered by the Contract Documents.
  - 2. Type of Contract.
  - 3. Use of premises.
  - 4. Owner's occupancy requirements.
  - 5. Work restrictions.
  - 6. Specification formats and conventions.
- B. Related Sections include the following:
  - 1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

#### 1.3 WORK COVERED BY CONTRACT DOCUMENTS

- A. Owner: Cattaraugus County, 303 Court Street, Little Valley, New York 14755.
- B. Architect/Engineer: Wendel, 535 Washington Street, Suite 603, Buffalo, NY 14203.
- C. The Work consists of the following:
  - 1. The Work includes: Asbestos Abatement, Demolition of existing domestic hot water boilers and existing piping. Install 4 new domestic hot water boilers, piping, insulation and associated appurtenances as indicated in the Contract Documents.

#### 1.4 TYPE OF CONTRACT

- A. Project will be constructed under a single lump sum contract using the contract forms presented at the front of this manual.

#### 1.5 WORK SEQUENCE/PHASING

- A. Project will be constructed in a manner to accommodate the operations of the existing facility during the construction process. Phase project so building remains in a watertight condition. Phase scope of work to suites of toilet rooms so only one Men's and Women's toilet rooms on each floor are under construction at any one time. Cannot close all toilet rooms at one time.

#### 1.6 USE OF PREMISES

- A. General: The contractor shall have limited use of premises for construction operations as indicated below.
- B. Use of Site: Limit use of premises to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
  - 1. Owner Occupancy: Allow for Owner access of Project site and use by the public of adjoining areas. Coordinate with the facility for the sequencing of work at sidewalks and main entrance to maintain operation of the entrances.
  - 2. Driveways and Entrances: Keep driveways, parking areas, loading areas and entrances serving premises clear and available to Owner, Owner's employees, emergency vehicles, and the public at all times. Do not use these areas for parking or storage of materials.
    - a. Schedule deliveries to minimize use of driveways and entrances.
    - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- C. Use of Existing Building: Maintain existing building in a weathertight condition throughout construction period. Repair damage caused by construction operations. Protect building and its occupants during construction period.
- D. Use of Existing Grounds: Maintain portions of existing grounds, landscaping, and hardscaping affected by construction operations throughout construction period. Repair damage caused by construction operations.

#### 1.7 OWNER'S OCCUPANCY REQUIREMENTS

- A. Full Owner Occupancy: The Owner will occupy the site and the existing building during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with the Owner's day-to-day operations. Maintain existing exits, unless otherwise indicated.
  - 1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.
  - 2. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.

## 1.8 WORK RESTRICTIONS

- A. On-Site Work Hours: May proceed during hours as agreed to by the Owner. General work hours are 8am to 5pm.
- B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
  - 1. Notify Owner not less than three days in advance of proposed utility interruptions.
  - 2. Do not proceed with utility interruptions without Owner's written permission.
- C. Noise, Vibration and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption of Owner occupancy with Owner.
  - 1. Notify Owner not less than two days in advance of proposed disruptive operations.
- D. Nonsmoking Building: Smoking is not permitted within the building or within 25 feet of entrances, operable windows or outdoor air intakes.
- E. Employee Identification: Provide identification tags for Contractor personnel working on project site. Require personnel to use identification tags at all times. Provide a list of personnel who will be working on the project to the Owner.
- F. Security: The public and staff privacy are to be adhered and meet HPPA regulations. No photos to be taken of staff members.

## 1.9 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The Specifications are organized into Divisions and Sections using the 33-division format and CSI/CSC's "MasterFormat" numbering system.
  - 1. Section Identification: The Specifications use Section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are not used. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of Sections in the Contract Documents.
  - 2. Division 1: Sections in Division 1 govern the execution of the Work of all Sections in the Specifications.
- B. 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. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.

2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
  - a. 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.

#### 1.10 SUMMARY OF REQUIRED SUBMITTALS

- A. The following is a list of submittals arranged in the order of time milestones. The list is not intended to be complete, but to summarize important submittals in one location convenient for reference for all parties, for the purpose of helping ensure the submittals are made at the proper time so as not to impede the progress of the work.
  1. Submittals required prior to Notice of Award:
    - a. Contractor's Qualification Statement.
    - b. Work to be performed by the bidder with his own forces.
    - c. List of subcontractors and other entities proposed to provide portions of the work.
    - d. Back-up data for proposed substitutions.
    - e. Cost breakdown of the bid.
  2. Submittals required prior to Award of Contract:
    - a. Performance and Payment Bonds
    - b. Insurance Certificates
  3. Submittals required prior to Mobilization at the Project Site:
    - a. Schedule of Values – Refer to Section 012900.
    - b. Preliminary Project Schedule – Refer to Section 013200.
    - c. Submittals Schedule – Refer to Section 013200.
    - d. Safety Program and name of Safety Coordinator – Refer to General Conditions.
    - e. List of principal staff names and assignments – Refer to Section 013100.
  4. Submittals required prior to commencement of each portion of the work:
    - a. Acceptance of existing conditions and substrates upon which work is to be performed. Include verification that existing mechanical and electrical systems are functioning in each area of work. Refer to Section 017300.
    - b. Refer to individual Specification Sections for required shop drawings, product data, samples, test reports, certificates, and other required submittals.
  5. Submittals required prior to Substantial Completion and Final Completion: Refer to Section 017700.

Cattaraugus County – The Pines, Olean  
Water Heater Replacement  
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PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000



## 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 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Sections include the following:
  - 1. Division 1 Section "Product Requirements" for administrative procedures for handling requests for substitutions made after Contract award.

#### 1.3 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710 or other appropriate form.

#### 1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
  - 1. Proposal Requests issued by Architect are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
  - 2. Within time specified in 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 an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change.
  - 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 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.
  - 5. Comply with requirements in Division 1 Section "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.
- C. Proposal Request Form: Use AIA Document G709 for Proposal Requests, unless otherwise directed.

#### 1.5 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Proposal Request, the Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

#### 1.6 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. 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 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Sections include the following:
  - 1. Division 1 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
  - 2. Division 1 Section "Construction Progress Documentation" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals 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. Correlate 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. Submittals Schedule.
  - 2. Submit the Schedule of Values to Architect at earliest possible date but no later than seven days before the date scheduled for submittal of the initial Application for Payment.
  - 3. Subschedules: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values correlated with each phase of payment.
  - 4. Provide separate Schedules of Values for different parts of the work, in accordance with funding requirements, as determined after award of contract.

- B. Format and Content: Use the 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. Provide at least one line item for each of the following as applicable. Some of the items below require submittals by the Contractor. Failure to provide such submittals will result in a credit to the Owner for work not performed, based on the values of each item listed.
    - a. General Conditions
    - b. Daily Construction Reports
    - c. Photographic Documentation
    - d. Two Week Schedule
    - e. Project Schedule Updates
    - f. Progress Meeting Attendance
    - g. Each Specification Section
    - h. Final Cleaning
    - i. Operation and Maintenance Manuals
  2. Identification: Include the following Project identification on the Schedule of Values:
    - a. Project name and location.
    - b. Name of Architect.
    - c. Architect's project number.
    - d. Contractor's name and address.
    - e. Date of submittal.
  3. 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.
      - 1) Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100%.
  4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.
  5. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
  6. 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. Include evidence of insurance or bonded warehousing if required.

7. 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.
  1. 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.
  2. 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 shall be consistent with previous applications and payments as certified by 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 application for each progress payment is the fifteenth day of each month. The period covered by each Application for Payment starts on the day following the end of the preceding period and ends 15 days before the date for each progress payment.
- C. Payment Application Forms: Use AIA Document G702 and AIA Document G703 Continuation Sheets as form for Applications for Payment unless otherwise directed. (Sample located at the end of this section.)
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
  1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
  2. Include amounts of changes in the work issued before last day of construction period covered by application.
- E. Transmittal: Submit three signed and notarized original copies of each Application for Payment to Architect 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.
- F. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.

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 final or full waivers.
  3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
  4. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
  5. Waiver Forms: Submit waivers of lien on forms executed in a manner acceptable to Owner.
- G. 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. Contractor's Construction Schedule (preliminary if not final).
  3. Products list.
  4. Schedule of unit prices.
  5. Submittals Schedule (preliminary if not final).
  6. List of Contractor's staff assignments.
  7. List of Contractor's principal consultants.
  8. Copies of building permits.
  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. Initial settlement survey and damage report if required.
- H. Application for Payment at Substantial Completion: After issuing 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 Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- I. Final Payment Application: 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. Submit Certificate of Substantial Completion.
  4. Updated final statement, accounting for final changes to the Contract Sum.
  5. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
  6. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
  7. Evidence that claims have been settled.

Cattaraugus County – The Pines, Olean  
Water Heater Replacement  
Wendel Project No. 307667

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 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
  - 1. General project coordination procedures.
  - 2. Conservation.
  - 3. Coordination Drawings.
  - 4. RFIs
  - 5. Administrative and supervisory personnel.
  - 6. Project meetings.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Division 1 Section "Construction Progress Documentation" for preparing and submitting the Contractor's Construction Schedule.
  - 2. Division 1 Section "Execution Requirements" for procedures for coordinating general installation.
  - 3. Division 1 Section "Closeout Procedures" for coordinating Contract closeout.

#### 1.3 COORDINATION

- A. Coordination: Coordinate construction operations, included in different Sections of the specification 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 with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
  - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. If necessary, 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 and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's Construction Schedule.
  2. Installation and removal of temporary facilities and controls.
  3. Delivery and processing of submittals.
  4. Progress meetings.
  5. Preinstallation conferences.
  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.
1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work.

#### 1.4 REQUEST FOR INFORMATION (RFI)

- A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
1. Architect will return without response those RFIs submitted to Architect by other entities controlled by Contractor.
  2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
1. Project name.
  2. Project number.
  3. Date.
  4. Name of Contractor.
  5. Name of Architect.
  6. RFI number, numbered sequentially.
  7. RFI subject.
  8. Specification Section number and title and related paragraphs, as appropriate.
  9. Drawing number and detail references, as appropriate.
  10. Field dimensions and conditions, as appropriate.
  11. Contractor's suggested resolution. If Contractor's 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: Submit on form at the end of this section.
- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
  1. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt by Architect of additional information.
  2. Architect'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 Section 012600 "Contract Modification Procedures."
    - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect 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 bi-weekly. Include the following:
  1. Project name.
  2. Name and address of Contractor.
  3. Name and address of Architect.
  4. RFI number including RFIs that were returned without action or withdrawn.
  5. RFI description.
  6. Date the RFI was submitted.
  7. Date Architect's response was received.
- F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.

## 1.5 SUBMITTALS

- A. Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.
  1. Indicate relationship of components shown on separate Shop Drawings.
  2. Indicate required installation sequences.
- B. Staff Names: Prior to mobilization at the project site, submit a list of principal staff 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 and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

#### 1.6 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

- A. General: In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work.

#### 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 Architect of scheduled meeting dates and times.
  - 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
  - 3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within 3 days of the meeting.
  
- B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.
  - 1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
  - 2. Agenda: Discuss items of significance that could affect progress, including the following:
    - a. Tentative construction schedule.
    - b. Phasing.
    - c. Critical work sequencing.
    - d. Designation of responsible personnel.
    - e. Procedures for processing field decisions and Change Orders.
    - f. Procedures for processing Applications for Payment.
    - g. Distribution of the Contract Documents.
    - h. Submittal procedures.
    - i. Preparation of Record Documents.
    - j. Use of the premises.
    - k. Responsibility for temporary facilities and controls.
    - l. Parking availability.
    - m. Office, work, and storage areas.
    - n. Equipment deliveries and priorities.
    - o. First aid.
    - p. Security.

- q. Progress cleaning.
  - r. Working hours.
- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.
- 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
  - 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
    - a. Contract Documents.
    - b. Options.
    - c. Related Change Orders.
    - d. Purchases.
    - e. Deliveries.
    - f. Submittals.
    - g. Review of mockups.
    - h. Possible conflicts.
    - i. Compatibility problems.
    - j. Time schedules.
    - k. Weather limitations.
    - l. Manufacturer's written recommendations.
    - m. Warranty requirements.
    - n. Compatibility of materials.
    - o. Acceptability of substrates.
    - p. Temporary facilities and controls.
    - q. Space and access limitations.
    - r. Regulations of authorities having jurisdiction.
    - s. Testing and inspecting requirements.
    - t. Required performance results.
    - u. Protection of construction and personnel.
  - 3. Record significant conference discussions, agreements, and disagreements.
  - 4. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Progress Meetings: Conduct progress meetings twice monthly. Coordinate dates of meetings with preparation of payment requests.
- 1. Attendees: In addition to representatives of Owner and Architect, Contractor and each 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 conference shall be familiar with Project and authorized to conclude matters relating to the Work.

2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
  - 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.
  - 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) Work hours.
    - 10) Hazards and risks.
    - 11) Progress cleaning.
    - 12) Quality and work standards.
    - 13) Change Orders.
    - 14) Documentation of information for payment requests.
    - 15) Coordination of work between Contractors.
3. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.
  - 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

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# REQUEST FOR INFORMATION

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*Contractor Name*

Address:  
City, State, Zip:

Phone:  
Fax:

**Wendel Project No. 307667**

**Contractor RFI No.:** \_\_\_\_\_

**DATE:** \_\_\_\_\_

**TITLE:** \_\_\_\_\_

**CONTRACTOR**

**JOB NO:** \_\_\_\_\_

**PROJECT:** Water Heater Repacement – The Pines Olean  
\_\_\_\_\_

**REQUIRED  
RESPONSE DATE:** \_\_\_\_\_

**TO:** Wendel  
375 Essjay Road  
Williamsville, NY 14221  
Phone: 716-688-0766 Fax: 716-625-6825

**ATTN:** Nancy DeLoatch ([ndeloatch@wendelcompanies.com](mailto:ndeloatch@wendelcompanies.com))

**QUESTION:**

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Requested By: \_\_\_\_\_ Date: \_\_\_\_\_  
Name

## 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 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This 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. Submittals Schedule.
  - 3. Daily construction reports.
  - 4. Material location reports.
  - 5. Field condition reports.
  - 6. Special reports.
- B. Related Sections include the following:
  - 1. Division 1 Section "Payment Procedures" for submitting the Schedule of Values.
  - 2. Division 1 Section "Project Management and Coordination" for submitting and distributing meeting and conference minutes.
  - 3. Division 1 Section "Submittal Procedures" for submitting schedules and reports.

#### 1.3 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
  - 1. Predecessor activity is an activity that must be completed before a given activity can be started.
- B. Event: The starting or ending point of an activity.
- C. 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 following activity.

3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.
- D. Major Area: A story of construction, a separate building, or a similar significant construction element.
- E. Milestone: A key or critical point in time for reference or measurement.

#### 1.4 SUBMITTALS

- A. Submittals Schedule: Submit three copies of schedule. Arrange the following information in a tabular format:
  1. Scheduled date for first submittal.
  2. Specification Section number and title.
  3. Submittal category (action or informational).
  4. Name of subcontractor.
  5. Description of the Work covered.
  6. Scheduled date for Architect's and Owner's final release or approval.
- B. Contractor's Construction Schedule: Submit three printed copies of initial schedule, large enough to show entire schedule for entire construction period.
- C. Daily Construction Reports: Submit two copies at weekly intervals.
- D. Material Location Reports: Submit two copies at weekly intervals.
- E. Field Condition Reports: Submit two copies at time of discovery of differing conditions.
- F. Special Reports: Submit two copies 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, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.
  1. Secure time commitments for performing critical elements of the Work from parties involved.
  2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.



## PART 2 - PRODUCTS

### 2.1 SUBMITTALS SCHEDULE

- A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.
1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
  2. Initial Submittal: Submit concurrently with preliminary bar-chart schedule. Include submittals required during the first 60 days of construction. List those required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
  3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's Construction Schedule.

### 2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Procedures: Comply with procedures contained in AGC's "Construction Planning & Scheduling."
- B. Time Frame: Extend schedule from date established for commencement to the date of Substantial Completion and Final Completion.
1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- C. Activities: Treat each separate area as a separate numbered activity for each principal element of the Work. Comply with the following:
1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
  2. Procurement Activities: Include procurement process activities for long lead items and major items, requiring a cycle of more than 60 days, as separate activities in 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 1 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
  4. Startup and Testing Time: Include not less than 3 days for startup and testing.
  5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's and Owner's administrative procedures necessary for certification of Substantial Completion.

- D. 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. Phasing: Arrange list of activities on schedule by phase.
  2. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
  3. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Division 1 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
  4. Work Restrictions: Show the effect of the following items on the schedule:
    - a. Coordination with existing construction.
    - b. Limitations of continued occupancies.
    - c. Uninterruptible services.
    - d. Use of premises restrictions.
    - e. Seasonal variations.
  5. 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. Deliveries.
    - f. Installation.
    - g. Tests and inspections.
    - h. Adjusting.
    - i. Curing.
    - j. Placement into final use and operation.
  6. Area Separations: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities.
- E. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, interim milestones, Substantial Completion, and Final Completion.
- F. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using fragnets to demonstrate the effect of the proposed change on the overall project schedule.
- G. Computer Software: Prepare schedules using a program that has been developed specifically to manage construction schedules.

### 2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's Construction Schedule within 30 days of date established for commencement of the Work. Base schedule on the dates established for Substantial Completion and Final Completion and whatever updating and feedback was received since the start of Project.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
  - 1. For construction activities that require 3 months or longer to complete, indicate an estimated completion percentage in 10% increments within time bar.

### 2.4 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
  - 1. List of subcontractors at Project site.
  - 2. List of separate contractors at Project site.
  - 3. Approximate count of personnel at Project site.
  - 4. High and low temperatures and general weather conditions.
  - 5. Accidents.
  - 6. Meetings and significant decisions.
  - 7. Unusual events (refer to special reports).
  - 8. Stoppages, delays, shortages, and losses.
  - 9. Meter readings and similar recordings.
  - 10. Emergency procedures.
  - 11. Orders and requests of authorities having jurisdiction.
  - 12. Change Orders received and implemented.
  - 13. Supplemental instructions received and implemented.
  - 14. Services connected and disconnected.
  - 15. Equipment or system tests and startups.
  - 16. Partial Completions and occupancies.
  - 17. Substantial Completions authorized.
- B. Material Location Reports: At monthly intervals, prepare 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.
- C. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare a detailed report. Submit with a request for information on the form required. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

## 2.5 SPECIAL REPORTS

- A. General: Submit special reports directly to Owner 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 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 monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before the next 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 Actual Completion percentage for each activity.
- B. Distribution: Distribute copies of approved schedule to Architect, 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 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 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other miscellaneous submittals.
- B. Related Sections include the following:
  - 1. Division 1 Section "Payment Procedures" for submitting Applications for Payment.
  - 2. Division 1 Section "Project Management and Coordination" for submitting Coordination Drawings.
  - 3. Division 1 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's Construction Schedule and the Submittals Schedule.
  - 4. Division 1 Section "Quality Requirements" for submitting test and inspection reports and for erecting mockups.
  - 5. Division 1 Section "Closeout Procedures" for submitting warranties and Project Record Documents.
  - 6. Division 1 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.

#### 1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information that requires Architect's responsive action.
- B. Informational Submittals: Written information that does not require Architect's approval. Submittals may be rejected for not complying with requirements.

#### 1.4 SUBMITTAL PROCEDURES

- A. Electronic Media Request: Electronic copies of CAD Drawings of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals upon receipt of a signed disclaimer (available from Architect) with specific request and payment of a nominal fee of \$50.00 per Drawing.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

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1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that requires sequential activity.
  2. 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. Submit all items required by each specification section in one package. Piecemeal submittals will not be reviewed and will be returned with appropriate action stamp indicating incomplete submittal.
    - b. Architect will withhold action on a submittal requiring coordination with submittals required by other sections until related submittals are received.
- C. Submittals Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation" for list of submittals and time requirements for scheduled performance of related construction activities.
- D. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal.
1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
  2. Concurrent Review: Where concurrent review of submittals by Architect's consultants, Owner, or other parties is required, allow 21 days for initial review of each submittal.
  3. If intermediate submittal is necessary, process it in same manner as initial submittal.
  4. Allow same amount of time as above for processing each resubmittal.
  5. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing.
- E. Identification: Place a permanent label or title block on each submittal for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
  2. Provide a space approximately 6 by 6 inches (150 by 150-mm)] on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
  3. Include the following information on label for processing and recording action taken:
    - a. Project name.
    - b. Date.
    - c. Name and address of Architect.
    - d. Name and address of Contractor.
    - e. Name and address of subcontractor.
    - f. Name and address of supplier.
    - g. Name of manufacturer.
    - h. Number and title of appropriate Specification Section.
    - i. Drawing number and detail references, as appropriate.
    - j. Other necessary identification.
- F. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals.

- G. Additional Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions of the Contract Documents, initial submittal may serve as final submittal.
- H. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a Submittal Transmittal form, located at end of this specification section. Architect will return submittals, without review, received from sources other than Contractor.
  - 1. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements of the Contract Documents, including minor variations and limitations. Include the same label information as the related submittal.
  - 2. Include Contractor's certification stating that information submitted complies with requirements of the Contract Documents.
  - 3. Transmittal Form: Use sample form at end of Section.
- I. 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.
- J. Use for Construction: Use only final submittals with mark indicating action taken by Architect in connection with construction.
- K. Required Submittals: Refer to individual Specification Sections and elsewhere in the Contract Documents for listing and descriptions of required submittals. The Architect may also request additional submittals to assure compliance with the Contract Documents. Submit these required items only. Submittals not required by the Contract Documents or requested by the Architect will not be reviewed and will be discarded or returned without action.

## PART 2 - PRODUCTS

### 2.1 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required by individual Specification Sections.
- 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 printed 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 written recommendations.
    - b. Manufacturer's product specifications.
    - c. Color charts showing full range of available colors.
    - d. Manufacturer's catalog cuts.

- e. Wiring diagrams showing factory-installed wiring.
  - f. Printed performance curves.
  - g. Operational range diagrams.
  - h. Mill reports.
  - i. Standard product operating and maintenance manuals.
  - j. Compliance with recognized trade association standards.
  - k. Compliance with recognized testing agency standards.
  - l. Application of testing agency labels and seals.
  - m. Notation of coordination requirements.
4. Number of Copies: Submit five (5) copies of each submittal. The Architect will retain one copy and return the remainder to the Contractor for distribution.
- 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: Include the following information, as applicable:
    - a. Dimensions.
    - b. Identification of products.
    - c. Fabrication and installation drawings.
    - d. Roughing-in and setting diagrams.
    - e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
    - f. Shopwork manufacturing instructions.
    - g. Templates and patterns.
    - h. Schedules.
    - i. Design calculations.
    - j. Compliance with specified standards.
    - k. Notation of coordination requirements.
    - l. Notation of dimensions established by field measurement.
  2. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
  3. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm) but no larger than sheet size used for Contract Document Drawings.
  4. Number of Copies: Submit one correctable, translucent, reproducible print and one blue-or black-line print of each submittal. Architect will return the reproducible print.
- D. Coordination Drawings: Comply with requirements in Division 1 Section "Project Management and Coordination."
- E. Samples: Prepare physical units of materials or products, including the following:
1. Comply with requirements in Division 1 Section "Quality Requirements" for mockups.
  2. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
  3. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from the same material to be used for the Work, cured and finished in manner specified, and physically identical with the product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the



following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

4. Preparation: Mount, display, or package Samples in manner specified to facilitate review of qualities indicated. Prepare Samples to match Architect's sample where so indicated. Attach label on unexposed side that includes the following:
    - a. Generic description of Sample.
    - b. Product name or name of manufacturer.
    - c. Sample source.
  5. Submit Samples for review of kind, color, pattern, and texture for a final check of these characteristics with other elements and for a comparison of these characteristics between final submittal and actual component as delivered and installed.
    - a. If variation in color, pattern, texture, or other characteristic is inherent in the product represented by a Sample, submit at least three sets of paired units that show approximate limits of the variations.
    - b. Refer to individual Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation, and similar construction characteristics.
  6. Number of Samples for Initial Selection: Submit two full sets of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
  7. Number of Samples for Verification: Submit three sets of Samples. Architect will retain one Sample set; remainder will be returned. Mark up and retain one returned Sample set as a Project Record Sample.
    - a. Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
  8. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
    - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
    - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
- F. Product Schedule or List: Comply with requirements in Division 1 Section "Product Requirements".
- G. Delegated-Design Submittal: Comply with requirements in Division 1 Section "Quality Requirements."

- H. Contractor's Construction Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation".
- I. Submittals Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation."
- J. Application for Payment: Comply with requirements in Division 1 Section "Payment Procedures."
- K. Schedule of Values: Comply with requirements in Division 1 Section "Payment Procedures."
- L. Subcontract List: Comply with requirements in Division 1 Section "Project Management and Coordination".

## 2.2 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit Informational Submittals required by other Specification Sections.
  - 1. Number of Copies: Submit two copies of each submittal, unless otherwise indicated. Architect will not return copies.
  - 2. Certificates and Certifications: Provide a notarized 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.
  - 3. Test and Inspection Reports: Comply with requirements in Division 1 Section "Quality Requirements."
- B. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- C. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.
- D. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.
- E. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific Project.
- F. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.
- G. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements.

- H. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.
- I. Preconstruction Test Reports: Prepare 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.
- J. Compatibility Test Reports: Prepare 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.
- K. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, 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.
- L. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements. 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.
- M. Research/Evaluation Reports: Prepare 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.
- N. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with requirements in Division 1 Section "Operation and Maintenance Data."
- O. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.
- P. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:
  - 1. Preparation of substrates.

2. Required substrate tolerances.
  3. Sequence of installation or erection.
  4. Required installation tolerances.
  5. Required adjustments.
  6. Recommendations for cleaning and protection.
- Q. Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:
1. Name, address, and telephone number of factory-authorized service 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.
- R. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.
- S. Material Safety Data Sheets: Submit information directly to Owner. If submitted to Architect, Architect will not review this information but will return it with no action taken.

### PART 3 - EXECUTION

#### 3.1 CONTRACTOR'S REVIEW

- A. Review each submittal and check for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. 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 ARCHITECT'S ACTION

- A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:

1. Architect's Action:

- a. Final Unrestricted Release: When the Architect marks a submittal "No Exceptions Taken" the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final payment depends on that compliance.
  - b. Final-But-Restricted Release: When the Architect marks a submittal "Provide as Corrected," the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract documents. Final payment depends on that compliance.
  - c. Returned for Resubmittal: When the Architect marks a submittal "Revise and Resubmit," do not proceed with Work covered by the submittal, including purchasing, fabrication, deliver, or other activity. Revise or prepare a new submittal according to the notations; resubmit without delay.
    - 1) Do not use, or allow others to use, submittals marked "Revise and Resubmit" at the Project Site or elsewhere where Work is in progress.
  - d. Returned for Resubmittal: When the Architect marks a submittal "Rejected", the Architect has not completed a full review, because it is clear that the submittal does not reflect the requirements of the Contract Documents. Do not proceed with work covered by the submittal, including purchasing, fabrication, delivery or other activity. Revise or prepare a new submittal that complies with the Contract Documents.
  - e. Returned for Resubmittal: When the Architect marks a submittal "Submit Specified Item" do not proceed with work covered by the submittal, including purchasing, fabrication, delivery, or other activity. The product submitted was not specified or previously approved. Shop drawing or product data submittal is not an acceptable method to obtain approval of substitutions. Resubmit specified or previously approved product.
  - f. Returned for Resubmittal: When the Architect marks a submittal "Submit Additional Information", do not proceed with work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Not enough information has been included to make an evaluation, or the data submitted illustrates more than one product or optional features, without identifying what is actually proposed. Revise or prepare a new submittal with all required information complete and clearly indicated.
- C. Informational Submittals: Architect will review each submittal and will not return it, or will reject and return it if it does not comply with requirements.
- D. Submittals not required by the Contract Documents will not be reviewed and may be discarded or returned without action.

END OF SECTION 013300



Submittal No. \_\_\_\_\_

# Submittal Transmittal

PROJECT: Water Heater Replacement – The Pines, Olean WENDEL PROJECT #: 307667

OWNER: Cattaraugus County A/E: Wendel

CONTRACT # & NAME \_\_\_\_\_

CONTRACTOR: \_\_\_\_\_  
(NAME, ADDRESS, TELEPHONE & FAX NUMBERS)

NEW SUBMITTAL       RESUBMITTAL      Date: \_\_\_\_\_

This submittal is:  AS SPECIFIED      REMARKS: \_\_\_\_\_

NUMBER OF COPIES SUBMITTED: (8 maximum) \_\_\_\_\_

TYPE OF SUBMITTAL: (**CHECK ALL THAT APPLY**)

- SHOP DRAWINGS
- SAMPLE
- COLOR SELECTION

- SCHEDULE
- WARRANTY
- TEST REPORT

- PRODUCT DATA/CATALOG CUT
- RECORD DOCUMENT
- PERFORMANCE DATA
- OPERATIONS & MAINTENANCE DATA
- OTHER \_\_\_\_\_

### CONTRACTOR CERTIFICATION

SPEC. SECTION: \_\_\_\_\_

PARAGRAPH(S): \_\_\_\_\_

DWG. REF. NO.: \_\_\_\_\_

CONTRACTOR CERTIFIES THAT THE INFORMATION SUBMITTED COMPLIES WITH THE CONTRACT DOCUMENT REQUIREMENTS.

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

Date: \_\_\_\_\_

**NOTE: Contractor shall apply an approval stamp to each copy of each submittal.**

DESCRIPTION OF SUBMITTAL: \_\_\_\_\_

PRODUCT NAME: \_\_\_\_\_

MANUFACTURER: \_\_\_\_\_

ADDRESS: \_\_\_\_\_ TEL. NO.: \_\_\_\_\_

CONTRACTOR or SUBCONTRACTOR: \_\_\_\_\_ TEL. NO.: \_\_\_\_\_

SUPPLIER: \_\_\_\_\_ TEL. NO.: \_\_\_\_\_

## 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 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This 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-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 quality-control procedures that facilitate compliance with the Contract Document requirements.
  - 3. Requirements for Contractor to provide quality-control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
- C. Related Sections include the following:
  - 1. Division 1 Section "Construction Progress Documentation" for developing a schedule of required tests and inspections.
  - 2. Division 1 Section "Cutting and Patching" for repair and restoration of construction disturbed by testing and inspecting activities.

#### 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 ensure that proposed construction complies with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that completed construction complies with requirements. Services do not include contract enforcement activities performed by Architect.
- C. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

#### 1.4 DELEGATED DESIGN

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
  - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

#### 1.5 SUBMITTALS

- A. Qualification Data: 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.
- B. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.
- C. Reports: Prepare and submit certified written reports that 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. Ambient 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.

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.



## 1.6 QUALITY ASSURANCE

- A. 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.
- B. 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.
- C. 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.
- D. 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.
- 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 to those indicated for this Project in material, design, and extent.
- F. Testing Agency Qualifications: An agency with the experience and capability to conduct testing and inspecting indicated, as documented by ASTM E 548, and that specializes in types of tests and inspections to be performed.
- G. Preconstruction Testing: Testing agency shall perform preconstruction testing for compliance with specified requirements for performance and test methods.
  - 1. Contractor responsibilities include the following:
    - a. Provide test specimens and assemblies representative of proposed materials and construction. Provide sizes and configurations of assemblies to adequately demonstrate capability of product to comply with performance requirements.
    - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
    - c. Fabricate and install test assemblies using installers who will perform the same tasks for Project.
    - d. When testing is complete, remove assemblies; do not reuse materials on Project.
  - 2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, with copy to Owner and Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

- H. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
  2. Notify Architect seven days in advance of dates and times when mockups will be constructed.
  3. Demonstrate the proposed range of aesthetic effects and workmanship.
  4. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
  5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
  6. Demolish and remove mockups when directed, unless intent for mockups to become part of completed construction is indicated.

#### 1.7 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of the types of testing and inspecting they are engaged to perform.
  2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.
- B. Contractor Responsibilities: Unless otherwise indicated, provide quality-control services specified and required by authorities having jurisdiction.
3. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
    - a. Contractor shall not employ the same entity engaged by Owner, unless agreed to in writing by Owner.
  4. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
  5. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
  6. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
  7. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. Special Tests and Inspections: Owner will engage a testing agency to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner.
1. Testing agency will notify Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.

2. Testing agency will submit a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Owner and Contractor and to authorities having jurisdiction.
  3. Testing agency will submit a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
  4. Testing agency will interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
  5. Testing agency will retest and reinspect corrected work.
- D. 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.
- 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 revised or replaced Work that failed to comply with requirements established by the Contract Documents.
- F. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
  2. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
  3. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
  4. Do not release, revoke, alter, or increase requirements of the Contract Documents or approve or accept any portion of the Work.
  5. 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.
  5. Delivery of samples to testing agencies.
  6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
  7. Security and protection for samples and for testing and inspecting equipment at Project site.
- H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-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 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 Sections of these Specifications. Restore patched areas and extend restoration into adjoining areas in a manner that eliminates evidence of patching.
  - 2. Comply with the Contract Document requirements for Division 1 Section "Cutting and Patching."
- 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 1 Specification Sections, apply to this Section.

#### 1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect or Owner. Other terms including "requested," "authorized," "selected," "approved," "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. "Installer": 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. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespeople of the corresponding generic name.

- J. "Experienced": When used with an entity, "experienced" means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.
- K. "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. Conflicting Requirements: 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 uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.
  - 1. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.
- D. Copies of Standards: Each entity engaged in construction on Project must 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 and make them available on request.
- E. Abbreviations and Acronyms for Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list and other names as officially recognized. Names, telephone numbers, and Web-site addresses are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

ADAAG Americans with Disabilities Act (ADA)  
Accessibility Guidelines for Buildings and Facilities  
Available from Access Board (800) 872-2253  
[www.access-board.gov](http://www.access-board.gov) (202) 272-5434

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CFR	Code of Federal Regulations Available from Government Printing Office <a href="http://www.access.gpo.gov/nara/cfr">www.access.gpo.gov/nara/cfr</a>	(888) 293-6498 (202) 512-1530
CRD	Handbook for Concrete and Cement Available from Army Corps of Engineers Waterways Experiment Station <a href="http://www.wes.army.mil">www.wes.army.mil</a>	(601)634-2355
DOD	Department of Defense Specifications and Standards Available from Defense Automated Printing Service <a href="http://www.astimage.daps.dla.mil/online">www.astimage.daps.dla.mil/online</a>	(215)697-6257
FED-STD	Federal Standard (See FS)	
FS	Federal Specification Available from Defense Automated Printing Service <a href="http://www.astimage.daps.dla.mil/online">www.astimage.daps.dla.mil/online</a>	(215)697-6257
	Available from General Services Administration <a href="http://www.fss.gsa.gov/pub/fed-specs.cfm">www.fss.gsa.gov/pub/fed-specs.cfm</a>	(202)619-8925
	Available from National Institute of Building Sciences <a href="http://www.nibs.org">www.nibs.org</a>	(202)289-7800
FTMS	Federal Test Method Standard (See FS)	
MILSPEC	Military Specification and Standards Available from Defense Automated Printing Service <a href="http://www.astimage.daps.dla.mil/online">www.astimage.daps.dla.mil/online</a>	(215)697-6257
UFAS	Uniform Federal Accessibility Standards Available from Access Board <a href="http://www.access-board.gov">www.access-board.gov</a>	(800) 872-2253 (202) 272-5434

#### 1.4 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale Research's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."
- B. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web-site addresses are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

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CABO	Council of American Building Officials (See ICC)	
IAPMO	International Association of Plumbing and Mechanical Officials (The) <a href="http://www.iapmo.org">www.iapmo.org</a>	(909) 595-8449
ICBO	International Conference of Building Officials <a href="http://www.icbo.org">www.icbo.org</a>	(800) 284-4406 (562) 699-0541
ICC	International Code Council, Inc. (Formerly: CABO - Council of American Building Officials) <a href="http://www.intlcode.org">www.intlcode.org</a>	(703) 931-4533

C. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list and other names as officially recognized. Names, telephone numbers, and Web-site addresses are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

CPSC	Consumer Product Safety Commission <a href="http://www.cpsc.gov">www.cpsc.gov</a>	(800) 638-2772 (301) 504-0990
DOC	Department of Commerce <a href="http://www.doc.gov">www.doc.gov</a>	(202) 482-2000
EPA	Environmental Protection Agency <a href="http://www.epa.gov">www.epa.gov</a>	(202) 260-2090
FDA	Food and Drug Administration <a href="http://www.fda.gov">www.fda.gov</a>	(888) 463-6332
NCHRP	National Cooperative Highway Research Program (See TRB)	
NIST	National Institute of Standards and Technology <a href="http://www.nist.gov">www.nist.gov</a>	(301) 975-6478
OSHA	Occupational Safety & Health Administration <a href="http://www.osha.gov">www.osha.gov</a>	(800) 321-6742 (202) 693-1999
TRB	Transportation Research Board <a href="http://www.nas.edu/trb">www.nas.edu/trb</a>	(202) 334-2934



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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 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Sections include the following:
  - 1. Division 1 Section "Summary" for limitations on utility interruptions and other work restrictions and infection control guidelines.
  - 2. Division 1 Section "Submittal Procedures" for procedures for submitting copies of implementation and termination schedule and utility reports.
  - 3. Division 1 Section "Execution Requirements" for progress cleaning requirements.

#### 1.3 USE CHARGES

- A. General: Cost or use charges for temporary facilities shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Architect, occupants of Project, testing agencies, and authorities having jurisdiction.
- B. Water Service: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
- C. Electric Power Service: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

#### 1.4 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

## 1.5 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Installer of each permanent service shall 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. Lumber and Plywood: Exterior quality, pressure treated.
- B. Portable Chain-Link Fencing: Minimum 2-inch (50-mm), 0.148-inch- (3.8-mm-) thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized-steel pipe posts; minimum 2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts, with 1-5/8-inch- (42-mm-) OD top and bottom rails. Provide [concrete] [galvanized-steel] bases for supporting posts.
- C. Fencing Windscreen Privacy Screen: Polyester fabric scrim with grommets for attachment to chain link fence, sized to height of fence, in color selected by Architect from manufacturer's standard colors
- D. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil (0.25-mm) minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.

### 2.2 TEMPORARY FACILITIES

- A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.
- B. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations. Coordinate with the Owner to use space in the existing site lot.
  - 1. Store combustible materials apart from building.

### 2.3 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.
- 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 Owner for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Water Service: Use of Owner's existing water service facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
- C. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
  - 1. Use of existing toilet room facilities to be at the discretion of the Owner. If acceptable to the Owner, contractor is to clean and maintain facilities in a manner acceptable to the Owner. At Substantial Completion, restore facilities to original condition acceptable to the Owner.
- D. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
- E. Electric Power Service: Use of Owner's existing electric power service will be permitted, as long as equipment is maintained in a condition acceptable to Owner.
  - 1. Install electric power service overhead, unless otherwise indicated.
  - 2. Connect temporary service to Owner's existing power source, as directed by Owner.
- F. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
  - 1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
- G. Telephone Service: Provide project superintendent with cell phone for use whenever on job site.

### 3.3 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:
  - 1. Maintain support facilities until near Substantial Completion. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- B. Parking: Coordinate with the Owner a designated area of existing parking areas for construction personnel.
- C. Storage and staging: Use designate area of Project site as indicated on drawings for storage and staging needs.
- D. Temporary Signs:
  - 1. Provide temporary, directional signs for construction personnel and visitors.
  - 2. Maintain and touchup signs so they are legible at all times.
- E. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with Division 1 Section "Execution Requirements" for progress cleaning requirements.
- F. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
  - 1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.
- G. Existing Elevator Use: Use of Owner's existing elevators will not be permitted.
- H. Use of Existing Stairs: Use of Owner's existing interior stairs will not be permitted.

### 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 in ways and by methods that 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 Division 1 Section "Summary."
- C. Security Enclosure and Lockup: Install substantial temporary enclosure around partially completed areas of construction and staging area. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.

- D. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- E. Tree and Plant Protection: Comply with requirements specified in Section 015639 "Temporary Tree and Plant Protection."
- F. Covered Walkway: Erect protective, covered walkway for passage of individuals at all building entrances. Coordinate with entrance gates, other facilities, and obstructions. Comply with regulations of authorities having jurisdiction.
  - 1. Provide overhead decking, protective enclosure walls, handrails, barricades, warning signs, exit signs, lights, safe and well-drained walkways, and similar provisions for protection and safe passage.
- G. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
- H. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.
  - 1. Prohibit smoking in construction areas. Comply with Owner's rules for designated smoking areas. Smoking is prohibited inside of building.
  - 2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
  - 3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
  - 4. Provide fire extinguishers for fire protection.

### 3.5 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
  - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

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1. Materials and facilities that constitute temporary facilities are property of Contractor.
2. At Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements specified in Division 1 Section "Closeout Procedures."

END OF SECTION 015000

## SECTION 016000 - PRODUCT REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following administrative and procedural requirements: selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; product substitutions; and comparable products.
- B. Related Sections include the following:
  - 1. Division 1 Section "Alternates" for products selected under an alternate.
  - 2. Division 1 Section "References" for applicable industry standards for products specified.
  - 3. Division 1 Section "Closeout Procedures" for submitting warranties for contract closeout.

#### 1.3 DEFINITIONS

- A. Products: Items purchased 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, except that products consisting of recycled-content materials are allowed, unless explicitly stated otherwise. Products salvaged or recycled from other projects are not considered new products.
  - 3. Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Substitutions: Changes in manufacturers, products, materials, equipment, and methods of construction from those required by the Contract Documents, proposed by Contractor.
- C. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service



performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named manufacturers.

- D. **Manufacturer's Warranty:** Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
- E. **Special Warranty:** Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.

#### 1.4 SUBMITTALS

- A. **Product List:** Submit a list, in tabular form, showing specified products. Include generic names of products required. Include manufacturer's name and proprietary product names for each product.
  - 1. Coordinate product list with Contractor's Construction Schedule and the Submittals Schedule.
  - 2. **Form:** Tabulate information for each product under the following column headings:
    - a. Specification Section number and title.
    - b. Generic name used in the Contract Documents.
    - c. Proprietary name, model number, and similar designations.
    - d. Manufacturer's name and address.
    - e. Supplier's name and address.
    - f. Installer's name and address.
    - g. Projected delivery date or time span of delivery period.
    - h. Identification of items that require early submittal approval for scheduled delivery date.
  - 3. **Completed List:** Within 30 days after date of commencement of the Work, submit 3 copies of completed product list. Include a written explanation for omissions of data and for variations from Contract requirements.
  - 4. **Architect's Action:** Architect will respond in writing to Contractor within 15 days of receipt of completed product list. Architect's response will include a list of unacceptable product selections and a brief explanation of reasons for this action. Architect's response, or lack of response, does not constitute a waiver of requirement that products comply with the Contract Documents.
- B. **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 form provided at end of Section.
  - 2. **Documentation:** With each substitution request, show compliance with requirements for substitutions and include the following, as applicable:
    - a. Statement indicating why specified material or product cannot be provided.
    - b. Coordination information, including a list of changes or modifications 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. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, code compliance and specific features and requirements indicated.
  - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
  - e. Samples, where applicable or requested.
  - f. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
  - g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
  - h. 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 lack of availability or delays in delivery.
  - i. Cost information, including a proposal of change, if any, in the Contract Sum.
  - j. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
  - k. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
3. Architect's Action: If accepted, Architect will issue a written Addendum prior to bid opening indicating acceptance of the proposed substitution.
- a. Use product specified if Architect cannot make a decision on use of a proposed substitution prior to bid opening.
  - b. If rejected, Architect will notify Contractor through Construction Manager prior to bid opening.

## 1.5 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.
1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
  2. If a dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

## 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. Comply with manufacturers written instructions.
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 ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
5. Store products to allow for inspection and measurement of quantity or counting of units.
6. Store materials in a manner that will not endanger Project structure.
7. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
8. Comply with product manufacturers written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
9. Protect stored products from damage.

#### 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.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final execution.
  1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
  2. Specified Form: Forms are included with the Specifications. Prepare a written document using appropriate form properly executed.
  3. Refer to Divisions 2 through 16 Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Division 1 Section "Closeout Procedures."

## PART 2 - PRODUCTS

### 2.1 PRODUCT OPTIONS

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged, and unless otherwise indicated, that 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," Architect will make selection.
  5. Where products are accompanied by the term "match sample," sample to be matched is Architect's.
  6. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.
- B. Product Selection Procedures: Procedures for product selection include the following:
1. Product(s): Where Specification paragraphs or subparagraphs titled "Product" or "Products" name one or two products and manufacturers, provide one of the products named.
    - a. Substitutions may be considered, unless otherwise indicated.
  2. Products: Where Specification paragraphs or subparagraphs titled "Products" introduce a list of three (3) or more names of both products and manufacturers, provide one of the products listed that complies with requirements.
  3. Manufacturer/Source: Where Specification paragraphs or subparagraphs titled "Manufacturer" or "Source" name single manufacturers or sources, provide a product by the manufacturers or from the sources named that complies with requirements.
    - a. Substitutions may be considered, unless otherwise indicated.
  4. Manufacturers: Where Specification paragraphs or subparagraphs titled "Manufacturers" introduce a list of three (3) or more manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements.
  5. Product Options: Where Specification paragraphs titled "Product Options" indicate that size, profiles, and dimensional requirements on Drawings are based on a specific product or system, provide either the specific product or system indicated or a comparable product or system by another manufacturer, if substitutions are allowed. Comply with provisions in "Product Substitutions" Article.

6. Basis-of-Design Products: Where Specification paragraphs or subparagraphs titled "Basis-of-Design Product[s]" are included and also introduce or refer to a list of three (3) or more manufacturers' names, provide either the specified product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with provisions in "Comparable Products" Article to obtain approval for use of an unnamed product.
  - a. Substitutions may be considered, unless otherwise indicated.
7. Or Equal: Where products and/or manufacturers are specified by name and accompanied by the term "or equal" or "or approved equal" or "or as approved", comply with the provisions in "Product Substitutions" Article.
8. Visual Matching Specification: Where Specifications require matching an established Sample, select a product (and manufacturer) that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches satisfactorily.
  - a. If no product available within specified category matches satisfactorily and complies with other specified requirements, comply with provisions of the Contract Documents on "substitutions" for selection of a matching product.
9. Visual Selection Specification: Where Specifications include the phrase "as selected from manufacturer's colors, patterns, textures" or a similar phrase, select a product (and manufacturer) that complies with other specified requirements.
  - a. Standard Range: Where Specifications include the phrase "standard range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, or texture from manufacturer's product line that does not include premium items.
  - b. Full Range: Where Specifications include the phrase "full range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, or texture from manufacturer's product line that includes both standard and premium items.

## 2.2 PRODUCT SUBSTITUTIONS

- A. Timing: Architect will consider requests for substitution if received no later than ten (10) days prior to the date established for opening of bids. Architect will also consider requests for substitution submitted with the bid proposal, as described below. Requests received after that time will be rejected.
  1. Substitutions Submitted With Bid Package: Contractor may submit fully documented substitution requests with his bid proposal, but does so at his own risk, as such proposed substitution are subject to the approval of the Architect.
- B. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
  1. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner

must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.

2. Requested substitution does not require extensive revisions to the Contract Documents.
3. Requested substitution is consistent with the Contract Documents and will produce indicated results.
4. Substitution request is fully documented and properly submitted, as per provisions in "Submittals" Article.
5. Requested substitution will not adversely affect Contractor's Construction Schedule.
6. Requested substitution has received necessary approvals of authorities having jurisdiction.
7. Requested substitution is compatible with other portions of the Work.
8. Requested substitution has been coordinated with other portions of the Work.
9. Requested substitution provides specified warranty.
10. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

### 2.3 COMPARABLE PRODUCTS

- A. Where products or manufacturers are specified by name, submit the following, in addition to other required submittals, to obtain approval of an unnamed product:
  1. Evidence that the proposed product does not require extensive 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 architects and owners, if requested.
  5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

## SECTION 017300 - EXECUTION REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:
  - 1. Construction layout.
  - 2. General installation of products.
  - 3. Coordination of Owner-installed products.
  - 4. Progress cleaning.
  - 5. Starting and adjusting.
  - 6. Protection of installed construction.
  - 7. Correction of the Work.
- B. Related Sections include the following:
  - 1. Division 1 Section "Temporary Facilities and Controls" for procedures for coordinating temporary utilities, temporary partitions and other temporary facilities with other construction facilities.
  - 2. Division 1 Section "Cutting and Patching" for procedural requirements for cutting and patching necessary for the installation or performance of other components of the Work.
  - 3. Division 1 Section "Closeout Procedures" for final cleaning.

### PART 2 - PRODUCTS (Not Used)

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.

- B. Acceptance of Conditions: 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.
  - 1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
    - a. Description of the Work.
    - b. List of detrimental conditions, including substrates.
    - c. List of unacceptable installation tolerances.
    - d. Recommended corrections.
  - 2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
  - 3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
  - 4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
  - 5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

### 3.2 PREPARATION

- A. 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.
- B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect on the form at the end of this Section. Include a detailed description of problem encountered, together with recommendations (if any) for changing the Contract Documents.

### 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 Architect promptly.
- B. Building Lines and Levels: Locate and lay out control lines and levels for installation of the work, including those required for mechanical and electrical work.
- C. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Make the log available for reference by Architect.



### 3.4 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. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
- G. 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.
- H. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

### 3.5 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. 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 materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80°F (27°C).
  - 3. Provide dumpsters on site for depositing of waste materials. Locate on site where approved by the Owner. Empty dumpsters legally off site when full. Do not allow dumpsters to overflow.
  - 4. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- 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: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Cutting and Patching: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.
1. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.
- H. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- I. 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.
- J. 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.
- K. 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.

### 3.6 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.

### 3.7 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Division 1 Section "Cutting and Patching."
  1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

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- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 017300

## SECTION 017329 - CUTTING AND PATCHING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes procedural requirements for cutting and patching.

#### 1.3 DEFINITIONS

- A. Cutting: Removal of existing construction necessary to permit installation or performance of other Work.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

#### 1.4 SUBMITTALS

- A. Cutting and Patching Proposal: Submit a proposal describing procedures at least 10 days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:
  1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
  2. Changes to Existing Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
  3. Products: List products to be used and firms or entities that will perform the Work.
  4. Dates: Indicate when cutting and patching will be performed.
  5. Utilities: List utilities that cutting and patching procedures will disturb or affect. List utilities that will be relocated and those that will be temporarily out of service. Indicate how long service will be disrupted.
  6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
  7. Architect's Approval: Obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.

## 1.5 QUALITY ASSURANCE

- A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
- B. Operational Elements: Do not cut and patch the following operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
  - 1. Primary operational systems and equipment.
  - 2. Fire-protection systems.
  - 3. Control systems.
  - 4. Communication systems.
  - 5. Electrical wiring systems.
- C. Miscellaneous Elements: Do not cut and patch the following elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
  - 1. Water, moisture, or vapor barriers.
  - 2. Membranes and flashings.
  - 3. Exterior wall construction.
  - 4. Equipment supports.
  - 5. Piping, ductwork, vessels, and equipment.
  - 6. Noise- and vibration-control elements and systems.
- D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- E. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

## 1.6 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections of these Specifications.
- B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
  - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of existing materials.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
  - 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
  - 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect existing 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.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

### 3.3 PERFORMANCE

- A. 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 existing 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. Cutting: Cut existing 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 as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
  2. Existing 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. Proceed with patching after construction operations requiring cutting are complete.
- C. 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 possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate 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 eliminate evidence of patching and refinishing.
  3. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

END OF SECTION 017329

## 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 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
  - 1. Inspection procedures.
  - 2. Project Record Documents.
  - 3. Warranties.
  - 4. Instruction of Owner's personnel.
  - 5. Final cleaning.
- B. Related Sections include the following:
  - 1. Division 1 Section "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.
  - 2. Division 1 Section "Construction Progress Documentation" for submitting Final Completion construction photographs and negatives.
  - 3. Division 1 Section "Execution Requirements" for progress cleaning of Project site.
  - 4. Division 1 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.

#### 1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
  - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
  - 2. Advise Owner of pending insurance changeover requirements.
  - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
  - 4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
  - 5. Prepare and submit Project Record Documents, operation and maintenance manuals, Final Completion construction photographs, damage or settlement surveys, property surveys, and similar final record information.



6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
  7. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
  8. Complete final cleaning requirements, including touchup painting.
  9. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect 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 Architect, 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.

#### 1.4 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
  2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
  3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
  4. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect 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.

#### 1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Preparation: Submit three copies 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.
  - 1. Organize list of spaces in sequential order, starting with exterior areas first.
  - 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
  - 3. Include the following information at the top of each page:
    - a. Project name.
    - b. Date.
    - c. Name of Architect.
    - d. Name of Contractor.
    - e. Page number.
  - 4. Indicate the reason why each item of the Work is not complete.

#### 1.6 PROJECT RECORD DOCUMENTS

- A. General: Do not use Project Record Documents for construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.
- B. Record Drawings: Maintain and submit one set of black-line white prints of Contract Drawings and Shop Drawings.
  - 1. 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 prepare the marked-up Record Prints.
    - a. Give particular attention to information on concealed elements that cannot be readily identified and recorded later.
    - b. Accurately record information in an understandable drawing technique.
    - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
    - d. Mark Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. Where Shop Drawings are marked, show cross-reference on Contract Drawings.
  - 2. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
  - 3. Mark important additional information that was either shown schematically or omitted from original Drawings.

4. Note Construction Change Directive numbers, Change Order numbers, alternate numbers, and similar identification where applicable.
  5. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover sheets.
- C. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications. Mark copy to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
  3. Note related Change Orders where applicable.
- D. Miscellaneous Record Submittals: 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.

## 1.7 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (115-by-280-mm) paper.
  2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
  3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
- 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 DEMONSTRATION AND TRAINING

- A. Instruction: Instruct Owner's personnel to maintain systems.
  - 1. Provide instructors experienced in operation and maintenance procedures.
  - 2. Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at the start of each season.
  - 3. Schedule training with Owner with at least seven days' advance notice.
  - 4. Coordinate instructors, including providing notification of dates, times, length of instruction, and course content.
- B. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections. For each training module, develop a learning objective and teaching outline. Include instruction for the following:
  - 1. Review of documentation.
  - 2. Troubleshooting.
  - 3. Maintenance.
  - 4. Repair.

#### 3.2 FINAL CLEANING

- A. General: Provide 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. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. 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 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. Remove tools, construction equipment, machinery, and surplus material from Project site.
    - c. Remove labels that are not permanent.
    - d. Remove temporary protections that are not to remain.

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- e. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
  - f. Wipe surfaces of mechanical and electrical equipment, and similar equipment.
  - g. Leave Project clean.
- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION 017700

## SECTION 017823 - OPERATION AND MAINTENANCE DATA

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
  - 1. Operation and maintenance manuals for systems, subsystems, and equipment.
  - 2. Maintenance manuals for the care and maintenance of products, materials, and finishes.
- B. Related Sections include the following:
  - 1. Division 1 Section "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.
  - 2. Division 1 Section "Closeout Procedures" for submitting operation and maintenance manuals.

#### 1.3 DEFINITIONS

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

#### 1.4 SUBMITTALS

- A. Final Submittal: Submit 2 copies of each manual in final form at least 15 days before final inspection. Architect will return copy with comments within 15 days after final inspection.
  - 1. Correct or modify each manual to comply with Architect's comments. Submit 3 copies of each corrected manual within 15 days of receipt of Architect's comments.

#### 1.5 COORDINATION

- A. Where operation and maintenance documentation includes information on installations by more than one factory-authorized service representative, assemble and coordinate information furnished by representatives and prepare manuals.

## PART 2 - PRODUCTS

### 2.1 MANUALS, GENERAL

- A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
1. Title page.
  2. Table of contents.
  3. Manual contents.
- B. Title Page: Enclose title page in transparent plastic sleeve. Include the following information:
1. Subject matter included in manual.
  2. Name and address of Project.
  3. Name and address of Owner.
  4. Date of submittal.
  5. Name, address, and telephone number of Contractor.
  6. Name and address of Architect.
  7. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch (115-by-280-mm) paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
    - a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
    - b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.
  2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.

3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software diskettes for computerized electronic equipment.
4. Supplementary Text: Prepared on 8-1/2-by-11-inch (115-by-280-mm), 20-lb/sq. ft. (75-g/sq. m) white bond paper.
5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
  - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
  - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

## 2.2 OPERATION AND MAINTENANCE MANUALS

- A. Content: In addition to requirements in this Section, include operation and maintenance data required in individual Specification Sections and the following information:
  1. System, subsystem, and equipment descriptions.
  2. Performance and design criteria if Contractor is delegated design responsibility.
  3. Operating standards.
  4. Operating procedures.
  5. Wiring diagrams.
  6. Control diagrams.
  7. Piped system diagrams.
  8. Precautions against improper use.
  9. License requirements including inspection and renewal dates.
- B. Descriptions: Include the following:
  1. Product name and model number.
  2. Manufacturer's name.
  3. Equipment identification with serial number of each component.
  4. Equipment function.
  5. Operating characteristics.
  6. Limiting conditions.
  7. Performance curves.
  8. Engineering data and tests.
  9. Complete nomenclature and number of replacement parts.
- C. Operating Procedures: Include the following, as applicable:
  1. Startup procedures.
  2. Equipment or system break-in procedures.
  3. Routine and normal operating instructions.
  4. Regulation and control procedures.
  5. Instructions on stopping.
  6. Normal shutdown instructions.
  7. Seasonal and weekend operating instructions.
  8. Required sequences for electric or electronic systems.



9. Special operating instructions and procedures.
- D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.
  - E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.
  - F. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:
    1. Standard printed maintenance instructions and bulletins.
    2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
    3. Identification and nomenclature of parts and components.
    4. List of items recommended to be stocked as spare parts.
  - G. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
    1. Test and inspection instructions.
    2. Troubleshooting guide.
    3. Precautions against improper maintenance.
    4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
    5. Aligning, adjusting, and checking instructions.
    6. Demonstration and training videotape, if available.
  - H. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
    1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
    2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.
  - I. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
  - J. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
  - K. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
    1. Include procedures to follow and required notifications for warranty claims.
  - L. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include instructions and procedures for each type of emergency, and responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.

1. Include the following, as applicable:
  - a. Instructions on stopping.
  - b. Shutdown instructions for each type of emergency.
  - c. Operating instructions for conditions outside normal operating limits.
  - d. Required sequences for electric or electronic systems.
  - e. Special operating instructions and procedures.

## 2.3 PRODUCT MAINTENANCE MANUAL

- A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C. Product Information: Include the following, as applicable:
  1. Product name and model number.
  2. Manufacturer's name.
  3. Color, pattern, and texture.
  4. Material and chemical composition.
  5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and the following:
  1. Inspection procedures.
  2. Types of cleaning agents to be used and methods of cleaning.
  3. List of cleaning agents and methods of cleaning detrimental to product.
  4. Schedule for routine cleaning and maintenance.
  5. Repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
  1. Include procedures to follow and required notifications for warranty claims.

### PART 3 - EXECUTION

#### 3.1 MANUAL PREPARATION

- A. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
  - 1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
  - 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- B. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- C. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
  - 1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
- D. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in Record Drawings to ensure correct illustration of completed installation.
  - 1. Do not use original Project Record Documents as part of operation and maintenance manuals.
- E. Comply with Division 1 Section "Closeout Procedures" for the schedule for submitting operation and maintenance documentation.

END OF SECTION 017823

SECTION 028213 - ASBESTOS ABATEMENT

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY:

- A. This project consists of the removal of asbestos materials from The Pines Healthcare and Rehabilitation Center, located in Olean, NY. Work areas are designated on the contract drawings and in accordance with sampling and testing specifically performed for this project. Copies of all test reports are available for review at the Offices of the Architect.
- B. This section specifies the procedures for removal of existing asbestos containing/contaminated building materials, disposal of removed materials, and the encapsulation of building surfaces and/or components where asbestos containing materials have been removed AFTER FINAL CLEARANCE AIR MONITORING HAS BEEN SUCCESSFUL.
- C. General Note: The amended version of NYS Code Rule 56 effective March 21, 2007 shall be followed until such time that a new revision is put into place, at which time the most current version of the regulation shall govern.
- D. Disturbance or dislocation of asbestos-containing materials may cause asbestos fibers to be released into building's atmosphere, thereby creating a health hazard to work persons and building occupants. Consistent with asbestos-control work, Contractor shall appraise all of his workers, supervisory personnel, subcontractors and consultants who will be at job site of the seriousness of the hazard and of proper work procedures which must be followed.
- E. Where in the performance of the work, workers, supervisory personnel, subcontractors, or consultants may encounter, disturb or otherwise function in the immediate vicinity of any identified asbestos-containing materials, appropriate, continuous measures as necessary to protect all building occupants from the hazard of exposure to airborne asbestos shall be taken. Such measures shall include the procedures and methods described herein, regulations of the U.S. Occupational Safety & Health Administration (OSHA), U.S. Environmental Protection Agency (EPA), and the New York State Department of Labor.

1.03 SCOPE OF WORK:

- A. All work under this contract shall be performed in strict conformance with applicable federal, state and local rules, laws and regulations including but not limited to:

- A. 12 NYCRR Part 56 (Code Rule 56)
- A. 29 CFR Part 1926 (OSHA)
- A. 40 CFR Part 61, Subparts A & M (NESHAPS)
  
- B. The specifications are to be used in conjunction with the drawings for this project. A copy of the specifications, drawings and test reports shall be maintained at the job site at all times.
  
- C. The contractor shall verify all job conditions and all material quantities prior to bid submission.
  
- D. Applicable and Site Specific Variance: The owner has not applied for a site specific variance for this project. Any variance application prepared by the contractor or its agent must be submitted to the owner for approval prior to submission to the State of New York Department of Labor Engineering Services for processing. The owner shall bear no additional cost as a result of the approval of, the denial of, and/or conditions set forth within the site specific variance.
  
- E. The contractor shall furnish all notification fees, labor, materials, services, employee training, permits, insurance, and equipment to remove asbestos containing material and properly remove same for the site in accordance with current regulations.
  
- F. The following items apply to this work:
  - F. The location of any on-site storage of material, equipment and dumpster/waste trailer shall be coordinated with General Contractor and approved by Owner.
  
- G. The contractor shall furnish all labor, materials, services, employee training, permits, notifications insurance and equipment to remove the following asbestos containing materials from the areas indicated on contract drawings.

G. HM-100 Partial First Floor Plan – Boiler Room

Asbestos-containing Material	Total Quantity	Friability	OSHA Work Class	EPA Material Category
Hot Water Tank Insulation	125 SF	Friable	Class I	RACM
Breeching Insulation	280 SF	Friable	Class I	RACM
Fire Door Frame Insulation	3 SF	Friable	Class I	RACM

1.04 QUALITY ASSURANCE:

- A. Contractor shall provide and assure that the quality of work practices and procedures are consistent with the below listed agencies. Contractor shall utilize the latest edition, including all addenda, revisions and supplements for all regulatory agencies codes, etc., including but not limited to:

- A. Environmental Protection Agency (EPA).
- A. Occupational Safety and Health Administration
- A. State of New York codes and laws.
- A. All local codes.

1.05 QUALIFICATIONS:

- A. The following qualifications must be met by all prospective bidders:
  - A. Contractor Experience: Contractor shall have completed a minimum of three asbestos abatement projects of similar scope and nature, and hold a valid Asbestos Handling License issued by the Commissioner of the State of New York Department of Labor. Provide project names, locations and Owner Representative's Name and Phone Number. The contractor shall have held and currently hold a valid license for the past five consecutive years.
  - A. Personnel: supervisors, foreman and workers shall have received training in applicable regulations and expertise in safety and environmental protection by participation and successful completion of a workers or contractors/supervisors training course offered by an EPA approved educational institution, and hold an Asbestos Handling Certificate issued by the New York State Department of Labor.
  - A. Personnel Experience: all personnel including supervisors, foremen, and workers shall be experienced in asbestos abatement work as evidenced through participation in a minimum of three previous projects.

1.06 REGULATIONS:

- A. All work under this contract shall be performed in strict accordance with all applicable federal, state, and local regulations, standards, and codes governing asbestos abatement and any other trade work done in conjunction with the abatement.
- B. The most recent edition of any relevant regulation, standard, document, or code shall be applicable to the work. Where conflict among the requirements or with these specifications exists, the most stringent requirements are applicable.
- C. Copies of all relevant standards, regulations, codes, and other applicable documents and subsequent amendments thereto, listed in this section and including this Specification, shall be available at the work site.

1.07 SPECIFIC REQUIREMENTS:

- A. Occupational Safety and Health Administration (OSHA)
  - A. Title 29 CFR 1926.1101, occupational exposure to asbestos construction standard.
  - A. Title 29 CFR Section 1910.134, general industry standard for respiratory protection.
  - A. Title 29 CFR Section 1910.20, access to employee exposure and medical records.
  - A. Title 29 CFR Section 1910.1200, hazard communication.
- B. Environmental Protection Agency (EPA)

- B. Title 40 CFR Part 61, Subparts A and M, national emission standard for asbestos.
- C. New York State Requirements
  - C. Part 56 of Title 12 of the official compilation of codes, rules and regulations - The amended version of Code Rule 56 dated March 21, 2007 or a current Site Specific Variance.
  - C. New York State Department of Environmental Conservation (NYSDEC), Title 6 NYCRR, Part 360 and 364, the New York State hazardous waste management regulations.
  - C. Part 23 of Title 12 of the Official Compilation of Codes, Rules and Regulations.
- D. National Institute for Occupational Safety and Health (NIOSH)
  - D. Approval of respirators as per 42 CFR PART 84.

1.08 GENERAL REQUIREMENTS:

- A. Licenses
  - A. Contractor shall maintain current licenses and permits as required by applicable state or local jurisdictions for the removal, transportation, disposal, or other regulated activity relative to this Contract.
- B. New And Amended Regulations
  - B. Any and all new or amended federal, state, or local regulations becoming effective during this project and not listed are to be considered as part of this specification. Where copies of standards are needed for proper performance of the work, the Contractor is required to obtain such copies directly from the publication source. Although certain copies of standards needed for enforcement of the requirements may be required submittals, the Owner reserves the right to require the contractor to submit additional copies of these standards as necessary for enforcement of the requirements.
- C. Abbreviations And Names:
  - C. Where acronyms or abbreviations are used but not identified in specifications or other contract documents they are defined to mean the industry recognized name or trade association, standards generating organization, governing owner or other entity applicable to context of text provision. Refer to "Encyclopedia of Associations," published by Gale Research Co., available in large libraries. The following acronyms or abbreviations as referenced in Contract Documents are defined to mean the associated names. Both names and addresses are subject to change, and are believed to be, but not assured to be, accurate and up-to-date as of date of Contract Documents:

1.09 NOTICES AND PERMITS:

- A. The contractor shall submit and apply for all required notifications and permits as may be required, including but not limited to, NYSDOL, EPA NESHAPS, building occupants, any required OSHA notifications and any required permits required by the local municipality.

1.10 SUBMITTALS:

- A. The Contractor shall submit five (5) separately bound copies of all submittals to the Owner or Owner's representative for approval. A copy of all approved submittals is to be maintained at the work site.
- B. Two (2) copies of each submittal shall be returned to the Contractor by the Owner or Owner's representative with the following notation:
  - B. Rejected-Revise and Resubmit:
    - a. The Contractor shall make the necessary corrections to the submittal or select alternate removal methods, materials, and/or equipment and resubmit two (2) complete copies.
  - B. Approved as noted:
    - a. The Contractor may proceed with removal method, materials and/or equipment in accordance with the changes/requirements noted on the submittal. The Contractor shall resubmit two (2) copies of the submittal indicating compliance with notations prior to final payment.
  - B. Approved:
    - a. The Contractor may proceed with the project and use of removal method, materials and/or equipment.
- C. The Contractor shall not proceed with removal method, materials and/or equipment prior to receipt of approval. Any removal method, material and/or equipment used which are not in compliance with "approved" or "approved as noted" shall be at no cost to the Owner.
- D. The Contractor shall submit to the Owner or Owner's representative 15 working days before the start of work:
  - D. Employee information:
    - a. A table containing the following information: name, address, asbestos certificate numbers, and certificate expiration dates for each Contractor's employees proposed to be employed on the project.
    - b. Copies of Certifying Physicians report indicating ability to safely don respiratory protection and perform work required for each Contractor's employee employed on the project.
    - c. Affidavits indicating that each Contractor's employee employed on the project has passed a physical exam for use of a respirator and has been provided with a qualitative/quantitative fit test.
    - d. Affidavits indicating completion of training and certification of each Contractor's employee employed on the project, including but not limited to DOH-2832 forms.
    - e. Copies of New York State Department of Labor Asbestos Supervisors Certificate for each proposed Contractor's supervisor and New York State Department of



Labor Asbestos Handling Certifications for each Contractor's employee working on this project.

- D. Copies of the Contractor's written respiratory program, qualitative fit test procedures and Safety Manual.
- D. Copies of the Contractor's New York State Asbestos Contractor's license.
- D. Copies of required regulatory agency notifications.
- D. Copies of the 6 NYCRR part 364 NYS Waste Transporter Permit for proposed transporter.
- D. Copies of a detailed work plan including:
  - a. Shop drawing depicting the delineation of proposed regulated abatement work area(s), location(s) of decontamination facility enclosure(s), negative air ventilation exhaust location(s), path(s) of waste removal egress, location of waste disposal dumpster(s), location of available electric and water supplies.
  - b. A summary of proposed work area containment measures and removal procedures in compliance with 12NYCRR56 for each proposed work area.
- D. Contractor's Emergency Plan as detailed in Section 2.1 of this specification.
- D. Copies of applicable Negative Exposure Assessment(s) and/or the accreditation of the laboratory retained by the Contractor to analyze Personal Exposure Monitoring samples during the project duration.
- D. The Contractor shall provide Manufacturers Data as follows:
  - a. HEPA Vacuums: submit product data; use instructions and recommendations from manufacturer of vacuum(s) for use.
  - b. Surfactant: submit product data; use instructions and recommendations from manufacturer of surfactant for use.
  - c. Encapsulant: submit product data; use instructions and recommendations from the manufacturer of encapsulant intended for use.
  - d. NESHAPS Certification: Submit certification for manufacturer of surfactant or encapsulant that, to the extent required by this specification, the material, if used in accordance with manufacturer's instructions, will wet asbestos containing materials to which it is applied as required by the National Emission Standard for Hazardous Pollutants (NESHAPS) Asbestos Regulation (40 CFR 61, Subpart M).
  - e. Material Safety Data Sheets: submit the materials safety data sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for each chemical material including surfactant and encapsulating material proposed for use on the work. Include a separate attachment for each sheet indicating the specific worker protective equipment the Contractor proposes for use with the material indicated.
  - f. Other equipment: submit product data; use instructions and recommendations from manufacturer for any mechanical equipment proposed to be used for the removal of asbestos containing materials (e.g. Power tools used to drill, cut, or otherwise disturb asbestos material in regulated abatement work areas, shall be manufacturer equipped with HEPA-filtered local exhaust ventilation.)
- E. Following the completion of abatement activities, the Contractor shall submit the following Project Close-Out Documentation:

- E. Summary of project location, description, commencement and completion dates, and the amount of asbestos or asbestos material that was removed, enclosed, encapsulated, repaired, disturbed, or handled.
- E. Work area daily entry/exit logs.
- E. Asbestos Abatement Contractor's Daily Project Logs.
- E. Personnel paperwork for each Employee actually utilized on project including:
  - a. Copy of valid respirator fit test issued within the twelve month period preceding the conclusion of abatement.
  - b. Copy of Certifying Physicians report indicating ability to safely don respiratory protection issued within the previous 12 month period.
  - c. An affidavit indicating completion of training and certification of each Contractor's employee employed on the project.
- E. Personal Exposure Monitoring Records for the project.
- E. Copies of all notifications and amendments.
- E. Copies of all variances, amendments and re-openings used on the project.
- E. The name and address of any sites that were used for the interim storage of asbestos or asbestos waste materials prior to final deposit or disposal.
- E. All receipted waste shipment records and completed trucking/manifest forms which have been signed and certified by the Landfill's Owner/Manager as having accepted the shipped waste.

1.11 JOB CONDITIONS:

- A. Postings: Display the following documents in the clean changing area, in public view, for the full duration of the work:
  - A. All Applicable and/or Site Specific Variances to be used on project.
  - A. Respiratory protection program.
  - A. Post emergency action plan at the work site. This plan shall also include telephone numbers for hospital, doctor and fire company.
  - A. Provide Sign In and Out sheets for all persons entering the work area.
  - A. All notices and permits as required by 12 NYCRR Part 56.
  - A. Personal air monitoring data.

1.12 PRODUCT DELIVERY, STORAGE AND HANDLING:

- A. The contractor shall be responsible for the delivery, storage and handling of all materials required to accomplish the work.
- B. The contractor shall deliver all materials in the original packages, containers, or bundles bearing the name of the manufacturer and the brand name.
- C. The contractor shall store all materials subject to damage off the ground, away from wet or damp surfaces, and under cover sufficient to prevent damage or contamination.

- D. Damaged or deteriorated materials shall not be used and shall be removed from the premises at the contractor’s expense. Materials that become contaminated with asbestos shall be disposed of in compliance with the provisions of this specification.

PART 2 PRODUCTS AND PROCEDURES

2.01 EMERGENCY PLANNING:

- A. The Contractor shall prepare an emergency preparedness plan detailing at least the information required in this section and in any applicable federal, state or local regulations.
- B. Emergency planning shall be developed prior to abatement initiation and submitted to the Owner or Owner’s representative for review under the requirements of section 1.10 of this specification.
- C. Emergency procedures shall be in written form and prominently posted at the work site. Everyone, prior to entering the work area, must read and sign these procedures to acknowledge receipt review and understanding of work site layout, location of emergency exits, and emergency procedures.
- D. Emergency planning shall include written notification of police, fire and emergency medical personnel of planned abatement activities, work schedule and layout of work area, particularly barriers that may affect response capabilities.
- E. Emergency planning shall include considerations of blood borne pathogens, fire, power failure, explosion, toxic atmospheres, electrical hazards, slips, trips, and falls, confined spaces, spills of releases of hazardous materials and heat related injury. Written procedures shall be developed and employee training in procedures shall be provided.
- F. Employees shall be trained in evacuation procedures in the event of work place emergencies.
  - F. For Non-life-threatening Situations: Employees injured or otherwise incapacitated shall decontaminate following normal procedures with assistance from fellow workers, if necessary, before exiting the work place to obtain proper medical treatment.
  - F. For Life-threatening Injury or Illness: Worker decontamination shall take least priority. After measures to stabilize the injured worker, he/she shall be removed from the work place and secure proper medical treatment.
  - F. In the absence of an infirmary, clinic, hospital or physician, that is reasonably accessible in terms of time and distance to the worksite, which is available for the treatment of injured employees, a person who has a valid certificate in first-aid training shall be available at the worksite to render first aid.
- G. Telephone numbers of all emergency response personnel shall be prominently posted at the work site, along with the location of the nearest telephone.

2.02 ABATEMENT PRODUCTS:

- A. Polyethylene Sheeting

- A. Polyethylene sheeting shall be a minimum of 6 mil thickness, in widths selected to minimize joints.
- A. All polyethylene sheeting shall be fire retardant/rated.
- B. Attachment Materials for Polyethylene: Method of attaching polyethylene sheeting shall be agreed upon in advance by the Contractor and Owner and selected to minimize damage to equipment and surfaces. Method of attachment may include any combination of duct tape or other waterproof tape, furring strips, spray glue, staples, nails, screws, or other effective procedures capable of sealing adjacent sheets of polyethylene and capable of sealing polyethylene to dissimilar finished or unfinished surfaces under both wet and dry conditions (including the use of amended water).
- C. Disposal Bags: 6 mil polyethylene, pre-printed with labels as required by OSHA Requirement 29 CFR 1926.1101 (k)(8) shall contain the following information:

DANGER  
CONTAINS ASBESTOS FIBERS  
MAY CAUSE CANCER  
CAUSES DAMAGE TO LUNGS  
NO NOT BREATHE DUST  
AVOID CREATING DUST

- D. Disposal Drums: metal or fiberboard with locking ring tops, with warning labels as required by OSHA (see 29 CFR 1926.1101 (k)(8)).
- D. Stick-On Labels: consistent with OSHA Requirements (see 29 CFR 1926.1101 (k)(8)) for drums, in addition to the waste generator's name and location.
- E. Warning Signs: required by OSHA 29 CFR 1926.1101 (k)(7) and shall contain the following information:

DANGER  
ASBESTOS  
MAY CAUSE CANCER  
CAUSES DAMAGE TO LUNGS  
AUTHORIZED PERSONNEL ONLY  
WEAR RESPIRATORY PROTECTION AND  
PROTECTIVE CLOTHING IN THIS AREA

- F. Glove Bags: Minimum six mil polyethylene bag for removal of pipe lagging/insulation. Bags shall have long sleeve gloves, a tool pouch, and an opening for water application. Bag shall be labeled with the same label as the disposal bag (see paragraph 2.2 C of this section).
- G. Surfactant (Wetting Agent): 50/50 mixture of Polyoxyethylene Ether and Polyoxyethylene Ester, or equivalent, mixed in a proportion of 1 fluid ounce to 5 gallons of water or as specified by manufacturer. (An equivalent surfactant shall be understood to mean a material with a surface tension of 29 dynes/cm as tested in its properly mixed concentration, using ASTM Method D1331-56 "Surface and Interfacial Tension of Solutions of Surface Active Agents"). Where work area temperature may cause freezing of the amended water solution, the addition of Ethylene Glycol

in amounts sufficient to prevent freezing is permitted. Encapsulating Agent: provide a bridging type encapsulant specifically designed for application to ACM. Product shall be rated as acceptable for use intended when tested in accordance with draft ASTM proposed Standard E-6.21 Guide or evaluation of encapsulant for friable ACM building materials. All materials used shall have a flame spread of less than 25 when dry (when tested in accordance with ASTM-84).

2.03 GENERAL EQUIPMENT:

- A. A sufficient supply of disposable mops, rags, and sponges for work area decontamination shall be available.
- B. A sufficient supply of scaffolding, ladders, lifts, and hand tools, (e.g., scrapers, wire cutters, brushes, utility knives, wire saws, etc.) shall be provided as needed.
- C. Low pressure or airless sprayers.
- D. Rubber dustpans and rubber squeegees.
- E. Brushes utilized for removing loose asbestos containing material shall have nylon or fiber bristles, not metal.
- F. HEPA filtered vacuum cleaners with attachments.

2.04 PERSONNEL PROTECTION:

- A. Full body disposable protective clothing, including head, body, and foot covering (unless using footwear as described below) consisting of material impenetrable by asbestos fibers (Tyvek or equivalent) shall be provided to all workers and authorized visitors in sizes adequate to accommodate movement without tearing. Provide a sufficient number for all required changes, for all workers and authorized visitors in the work area.
- B. Additional safety equipment (e.g., hard hats meeting the requirements of ANSI Standard Z89.1-1981, eye protection meeting the requirements of ANSI Standard Z87.1-1979, safety shoes meeting the requirements of ANSI Standard Z41.1-1967, disposable PVC gloves or other work gloves), shall be provided to all workers and authorized visitors.
- C. Nonskid footwear shall be provided to all abatement workers. Disposable clothing shall be adequately sealed to the footwear to prevent body contamination.

2.05 TRAINING:

- A. All workers shall have current Asbestos Handling Certificates.
- B. Supervisory personnel shall be Competent People, as defined in 29 CFR 1926.1101(a), (b) and 29 CFR 1926.32(f) and shall receive training as required in 29 CFR 1926.1101(o)(4) & 40 CFR 763.Subpart E, Appendix C. Additionally, Supervisors shall be a certified Supervisor under 12 NYCRR Part 56 requirements.

2.06 RESPIRATORY PROTECTION:

- A. All respiratory protection shall be provided to workers in accordance with the submitted written respiratory protection program, which includes all items in OSHA 29 CFR 1926.1101(h) and 1910.134(c). This program shall be posted at the work site.
- B. Workers shall be provided with personally issued, individually identified (marked with waterproof designations) respirators.
- C. Respirators shall be selected that meet the following level of protection requirements: The workers will not be exposed to fibers in excess of 0.1 f/cc, 8-Hour TWA.
- D. After the establishment of the personal decontamination area, full personal protective equipment (PPE) in compliance with current OSHA regulations shall be worn in regulated abatement work areas during preparation activities, for all friable OSHA Class I or Class II asbestos projects. Asbestos abatement contractor's respirator selection, filter selection, medical surveillance and respiratory training must be consistent with current OSHA regulations. Appropriate respiratory protection is also required of authorized visitors in accordance with this Part.
- E. Fit Testing
  - E. Workers must perform positive and negative air pressure fit tests each time a respirator is put on, whenever the respirator design so permits. Powered air-purifying respirators, if used, shall be tested for adequate flow as specified by the manufacturer.
  - E. Workers shall be given a qualitative fit test in accordance with procedures detailed in the OSHA Regulation 29 CFR 1926.1101, for all respirators to be used on this abatement project. The irritant fume protocol will be utilized. An appropriately administered quantitative fit test may be substituted for the qualitative fit test.
  - E. No one wearing a beard or other facial hair, which will reduce the performance of the respirator, shall be permitted to don a respirator and enter the work area.
  - E. Respirator cartridges shall be replaced with new cartridges each time the worker exits the work area. Used cartridges shall be disposed of as asbestos contaminated waste. A sufficient supply of cartridges shall be maintained on site at all times.

2.07 MEDICAL SURVEILLANCE:

- A. The Contractor must provide medical surveillance to any employee or agent that may be exposed to asbestos in excess of background levels during any phase of the abatement project. The surveillance program shall be in accordance with 29 CFR 1926.1101(m) and (n).

2.08 VISITOR CLOTHING:

- A. Authorized visitors shall be provided with suitable protective clothing, headgear, eye protection, and footwear as described herein, whenever they are required to enter the work area. Visitors must bring their own respirator with an affidavit stating that the visitor has passed both their physical exam, use of respirator and has been provided with a qualitative/quantitative fit test.

PART 3 EXECUTION

3.01 GENERAL:

- A. Secure entire work area to prevent entry of unprotected / unauthorized persons.
- B. Cover, isolate, and seal work area walls and floors completely; including fixed equipment, doors, windows, skylights, lighting fixtures, duct openings, and all other openings into work area. Use polyethylene sheeting and seal edges with polyethylene adhesive tape.
- C. Build triple barriers of plastic sheeting at all entrances and exits to the work area (airlock) so that the area is always closed off by one barrier when workers enter or exit.
- D. Establish emergency and fire exits from the work area as part of the written emergency action plan.
- E. Locate at the project site the log sheet sign-in for all persons entering work area from the beginning to the completion of the final clearance of the abatement project.

3.02 PREPARATION - WORK AREAS:

- A. The work areas shall be completely isolated from other parts of the building so as to prevent asbestos-containing dust or debris from migrating beyond the isolated area. Should the area beyond the work area become contaminated with asbestos-containing dust or debris as a consequence of the work, the Contractor shall immediately notify the Owner and shall be responsible for cleaning, on a daily basis, those areas in accordance with the procedures indicated in paragraphs below. All costs incurred in cleaning, or otherwise decontaminating, non-work areas and the contents thereof shall be borne by the Contractor including, but not limited to air monitoring, project monitoring, Owner labor, consulting service costs and fees. These areas shall be vacated and remain isolated until satisfactory clearance air monitoring results have been achieved.
- B. Signs: Asbestos warning signs, required as per current OSHA regulations, shall be posted to restrict access to the regulated abatement work area at all locations and approaches to a location where airborne concentrations of asbestos may exceed ambient background levels. During Phase II A-D activities, signs shall be posted at locations such that persons may take the necessary protective measures to avoid potential exposure.
- C. Utilities: The Contractor will be responsible to provide utilities to the work area. Connection to existing building utilities and services will require written approval of the Owner. All internal building utility connections will be in compliance with NEC, state and local building codes.
- D. Electric Power: The Contractor shall shut down and lock out electric power to all work areas and shall provide temporary power and lighting, and ensure safe installation of temporary power sources and equipment used where high humidity and/or water shall be sprayed in accordance with all applicable codes. All power to work areas shall be brought in through a ground-fault interrupter at the source.
- E. Movable Objects: Movable objects within the regulated work area shall be pre-cleaned using HEPA filtered vacuum equipment and/or wet cleaning and such objects shall be removed from the work area to an uncontaminated location. If disposed of as asbestos waste material, cleaning is not required. The Owner shall determine which method is to be utilized.
- F. Fixed Objects: Fixed objects and other items which are to remain within the regulated work area, shall be pre-cleaned using HEPA filtered vacuum equipment and/or wet cleaning. Such objects

and items shall be enclosed with two layers of six mil fire retardant polyethylene (minimum) and sealed with tape.

- G. Pre-cleaning: The work area shall be cleaned using HEPA filtered vacuum equipment and/or wet cleaning. Methods that raise dust, such as dry sweeping or vacuuming without being equipped with HEPA filters, are prohibited. Asbestos material shall not be disturbed during pre-cleaning.
- H. Isolation Barriers - General: Isolation barriers that seal off all openings, including but not limited to windows, doorways, skylights, ducts, grilles, diffusers, and any other penetrations of the area shall be constructed using two layers of a minimum of six mil fire retardant polyethylene sealed with tape. Also, all seams in the system components that pass through the work shall be sealed. Doorways which shall not be used for passage during work shall also be sealed.
- I. Isolation Barriers (Hard walls) - Specific: Separate the work area from the remainder of the work site by construction of isolation barriers. Walls shall be constructed of wood or metal framing to support barriers in all openings larger than thirty-two square feet, except where any one dimension is one foot or less.
  - I. Sheathing Thickness: A sheathing material of at least 3/8 inch thickness shall be applied to the work side of the barrier.
  - I. Sealing of Partitions: Edges of the partition shall be caulked at the floor, ceiling, walls and fixtures to form an airtight seal.
  - I. Plastic Sheeting: The work area side of the partition shall be covered with a double layer of a minimum of six mil fire retardant polyethylene with staggered joints and sealed.
- J. Plasticizing/Sealing: All floor, wall and ceiling surfaces shall be covered with a minimum of six mil fire retardant polyethylene. The floor shall be plasticized first and its polyethylene shall extend up the walls a distance of at least twelve inches on all sides. The walls shall then be plasticized by applying fire retardant polyethylene from ceiling to floor, thus overlapping the floor sheeting by at least twelve inches. This process shall be repeated for the second layer of polyethylene for the floor and walls. All seams within a layer shall be separated by a distance of at least six feet and sealed airtight. All seams between layers shall be staggered.
- K. Removal of Mounted Objects: After isolation barriers are in place, objects such as light fixtures, ventilation equipment and other items not previously sealed, shall be removed, wet cleaned and HEPA vacuumed. Localized HEPA filtered vacuum equipment shall be used during fixture removal to reduce asbestos disposal.
- L. Exits: Emergency and fire exits from the work area shall be maintained or alternate exits shall be established according to all applicable codes.
- M. Toilet Facilities: Adequate toilet facilities shall exist either in the clean area of the personal decontamination enclosure or shall be readily accessible to the personal decontamination enclosure.
- N. Enclosure Projects: Prior to the placement of isolation barriers, surfaces to be enclosed shall be cleaned using HEPA filtered vacuum equipment and/or wet cleaning.
- O. Visual Barrier: Where work area is immediately adjacent and within view of occupied areas, a visual barrier of opaque polyethylene sheeting, at least of six mil thickness, shall be provided so



that work procedures are not visible to building occupants. Where area adjacent to work area is accessible to public, construct a solid barrier on public side of sheeting to protect sheeting. Barriers shall be constructed with wood or metal studs covered with minimum 3/8" thick sheathing. Where a solid barrier is provided, sheeting need not be opaque.

- P. 12 NYCRR Part 56 and/or project site specific variance detail alternate isolation methods when applicable.

3.03 NEGATIVE AIR PRESSURE SYSTEM - WORK AREAS:

- A. Provide a negative pressure system for the abatement project work areas at four air changes per hour unless otherwise specified by variance requirements.
- B. Quality Assurance
  - B. Prior to the start of work, submit a design for the negative air system. Do not begin work until written approval of the system by the Owner is obtained. Include at least the following:
    - a. The number of machines required plus a spare unit.
    - b. Manufacturers project data on the machines to be used.
    - c. Location of the machines in the work space.
    - d. Description of the methods used to test air flow and pressure differential.
  - B. The system shall maintain a negative pressure of- 0.02 inch of water gauge between the abatement area and the space surrounding the abatement area.

3.04 WORKER DECONTAMINATION SYSTEM:

- A. Provide a minimum of three totally enclosed chambers, lined with minimum of two layers of six mil thick fire retardant polyethylene sheeting. The floors shall be lined with reinforced six mil polyethylene sheeting.
- B. Provide an equipment area for storage of equipment (tools, boots, etc.) to be reused in the abatement work and for removal of disposable clothing. Equipment area shall have two curtained airlocks, one leading to work area and one leading to shower area. A minimum of 6' shall be maintained between airlocks.
- C. Provide a shower area containing at least one shower for every six employees with hot and cold water supply controllable at the tap and with waste drainage piped through filters that meet applicable federal, state and local rules, laws and regulations. Contractor is responsible for providing hot water to employees
- D. Provide a changing area with suitable lockers, or other storage acceptable to the Owner, for storage of each worker's, or authorized visitor's street clothing, towels, clean disposable clothing for use in work area, and other non-contaminated items. Provide a curtained airlock, from the changing area leading to the shower area.

3.05 EQUIPMENT DECONTAMINATION SYSTEM:

- A. Provide a minimum of two totally enclosed chambers, lined with minimum of two layers of six mil fire retardant polyethylene sheeting.
- B. Provide an equipment washroom for cleaning and decontamination of equipment and containers to be removed from work area. Washroom shall have two airlock doorways, one leading to work area and one leading to holding area. Provide minimum of 6' between airlocks.
- C. Provide a holding area for temporary storage of decontaminated equipment and containers. Holding area shall have two airlock doorways, one leading to equipment washroom and one leading to a lockable door to the outside.

3.06 PERSONNEL PROTECTION PROCEDURES:

- A. Each worker shall be instructed and trained in the hazards of asbestos exposure and in proper use of respirators.
- B. Each worker and authorized visitor shall always wear a respirator, properly fitted on the face, while in the work area until the whole area is completely decontaminated as evidenced by satisfactory final air clearance monitoring results.
- C. In order to enter the work area, each worker or authorized visitor, without exception, shall:
- D. Demonstrate their certification to enter the abatement work area and sign the entrance log.
- E. Remove street clothes in changing area and put on new disposable coveralls, new head covers, new footwear covers, and a clean respirator with fresh filters each time the work area is to be entered. Perform positive and negative field fit test.
- F. If non-disposable footwear is to be used, personnel shall proceed to the equipment area and put on non-disposable footwear therein.
- G. Upon leaving the work area, each worker and/or authorized visitor, without exception, shall:
  - G. Remove gross contamination in work area by HEPA vacuum before entering equipment area and utilize a walk-off pan filled with water for cleaning footwear. Once inside

equipment area, remove disposable coveralls, disposable head covers, and disposable footwear covers or non-disposable footwear before leaving equipment area.

- G. Still wearing respirator, proceed to showers. Showering is mandatory. Care must be taken to follow reasonable procedures in removing respirator and filters to avoid breathing asbestos fibers while showering. The following procedures are required:
  - G. Thoroughly wet body from neck down.
  - G. Wet hair as thoroughly as possible without wetting respirator filter.
  - G. Take a deep breath, hold it and/or exhale slowly, complete wetting of hair, thoroughly wetting face, respirator and filter. While still holding breath, remove respirator and hold it away from face before starting to breathe.
  - G. Dispose of wet filter in container provided in shower.
  - G. Shower completely with soap and water.
  - G. Rinse thoroughly.
- H. Shower each time before entering changing area to change into street clothes or into new disposable work items.
- I. NOTE: Seriously injured persons may be removed from the work area without following the above decontamination procedure. Follow posted instructions.
- J. Workers shall not eat, drink, smoke, chew gum or tobacco in the work area. To eat, drink or smoke, workers shall follow procedure described above, and then dress in street clothes before entering non-work areas of building.
- K. Disposable coveralls, head covers, and footwear covers shall be provided to the Owner, air monitoring technician and others as authorized representatives of the project manager or Owner who may inspect the job site; approximately four complete outfits per day.
- L. Personal Air Monitoring: Contractor will be responsible for personal air monitoring of workers, and providing results to the Owner within 24 hours for necessary actions that may be required.

### 3.07 EQUIPMENT REMOVAL PROCEDURES:

- A. All equipment and containers in the work area shall remain in the work area until daily completion of asbestos removal activities. When daily abatement work is completed, equipment and containers shall be removed as follows:
  - B. While still in work area, clean all external surfaces of equipment and containers by wet cleaning or HEPA vacuum.
  - C. After gross decontamination in work areas, move equipment and containers into airlock, then into equipment room for complete decontamination. Workers shall not cross airlock.
  - D. When decontamination in equipment wash room is complete, move cleaned equipment and containers into airlock, then into holding area. Do not exit the holding area to uncontaminated areas directly; return to work area and exit through worker decontamination system.

- E. Periodically, workers dressed in clean disposable coveralls shall enter the holding area from uncontaminated areas to remove clean equipment and containers. Do not enter equipment wash room when removing equipment and containers.

3.08 ASBESTOS REMOVAL (GENERAL):

- A. Apply a fine spray of amended water to the asbestos before removal. Saturate the asbestos sufficiently to prevent emission of airborne fibers in excess of the exposure limits prescribed of OSHA standards.
- B. Remove the asbestos in small sections. Perform the work with two-person teams. Use staging platforms if necessary.
- C. Sharp-edged components shall be removed from the work area and sealed airtight in fiber drums prior to disposal in dumpsters. Dispose in accordance with USEPA and NYSDEC requirements.
- D. While the removed asbestos is still moist, place it into plastic bags (six mil minimum thickness).
- E. Frequency for Containerizing. Cleanup of accumulations of loose asbestos material shall be performed whenever enough loose asbestos material has been removed to fill a single leak-tight container of the type commensurate with the material properties. In no case shall cleanup be performed less than once prior to the close of each working day. Asbestos material shall be kept wet until cleaned up.
- F. Frequency for Cleaning of Dust. Accumulations of dust shall be cleaned off all surfaces on a daily basis using HEPA vacuum and/or wet cleaning methods.
- G. Frequency for Cleaning of Enclosures. Decontamination enclosures shall be HEPA vacuumed and/or wet cleaned at the end of each shift.
- H. Cleanup Tools and Equipment. Accumulations of asbestos waste material shall be containerized utilizing HEPA vacuums or rubber or plastic dustpans, squeegees or shovels. Metal shovels shall not be used to pick up or move waste.
- I. Remove sealed bags to loadout area, wipe the bags off and place in second disposal bag. Seal outer bag, wet wipe exterior of second bag before loading.
- J. Decontamination enclosures shall be HEPA vacuumed and/or wet cleaned at the end of each shift.

3.09 ACM PACKAGING:

- A. Asbestos-containing materials which are stripped away, or otherwise removed, shall be packed while still wet, into six mil plastic bags. The bags shall be sealed, prepared and placed in the container for transport. The outside of all bags shall be cleaned before leaving work area. Periodic clean up and bagging of removed materials, while still wet, and used coveralls, head-cover, etc., shall be done to prevent accumulation of such material on the floor covering Contractor shall limit traffic in the area which may cause excessive airborne concentrations of the fibers. Stripped material shall be sprayed as necessary to keep it wet until clean-up.

- B. Bags shall be in accordance with all applicable rules, laws and regulations.
- C. Bags, drums, or other containers shall be removed from the work area in accordance with Section 3.9 "Equipment Removal Procedures".

3.10 FINAL ABATEMENT CLEAN-UP:

- A. Remove visible accumulations of materials and debris. Wet clean all surfaces within the work area and within worker/equipment decontamination enclosure system. Sealed drums, bags, and all equipment used in the work area shall be included in the clean up and shall be removed from work areas, via the equipment decontamination enclosure system, at an appropriate time in the cleaning sequence.
- B. First Cleaning. All surfaces in the work area shall be first wet cleaned using rags, mops and sponges. To pick up excess liquid and wet debris, a wet-purpose HEPA vacuum may be used and shall be decontaminated prior to removal from the work area. Remove the top layer of polyethylene sheeting from the floor and wall, dispose of as asbestos contaminated waste. The first layer shall be left in place. The windows, doors, and HVAC vents shall remain sealed and the HEPA-filtered negative air pressure systems, air filtration, and decontamination enclosure systems shall remain in service.
- C. Second cleaning and sheeting removal. After the first cleaning, at least twelve hours shall be allowed for asbestos to settle. Thereafter, all objects and surfaces in the work area shall be HEPA vacuumed and/or wet cleaned. The remaining plastic, on walls and floors only, shall then be removed. All windows, doors, HVAC system vents and all other openings shall remain sealed.
- D. Third cleaning. After the second cleaning, at least 12 hours shall elapse before HEPA-vacuuming and/or wet-cleaning all surfaces in the work area. The negative pressure ventilation units shall remain in continuous operation during the settling periods and the third cleaning.
- E. Contractor shall clean all surfaces with wet wiping and HEPA-filtered vacuum equipment; this will include the cleaning of Contractors equipment. After cleaning the work area, wait 12 hours to allow settlement of dust, and again wet clean or clean with HEPA-filtered vacuum equipment all surfaces in the work area. After completion of the second cleaning operation, Contractor will perform another complete visual inspection of the work area to ensure that the work area is free of visible debris. Negative pressure ventilation units shall remain in continuous operation during the settling periods and the third cleaning.
- F. Specific relief from multiple cleaning sequences may be found in 12NYCRR Part 56.
- G. Prior to the collection of clearance samples, a final visual inspection shall be performed by the Project Monitor of Owner's air sampling firm under conditions of adequate lighting which shall be provided by the contractor. The work area shall be free of visible debris.
- H. When aggressive air sampling demonstrates compliance with the clearance criteria, the worker/equipment decontamination enclosure system, and all window, door, and HVAC vent seals and plastic shall be removed. The area shall be thoroughly wet cleaned, and HEPA vacuumed. A final check shall be carried out to ensure that no dust or debris remains on surfaces as a result of dismantling operations.

- I. Repeat the cleaning process as described if either the visual inspection criterion or air monitoring clearance level is not satisfactory.
- J. The PCM air samples, taken utilizing an aggressive sampling technique must show airborne concentrations of total fibers below 0.01 fibers per cubic centimeter (f/cc) or the background level, whichever is greater. Sample results for TEM (if requested) must show less than (<) an average of 70 structures per square millimeter, clearance threshold for TEM methodology.

3.11 QUALITY ASSURANCE:

- A. Background Airborne Fiber Counts ( Phase I B )
  - A. The Owner shall obtain the services of a third party air sampling firm asbestos contractor to monitor the background fiber counts or those prevalent in the area before work begins following 12NYCRR Part 56 and obtain counts using the NIOSH 7400 laboratory analysis procedure.
- B. Work Area Preparation ( Phase II A )
  - B. The Owner shall obtain the services of a third party air sampling firm asbestos contractor to conduct work area preparation air sampling following 12 NYCRR Part 56.
- C. Asbestos Handling Airborne Fiber Counts ( Phase II B )
  - C. The Owner shall obtain the services of a third party air sampling firm asbestos contractor to monitor airborne fiber counts outside of the work area during the progress of abatement as per 12 NYCRR Part 56.
- D. Work Area Clearance ( Phase II C )
  - D. The air monitoring firm shall conduct clearance air sampling at project completion per 12 NYCRR Part 56. Analysis per this section will be performed using Phase Contract Microscopy (PCM). Analysis by Transmission Electron Microscopy (TEM) as outlined in AHERA (40 CFR Part 763) may be performed by Owner’s request, with clearance criteria will be in accordance with AHERA protocols.
- E. Laboratories engaged in PCM analysis must be accredited for PCM analysis work by New York State Department of Health. The laboratory utilized for analyzing clearance TEM air samples shall be successful participants in the AIHA Proficiency Analytical Testing (PAT) Program for Asbestos Analysis or NVLAP.
- F. The air sampling firm shall carry a valid and current Asbestos Handling license under the requirements of 12 NYCRR Part 56.

3.12 RESPONSIBILITIES AND DUTIES OF CONTRACTOR:

- A. To facilitate testing services, the Contractor shall:

- A. Advise the Owner and the testing agency sufficiently in advance of operations to allow for completion of tests and for the assignment of personnel.
- A. Ensure the cooperation of the employees with the project monitor and air sampling technician.
- B. The Contractor shall hold harmless the Building Owner, Owner’s agents and Air Monitoring firm for New York State Department of Labor, EPA and OSHA fines and fees resultant from activities of the Contractor. The Contractor shall be 100% responsible for all regulatory compliance. When other parties such as the Air Monitor, Owner and/or Construction Manager are fined, levied or otherwise caused monetary loss due to the Contractor’s action and/or lack of action; said Contractor shall reimburse the entire loss to the affected party. The failure of the Owner, Air Monitor and/or Construction Manager to enforce the contractor’s regulatory compliance shall in no way relieve the Contractor of responsibility for maintaining such regulatory compliance, or for the reimbursement of fines resulting from their non-compliance. The Contractor shall authorize that money may be withheld from the contract sum in sufficient quantity to reimburse the affected party.

3.13 ADDITIONAL TESTING:

- A. The Contractor may conduct its own area air monitoring and laboratory testing. If it elects to do this, the cost shall be included in the contract price(s).
- B. If it is necessary to re-sample work areas for clearance testing because the area does not meet the clearance standards, the abatement contractor shall incur all costs for this additional labor, sampling and laboratory analysis.

3.14 DISPOSAL OF ASBESTOS MATERIAL AND RELATED DEBRIS (GENERAL):

- A. Properly containerized waste must be transported by a licensed hauler and shipped to an approved landfill. Waste manifests must show chain of custody. Provide one copy of the waste manifests to the Owner.
- B. All contaminated waste shall be carefully loaded on trucks or other appropriate vehicles for transport. Before and during transport, care shall be exercised to insure that no unauthorized persons have access to the material.
- C. Transporters of the waste are prohibited from back hauling any freight after the disposition of the Owner’s waste stream until decontamination of the vehicle and/or trailer is assured.

3.15 WASTE MANAGEMENT AND DISPOSAL (SPECIFIC):

- A. The Contractor shall be responsible for all packaging, labeling, transport, disposal and record-keeping associated with asbestos containing waste in accordance with all federal, state and local regulations.
- B. The Contractor shall be responsible to remove all non ACM debris, rubbish and other materials to be disposed of as non ACM waste resulting from operations provided on the job site and dispose of it in accordance with all state and local regulations.

- C. All asbestos containing materials will be sufficiently wet to prevent any visible emission of dust into the air. The Contractor shall examine the asbestos containing waste material at a minimum every 24 hour period to assure that containers and packaging have not been damaged. If packaging has been damaged, materials will be wetted and repackaged.
- D. Asbestos containing waste materials, properly packaged, will be stored in the locked transport vehicle prior to shipping. The transport vehicle will be lined with polyethylene.
- E. The Contractor shall ensure and show proof in the submittal package that the person transporting the waste holds a valid permit issued in accordance with appropriate federal, state, and local regulations.
- F. The Contractor and/or building owner shall provide to the transporter at the time of transfer appropriate waste shipment record as required by the federal, state and local regulations with a copy to the project engineer.
- G. Contractor shall maintain proper follow up procedures to assure that waste materials have been received by the designated waste site in a timely manner and in accordance with all federal, state and local regulations.
- H. The Contractor shall assure that disposal of ACM is at a landfill approved to accept asbestos containing waste and shall provide to the Owner, a waste shipment form signed by the landfill's owner within 35 days.

END OF SECTION



## SECTION 220523 - GENERAL-DUTY VALVES FOR PLUMBING 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. Bronze ball valves.

- B. Related Sections:

- 1. Section 220553 "Identification for Plumbing Piping and Equipment" for valve tags and schedules.
  - 2. Section 221116 "Domestic Water Piping" for valves applicable only to this piping.

#### 1.3 DEFINITIONS

- A. CWP: Cold working pressure.
- B. EPDM: Ethylene propylene copolymer rubber.
- C. NBR: Acrylonitrile-butadiene, Buna-N, or nitrile rubber.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of valve indicated.
- B. Provide valve schedule indicating intended type of valve to be installed and installation location. Refer to valve schedule below.

#### 1.5 QUALITY ASSURANCE

- A. Source Limitations for Valves: Obtain each type of valve from single source from single manufacturer.
- B. ASME Compliance:
  - 1. ASME B16.10 and ASME B16.34 for ferrous valve dimensions and design criteria.

2. ASME B31.9 for building services piping valves.

C. NSF Compliance: Comply with NSF 61 and NSF 372 for products serving domestic water.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

A. Prepare valves for shipping as follows:

1. Protect internal parts against rust and corrosion.
2. Protect threads, flange faces, grooves, and weld ends.
3. Set ball valves open to minimize exposure of functional surfaces.

B. Use the following precautions during storage:

1. Maintain valve end protection.
2. Store valves indoors and maintain at higher than ambient dew point temperature. If outdoor storage is necessary, store valves off the ground in watertight enclosures.

### PART 2 - PRODUCTS

#### 2.1 GENERAL REQUIREMENTS FOR VALVES

A. Refer to valve schedule articles for applications of valves.

B. Valve Pressure and Temperature Ratings: Not less than indicated and as required for system pressures and temperatures.

C. Valve Sizes: Same as upstream piping unless otherwise indicated.

D. Valve Actuator Types:

1. Handlever: For quarter-turn valves.

E. Valve-End Connections:

1. ASME B16.18 for solder-joint connections.
2. ASME B1.20.1 for threads for threaded end valves.
3. ASME B16.1 for flanges on iron valves.

F. Valve Bypass and Drain Connections: MSS SP-45.

#### 2.2 BRONZE BALL VALVES

A. Two-Piece, Full-Port, Bronze Ball Valves with Stainless-Steel Trim:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- a. Conbraco Industries, Inc.; Apollo Valves.
  - b. NIBCO INC.
  - c. Milwaukee Valve Company.
  - d. Watts Regulator Co.; a division of Watts Water Technologies, Inc.
2. Description:
- a. Standard: MSS SP-110.
  - b. SWP Rating: 150 psig.
  - c. CWP Rating: 600 psig.
  - d. Body Design: Two piece.
  - e. Body Material: Bronze.
  - f. Ends: Threaded.
  - g. Seats: PTFE or TFE.
  - h. Stem: Stainless steel.
  - i. Ball: Stainless steel, vented.
  - j. Port: Full.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine valve interior for cleanliness, freedom from foreign matter, and corrosion. Remove special packing materials, such as blocks, used to prevent disc movement during shipping and handling.
- B. Operate valves in positions from fully opened to fully closed. Examine guides and seats made accessible by such operations.
- C. Examine threads on valve and mating pipe for form and cleanliness.
- D. Do not attempt to repair defective valves; replace with new valves.

#### 3.2 VALVE INSTALLATION

- A. Install valves with unions or flanges at each piece of equipment arranged to allow service, maintenance, and equipment removal without system shutdown.
- B. Install valves in horizontal piping with stem at or above center of pipe.

#### 3.3 GENERAL REQUIREMENTS FOR VALVE APPLICATIONS

- A. If valve applications are not indicated, use the following:
  1. Shutoff Service: Ball valves.

- B. If valves with specified SWP classes or CWP ratings are not available, the same types of valves with higher SWP classes or CWP ratings may be substituted.
- C. Select valves, with the following end connections:
  - 1. For Copper Tubing, NPS 2 and Smaller: Threaded ends or solder-joint ends.
  - 2. For Copper Tubing, NPS 2 and Larger: Flanged ends.

### 3.4 DOMESTIC, HOT- AND COLD-WATER VALVE SCHEDULE

- A. Pipe NPS 2 and Smaller:
  - 1. Bronze Valves: May be provided with solder-joint ends instead of threaded ends.
  - 2. Ball Valves: Two piece, full port, bronze with stainless-steel trim.

END OF SECTION 220523

## SECTION 220529 - HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT

### 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. Metal pipe hangers and supports.
  - 2. Metal framing systems.
  - 3. Pipe positioning systems.
  - 4. Thermal-hanger shield inserts.

#### 1.3 DEFINITIONS

- A. MSS: Manufacturers Standardization Society of The Valve and Fittings Industry Inc.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.

### PART 2 - PRODUCTS

#### 2.1 METAL PIPE HANGERS AND SUPPORTS

- A. Carbon-Steel Pipe Hangers and Supports:
  - 1. Description: MSS SP-58, Types 1 through 58, factory-fabricated components.
  - 2. Galvanized Metallic Coatings: Pre-galvanized or hot dipped.
  - 3. Hanger Rods: Continuous-thread rod, nuts, and washer made of carbon steel.

#### 2.2 METAL FRAMING SYSTEMS

- A. Manufacturer Metal Framing Systems:
  - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following

- a. Anvil International; a subsidiary of Mueller Water Products Inc.
  - b. Cooper B-Line, Inc.
  - c. NIBCO INC.
  - d. Unistrut Corporation; Tyco International, Ltd.
2. Description: Shop- or field-fabricated pipe-support assembly for supporting multiple parallel pipes.
  3. Standard: MFMA-4.
  4. Channels: Continuous slotted steel channel with inturred lips.
  5. Channel Nuts: Formed or stamped steel nuts or other devices designed to fit into channel slot and, when tightened, prevent slipping along channel.
  6. Hanger Rods: Continuous-thread rod, nuts, and washer made of carbon steel.
  7. Metallic Coating: Electroplated zinc or Hot-dipped galvanized

### 2.3 THERMAL-HANGER SHIELD INSERTS

- A. Description: 100-psig minimum, compressive-strength insulation insert encased in sheet metal shield.
- B. Insulation-Insert Material for Cold Piping: Water-repellent treated, ASTM C 533, Type I calcium silicate or ASTM C 552, Type II cellular glass with vapor barrier.
- C. Insulation-Insert Material for Hot Piping: Water-repellent treated, ASTM C 533, Type I calcium silicate or ASTM C 552, Type II cellular glass.
- D. For Trapeze or Clamped Systems: Insert and shield shall cover entire circumference of pipe.
- E. For Clevis or Band Hangers: Insert and shield shall cover lower 180 degrees of pipe.
- F. Insert Length: Extend 2 inches beyond sheet metal shield for piping operating below ambient air temperature.

### 2.4 PIPE POSITIONING SYSTEMS

- A. Description: IAPMO PS 42, positioning system of metal brackets, clips, and straps for positioning piping in pipe spaces; for plumbing fixtures in commercial applications.

### 2.5 MISCELLANEOUS MATERIALS

- A. Structural Steel: ASTM A 36/A 36M, carbon-steel plates, shapes, and bars; black and galvanized.
- B. Grout: ASTM C 1107, factory-mixed and -packaged, dry, hydraulic-cement, nonshrink and nonmetallic grout; suitable for interior and exterior applications.
  1. Properties: Nonstaining, noncorrosive, and nongaseous.
  2. Design Mix: 5000-psi (34.5-MPa), 28-day compressive strength.

## PART 3 - EXECUTION

### 3.1 HANGER AND SUPPORT INSTALLATION

- A. Metal Pipe-Hanger Installation: Comply with MSS SP-69 and MSS SP-89. Install hangers, supports, clamps, and attachments as required to properly support piping from the building structure.
- B. Metal Framing System Installation: Arrange for grouping of parallel runs of piping, and support together on field-assembled metal framing systems.
- C. Pipe Positioning-System Installation: Install support devices to make rigid supply and waste piping connections to each plumbing fixture.
- D. Install hangers and supports complete with necessary attachments, inserts, bolts, rods, nuts, washers, and other accessories.
- E. Load Distribution: Install hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.
- F. Pipe Slopes: Install hangers and supports to provide indicated or required pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping.
- G. Insulated Piping:
  - 1. Attach clamps and spacers to piping.
    - a. Use thermal-hanger shield insert with clamp sized to match OD of insert.
    - b. Do not exceed pipe stress limits allowed by ASME B31.9 for building services piping.
  - 2. Install MSS SP-58, Type 40, protective shields on cold piping with vapor barrier. Shields shall span an arc of 180 degrees.
    - a. Option: Thermal-hanger shield inserts may be used.
  - 3. Shield Dimensions for Pipe: Not less than the following:
    - a. NPS 1/4 to NPS 4: 12 inches long and 0.048 inch thick.
  - 4. Thermal-Hanger Shields: Install with insulation same thickness as piping insulation.

### 3.2 METAL FABRICATIONS

- A. Cut, drill, and fit miscellaneous metal fabrications for trapeze pipe hangers.
- B. Fit exposed connections together to form hairline joints.

### 3.3 ADJUSTING

- A. Hanger Adjustments: Adjust hangers to distribute loads equally on attachments and to achieve indicated slope of pipe.
- B. Trim excess length of continuous-thread hanger and support rods to 1-1/2 inches.

### 3.4 HANGER AND SUPPORT SCHEDULE

- A. Specific hanger and support requirements are in Sections specifying piping systems and equipment.
- B. Comply with MSS SP-69 for pipe-hanger selections and applications that are not specified in piping system Sections.
- C. Use hangers and supports with galvanized metallic coatings for piping and equipment that will not have field-applied finish.
- D. Use nonmetallic coatings on attachments for electrolytic protection where attachments are in direct contact with copper tubing.
- E. Use carbon-steel pipe hangers and metal framing systems and attachments for general service applications.
- F. Use thermal-hanger shield inserts for insulated piping and tubing.
- G. Horizontal-Piping Hangers and Supports: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
  - 1. Adjustable, Steel Clevis Hangers (MSS Type 1): For suspension of noninsulated or insulated, stationary pipes NPS 1/2 to NPS 30.
  - 2. Carbon- or Alloy-Steel, Double-Bolt Pipe Clamps (MSS Type 3): For suspension of pipes NPS 3/4 to NPS 36, requiring clamp flexibility and up to 4 inches of insulation.
  - 3. Steel Pipe Clamps (MSS Type 4): For suspension of cold and hot pipes NPS 1/2 to NPS 24 if little or no insulation is required.
  - 4. Pipe Hangers (MSS Type 5): For suspension of pipes NPS 1/2 to NPS 4, to allow off-center closure for hanger installation before pipe erection.
  - 5. Adjustable, Swivel Split- or Solid-Ring Hangers (MSS Type 6): For suspension of noninsulated, stationary pipes NPS 3/4 to NPS 8.
  - 6. Adjustable, Swivel-Ring Band Hangers (MSS Type 10): For suspension of noninsulated, stationary pipes NPS 1/2 to NPS 8.
- H. Vertical-Piping Clamps: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
  - 1. Extension Pipe or Riser Clamps (MSS Type 8): For support of pipe risers NPS 3/4 to NPS 24.
  - 2. Carbon- or Alloy-Steel Riser Clamps (MSS Type 42): For support of pipe risers NPS 3/4 to NPS 24 if longer ends are required for riser clamps.



- I. Hanger-Rod Attachments: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
  - 1. Steel Turnbuckles (MSS Type 13): For adjustment up to 6 inches for heavy loads.
  - 2. Steel Clevises (MSS Type 14): For 120 to 450 deg F piping installations.
  - 3. Swivel Turnbuckles (MSS Type 15): For use with MSS Type 11, split pipe rings.
  - 4. Malleable-Iron Sockets (MSS Type 16): For attaching hanger rods to various types of building attachments.
  - 5. Steel Weldless Eye Nuts (MSS Type 17): For 120 to 450 deg F piping installations.
  
- J. Building Attachments: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
  - 1. Steel or Malleable Concrete Inserts (MSS Type 18): For upper attachment to suspend pipe hangers from concrete ceiling.
  - 2. Top-Beam C-Clamps (MSS Type 19): For use under roof installations with bar-joint construction, to attach to top flange of structural shape.
  - 3. Side-Beam or Channel Clamps (MSS Type 20): For attaching to bottom flange of beams, channels, or angles.
  - 4. Center-Beam Clamps (MSS Type 21): For attaching to center of bottom flange of beams.
  - 5. C-Clamps (MSS Type 23): For structural shapes.
  - 6. Top-Beam Clamps (MSS Type 25): For top of beams if hanger rod is required tangent to flange edge.
  - 7. Side-Beam Clamps (MSS Type 27): For bottom of steel I-beams.
  - 8. Steel-Beam Clamps with Eye Nuts (MSS Type 28): For attaching to bottom of steel I-beams for heavy loads.
  - 9. Linked-Steel Clamps with Eye Nuts (MSS Type 29): For attaching to bottom of steel I-beams for heavy loads, with link extensions.
  - 10. Malleable-Beam Clamps with Extension Pieces (MSS Type 30): For attaching to structural steel.
  - 11. Side-Beam Brackets (MSS Type 34): For sides of steel or wooden beams.
  
- K. Saddles and Shields: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
  - 1. Steel-Pipe-Covering Protection Saddles (MSS Type 39): To fill interior voids with insulation that matches adjoining insulation.
  - 2. Protection Shields (MSS Type 40): Of length recommended in writing by manufacturer to prevent crushing insulation.
  - 3. Thermal-Hanger Shield Inserts: For supporting insulated pipe.
  
- L. Comply with MSS SP-69 for trapeze pipe-hanger selections and applications that are not specified in piping system Sections.
  
- M. Comply with MFMA-103 for metal framing system selections and applications that are not specified in piping system Sections.
  
- N. Use pipe positioning systems in pipe spaces behind plumbing fixtures to support supply and waste piping for plumbing fixtures.

END OF SECTION 220529

## SECTION 220553 - IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

### 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. Equipment labels.
- 2. Pipe labels.
- 3. Valve tags.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples: For color, letter style, and graphic representation required for each identification material and device.
- C. Valve numbering scheme.
- D. Valve Schedules: For each piping system to include in maintenance manuals.

#### 1.4 COORDINATION

- A. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.
- B. Coordinate installation of identifying devices with locations of access panels and doors.
- C. Install identifying devices before installing acoustical ceilings and similar concealment.

### PART 2 - PRODUCTS

#### 2.1 EQUIPMENT LABELS

- A. Plastic Labels for Equipment:

1. Material and Thickness: Multilayer, multicolor, plastic labels for mechanical engraving, 1/8 inch thick, and having predrilled holes for attachment hardware.
  2. Letter Color: Black.
  3. Background Color: White.
  4. Maximum Temperature: Able to withstand temperatures up to 160 deg F.
  5. Minimum Label Size: Length and width vary for required label content, but not less than 2-1/2 by 3/4 inch.
  6. Minimum Letter Size: 1/4 inch for name of units if viewing distance is less than 24 inches, 1/2 inch for viewing distances up to 72 inches, and proportionately larger lettering for greater viewing distances. Include secondary lettering two-thirds to three-fourths the size of principal lettering.
  7. Fasteners: Stainless-steel rivets or self-tapping screws.
  8. Adhesive: Contact-type permanent adhesive, compatible with label and with substrate.
- B. Label Content: Include equipment's Drawing designation or unique equipment number, Drawing numbers where equipment is indicated (plans, details, and schedules), plus the Specification Section number and title where equipment is specified.
- C. Equipment Label Schedule: For each item of equipment to be labeled, on 8-1/2-by-11-inch (A4) bond paper. Tabulate equipment identification number and identify Drawing numbers where equipment is indicated (plans, details, and schedules), plus the Specification Section number and title where equipment is specified. Equipment schedule shall be included in operation and maintenance data.

## 2.2 PIPE LABELS

- A. General Requirements for Manufactured Pipe Labels: Preprinted, color-coded, with lettering indicating service, and showing flow direction.
- B. Pretensioned Pipe Labels: Precoiled, semirigid plastic formed to cover full circumference of pipe and to attach to pipe without fasteners or adhesive.
- C. Self-Adhesive Pipe Labels: Printed plastic with contact-type, permanent-adhesive backing.
- D. Pipe Label Contents: Include identification of piping service using same designations or abbreviations as used on Drawings, pipe size, and an arrow indicating flow direction.
1. Flow-Direction Arrows: Integral with piping system service lettering to accommodate both directions, or as separate unit on each pipe label to indicate flow direction.
  2. Lettering Size: At least 1-1/2 inches high.

## 2.3 VALVE TAGS

- A. Valve Tags: Stamped or engraved with 1/4-inch letters for piping system abbreviation and 1/2-inch numbers.
1. Tag Material: Brass, 0.032-inch minimum thickness, and having predrilled or stamped holes for attachment hardware.
  2. Fasteners: Brass wire-link or beaded chain; or S-hook.

- B. Valve Schedules: For each piping system, on 8-1/2-by-11-inch bond paper. Tabulate valve number, piping system, system abbreviation (as shown on valve tag), location of valve (room or space), normal-operating position (open, closed, or modulating), and variations for identification. Mark valves for emergency shutoff and similar special uses.
  - 1. Valve-tag schedule shall be included in operation and maintenance data.

### PART 3 - EXECUTION

#### 3.1 PREPARATION

- A. Clean piping surfaces of substances that could impair bond of identification devices, including dirt, oil, grease, release agents, and incompatible primers, paints, and encapsulants.

#### 3.2 PIPE LABEL INSTALLATION

- A. Locate pipe labels where piping is exposed or above accessible ceilings in finished spaces; machine rooms; accessible maintenance spaces such as shafts, tunnels, and plenums; and exterior exposed locations as follows:
  - 1. Near each valve and control device.
  - 2. Near each branch connection, excluding short takeoffs for fixtures and terminal units. Where flow pattern is not obvious, mark each pipe at branch.
  - 3. Near penetrations through walls, floors, ceilings, and inaccessible enclosures.
  - 4. At access doors, manholes, and similar access points that permit view of concealed piping.
  - 5. Near major equipment items and other points of origination and termination.
  - 6. Spaced at maximum intervals of 10 feet along each run.
- B. Pipe Label Color Schedule:
  - 1. Domestic Water Piping:
    - a. Background Color: Green
    - b. Letter Color: White.
  - 2. Sanitary Waste and Drain Piping:
    - a. Background Color: White.
    - b. Letter Color: Black.
- 3. VALVE-TAG INSTALLATION
- C. Install tags on valves and control devices in piping systems, except check valves; valves within factory-fabricated equipment units; shutoff valves; faucets; convenience and lawn-watering hose connections; and similar roughing-in connections of end-use fixtures and units. List tagged valves in a valve schedule.

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- D. Valve-Tag Application Schedule: Tag valves according to size, shape, and color scheme and with captions similar to those indicated in the following subparagraphs:
1. Valve-Tag Size and Shape:
    - a. All: 1-1/2 inches, round.
  2. Valve-Tag Color:
    - a. All: Natural.
  3. Letter Color:
    - a. All: Black.

END OF SECTION 220553

## SECTION 220719 - PLUMBING PIPING INSULATION

### 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 insulating the following plumbing piping services:
  - 1. Insulation Materials.
  - 2. Insulating Cements
  - 3. Adhesives
  - 4. Mastics
  - 5. Supplies and drains for handicap-accessible lavatories and sinks.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include thermal conductivity, water-vapor permeance thickness, and jackets (both factory- and field-applied, if any).
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
  - 1. Detail application of protective shields, saddles, and inserts at hangers for each type of insulation and hanger.
  - 2. Detail insulation application at elbows, fittings, valves, and specialties for each type of insulation.
  - 3. Detail application of field-applied jackets.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified Installer.
- B. Material Test Reports: From a qualified testing agency acceptable to authorities having jurisdiction indicating, interpreting, and certifying test results for compliance of insulation materials, sealers, attachments, cements, and jackets, with requirements indicated. Include dates of tests and test methods employed.
- C. Field quality-control reports.

#### 1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Skilled mechanics who have successfully completed an apprenticeship program or another craft training program certified by the Department of Labor, Bureau of Apprenticeship and Training.
- B. Surface-Burning Characteristics: For insulation and related materials, as determined by testing identical products according to ASTM E 84 by a testing agency acceptable to authorities having jurisdiction. Factory label insulation and jacket materials and adhesive, mastic, tapes, and cement material containers, with appropriate markings of applicable testing agency.
  - 1. Insulation Installed Indoors: Flame-spread index of 25 or less, and smoke-developed index of 50 or less.
- C. Comply with the following applicable standards and other requirements specified for miscellaneous components:
  - 1. Supply and Drain Protective Shielding Guards: ICC A117.1.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Packaging: Insulation material containers shall be marked by manufacturer with appropriate ASTM standard designation, type and grade, and maximum use temperature.

#### 1.7 COORDINATION

- A. Coordinate sizes and locations of supports, hangers, and insulation shields specified in Section 220529 "Hangers and Supports for Plumbing Piping and Equipment."
- B. Coordinate clearance requirements with piping Installer for piping insulation application. Before preparing piping Shop Drawings, establish and maintain clearance requirements for installation of insulation and field-applied jackets and finishes and for space required for maintenance.

#### 1.8 SCHEDULING

- A. Schedule insulation application after pressure testing systems and, where required, after installing and testing heat tracing. Insulation application may begin on segments that have satisfactory test results.
- B. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

## PART 2 - PRODUCTS

### 2.1 INSULATION MATERIALS

- A. Comply with requirements in "Piping Insulation Schedule, General," "Indoor Piping Insulation Schedule," articles for where insulating materials shall be applied.
- B. Products shall not contain asbestos, lead, mercury, or mercury compounds.
- C. Foam insulation materials shall not use CFC or HCFC blowing agents in the manufacturing process.
- D. Mineral-Fiber Blanket Insulation: Mineral or glass fibers bonded with a thermosetting resin. Comply with ASTM C 553, Type II. Factory-applied jacket requirements are specified in "Factory-Applied Jackets" Article.
  - 1. Products: Subject to compliance with requirements, provide one of the following:
    - a. CertainTeed Corp.; SoftTouch Duct Wrap.
    - b. Johns Manville; Microlite.
    - c. Knauf Insulation; Friendly Feel Duct Wrap.
    - d. Manson Insulation Inc.; Alley Wrap.
    - e. Owens Corning; SOFTR All-Service Duct Wrap.
- E. Mineral-Fiber, Preformed Pipe Insulation:
  - 1. Products: Subject to compliance with requirements, provide one of the following:
    - a. Fibrex Insulations Inc.; Coreplus 1200.
    - b. Johns Manville; Micro-Lok.
    - c. Knauf Insulation; 1000-Degree Pipe Insulation.
    - d. Manson Insulation Inc.; Alley-K.
    - e. Owens Corning; Fiberglas Pipe Insulation.
  - 2. Type I, 850 deg F Materials: Mineral or glass fibers bonded with a thermosetting resin. Comply with ASTM C 547, Type I, Grade A, with factory-applied ASJ. Factory-applied jacket requirements are specified in "Factory-Applied Jackets" Article.

### 2.2 INSULATING CEMENTS

- A. Mineral-Fiber Insulating Cement: Comply with ASTM C 195.
  - 1. Products: Subject to compliance with requirements, provide one of the following:
    - a. Insulated, Division of MFS, Inc; Triple I.
    - b. P.K. Insulation Mfg. Co, Inc; Super-size.
- B. Mineral-Fiber, Hydraulic-Setting Insulating and Finishing Cement: Comply with ASTM C 449.



1. Products: Subject to compliance with requirements, provide one of the following:

- a. Insulated, Division of MFS, Inc; Smooth-cote.
- b. P.K. Insulation Mfg. Co, Inc; PK No. 127. Quick-cote
- c. Rock wool Manufacturing Company; Delta one shot.

## 2.3 ADHESIVES

- A. Materials shall be compatible with insulation materials, jackets, and substrates and for bonding insulation to itself and to surfaces to be insulated, unless otherwise indicated.

- B. ASJ Adhesive, and FSK Jacket Adhesive: Comply with MIL-A-3316C, Class 2, Grade A for bonding insulation jacket lap seams and joints.

1. Products: Subject to compliance with requirements, provide one of the following:

- a. Childers Brand, Specialty Construction Brands, Inc., a business of H. B. Fuller Company; CP-82.
- b. Eagle Bridges - Marathon Industries; 225.
- c. Foster Brand, Specialty Construction Brands, Inc., a business of H. B. Fuller Company; 85-20.
- d. Mon-Eco Industries, Inc.; 22-25.

2. For indoor applications, adhesive shall have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

3. Adhesive shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

- C. PVC Jacket Adhesive: Compatible with PVC jacket.

1. Products: Subject to compliance with requirements, provide one of the following:

- a. Dow Corning Corporation; 739, Dow Silicone.
- b. Johns Manville; Zeston Perma-Weld, CEEL-TITE Solvent Welding Adhesive.
- c. P.I.C. Plastics, Inc.; Welding Adhesive.
- d. Speedline Corporation; Polyco VP Adhesive.

2. For indoor applications, adhesive shall have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

3. Adhesive shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

## 2.4 MASTICS

- A. Materials shall be compatible with insulation materials, jackets, and substrates; comply with MIL-PRF-19565C, Type II.

1. For indoor applications, use mastics that have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- B. Vapor-Barrier Mastic: Solvent based; suitable for indoor use on below-ambient services.
1. Products: Subject to compliance with requirements, provide one of the following:
    - a. Childers Brand, Specialty Construction Brands, Inc., a business of H. B. Fuller Company; CP-30.
    - b. Eagle Bridges - Marathon Industries; 501.
    - c. Foster Brand, Specialty Construction Brands, Inc., a business of H. B. Fuller Company; 30-35.
    - d. Mon-Eco Industries, Inc.; 55-10.
  2. Water-Vapor Permeance: ASTM F 1249, 0.05 perm (0.03 metric perm) at 35-mil (0.9-mm) dry film thickness.
  3. Service Temperature Range: 0 to 180 deg F (Minus 18 to plus 82 deg C).
  4. Solids Content: ASTM D 1644, 44 percent by volume and 62 percent by weight.
  5. Color: White.

## 2.5 FACTORY-APPLIED JACKETS

- A. Insulation system schedules indicate factory-applied jackets on various applications. When factory-applied jackets are indicated, comply with the following:
1. ASJ: White, kraft-paper, fiberglass-reinforced scrim with aluminum-foil backing; complying with ASTM C 1136, Type I.
  2. ASJ-SSL: ASJ with self-sealing, pressure-sensitive, acrylic-based adhesive covered by a removable protective strip; complying with ASTM C 1136, Type I.

## 2.6 FIELD-APPLIED JACKETS

- A. Field-applied jackets shall comply with ASTM C 921, Type I, unless otherwise indicated.
- B. PVC Jacket: High-impact-resistant, UV-resistant PVC complying with ASTM D 1784, Class 16354-C; thickness as scheduled; roll stock ready for shop or field cutting and forming. Thickness is indicated in field-applied jacket schedules.
1. Products: Subject to compliance with requirements, provide one of the following:
    - a. Johns Manville; Zeston.
    - b. P.I.C. Plastics, Inc.; FG Series.
    - c. Proto Corporation; LoSmoke.
    - d. Speedline Corporation; SmokeSafe.
  2. Adhesive: As recommended by jacket material manufacturer.
  3. Color: White.
  4. Factory-fabricated fitting covers to match jacket if available; otherwise, field fabricate.

- a. Shapes: 45- and 90-degree, short- and long-radius elbows, tees, valves, unions, reducers, end caps, soil-pipe hubs, traps, mechanical joints, and P-trap and supply covers for lavatories.

## 2.7 TAPES

- A. ASJ Tape: White vapor-retarder tape matching factory-applied jacket with acrylic adhesive, complying with ASTM C 1136.
  1. Products: Subject to compliance with requirements, provide one of the following.
    - a. ABI, Ideal Tape Division; 428 AWF ASJ.
    - b. Avery Dennison Corporation, Specialty Tapes Division; Fasson 0836.
    - c. Compac Corporation; 104 and 105.
    - d. Venture Tape; 1540 CW Plus, 1542 CW Plus, and 1542 CW Plus/SQ.
  2. Width: 3 inches.
  3. Thickness: 11.5 mils.
  4. Adhesion: 90 ounces force/inch in width.
  5. Elongation: 2 percent.
  6. Tensile Strength: 40 lbf/inch in width.
  7. ASJ Tape Disks and Squares: Precut disks or squares of ASJ tape.
- B. PVC Tape: White vapor-retarder tape matching field-applied PVC jacket with acrylic adhesive; suitable for indoor and outdoor applications.
  1. Products: Subject to compliance with requirements, provide one of the following:
    - a. ABI, Ideal Tape Division; 370 White PVC tape.
    - b. Compac Corporation; 130.
    - c. Venture Tape; 1506 CW NS.
  2. Width: 2 inches.
  3. Thickness: 6 mils.
  4. Adhesion: 64 ounces force/inch in width.
  5. Elongation: 500 percent.
  6. Tensile Strength: 18 lbf/inch in width.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates and conditions for compliance with requirements for installation tolerances and other conditions affecting performance of insulation application.
  1. Verify that systems to be insulated have been tested and are free of defects.
  2. Verify that surfaces to be insulated are clean and dry.

- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Surface Preparation: Clean and dry surfaces to receive insulation. Remove materials that will adversely affect insulation application.
- B. Mix insulating cements with clean potable water; if insulating cements are to be in contact with stainless-steel surfaces, use demineralized water.

### 3.3 GENERAL INSTALLATION REQUIREMENTS

- A. Install insulation materials, accessories, and finishes with smooth, straight, and even surfaces; free of voids throughout the length of piping including fittings, valves, and specialties.
- B. Install insulation materials, forms, vapor barriers or retarders, jackets, and thicknesses required for each item of pipe system as specified in insulation system schedules.
- C. Install accessories compatible with insulation materials and suitable for the service. Install accessories that do not corrode, soften, or otherwise attack insulation or jacket in either wet or dry state.
- D. Install insulation with longitudinal seams at top and bottom of horizontal runs.
- E. Install multiple layers of insulation with longitudinal and end seams staggered.
- F. Do not weld brackets, clips, or other attachment devices to piping, fittings, and specialties.
- G. Keep insulation materials dry during application and finishing.
- H. Install insulation with tight longitudinal seams and end joints. Bond seams and joints with adhesive recommended by insulation material manufacturer.
- I. Install insulation with least number of joints practical.
- J. Where vapor barrier is indicated, seal joints, seams, and penetrations in insulation at hangers, supports, anchors, and other projections with vapor-barrier mastic.
  - 1. Install insulation continuously through hangers and around anchor attachments.
  - 2. For insulation application where vapor barriers are indicated, extend insulation on anchor legs from point of attachment to supported item to point of attachment to structure. Taper and seal ends at attachment to structure with vapor-barrier mastic.
  - 3. Install insert materials and install insulation to tightly join the insert. Seal insulation to insulation inserts with adhesive or sealing compound recommended by insulation material manufacturer.
  - 4. Cover inserts with jacket material matching adjacent pipe insulation. Install shields over jacket, arranged to protect jacket from tear or puncture by hanger, support, and shield.

- K. Apply adhesives, mastics, and sealants at manufacturer's recommended coverage rate and wet and dry film thicknesses.
- L. Install insulation with factory-applied jackets as follows:
  - 1. Draw jacket tight and smooth.
  - 2. Cover circumferential joints with 3-inch wide strips, of same material as insulation jacket. Secure strips with adhesive and outward clinching staples along both edges of strip, spaced 4 inches o.c.
  - 3. Overlap jacket longitudinal seams at least 1-1/2 inches. Install insulation with longitudinal seams at bottom of pipe. Clean and dry surface to receive self-sealing lap. Staple laps with outward clinching staples along edge at 2 inches o.c.
    - a. For below-ambient services, apply vapor-barrier mastic over staples.
  - 4. Cover joints and seams with tape, according to insulation material manufacturer's written instructions, to maintain vapor seal.
  - 5. Where vapor barriers are indicated, apply vapor-barrier mastic on seams and joints and at ends adjacent to pipe fittings.
- M. Cut insulation in a manner to avoid compressing insulation more than 75 percent of its nominal thickness.
- N. Finish installation with systems at operating conditions. Repair joint separations and cracking due to thermal movement.
- O. Repair damaged insulation facings by applying same facing material over damaged areas. Extend patches at least 4 inches beyond damaged areas. Adhere, staple, and seal patches similar to butt joints.
- P. For above-ambient services, do not install insulation to the following:
  - 1. Testing agency labels and stamps.
  - 2. Nameplates and data plates.
  - 3. Cleanouts.

### 3.4 GENERAL PIPE INSULATION INSTALLATION

- A. Requirements in this article generally apply to all insulation materials except where more specific requirements are specified in various pipe insulation material installation articles.
- B. Insulation Installation on Fittings, Valves, Strainers, and Unions:
  - 1. Install insulation over fittings, valves, strainers, unions, and other specialties with continuous thermal and vapor-retarder integrity unless otherwise indicated.
  - 2. Insulate pipe elbows using preformed fitting insulation or mitered fittings made from same material and density as adjacent pipe insulation. Each piece shall be butted tightly against adjoining piece and bonded with adhesive. Fill joints, seams, voids, and irregular surfaces with insulating cement finished to a smooth, hard, and uniform contour that is uniform with adjoining pipe insulation.

3. Insulate tee fittings with preformed fitting insulation or sectional pipe insulation of same material and thickness as used for adjacent pipe. Cut sectional pipe insulation to fit. Butt each section closely to the next and hold in place with tie wire. Bond pieces with adhesive.
  4. Insulate valves using preformed fitting insulation or sectional pipe insulation of same material, density, and thickness as used for adjacent pipe. Overlap adjoining pipe insulation by not less than two times the thickness of pipe insulation, or one pipe diameter, whichever is thicker. For valves, insulate up to and including the bonnets, valve stuffing-box studs, bolts, and nuts. Fill joints, seams, and irregular surfaces with insulating cement.
  5. Insulate unions using a section of oversized preformed pipe insulation. Overlap adjoining pipe insulation by not less than two times the thickness of pipe insulation, or one pipe diameter, whichever is thicker.
  6. Cover segmented insulated surfaces with a layer of finishing cement and coat with a mastic. Install vapor-barrier mastic for below-ambient services and a breather mastic for above-ambient services. Reinforce the mastic with fabric-reinforcing mesh. Trowel the mastic to a smooth and well-shaped contour.
  7. For services not specified to receive a field-applied jacket, install fitted PVC cover over elbows, tees, strainers, valves, and unions. Terminate ends with PVC end caps. Tape PVC covers to adjoining insulation facing using PVC tape.
- C. Insulate instrument connections for thermometers, pressure gages, pressure temperature taps, test connections, flow meters, sensors, switches, and transmitters on insulated pipes. Shape insulation at these connections by tapering it to and around the connection with insulating cement and finish with finishing cement, mastic, and flashing sealant.
- D. Install removable insulation covers at locations indicated. Installation shall conform to the following:
1. Make removable union insulation from sectional pipe insulation of same thickness as that on adjoining pipe. Install same insulation jacket as adjoining pipe insulation.
  2. When union covers are made from sectional pipe insulation, extend insulation from union long at least two times the insulation thickness over adjacent pipe insulation on each side of union.
  3. When covers are made from block insulation, make two halves, each consisting of mitered blocks wired to stainless-steel fabric. Finish cover assembly with insulating cement applied in two coats. After first coat is dry, apply and trowel second coat to a smooth finish.
- E. Insulation Installation on Pipe Fittings and Elbows:
1. Install preformed sections of same material as straight segments of pipe insulation when available. Secure according to manufacturer's written instructions.
  2. When preformed sections of insulation are not available, install mitered sections of cellular-glass insulation. Secure insulation materials with wire or bands.

3.5 FIELD-APPLIED JACKET INSTALLATION

- A. Where PVC jackets are indicated, install with 1-inch (25-mm) overlap at longitudinal seams and end joints. Seal with manufacturer's recommended adhesive.
  - 1. Apply two continuous beads of adhesive to seams and joints, one bead under lap and the finish bead along seam and joint edge.

3.6 INDOOR PIPING INSULATION SCHEDULE

- A. Domestic Cold Water:
  - 1. All pipe sizes: Insulation shall be the following:
    - a. Mineral Fiber: 1 inch thick with ASJ.
- B. Domestic Hot Water and Recirculated Hot Water:
  - 1. Pipe sizes 1 1/4" and down: Insulation shall be the following:
    - a. Mineral Fiber: 1 inch thick with ASJ.
  - 2. Pipe sizes 1 1/2" and up: Insulation shall be the following:
    - a. Mineral Fiber: 1 1/2 inch thick with ASJ.
- C. Provide PVC Jacket fitting covers on all insulated piping.

END OF SECTION 220719

## SECTION 221116 - DOMESTIC WATER 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. Copper tube and fittings.
  - 2. Piping joining materials.
  - 3. Transition fittings.
  - 4. Dielectric fittings.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Provide piping schedule indicating type of intended installation and installation location. Refer to piping schedule below.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. System purging and disinfecting activities report.
- B. Field quality-control reports.

#### 1.5 FIELD CONDITIONS

- A. Interruption of Existing Water Service: Do not interrupt water service to facilities occupied by Owner or others unless permitted under the following conditions:
  - 1. Notify Construction Manager no fewer than three working days in advance of proposed interruption of water service.
  - 2. Do not interrupt water service without Construction Manager's written permission.



## PART 2 - PRODUCTS

### 2.1 PIPING MATERIALS

- A. Comply with requirements in "Piping Schedule" Article for applications of pipe, tube, fitting materials, and joining methods for specific services, service locations, and pipe sizes.
- B. Potable-water piping and components shall comply with NSF 14, NSF 61 and NSF 372.

### 2.2 COPPER TUBE AND FITTINGS

- A. Drawn-Temper Copper Tubing: ASTM B 88, Type L.
  - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. Mueller Industries.
    - b. Cambridge-Lee Industries.
    - c. Cerro Flow Products
- B. Soft Copper Tubing, Annealed Temper: ASTM B 88, Type K.
  - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. Mueller Industries.
    - b. Cambridge-Lee Industries.
    - c. Cerro Flow Products
- C. Wrought-Copper Fittings: ASME B16.22.
  - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. NIBCO.
    - b. Elkhart Products Corporation
    - c. Cello Products.
  - 2. MSS SP-123.
  - 3. Cast-copper-alloy, hexagonal-stock body.
  - 4. Ball-and-socket, metal-to-metal seating surfaces.
  - 5. Solder-joint or threaded ends.
  - 6. Cast-Copper, Solder-Joint Fittings: ASME B16.18, pressure fittings.
  - 7. Wrought-Copper, Solder-Joint Fittings: ASME B16.22, wrought-copper pressure fittings.
  - 8. Bronze Flanges: ASME B16.24, Class 150, with solder-joint ends.

### 2.3 PIPING JOINING MATERIALS

- A. Solder Filler Metals: ASTM B32, lead-free alloys.
- B. Flux: ASTM B813, water flushable.

### 2.4 DIELECTRIC FITTINGS

- A. General Requirements: Assembly of copper alloy and ferrous materials with separating nonconductive insulating material. Include end connections compatible with pipes to be joined.
- B. Dielectric Nipples:
  - 1. Basis-of-Design Product: Subject to compliance with requirements, provide a comparable product by one of the following:
    - a. Elster Perfection Corporation.
    - b. Grinnell Mechanical Products; Tyco Fire Products LP.
    - c. Matco-Norca.
    - d. Precision Plumbing Products, Inc.
    - e. Victaulic Company.
  - 2. Standard: IAPMO PS 66.
  - 3. Electroplated steel nipple complying with ASTM F 1545.
  - 4. Pressure Rating and Temperature: 300 psig at 225 deg F.
  - 5. End Connections: Male threaded or grooved.
  - 6. Lining: Inert and noncorrosive, propylene.

## PART 3 - EXECUTION

### 3.1 PIPING INSTALLATION

- A. Drawing plans, schematics, and diagrams indicate general location and arrangement of domestic water piping. Indicated locations and arrangements are used to size pipe and calculate friction loss, expansion, and other design considerations. Install piping as indicated unless deviations to layout are approved on coordination drawings.
- B. Install copper tubing under building slab according to CDA's "Copper Tube Handbook."
- C. Install shutoff valve, hose-end drain valve, strainer, pressure gage, and test tee with valve inside the building at each domestic water-service entrance. Comply with requirements for drain valves and strainers in Section 221119 "Domestic Water Piping Specialties."
- D. Install domestic water piping level and plumb.
- E. Install piping concealed from view and protected from physical contact by building occupants unless otherwise indicated and except in equipment rooms and service areas.

- F. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.
- G. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal, and coordinate with other services occupying that space.
- H. Install piping to permit valve servicing.
- I. Install nipples, unions, special fittings, and valves with pressure ratings the same as or higher than the system pressure rating used in applications below unless otherwise indicated.
- J. Install piping free of sags and bends.
- K. Install fittings for changes in direction and branch connections.
- L. Install escutcheons for piping penetrations of walls, and ceilings.

### 3.2 JOINT CONSTRUCTION

- A. Ream ends of pipes and tubes and remove burrs.
- B. Remove scale, slag, dirt, and debris from inside and outside of pipes, tubes, and fittings before assembly.
- C. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
  - 1. Apply appropriate tape or thread compound to external pipe threads.
  - 2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged.
- D. Soldered Joints for Copper Tubing: Apply ASTM B 813, water-flushable flux to end of tube. Join copper tube and fittings according to ASTM B 828 or CDA's "Copper Tube Handbook."
- E. Joints for Dissimilar-Material Piping: Make joints using adapters compatible with materials of both piping systems.

### 3.3 DIELECTRIC FITTING INSTALLATION

- A. Install dielectric fittings in piping at connections of dissimilar metal piping and tubing.
- B. Dielectric Fittings for NPS 2 and Smaller: Use dielectric nipples,.

### 3.4 HANGER AND SUPPORT INSTALLATION

- A. Comply with requirements for pipe hanger, support products, and installation in Section 220529 "Hangers and Supports for Plumbing Piping and Equipment."
  - 1. Vertical Piping: MSS Type 8 or 42, clamps.
  - 2. Individual, Straight, Horizontal Piping Runs:
    - a. 100 Feet (30 m) and Less: MSS Type 1, adjustable, steel clevis hangers.
- B. Support vertical piping and tubing at base and at each floor.
- C. Rod diameter may be reduced one size for double-rod hangers, to a minimum of 3/8 inch.
- D. Install hangers for copper tubing with the following maximum horizontal spacing and minimum rod diameters:
  - 1. NPS 3/4 and Smaller: 60 inches with 3/8-inch rod.
  - 2. NPS 1 and NPS 1-1/4: 72 inches with 3/8-inch rod.
  - 3. NPS 1-1/2 and NPS 2: 96 inches with 3/8-inch rod.
  - 4. NPS 3 and NPS 4: 10 feet with 1/2-inch rod.
- E. Install supports for vertical copper tubing every 10 feet.

### 3.5 CONNECTIONS

- A. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. When installing piping adjacent to equipment and machines, allow space for service and maintenance.
- C. Connect domestic water piping to water-service piping with shutoff valve; extend and connect to the following:
  - 1. Plumbing Fixtures: Cold- and hot-water-supply piping in sizes indicated, but not smaller than that required by plumbing code.

### 3.6 IDENTIFICATION

- A. Identify system components. Comply with requirements for identification materials and installation in Section 220553 "Identification for Plumbing Piping and Equipment."

### 3.7 FIELD QUALITY CONTROL

- A. Perform the following tests and inspections:
  - 1. Piping Inspections:

- a. Do not enclose, cover, or put piping into operation until it has been inspected and approved by authorities having jurisdiction.
- b. During installation, notify authorities having jurisdiction at least two days before inspection must be made. Perform tests specified below in presence of authorities having jurisdiction:
  - 1) Roughing-in Inspection: Arrange for inspection of piping before concealing or closing in after roughing in and before setting fixtures.
  - 2) Final Inspection: Arrange for authorities having jurisdiction to observe tests specified in "Piping Tests" Subparagraph below and to ensure compliance with requirements.
- c. Reinspection: If authorities having jurisdiction find that piping will not pass tests or inspections, make required corrections and arrange for reinspection.
- d. Reports: Prepare inspection reports and have them signed by authorities having jurisdiction.

2. Piping Tests:

- a. Fill domestic water piping. Check components to determine that they are not air bound and that piping is full of water.
- b. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired. If testing is performed in segments, submit a separate report for each test, complete with diagram of portion of piping tested.
- c. Leave new, altered, extended, or replaced domestic water piping uncovered and unconcealed until it has been tested and approved. Expose work that was covered or concealed before it was tested.
- d. Cap and subject piping to static water pressure of 50 psig above operating pressure, without exceeding pressure rating of piping system materials. Isolate test source and allow it to stand for four hours. Leaks and loss in test pressure constitute defects that must be repaired.
- e. Repair leaks and defects with new materials, and retest piping or portion thereof until satisfactory results are obtained.
- f. Prepare reports for tests and for corrective action required.

B. Domestic water piping will be considered defective if it does not pass tests and inspections.

C. Prepare test and inspection reports.

3.8 ADJUSTING

A. Perform the following adjustments before operation:

1. Close drain valves, hydrants, and hose bibbs.
2. Open shutoff valves to fully open position.
3. Open throttling valves to proper setting.
4. Remove plugs used during testing of piping and for temporary sealing of piping during installation.

5. Remove filter cartridges from housings and verify that cartridges are as specified for application where used and are clean and ready for use.
6. Check plumbing specialties and verify proper settings, adjustments, and operation.

### 3.9 CLEANING

#### A. Clean and disinfect potable domestic water piping as follows:

1. Purge new piping and parts of existing piping that have been altered, extended, or repaired before using.
2. Use purging and disinfecting procedures prescribed by authorities having jurisdiction; if methods are not prescribed, use procedures described in either AWWA C651 or AWWA C652 or follow procedures described below:
  - a. Flush piping system with clean, potable water until dirty water does not appear at outlets.
  - b. Fill and isolate system according to either of the following:
    - 1) Fill system or part thereof with water/chlorine solution with at least 50 ppm chlorine. Isolate with valves and allow to stand for 24 hours.
    - 2) Fill system or part thereof with water/chlorine solution with at least 200 ppm of chlorine. Isolate and allow to stand for three hours.
  - c. Flush system with clean, potable water until no chlorine is in water coming from system after the standing time.
  - d. Repeat procedures if biological examination shows contamination.
  - e. Submit water samples in sterile bottles to third party testing lab. Then provide report to authorities having jurisdiction for approval.

#### B. Prepare and submit reports of purging and disinfecting activities. Include copies of water-sample approvals from authorities having jurisdiction.

#### C. Clean interior of domestic water piping system. Remove dirt and debris as work progresses.

### 3.10 PIPING SCHEDULE

#### A. Transition and special fittings with pressure ratings at least equal to piping rating may be used in applications below unless otherwise indicated.

#### B. Flanges and unions may be used for aboveground piping joints unless otherwise indicated.

#### C. Under-building-slab, domestic water, piping, NPS 3 and smaller, be the following:

1. Soft copper tube, ASTM B 88, Type K ; wrought-copper, solder-joint fittings; joints.
2. AWWA C110/A21.10, ductile or gray iron.

#### D. Aboveground domestic water piping, NPS 3 and smaller, shall be the following:

1. Hard copper tube, ASTM B 88, Type L; wrought-copper, solder-joint fittings; and soldered joints.

### 3.11 VALVE SCHEDULE

- A. Drawings indicate valve types to be used. Where specific valve types are not indicated, the following requirements apply:
  1. Shutoff Duty: Use ball valves for piping NPS 2 and smaller. Use ball, or gate valves with flanged ends for piping NPS 2-1/2 and larger.
  2. Drain Duty: Hose-end drain valves.

END OF SECTION 221116

## SECTION 221123 - DOMESTIC WATER PUMPS

### 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. In-line, centrifugal pumps.

#### 1.3 DEFINITIONS

- A. Low Voltage: As defined in NFPA 70 for circuits and equipment operating at less than 50 V or for remote-control, signaling power-limited circuits.
- B. ECM: Electronically commutated motor.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include materials of construction, rated capacities, certified performance curves with operating points plotted on curves, operating characteristics, electrical characteristics, and furnished specialties and accessories.

#### 1.5 QUALITY ASSURANCE

- A. NSF Compliance: Comply with NSF 61 and NSF 372 for products serving domestic water.

#### 1.6 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For domestic water pumps to include in operation and maintenance manuals.

#### 1.7 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.



- B. UL Compliance: Comply with UL 778 for motor-operated water pumps.

## 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Retain shipping flange protective covers and protective coatings during storage.
- B. Protect bearings and couplings against damage.
- C. Comply with pump manufacturer's written rigging instructions for handling.

## PART 2 - PRODUCTS

### 2.1 IN-LINE, CENTRIFUGAL PUMPS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. Armstrong Pumps Inc.
  - 2. Bell & Gossett Domestic Pump; ITT Corporation.
  - 3. Grundfos Pumps Corp.
  - 4. TACO Incorporated.
- B. Description: Factory-assembled and -tested, in-line, close-coupled, canned-motor, centrifugal pumps.
- C. Pump Construction:
  - 1. Pump and Motor Assembly: Hermetically sealed, replaceable-cartridge type with motor and impeller on common shaft and designed for installation with pump and motor shaft horizontal.
  - 2. Casing: Bronze, with threaded or companion-flange connections.
  - 3. Impeller: Plastic.
  - 4. Integral pump motor variable-speed control.
  - 5. ECM.
- D. Capacities and Characteristics:
  - 1. Refer to schedule on drawing.

### 2.2 CONTROLS

- A. Thermostats: Electric; adjustable for control of hot-water circulation pump.
  - 1. Type: Water-immersion temperature sensor, for installation in piping.
  - 2. Range: 50 to 125 deg F.
  - 3. Enclosure: NEMA 250.
  - 4. Operation of Pump: On or off.

5. Transformer: Provide if required.
6. Power Requirement: 120 V, ac.
7. Settings: Start pump at 115 deg F and stop pump at 120 deg F.

B. Timers: Electric, for control of hot-water circulation pump.

1. Type: Programmable, seven-day clock with manual override on-off switch.
2. Enclosure: NEMA 250, Type 1, suitable for wall mounting.
3. Operation of Pump: On or off.
4. Transformer: Provide if required.
5. Power Requirement: 120-V ac.
6. Programmable Sequence of Operation: Up to two on-off cycles each day for seven days.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine roughing-in of domestic-water-piping system to verify actual locations of connections before pump installation.

#### 3.2 PUMP INSTALLATION

- A. Install in-line, centrifugal pumps with shaft horizontal unless otherwise indicated.
- B. Install continuous-thread hanger rods and spring hangers of size required to support pump weight.
1. Comply with requirements for hangers and supports specified in Section 220529 "Hangers and Supports for Plumbing Piping and Equipment."
- C. Install thermostats in hot-water return piping.

#### 3.3 CONNECTIONS

- A. Comply with requirements for piping specified in Section 221116 "Domestic Water Piping." Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Install piping adjacent to pumps to allow service and maintenance.
- C. Connect domestic water piping to pumps. Install suction and discharge piping equal to or greater than size of pump nozzles.
1. Install shutoff valve and strainer on suction side of each pump, and check, shutoff valves on discharge side of each pump. Install valves same size as connected piping. Comply with requirements for valves specified in Section 220523 "General-Duty Valves for Plumbing Piping" and comply with requirements for strainers specified in Section 221119 "Domestic Water Piping Specialties."

2. Install pressure gage at suction of each pump and pressure gage at discharge of each pump. Install at integral pressure-gageappings where provided or install pressure-gage connectors in suction and discharge piping around pumps. Comply with requirements for pressure gages and snubbers specified in Section 220519 "Gages for Plumbing Piping."

- D. Connect thermostats and timers to pumps that they control.

### 3.4 IDENTIFICATION

- A. Comply with requirements for identification specified in Section 220553 "Identification for Plumbing Piping and Equipment" for identification of pumps.

### 3.5 STARTUP SERVICE

- A. Perform startup service.

1. Complete installation and startup checks according to manufacturer's written instructions.
2. Check piping connections for tightness.
3. Clean strainers on suction piping.
4. Set thermostats and timers for automatic starting and stopping operation of pumps.
5. Perform the following startup checks for each pump before starting:
  - a. Verify bearing lubrication.
  - b. Verify that pump is free to rotate by hand and that pump for handling hot liquid is free to rotate with pump hot and cold. If pump is bound or drags, do not operate until cause of trouble is determined and corrected.
  - c. Verify that pump is rotating in the correct direction.
6. Prime pump by opening suction valves and closing drains, and prepare pump for operation.
7. Start motor.
8. Open discharge valve slowly.
9. Adjust temperature settings on thermostats.
10. Adjust timer settings.

### 3.6 ADJUSTING

- A. Adjust domestic water pumps to function smoothly and lubricate as recommended by manufacturer.
- B. Adjust initial temperature set points.
- C. Set field-adjustable switches and circuit-breaker trip ranges as indicated.

END OF SECTION 221123

## SECTION 221613 - FUEL GAS 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. Pipes, tubes, and fittings.
  - 2. Piping specialties.
  - 3. Piping and tubing joining materials.
  - 4. Valves.
  - 5. Pressure regulators.
  - 6. Concrete Bases

#### 1.3 DEFINITIONS

- A. Finished Spaces: Spaces other than mechanical and electrical equipment rooms, furred spaces, pipe and duct shafts, unheated spaces immediately below roof, spaces above ceilings, unexcavated spaces, crawlspace, and tunnels.
- B. Exposed, Interior Installations: Exposed to view indoors. Examples include finished occupied spaces and mechanical equipment rooms.
- C. Exposed, Exterior Installations: Exposed to view outdoors or subject to outdoor ambient temperatures and weather conditions. Examples include rooftop locations.

#### 1.4 PERFORMANCE REQUIREMENTS

- A. Minimum Operating-Pressure Ratings:
  - 1. Piping and Valves: 100 psig minimum unless otherwise indicated.
  - 2. Service Regulators: 65 psig minimum unless otherwise indicated.
- B. Natural-Gas System Pressures within Buildings: Single pressure range. Primary pressure is 2 psig or less.

## 1.5 SUBMITTALS

- A. Product Data: For each type of the following:
1. Piping specialties.
  2. Valves. Include pressure rating, capacity, settings, and electrical connection data of selected models.
  3. Pressure regulators. Indicate pressure ratings and capacities.
  4. Dielectric fittings.
- B. Provide piping schedule indicating type of intended installation and installation location. Refer to piping schedule below.
- C. Coordination Drawings: Produced in electronic format (compatible with Autocad 2008) Detailed at 1/4" = 1'-0" scale, double lined. Drawings shall indicate pipe layout and elevation, ductwork layout and elevation, and all equipment with manufacturers' recommended maintenance access. The following items shall be shown and coordinated with each other, using input from installers of the items involved: (Submit 3 hard copies of all documents to Architect for Review):
1. Duct installation in congested spaces, indicating coordination with general construction, building components, and other building services. Indicate proposed changes to duct layout.
  2. Piping installation in congested spaces, indicating coordination with general construction, building components, and other building services.
  3. Suspended ceiling components.
  4. Structural members to which duct will be attached.
  5. Size and location of initial access modules for acoustical tile.
  6. Penetrations of smoke barriers and fire-rated construction.
  7. Items penetrating finished ceiling including the following:
    - a. Lighting fixtures.
    - b. Air outlets and inlets.
    - c. Speakers.
    - d. Sprinklers.
    - e. Access panels.
    - f. Perimeter moldings.
    - g. Smoke/CO detectors
    - h. Partition assemblies
    - i. Exit signs
- D. Welding certificates.
- E. Field quality-control reports.
- F. Operation and Maintenance Data: For motorized gas valves, pressure regulators and service meters to include in emergency, operation, and maintenance manuals.

## 1.6 ACTION SUBMITTALS

- A. Coordination Drawings: Produced in electronic format (compatible with Autocad 2013) Detailed at 1/4" = 1'-0" scale, double lined. Drawings shall indicate pipe layout and elevation, ductwork layout and elevation, and all equipment with manufacturers' recommended maintenance access. The following items shall be shown and coordinated with each other, using input from installers of the items involved: (Submit 3 hard copies of all documents to Architect for Review):
1. Duct installation in congested spaces, indicating coordination with general construction, building components, and other building services. Indicate proposed changes to duct layout.
  2. Piping installation in congested spaces, indicating coordination with general construction, building components, and other building services.
  3. Suspended ceiling components.
  4. Structural members to which duct will be attached.
  5. Size and location of initial access modules for acoustical tile.
  6. Penetrations of smoke barriers and fire-rated construction.
  7. Items penetrating finished ceiling including the following:
    - a. Lighting fixtures.
    - b. Air outlets and inlets.
    - c. Speakers.
    - d. Sprinklers.
    - e. Access panels.
    - f. Perimeter moldings.
    - g. Smoke / CO detectors
    - h. Partition assemblies
    - i. Exit Signs

## 1.7 QUALITY ASSURANCE

- A. Steel Support Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- B. Pipe Welding Qualifications: Qualify procedures and operators according to ASME Boiler and Pressure Vessel Code.
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

## 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Handling Flammable Liquids: Remove and dispose of liquids from existing natural-gas piping according to requirements of authorities having jurisdiction.
- B. Deliver pipes and tubes with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe end damage and to prevent entrance of dirt, debris, and moisture.

- C. Store and handle pipes and tubes having factory-applied protective coatings to avoid damaging coating, and protect from direct sunlight.

#### 1.9 PROJECT CONDITIONS

- A. Perform site survey, research public utility records, and verify existing utility locations. Contact utility-locating service for area where Project is located.
- B. Interruption of Existing Natural-Gas Service: Do not interrupt natural-gas service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide purging and startup of natural-gas supply according to requirements indicated:
  - 1. Notify Construction Manager no fewer than three working days in advance of proposed interruption of natural-gas service.
  - 2. Do not proceed with interruption of natural-gas service without Construction Manager's written permission.

#### 1.10 COORDINATION

- A. Coordinate sizes and locations of concrete bases with actual equipment provided.

### PART 2 - PRODUCTS

#### 2.1 PIPES, TUBES, AND FITTINGS

- A. Steel Pipe: ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B.
  - 1. Malleable-Iron Threaded Fittings: ASME B16.3, Class 150, standard pattern.
  - 2. Wrought-Steel Welding Fittings: ASTM A 234/A 234M for butt welding and socket welding.
  - 3. Unions: ASME B16.39, Class 150, malleable iron with brass-to-iron seat, ground joint, and threaded ends.
  - 4. Forged-Steel Flanges and Flanged Fittings: ASME B16.5, minimum Class 150, including bolts, nuts, and gaskets of the following material group, end connections, and facings:
    - a. Material Group: 1.1.
    - b. End Connections: Threaded or butt welding to match pipe.
    - c. Lapped Face: Not permitted underground.
    - d. Gasket Materials: ASME B16.20, metallic, flat, asbestos free, aluminum o-rings, and spiral-wound metal gaskets.
    - e. Bolts and Nuts: ASME B18.2.1, carbon steel aboveground and stainless steel underground.
  - 5. Protective Coating for Underground Piping: Factory-applied, three-layer coating of epoxy, adhesive, and PE.

- a. Joint Cover Kits: Epoxy paint, adhesive, and heat-shrink PE sleeves.
6. Mechanical Couplings:
  - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - 1) Dresser Piping Specialties; Division of Dresser, Inc.
    - 2) Smith-Blair, Inc.
  - b. Steel flanges and tube with epoxy finish.
  - c. Buna-nitrile seals.
  - d. Steel bolts, washers, and nuts.
- B. PE Pipe: ASTM D 2513, SDR 11.
  1. PE Fittings: ASTM D 2683, socket-fusion type or ASTM D 3261, butt-fusion type with dimensions matching PE pipe.
  2. PE Transition Fittings: Factory-fabricated fittings with PE pipe complying with ASTM D 2513, SDR 11; and steel pipe complying with ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B.
  3. Anodeless Service-Line Risers: Factory fabricated and leak tested.
    - a. Underground Portion: PE pipe complying with ASTM D 2513, SDR 11 inlet.
    - b. Casing: Steel pipe complying with ASTM A 53/A 53M, Schedule 40, black steel, Type E or S, Grade B, with corrosion-protective coating covering.
    - c. Aboveground Portion: PE transition fitting.
    - d. Outlet shall be threaded or flanged or suitable for welded connection.
    - e. Tracer wire connection.
    - f. Ultraviolet shield.
    - g. Stake supports with factory finish to match steel pipe casing or carrier pipe.
  4. Transition Service-Line Risers: Factory fabricated and leak tested.
    - a. Underground Portion: PE pipe complying with ASTM D 2513, SDR 11 inlet connected to steel pipe complying with ASTM A 53/A 53M, Schedule 40, Type E or S, Grade B, with corrosion-protective coating for aboveground outlet.
    - b. Outlet shall be threaded or flanged or suitable for welded connection.
    - c. Bridging sleeve over mechanical coupling.
    - d. Factory-connected anode.
    - e. Tracer wire connection.
    - f. Ultraviolet shield.
    - g. Stake supports with factory finish to match steel pipe casing or carrier pipe.
  5. Plastic Mechanical Couplings, NPS 2 and Larger: Capable of joining PE pipe to PE pipe, steel pipe to PE pipe, or steel pipe to steel pipe.
    - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      - 1) Lyall, R. W. & Company



- 2) Mueller Company
- 3) Perfection Corporation

- b. Fiber-reinforced plastic body.
- c. PE body tube.
- d. Buna-nitrile seals.
- e. Acetal collets.
- f. Stainless-steel bolts, nuts, and washers.

## 2.2 PIPING SPECIALTIES

### A. Appliance Flexible Connectors:

1. Indoor, Fixed-Appliance Flexible Connectors: Comply with ANSI Z21.24.
2. Indoor, Movable-Appliance Flexible Connectors: Comply with ANSI Z21.69.
3. Outdoor, Appliance Flexible Connectors: Comply with ANSI Z21.75.
4. Corrugated stainless-steel tubing with polymer coating.
5. Operating-Pressure Rating: 0.5 psig.
6. End Fittings: Zinc-coated steel.
7. Threaded Ends: Comply with ASME B1.20.1.
8. Maximum Length: 72 inches.

### B. Quick-Disconnect Devices: Comply with ANSI Z21.41.

1. Copper-alloy convenience outlet and matching plug connector.
2. Nitrile seals.
3. Hand operated with automatic shutoff when disconnected.
4. For indoor or outdoor applications.
5. Adjustable, retractable restraining cable.

### C. Y-Pattern Strainers:

1. Body: ASTM A 126, Class B, cast iron with bolted cover and bottom drain connection.
2. End Connections: Threaded ends for NPS 2 and smaller; flanged ends for NPS 2-1/2 and larger.
3. Strainer Screen: 60-mesh startup strainer, and perforated stainless-steel basket with 50 percent free area.
4. CWP Rating: 125 psig.

### D. Weatherproof Vent Cap: Cast- or malleable-iron increaser fitting with corrosion-resistant wire screen, with free area at least equal to cross-sectional area of connecting pipe and threaded-end connection.

## 2.3 JOINING MATERIALS

### A. Joint Compound and Tape: Suitable for natural gas.

### B. Welding Filler Metals: Comply with AWS D10.12/D10.12M for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded.

## 2.4 MANUAL GAS SHUTOFF VALVES

- A. General Requirements for Metallic Valves, NPS 2 and Smaller: Comply with ASME B16.33.
  - 1. CWP Rating: 125 psig.
  - 2. Threaded Ends: Comply with ASME B1.20.1.
  - 3. Dryseal Threads on Flare Ends: Comply with ASME B1.20.3.
  - 4. Tamperproof Feature: Locking feature for valves indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
  - 5. Service Mark: Valves 1-1/4 inches to NPS 2 shall have initials "WOG" permanently marked on valve body.
  
- B. General Requirements for Metallic Valves, NPS 2-1/2 and Larger: Comply with ASME B16.38.
  - 1. CWP Rating: 125 psig.
  - 2. Flanged Ends: Comply with ASME B16.5 for steel flanges.
  - 3. Tamperproof Feature: Locking feature for valves indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
  - 4. Service Mark: Initials "WOG" shall be permanently marked on valve body.
  
- C. Two-Piece, Full-Port, Bronze Ball Valves with Bronze Trim: MSS SP-110.
  - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. BrassCraft Manufacturing Company; a Masco company.
    - b. Conbraco Industries, Inc.; Apollo Div.
    - c. Lyall, R. W. & Company, Inc.
    - d. McDonald, A. Y. Mfg. Co.
    - e. Perfection Corporation; a subsidiary of American Meter Company.
  - 2. Body: Bronze, complying with ASTM B 584.
  - 3. Ball: Chrome-plated bronze.
  - 4. Stem: Bronze; blowout proof.
  - 5. Seats: Reinforced TFE; blowout proof.
  - 6. Packing: Threaded-body packnut design with adjustable-stem packing.
  - 7. Ends: Threaded, flared, or socket as indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
  - 8. CWP Rating: 600 psig.
  - 9. Listing: Valves NPS 1 and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction.
  - 10. Service: Suitable for natural-gas service with "WOG" indicated on valve body.

## 2.5 MOTORIZED GAS VALVES

- A. Electrically Operated Valves: Comply with UL 429.
- B. Automatic Gas Valves: Comply with ANSI Z21.21.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. Asco
  - b. Eaton
  - c. Honeywell Building Solutions
  - d. Johnson Controls
2. Body: Brass or aluminum.
3. Seats and Disc: Nitrile rubber.
4. Springs and Valve Trim: Stainless steel.
5. Normally closed.
6. Visual position indicator.
7. Electrical operator for actuation by appliance automatic shutoff device.

## 2.6 PRESSURE REGULATORS

### A. General Requirements:

1. Single stage and suitable for natural gas.
2. Steel jacket and corrosion-resistant components.
3. Elevation compensator.
4. End Connections: Threaded for regulators NPS 2 and smaller; flanged for regulators NPS 2-1/2 and larger.

### B. Medium Pressure Regulators: Comply with ANSI Z21.80.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - a. Actaris.
  - b. American Meter Company.
  - c. Eclipse Combustion, Inc.
  - d. Fisher Control Valves and Regulators; Division of Emerson Process Management.
  - e. Invensys.
  - f. Maxitrol Company.
2. Body and Diaphragm Case: Cast iron or die-cast aluminum.
3. Springs: Zinc-plated steel; interchangeable.
4. Diaphragm Plate: Zinc-plated steel.
5. Seat Disc: Nitrile rubber resistant to gas impurities, abrasion, and deformation at the valve port.
6. Orifice: Aluminum; interchangeable.
7. Seal Plug: Ultraviolet-stabilized, mineral-filled nylon.
8. Single-port, self-contained regulator with orifice no larger than required at maximum pressure inlet, and no pressure sensing piping external to the regulator.
9. Pressure regulator shall maintain discharge pressure setting downstream, and not exceed 150 percent of design discharge pressure at shutoff.
10. Overpressure Protection Device: Factory mounted on pressure regulator.

11. Vent limiting device.
12. Maximum Inlet Pressure: 5 psig.

C. Appliance Pressure Regulators: Comply with ANSI Z21.18.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - a. Eaton Corporation; Controls Div.
  - b. Harper Wyman Co.
  - c. Maxitrol Company.
  - d. SCP, Inc.
2. Body and Diaphragm Case: Die-cast aluminum.
3. Springs: Zinc-plated steel; interchangeable.
4. Diaphragm Plate: Zinc-plated steel.
5. Seat Disc: Nitrile rubber.
6. Seal Plug: Ultraviolet-stabilized, mineral-filled nylon.
7. Factory-Applied Finish: Minimum three-layer polyester and polyurethane paint finish.
8. Regulator may include vent limiting device, instead of vent connection, if approved by authorities having jurisdiction.
9. Maximum Inlet Pressure: 1 psig.

## 2.7 DIELECTRIC FITTINGS

A. Dielectric Unions:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - a. Capitol Manufacturing Company.
  - b. Central Plastics Company.
  - c. Hart Industries International, Inc.
  - d. McDonald, A. Y. Mfg. Co.
  - e. Watts Regulator Co.; Division of Watts Water Technologies, Inc.
  - f. Wilkins; Zurn Plumbing Products Group.
2. Minimum Operating-Pressure Rating: 150 psig.
3. Combination fitting of copper alloy and ferrous materials.
4. Insulating materials suitable for natural gas.
5. Combination fitting of copper alloy and ferrous materials with threaded, brazed-joint, plain, or welded end connections that match piping system materials.

B. Dielectric Flanges:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- a. Capitol Manufacturing Company.
  - b. Central Plastics Company.
  - c. Watts Regulator Co.; Division of Watts Water Technologies, Inc.
  - d. Wilkins; Zurn Plumbing Products Group.
2. Minimum Operating-Pressure Rating: 150 psig.
  3. Combination fitting of copper alloy and ferrous materials.
  4. Insulating materials suitable for natural gas.
  5. Combination fitting of copper alloy and ferrous materials with threaded, brazed-joint, plain, or welded end connections that match piping system materials.

C. Dielectric-Flange Kits:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - a. Advance Products & Systems, Inc.
  - b. Calpico Inc.
  - c. Central Plastics Company.
  - d. Pipeline Seal and Insulator, Inc.
2. Minimum Operating-Pressure Rating: 150 psig.
3. Companion-flange assembly for field assembly.
4. Include flanges, full-face- or ring-type neoprene or phenolic gasket, phenolic or PE bolt sleeves, phenolic washers, and steel backing washers.
5. Insulating materials suitable for natural gas.
6. Combination fitting of copper alloy and ferrous materials with threaded, brazed-joint, plain, or welded end connections that match piping system materials.

## 2.8 LABELING AND IDENTIFYING

- A. Detectable Warning Tape: Acid- and alkali-resistant, PE film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored yellow.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine roughing-in for natural-gas piping system to verify actual locations of piping connections before equipment installation.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Close equipment shutoff valves before turning off natural gas to premises or piping section.
- B. Inspect natural-gas piping according to the state Fuel Gas Code to determine that natural-gas utilization devices are turned off in piping section affected.
- C. Comply with the state Fuel Gas Code requirements for prevention of accidental ignition.

### 3.3 OUTDOOR PIPING INSTALLATION

- A. Comply with the International Fuel Gas Code for installation and purging of natural-gas piping.
- B. Install underground, natural-gas piping buried at least 24 inches below finished grade. Comply with requirements in Section 312000 "Earth Moving" Site Work for excavating, trenching, and backfilling.
- C. Install underground, PE, natural-gas piping according to ASTM D 2774.
- D. Install fittings for changes in direction and branch connections.
- E. Install pressure gage downstream from each service regulator. Pressure gages are specified in Division 220519 Section "Meters and Gages".

### 3.4 INDOOR PIPING INSTALLATION

- A. Comply with the state Fuel Gas Code for installation and purging of natural-gas piping.
- B. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements are used to size pipe and calculate friction loss, expansion, and other design considerations. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.
- C. Arrange for pipe spaces, chases, slots, sleeves, and openings in building structure during progress of construction, to allow for mechanical installations.
- D. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.
- E. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.
- F. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.
- G. Locate valves for easy access.
- H. Install natural-gas piping at uniform grade of 2 percent down toward drip and sediment traps.

- I. Install piping free of sags and bends.
- J. Install fittings for changes in direction and branch connections.
- K. Verify final equipment locations for roughing-in.
- L. Comply with requirements in Sections specifying gas-fired appliances and equipment for roughing-in requirements.
- M. Drips and Sediment Traps: Install drips at points where condensate may collect, including service-meter outlets. Locate where accessible to permit cleaning and emptying. Do not install where condensate is subject to freezing.
  - 1. Construct drips and sediment traps using tee fitting with bottom outlet plugged or capped. Use nipple a minimum length of 3 pipe diameters, but not less than 3 inches (75 mm) long and same size as connected pipe. Install with space below bottom of drip to remove plug or cap.
- N. Extend relief vent connections for service regulators, medium regulators, and overpressure protection devices to outdoors and terminate with weatherproof vent cap.
- O. Conceal pipe installations in walls, pipe spaces, utility spaces, above ceilings, below grade or floors, and in floor channels unless indicated to be exposed to view.
- P. Concealed Location Installations: Except as specified below, install concealed natural-gas piping and piping installed under the building in containment conduit constructed of steel pipe with welded joints as described in Part 2. Install a vent pipe from containment conduit to outdoors and terminate with weatherproof vent cap.
  - 1. Above Accessible Ceilings: Natural-gas piping, fittings, valves, and regulators may be installed in accessible spaces without containment conduit.
  - 2. In Walls or Partitions: Protect tubing installed inside partitions or hollow walls from physical damage using steel striker barriers at rigid supports.
    - a. Exception: Tubing passing through partitions or walls does not require striker barriers.
  - 3. Prohibited Locations:
    - a. Do not install natural-gas piping in or through circulating air ducts, clothes or trash chutes, chimneys or gas vents (flues), ventilating ducts, or dumbwaiter or elevator shafts.
    - b. Do not install natural-gas piping in solid walls or partitions.
- Q. Use eccentric reducer fittings to make reductions in pipe sizes. Install fittings with level side down.
- R. Connect branch piping from top or side of horizontal piping.
- S. Install unions in pipes NPS 2 and smaller, adjacent to each valve, at final connection to each piece of equipment. Unions are not required at flanged connections.

- T. Do not use natural-gas piping as grounding electrode.
- U. Install strainer on inlet of each medium-pressure regulator and automatic or electrically operated valve.
- V. Install pressure gage downstream from each medium regulator. Pressure gages are specified in Division 220519 Section "Meters and Gages."
- W. Install sleeves for piping penetrations of walls, ceilings, and floors. Comply with requirements for sleeves specified in Division 220500 Section "Common Work Results for Plumbing Piping."
- X. Install sleeve seals for piping penetrations of concrete walls and slabs. Comply with requirements for sleeve seals specified in Division 220500 Section "Common Work Results for Plumbing Piping."
- Y. Install escutcheons for piping penetrations of walls, ceilings, and floors. Comply with requirements for escutcheons specified in Division 220500 Section "Common Work Results for Plumbing Piping."

### 3.5 VALVE INSTALLATION

- A. Install manual gas shutoff valve for each gas appliance ahead of corrugated stainless-steel tubing, aluminum, or copper connector.
- B. Install regulators and overpressure protection devices with maintenance access space adequate for servicing and testing.

### 3.6 PIPING JOINT CONSTRUCTION

- A. Ream ends of pipes and tubes and remove burrs.
- B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
- C. Threaded Joints:
  - 1. Thread pipe with tapered pipe threads complying with ASME B1.20.1.
  - 2. Cut threads full and clean using sharp dies.
  - 3. Ream threaded pipe ends to remove burrs and restore full inside diameter of pipe.
  - 4. Apply appropriate tape or thread compound to external pipe threads unless dryseal threading is specified.
  - 5. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.
- D. Welded Joints:
  - 1. Construct joints according to AWS D10.12/D10.12M, using qualified processes and welding operators.
  - 2. Bevel plain ends of steel pipe.



3. Patch factory-applied protective coating as recommended by manufacturer at field welds and where damage to coating occurs during construction.
- E. Flanged Joints: Install gasket material, size, type, and thickness appropriate for natural-gas service. Install gasket concentrically positioned.
- F. PE Piping Heat-Fusion Joints: Clean and dry joining surfaces by wiping with clean cloth or paper towels. Join according to ASTM D 2657.
  1. Plain-End Pipe and Fittings: Use butt fusion.
  2. Plain-End Pipe and Socket Fittings: Use socket fusion.

### 3.7 HANGER AND SUPPORT INSTALLATION

- A. Comply with requirements for pipe hangers and supports specified in Division 220529 Section "Hangers and Supports for Plumbing Piping and Equipment."
- B. Install hangers for horizontal steel piping with the following maximum spacing and minimum rod sizes:
  1. NPS 1 and Smaller: Maximum span, 96 inches; minimum rod size, 3/8 inch.
  2. NPS 1-1/4: Maximum span, 108 inches; minimum rod size, 3/8 inch.
  3. NPS 1-1/2 and NPS 2: Maximum span, 108 inches; minimum rod size, 3/8 inch.
  4. NPS 2-1/2 to NPS 3-1/2: Maximum span, 10 feet; minimum rod size, 1/2 inch.
  5. NPS 4 and Larger: Maximum span, 10 feet; minimum rod size, 5/8 inch.

### 3.8 CONNECTIONS

- A. Connect to utility's gas main according to utility's procedures and requirements.
- B. Install natural-gas piping electrically continuous, and bonded to gas appliance equipment grounding conductor of the circuit powering the appliance according to NFPA 70.
- C. Install piping adjacent to appliances to allow service and maintenance of appliances.
- D. Connect piping to appliances using manual gas shutoff valves and unions. Install valve within 72 inches of each gas-fired appliance and equipment. Install union between valve and appliances or equipment.
- E. Sediment Traps: Install tee fitting with capped nipple in bottom to form drip, as close as practical to inlet of each appliance.

### 3.9 LABELING AND IDENTIFYING

- A. Comply with requirements in Division 220553 Section "Identification for Plumbing Piping and Equipment" for piping and valve identification.

- B. Install detectable warning tape directly above gas piping, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

### 3.10 PAINTING

- A. Comply with requirements in Division 099100 "Painting" Sections for painting interior and exterior natural-gas piping.
- B. Paint exposed, exterior metal piping, valves and piping specialties, except components, with factory-applied paint or protective coating.
  - 1. Alkyd System: MPI EXT 5.1D.
    - a. Prime Coat: Alkyd anticorrosive metal primer.
    - b. Intermediate Coat: Exterior alkyd enamel matching topcoat.
    - c. Topcoat: Exterior alkyd enamel (semigloss).
    - d. Color: To match existing facility color scheme at location of installation.
- C. Paint exposed, interior metal piping, valves, service regulators, and piping specialties, except components, with factory-applied paint or protective coating.
  - 1. Latex Over Alkyd Primer System: MPI INT 5.1Q.
    - a. Prime Coat: Quick-drying alkyd metal primer.
    - b. Intermediate Coat: Interior latex matching topcoat.
    - c. Topcoat: Interior latex (semigloss).
    - d. Color: To match existing facility color scheme at location of installation.
- D. Damage and Touchup: Repair marred and damaged factory-applied finishes with materials and by procedures to match original factory finish.

### 3.11 CONCRETE BASES

- A. Concrete Bases: Anchor equipment to concrete base according to seismic codes at Project.
  - 1. Construct concrete bases of dimensions indicated, but not less than 4 inches larger in both directions than supported unit.
  - 2. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around the full perimeter of the base.
  - 3. Install epoxy-coated anchor bolts for supported equipment that extend through concrete base, and anchor into structural concrete floor.
  - 4. Place and secure anchorage devices. Use supported equipment manufacturer's setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
  - 5. Install anchor bolts to elevations required for proper attachment to supported equipment.
  - 6. Use 3000-psig 28-day, compressive-strength concrete and reinforcement as specified in Section 033000 "Cast-in-Place Concrete."

3.12 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
- B. Tests and Inspections:
  - 1. Test gas piping at 15psi for one hour per SED requirements. Inspect, and purge natural gas piping according to the state Fuel Gas Code.
- C. Natural-gas piping will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports.

3.13 OUTDOOR PIPING SCHEDULE

- A. Underground natural-gas piping shall be the following:
  - 1. PE pipe and fittings joined by heat fusion, or mechanical couplings; service-line risers with tracer wire terminated in an accessible location.
- B. Aboveground natural-gas piping shall be one of the following:
  - 1. Steel pipe with malleable-iron fittings and threaded joints.
  - 2. Steel pipe with wrought-steel fittings and welded joints.
- C. Containment Conduit: Steel pipe with wrought-steel fittings and welded joints. Coat pipe and fittings with protective coating for steel piping.

3.14 INDOOR PIPING SCHEDULE FOR SYSTEM PRESSURES LESS THAN 0.5 PSIG

- A. Aboveground, piping NPS 2 and smaller shall be the following:
  - 1. Steel pipe with malleable-iron fittings and threaded joints.
- B. Aboveground, piping 2 ½” and larger shall be the following:
  - 1. Steel pipe with wrought-steel fittings and welded joints.
- C. Containment Conduit: Steel pipe with wrought-steel fittings and welded joints. Coat pipe and fittings with protective coating for steel piping.
- D. Containment Conduit Vent Piping: Steel pipe with malleable-iron fittings and threaded or wrought-steel fittings with welded joints. Coat underground pipe and fittings with protective coating for steel piping.

3.15 ABOVEGROUND MANUAL GAS SHUTOFF VALVE SCHEDULE

- A. Valves for pipe sizes NPS 2 and smaller at service meter shall be one of the following:

Cattaraugus County –The Pines, Olean  
Water Heater Replacement  
Wendel Project No. 307667

1. Two-Piece Full Port Ball Valve.
- B. Valves for pipe sizes NPS 2-1/2 and larger at service meter shall be the following:
  1. Cast-Iron, lubricated plug valve.
- C. Distribution piping valves for pipe sizes NPS 2 and smaller shall be the following:
  1. Two-piece, full-port, bronze ball valves with bronze trim.
- D. Distribution piping valves for pipe sizes NPS 2-1/2 and larger shall be the following:
  1. Cast-iron, lubricated plug valve.
- E. Valves in branch piping for single appliance shall be the following:
  1. Two-piece, full-port, bronze ball valves with bronze trim.

END OF SECTION 221613

## SECTION 223400 - FUEL-FIRED, DOMESTIC-WATER HEATERS

### 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. Commercial, High Efficiency power-vent, gas-fired, storage, domestic-water heaters.
  - 2. Domestic-water heater accessories.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type and size of domestic-water heater indicated. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
- B. Shop Drawings:
  - 1. Wiring Diagrams: For power, signal, and control wiring.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For each type of gas-fired, domestic-water heater, from manufacturer.
- B. Domestic-Water Heater Labeling: Certified and labeled by testing agency acceptable to authorities having jurisdiction.
- C. Source quality-control reports.
- D. Field quality-control reports.
- E. Warranty: Sample of special warranty.
- F. Shop/Coordination Drawings: Produced in electronic format (compatible with Autocad 2008) Detailed at 1/4" = 1'-0" scale, double lined. Drawings shall indicate pipe layout and elevation, and all equipment with manufacturers' recommended maintenance access. The following items shall be shown and coordinated with each other, using input from installers of the items and trades involved: (Submit 3 hard copies of all documents to Architect for Review and Approval):

1. Piping installation in all spaces, indicating coordination with general construction, building components, and other building services. Indicate proposed changes to piping layout.
2. Fabrication, assembly, and installation, including plans, elevations, sections, components, and attachments to other work.
3. Fabrication of pipe anchors, hangers, supports for multiple pipes, alignment guides.
4. Detail location of anchors, alignment guides, and expansion joints and loops.
5. Piping layout indicating sizes, configuration, and service.
6. Elevation of top of pipes.
7. Pipe fittings.
8. Reinforcement and spacing.
9. Structural members to which piping will be attached.
10. Hose reels and connection detail to reels.
11. Piping arrangement and connections to equipment
12. Compressed air equipment including compressors and receivers.
13. Location for filters and regulators.

#### 1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For fuel-fired, domestic-water heaters to include in emergency, operation, and maintenance manuals.

#### 1.6 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. ASHRAE/IESNA Compliance: Fabricate and label fuel-fired, domestic-water heaters to comply with ASHRAE/IESNA 90.1.
- C. NSF Compliance: Fabricate and label equipment components that will be in contact with potable water to comply with NSF 61, "Drinking Water System Components - Health Effects."
- D. ASME Compliance:
  1. Where ASME-code construction is indicated, fabricate and label commercial, domestic-water heater compression tanks to comply with ASME Boiler and Pressure Vessel Code: Section VIII, Division 1.

#### 1.7 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of fuel-fired, domestic-water heaters that fail in materials or workmanship within specified warranty period.
  1. Failures include, but are not limited to, the following:

- a. Faulty operation of controls.
  - b. Deterioration of metals, metal finishes, and other materials beyond normal use.
2. Warranty Periods: From date of Substantial Completion.
- a. Commercial, Gas-Fired, Storage, Domestic-Water Heaters:
    - 1) Heat Exchanger: Five years.
    - 2) Controls and Other Components: Three years.
    - 3) Storage Tank: Five years.
  - b. Compression Tanks: Five years.

## PART 2 - PRODUCTS

### 2.1 COMMERCIAL, GAS-FIRED, STORAGE, DOMESTIC-WATER HEATERS

#### A. Commercial, High Efficiency, Power-Vent, Gas-Fired, Storage, Domestic-Water Heaters:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following but are not limited to, the following:
  - a. American Water Heaters.
  - b. Bradford White Corporation.
  - c. Lochinvar Corporation.
  - d. Smith, A. O. Water Products Co.; a division of A. O. Smith Corporation.
  - e. State Industries.
2. Standard: ANSI Z21.10.3/CSA 4.3.
3. Storage-Tank Construction: Non-ASME-code steel with working-pressure rating.
  - a. Tappings: Factory fabricated of materials compatible with tank. Attach tappings to tank before testing.
    - 1) NPS 2 and Smaller: Threaded ends according to ASME B1.20.1.
    - 2) NPS 2-1/2 and Larger: Flanged ends according to ASME B16.5 for steel and stainless-steel flanges and according to ASME B16.24 for copper and copper-alloy flanges.
  - b. Interior Finish: Comply with NSF 61 barrier materials for potable-water tank linings, including extending finish into and through tank fittings and outlets.
  - c. Lining: Glass complying with NSF 61 barrier materials for potable-water tank linings, including extending lining into and through tank fittings and outlets.
4. Factory-Installed Storage-Tank Appurtenances:
  - a. Anode Rod: Replaceable magnesium.
  - b. Dip Tube: Required unless cold-water inlet is near bottom of tank.

- c. Drain Valve: Corrosion-resistant metal complying with ASSE 1005.
  - d. Insulation: Comply with ASHRAE/IESNA 90.1. Surround entire storage tank except connections and controls.
  - e. Jacket: Steel with enameled finish.
  - f. Burner: For use with power-vent, gas-fired, domestic-water heaters and natural-gas fuel.
  - g. Automatic Ignition: ANSI Z21.20/CSA C22.2 No. 199, electric, automatic, gas-ignition system.
  - h. Temperature Control: Adjustable thermostat.
  - i. Safety Controls: Automatic, high-temperature-limit and low-water cutoff devices or systems.
  - j. Combination Temperature-and-Pressure Relief Valves: ANSI Z21.22/CSA 4.4-M. Include one or more relief valves with total relieving capacity at least as great as heat input, and include pressure setting less than domestic-water heater working-pressure rating. Select one relief valve with sensing element that extends into storage tank.
5. Special Requirements: NSF 5 construction.
  6. Power-Vent System: Exhaust fan, interlocked with burner.

## 2.2 DOMESTIC-WATER HEATER ACCESSORIES

### A. Domestic-Water Compression Tanks:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. AMTROL Inc.
  - b. Flexcon Industries.
  - c. Smith, A. O. Water Products Co.; a division of A. O. Smith Corporation.
  - d. State Industries.
  - e. Watts
  - f. Wessels
2. Description: Steel, pressure-rated tank constructed with welded joints and factory-installed butyl-rubber diaphragm. Include air precharge to minimum system-operating pressure at tank.
3. Construction:
  - a. Tappings: Factory-fabricated steel, welded to tank before testing and labeling. Include ASME B1.20.1 pipe thread.
  - b. Interior Finish: Comply with NSF 61 barrier materials for potable-water tank linings, including extending finish into and through tank fittings and outlets.
  - c. Air-Charging Valve: Factory installed.
4. Capacity and Characteristics:
  - a. Refer to schedule on drawing.



- b. Air Precharge Pressure: Adjust pre-charge in the field to equal incoming domestic cold water pressure.
- B. Gas Shutoff Valves: ANSI Z21.15/CSA 9.1-M, manually operated. Furnish for installation in piping.
- C. Automatic Gas Valves: ANSI Z21.21/CSA 6.5, appliance, electrically operated, on-off automatic valve.
- D. Combination Temperature-and-Pressure Relief Valves: Include relieving capacity at least as great as heat input, and include pressure setting less than domestic-water heater working-pressure rating. Select relief valves with sensing element that extends into storage tank.
  - 1. Gas-Fired, Domestic-Water Heaters: ANSI Z21.22/CSA 4.4-M.
- E. Pressure Relief Valves: Include pressure setting less than domestic-water heater working-pressure rating.
  - 1. Gas-Fired, Domestic-Water Heaters: ANSI Z21.22/CSA 4.4-M.
- F. Vacuum Relief Valves: ANSI Z21.22/CSA 4.4-M.
- G. Domestic-Water Heater Mounting Brackets: Manufacturer's factory-fabricated steel bracket for wall mounting, capable of supporting domestic-water heater and water.

## 2.3 SOURCE QUALITY CONTROL

- A. Factory Tests: Test and inspect assembled domestic-water heaters specified to be ASME-code construction, according to ASME Boiler and Pressure Vessel Code.
- B. Hydrostatically test domestic-water heaters to minimum of one and one-half times pressure rating before shipment.
- C. Domestic-water heaters will be considered defective if they do not pass tests and inspections. Comply with requirements in Section 014000 "Quality Requirements" for retesting and reinspecting requirements and Section 017300 "Execution" for requirements for correcting the Work.
- D. Prepare test and inspection reports.

## PART 3 - EXECUTION

### 3.1 DOMESTIC-WATER HEATER INSTALLATION

- A. Install domestic-water heaters level and plumb, according to layout drawings, original design, and referenced standards. Maintain manufacturer's recommended clearances. Arrange units so controls and devices needing service are accessible.

1. Install shutoff valves on domestic-water-supply piping to domestic-water heaters and on domestic-hot-water outlet piping. Comply with requirements for shutoff valves specified in Section 220523 "General-Duty Valves for Plumbing Piping."
- B. Install gas-fired, domestic-water heaters according to NFPA 54.
  1. Install gas shutoff valves on gas supply piping to gas-fired, domestic-water heaters without shutoff valves.
  2. Install gas pressure regulators on gas supplies to gas-fired, domestic-water heaters without gas pressure regulators if gas pressure regulators are required to reduce gas pressure at burner.
  3. Install automatic gas valves on gas supplies to gas-fired, domestic-water heaters if required for operation of safety control.
  4. Comply with requirements for gas shutoff valves, gas pressure regulators, and automatic gas valves specified in Section 221613 Fuel Gas Piping.
- C. Install combination temperature-and-pressure relief valves in top portion of storage tanks. Use relief valves with sensing elements that extend into tanks. Extend commercial-water-heater relief-valve outlet, with drain piping same as domestic-water piping in continuous downward pitch, and discharge by positive air gap onto closest floor drain.
- D. Direct Vent system with a vertical through roof termination of both the vent and combustion air. The flue shall be Polypropylene sealed vent material terminating through the roof with the manufacturers specified vent termination. A separate pipe shall supply combustion air directly to the water heater from the outside. The air inlet pipe shall be Polypropylene. The air inlet must terminate through the roof with the manufacturer's specified air inlet cap. The water heaters total combined air intake length shall not exceed 100 equivalent feet. The water heaters total combined exhaust venting length shall not exceed 100 equivalent feet. PVC and CVPC pipe are not approved materials for exhaust piping.
- E. Install water-heater drain piping as indirect waste to spill by positive air gap into open drains or over floor drains. Install hose-end drain valves at low points in water piping for domestic-water heaters that do not have tank drains. Comply with requirements for hose-end drain valves specified in Section 221119 "Domestic Water Piping Specialties."
- F. Install thermometer on outlet piping of domestic-water heaters.
- G. Charge domestic-water compression tanks with air to match system pressure.

### 3.2 CONNECTIONS

- A. Comply with requirements for domestic-water piping specified in Section 221116 "Domestic Water Piping."
- B. Comply with requirements for gas piping specified in Section 221613 Fuel Gas Piping.
- C. Drawings indicate general arrangement of piping, fittings, and specialties.

- D. Where installing piping adjacent to fuel-fired, domestic-water heaters, allow space for service and maintenance of water heaters. Arrange piping for easy removal of domestic-water heaters.

### 3.3 IDENTIFICATION

- A. Identify system components. Comply with requirements for identification specified in Section 220553 "Identification for Plumbing Piping and Equipment."

### 3.4 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
  - 1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
  - 2. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
  - 3. Operational Test: After electrical circuitry has been energized, start units to confirm proper operation.
  - 4. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- B. Domestic-water heaters will be considered defective if they do not pass tests and inspections. Comply with requirements in Section 014000 "Quality Requirements" for retesting and re-inspecting requirements and Section 017300 "Execution" for requirements for correcting the Work.
- C. Prepare test and inspection reports.

### 3.5 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain gas-fired, domestic-water heater.

END OF SECTION 223400

SECTION 260500 – COMMON WORK RESULTS FOR ELECTRICAL

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Examine all other Sections of the Specifications for requirements that affect work under this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.2 SUMMARY

- A. Section Includes:
  - 1. Electrical equipment coordination and installation.
  - 2. Common electrical installation requirements.

1.3 COORDINATION

- A. Coordinate arrangement, mounting, and support of electrical equipment:
  - 1. To allow maximum possible headroom unless specific mounting heights that reduce headroom are indicated.
  - 2. To provide for ease of disconnecting the equipment with minimum interference to other installations.
  - 3. To allow right of way for piping and conduit installed at required slope.
  - 4. So connecting raceways, cables, wireways, cable trays, and busways will be clear of obstructions and of the working and access space of other equipment.
- B. Coordinate installation of required supporting devices and set sleeves in cast-in-place concrete, masonry walls, and other structural components as they are constructed.

PART 2 - PRODUCTS – *Not Used*

PART 3 - EXECUTION

3.1 COMMON REQUIREMENTS FOR ELECTRICAL INSTALLATION

- A. Comply with NECA 1.
- B. Measure indicated mounting heights to bottom of unit for suspended items and to center of unit for wall-mounting items.
- C. Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide maximum possible headroom consistent with these requirements.
- D. Equipment: Install to facilitate service, maintenance, and repair or replacement of components of both electrical equipment and other nearby installations. Connect in such a way as to facilitate future disconnecting with minimum interference with other items in the vicinity.
- E. Right of Way: Give to piping systems installed at a required slope.

END OF SECTION 260500

## SECTION 260519 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

### PART 1 - GENERAL

#### 1.1 GENERAL REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Examine all other Sections of the Specifications for requirements that affect work under this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Building wires and cables rated 600 V and less.
  - 2. Connectors, splices, and terminations rated 600 V and less.

#### 1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Field quality-control test reports.

#### 1.4 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70.

### PART 2 - PRODUCTS

#### 2.1 CONDUCTORS AND CABLES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. General Cable Corporation.

2. Senator Wire & Cable Company.
3. Southwire Company.

B. Copper Conductors: Comply with NEMA WC 70.

C. Conductor Insulation: Comply with NEMA WC 70 for Types THHN-THWN, XHHW-2.

1. THHN-THWN: PVC with nylon jacket
2. XHHW-2: XLPE (Cross-linked Polyethylene )

D. Two-hour Fire Rated: Comply with UL2196 Type RHW

## 2.2 METAL-CLAD CABLE, TYPE MC

A. Description: A factory assembly of one or more current-carrying insulated conductors in an overall metallic sheath.

B. Standards:

1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
2. Comply with UL 1569.
3. RoHS compliant.
4. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."

C. Circuits:

1. Single circuit and multicircuit with color-coded conductors.
2. Power-Limited Fire-Alarm Circuits: Comply with UL 1424.

D. Conductors: Copper, complying with ASTM B3 for bare annealed copper and with ASTM B8 for stranded conductors

E. Ground Conductor: Insulated.

F. Conductor Insulation:

1. Type TFN/THHN/THWN-2: Comply with UL 83.
2. Type XHHW-2: Comply with UL 44.

G. Armor: Steel, interlocked.

H. Jacket: PVC applied over armor.

## 2.3 FIRE-ALARM WIRE AND CABLE

A. General Wire and Cable Requirements: NRTL listed and labeled as complying with NFPA 70, Article 760.

- B. Signaling Line Circuits: Twisted, shielded pair, as recommended by system manufacturer.
  - 1. Circuit Integrity Cable: Twisted shielded pair, NFPA 70, Article 760, Classification CI, for power-limited fire-alarm signal service Type FPL. NRTL listed and labeled as complying with UL 1424 and UL 2196 for a two-hour rating.
- C. Non-Power-Limited Circuits: Solid-copper conductors with 600-V rated, 75 deg C, color-coded insulation, and complying with requirements in UL 2196 for a two-hour rating.
  - 1. Low-Voltage Circuits: No. 16 AWG, minimum, in pathway.
  - 2. Line-Voltage Circuits: No. 12 AWG, minimum, in pathway.
  - 3. Multiconductor Armored Cable: NFPA 70, Type MC, copper conductors, Type TFN/THHN conductor insulation, copper drain wire, copper armor with outer jacket with red identifier stripe, NRTL listed for fire-alarm and cable tray installation, plenum rated.

## 2.4 CONNECTORS AND SPLICES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. Hubbell Power Systems, Inc.
  - 2. O-Z/Gedney; EGS Electrical Group LLC.
  - 3. 3M; Electrical Products Division.
- B. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.

## PART 3 - EXECUTION

### 3.1 CONDUCTOR MATERIAL APPLICATIONS

- A. Feeders: stranded for all.
- B. Branch Circuits: Copper. stranded for all.
- C. Power-Limited Fire Alarm and Control: Solid for No. 12 AWG and smaller.

### 3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

- A. Service Entrance: Type XHHW-2, single conductors in raceway.
- B. Exposed Feeders: Type THHN/THWN-2, single conductors in raceway.
- C. Feeders Concealed in Ceilings, Walls, Partitions, and Crawlspace: Type THHN/THWN-2, single conductors in raceway.



- D. Feeders Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN/THWN-2, single conductors in raceway.
- E. Exposed Branch Circuits, Including in Crawlspace: Type THHN/THWN-2, single conductors in raceway.
- F. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Metal-clad cable, Type MC.
- G. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN/THWN-2, single conductors in raceway.
- H. Cord Drops and Portable Appliance Connections: Type SO, hard service cord with stainless-steel, wire-mesh, strain relief device at terminations to suit application. Feeders in conduit outdoors: Type XHHW.
- I. Fire Rate Cable: Type RHW
  - 1. Use Cable for: Fire pump feeders (NEC 695), emergency feeders (NEC 700 and 708)

### 3.3 INSTALLATION OF CONDUCTORS AND CABLES

- A. Conceal cables in finished walls, ceilings, and floors unless otherwise indicated.
- B. Complete raceway installation between conductor and cable termination points according to Section 260533 "Raceways and Boxes for Electrical Systems" prior to pulling conductors and cables.
- C. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
- D. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.
- E. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.
- F. Support cables according to Section 260529 "Hangers and Supports for Electrical Systems."

### 3.4 CONNECTIONS

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.
- B. Wiring at Outlets: Install conductor at each outlet, with at least 6 inches (150 mm).

3.5 FIRESTOPPING

- A. Refer to 260500 “Common work results for electrical”

3.6 FIELD QUALITY CONTROL

- A. Perform tests and inspections and prepare test reports.
- B. Tests and Inspections:
  - 1. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
- C. Test Reports: Prepare a written report to record the following:
  - 1. Test procedures used.
  - 2. Test results that comply with requirements.
  - 3. Test results that do not comply with requirements and corrective action taken to achieve compliance with requirements.
- D. Remove and replace malfunctioning units and retest as specified above.

END OF SECTION 260519

## SECTION 260529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

### PART 1 - GENERAL

#### 1.1 GENERAL REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Examine all other Sections of the Specifications for requirements that affect work under this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Hangers and supports for electrical equipment and systems.

#### 1.3 DEFINITIONS

- A. EMT: Electrical metallic tubing.
- B. RMC: Rigid metal conduit.

#### 1.4 PERFORMANCE REQUIREMENTS

- A. Design supports for multiple raceways capable of supporting combined weight of supported systems and its contents.

#### 1.5 SUBMITTALS

- A. Product Data: For the following:
  - 1. Steel slotted support systems.
  - 2. Nonmetallic slotted support systems.
- B. Welding certificates.

1.6 QUALITY ASSURANCE

- A. Welding: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

- A. Steel Slotted Support Systems: Comply with MFMA-4, factory-fabricated components for field assembly.
  - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. Allied Tube & Conduit.
    - b. Cooper B-Line, Inc.; a division of Cooper Industries.
    - c. ERICO International Corporation.
    - d. Thomas & Betts Corporation.
    - e. Unistrut; Tyco International, Ltd.
  - 2. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
- B. Raceway and Cable Supports: As described in NECA 1 and NECA 101.
- C. Conduit and Cable Support Devices: Steel and malleable-iron hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.
- D. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M, steel plates, shapes, and bars; black and galvanized.
- E. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:
  - 1. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials in which used.
  - 2. Mechanical-Expansion Anchors: Insert-wedge-type, stainless steel, for use in hardened portland cement concrete with tension, shear, and pullout capacities appropriate for supported loads and building materials in which used.
  - 3. Concrete Inserts: Steel or malleable-iron, slotted support system units similar to MSS Type 18; complying with MFMA-4 or MSS SP-58.
  - 4. Clamps for Attachment to Steel Structural Elements: MSS SP-58, type suitable for attached structural element.

5. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM A 325.
6. Toggle Bolts: All-steel springhead type.
7. Hanger Rods: Threaded steel.

## 2.2 FABRICATED METAL EQUIPMENT SUPPORT ASSEMBLIES

- A. Description: Welded or bolted, structural-steel shapes, shop or field fabricated to fit dimensions of supported equipment.

## PART 3 - EXECUTION

### 3.1 APPLICATION

- A. Comply with NECA 1 and NECA 101 for application of hangers and supports for electrical equipment and systems except if requirements in this Section are stricter.
- B. Maximum Support Spacing and Minimum Hanger Rod Size for Raceway: Space supports for EMT and RMC as required by NFPA 70. Minimum rod size shall be 1/4 inch (6 mm) in diameter.
- C. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.
  1. Secure raceways and cables to these supports with single-bolt conduit clamps.
- D. Spring-steel clamps designed for supporting single conduits without bolts may be used for 1-1/2-inch (38-mm) and smaller raceways serving branch circuits and communication systems above suspended ceilings and for fastening raceways to trapeze supports.

### 3.2 SUPPORT INSTALLATION

- A. Comply with NECA 1 and NECA 101 for installation requirements except as specified in this Article.
- B. Raceway Support Methods: In addition to methods described in NECA 1, EMT, IMC, and RMC may be supported by openings through structure members, as permitted in NFPA 70.
- C. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb (90 kg).

Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:

1. To New Concrete: Bolt to concrete inserts.
  2. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
  3. To Existing Concrete: Expansion anchor fasteners.
  4. Instead of expansion anchors, powder-actuated driven threaded studs provided with lock washers and nuts may be used in existing standard-weight concrete 4 inches (100 mm) thick or greater. Do not use for anchorage to lightweight-aggregate concrete or for slabs less than 4 inches (100 mm) thick.
  5. To Light Steel: Sheet metal screws.
  6. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate by means that meet seismic-restraint strength and anchorage requirements.
- D. Drill holes for expansion anchors in concrete at locations and to depths that avoid reinforcing bars.

### 3.3 INSTALLATION OF FABRICATED METAL SUPPORTS

- A. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.
- B. Field Welding: Comply with AWS D1.1/D1.1M.

### 3.4 PAINTING

- A. Touchup: Clean field welds and abraded areas of shop paint. Paint exposed areas immediately after erecting hangers and supports. Use same materials as used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.
  1. Apply paint by brush or spray to provide minimum dry film thickness of 2.0 mils (0.05 mm).
- B. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

END OF SECTION 260529

## SECTION 260533 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

### 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. Metal conduits, tubing, and fittings.
2. Nonmetal conduits, tubing, and fittings.
3. Metal wireways and auxiliary gutters.
4. Nonmetal wireways and auxiliary gutters.
5. Surface raceways.
6. Boxes, enclosures, and cabinets.
7. Handholes and boxes for exterior underground cabling.

- B. Related Requirements:

1. Section 260543 "Underground Ducts and Raceways for Electrical Systems" for exterior ductbanks, manholes, and underground utility construction.
2. Section 271523 "Computer/Telephone Network"

#### 1.3 DEFINITIONS

- A. ARC: Aluminum rigid conduit.
- B. GRC: Galvanized rigid steel conduit.
- C. IMC: Intermediate metal conduit.
- D. RNC: Rigid non-metallic conduit
- E. RMC: Rigid metal conduit
- F. EMT: Electrical metallic tubing
- G. MC: Metal Clad Cable
- H. LFMC: Liquid-Tight flexible metal conduit
- I. LFNC: Liquid-Tight flexible non-metal conduit

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For surface raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.

### PART 2 - PRODUCTS

#### 2.1 METAL CONDUITS, TUBING, AND FITTINGS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. Alflex Inc.
  - 2. Allied Tube & Conduit; a Tyco International Ltd. Co.
  - 3. O-Z Gedney; a unit of General Signal.
  - 4. Wheatland Tube Company.
- B. Listing and Labeling: Metal conduits, tubing, and fittings shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. GRC: Comply with ANSI C80.1 and UL 6.
- D. ARC: Comply with ANSI C80.5 and UL 6A.
- E. IMC: Comply with ANSI C80.6 and UL 1242.
- F. EMT: Comply with ANSI C80.3 and UL 797.
- G. FMC: Comply with UL 1; zinc-coated steel.
- H. LFMC: Flexible steel conduit with PVC jacket and complying with UL 360.
- I. Fittings for Metal Conduit: Comply with NEMA FB 1 and UL 514B.
  - 1. Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 886 and NFPA 70.
  - 2. Fittings for EMT:
    - a. Material: die cast.
    - b. Type: Setscrew or compression.
  - 3. Expansion Fittings: PVC or steel to match conduit type, complying with UL 651, rated for environmental conditions where installed, and including flexible external bonding jumper.
- J. Joint Compound for IMC, GRC, or ARC: Approved, as defined in NFPA 70, by authorities having jurisdiction for use in conduit assemblies, and compounded for use to lubricate and protect threaded conduit joints from corrosion and to enhance their conductivity.



## 2.2 NONMETALLIC CONDUITS, TUBING, AND FITTINGS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. AFC Cable Systems
  - 2. Arnco
  - 3. CANTEX
  - 4. RACO
  - 5. Alflex Inc.
  - 6. Allied Tube & Conduit; a Tyco International Ltd. Co.
  - 7. O-Z Gedney; a unit of General Signal.
  - 8. Wheatland Tube Company
- B. Listing and Labeling: Nonmetallic conduits, tubing, and fittings shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. ENT: Comply with NEMA TC 13 and UL 1653.
- D. RNC: Type EPC-80-PVC, complying with NEMA TC 2 and UL 651 unless otherwise indicated.
- E. LFNC: Comply with UL 1660.
- F. Rigid HDPE: Comply with UL 651A.
- G. Continuous HDPE: Comply with UL 651B.
- H. Coilable HDPE: Preassembled with conductors or cables, and complying with ASTM D 3485.
- I. RTRC: Comply with UL 1684A and NEMA TC 14.
- J. Fittings for ENT and RNC: Comply with NEMA TC 3; match to conduit or tubing type and material.
- K. Fittings for LFNC: Comply with UL 514B.
- L. Solvents and Adhesives: As recommended by conduit manufacturer.

## 2.3 METAL WIREWAYS AND AUXILIARY GUTTERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. Erickson Electrical Equipment Company.
  - 2. Hoffman.
  - 3. Hubbell Incorporated; Killark Electric Manufacturing Co. Division.
  - 4. O-Z/Gedney; a unit of General Signal.

5. RACO; a Hubbell Company.
6. Robroy Industries, Inc.; Enclosure Division.
7. Spring City Electrical Manufacturing Company.
8. Thomas & Betts Corporation

B. Description: Sheet metal, complying with UL 870 and NEMA 250, Type 3R unless otherwise indicated, and sized according to NFPA 70.

1. Metal wireways installed outdoors shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

C. Fittings and Accessories: Include covers, couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.

D. Wireway Covers: Screw-cover type unless otherwise indicated.

E. Finish: Manufacturer's standard enamel finish.

#### 2.4 BOXES, ENCLOSURES, AND CABINETS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Erickson Electrical Equipment Company.
2. Hoffman.
3. Hubbell Incorporated; Killark Electric Manufacturing Co. Division.
4. O-Z/Gedney; a unit of General Signal.
5. RACO; a Hubbell Company.
6. Robroy Industries, Inc.; Enclosure Division.
7. Spring City Electrical Manufacturing Company.
8. Thomas & Betts Corporation

B. General Requirements for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabinets installed in wet locations shall be listed for use in wet locations.

C. Sheet Metal Outlet and Device Boxes: Comply with NEMA OS 1 and UL 514A.

D. Cast-Metal Outlet and Device Boxes: Comply with NEMA FB 1, ferrous alloy or aluminum, Type FD, with gasketed cover.

E. Nonmetallic Outlet and Device Boxes: Comply with NEMA OS 2 and UL 514C.

F. Metal Floor Boxes:

1. Material: Cast metal or sheet metal.
2. Type: Fully adjustable.
3. Shape: Rectangular or otherwise indicated.

4. Listing and Labeling: Metal floor boxes shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- G. Luminaire Outlet Boxes: Nonadjustable, designed for attachment of luminaire weighing 50 lb. Outlet boxes designed for attachment of luminaires weighing more than 50 lb shall be listed and marked for the maximum allowable weight.
- H. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.
- I. Cast-Metal Access, Pull, and Junction Boxes: Comply with NEMA FB 1 and UL 1773, galvanized, cast iron with gasketed cover.
- J. Box extensions used to accommodate new building finishes shall be of same material as recessed box.
- K. Device Box Dimensions: 4 inches square by 2-1/8 inches deep.
- L. Gangable boxes are prohibited.
- M. Hinged-Cover Enclosures: Comply with UL 50 and NEMA 250, Type 3R with continuous-hinge cover with flush latch unless otherwise indicated.
  1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.
  2. Nonmetallic Enclosures: Fiberglass.
  3. Interior Panels: Steel; all sides finished with manufacturer's standard enamel.
- N. Cabinets:
  1. NEMA 250, Type 1 or Type 3R galvanized-steel box with removable interior panel and removable front, finished inside and out with manufacturer's standard enamel.
  2. Hinged door in front cover with flush latch and concealed hinge.
  3. Key latch to match panelboards.
  4. Metal barriers to separate wiring of different systems and voltage.
  5. Accessory feet where required for freestanding equipment.
  6. Nonmetallic cabinets shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

## 2.5 HANDHOLES AND BOXES FOR EXTERIOR UNDERGROUND WIRING

- A. General Requirements for Handholes and Boxes:
  1. Boxes and handholes for use in underground systems shall be designed and identified as defined in NFPA 70, for intended location and application.
  2. Boxes installed in wet areas shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Armorcast Products Company
2. OldErickson Electrical Equipment Company.
3. Hoffman.
4. Hubbell Incorporated; Killark Electric Manufacturing Co. Division.
5. O-Z/Gedney; a unit of General Signal.
6. RACO; a Hubbell Company.
7. Robroy Industries, Inc.; Enclosure Division.
8. Spring City Electrical Manufacturing Company.
9. Thomas & Betts Corporation

- C. Polymer-Concrete Handholes and Boxes with Polymer-Concrete Cover: Molded of sand and aggregate, bound together with polymer resin, and reinforced with steel, fiberglass, or a combination of the two.

1. Standard: Comply with SCTE 77.
2. Configuration: Designed for flush burial with open bottom unless otherwise indicated.
3. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with enclosure and handhole location.
4. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
5. Cover Legend: Molded lettering, "ELECTRIC" or "COMMUNICATIONS".
6. Conduit Entrance Provisions: Conduit-terminating fittings shall mate with entering ducts for secure, fixed installation in enclosure wall.
7. Handholes 24 Inches Wide by 24 Inches Long and Larger: Have inserts for cable racks and pulling-in irons installed before concrete is poured.

## 2.6 SOURCE QUALITY CONTROL FOR UNDERGROUND ENCLOSURES

- A. Handhole and Pull-Box Prototype Test: Test prototypes of handholes and boxes for compliance with SCTE 77. Strength tests shall be for specified tier ratings of products supplied.
1. Tests of materials shall be performed by an independent testing agency.
  2. Strength tests of complete boxes and covers shall be by either an independent testing agency or manufacturer. A qualified registered professional engineer shall certify tests by manufacturer.
  3. Testing machine pressure gages shall have current calibration certification complying with ISO 9000 and ISO 10012 and traceable to NIST standards.

## PART 3 - EXECUTION

### 3.1 RACEWAY APPLICATION

- A. Outdoors: Apply raceway products as specified below unless otherwise indicated:
1. Exposed Conduit: GRC.
  2. Concealed Conduit, Aboveground: GRC.

3. Underground Conduit: RNC, Type EPC-40-PVC or Type EPC-80-PVC, concrete encased.
  4. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
  5. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.
- B. Indoors: Apply raceway products as specified below unless otherwise indicated:
1. Exposed, Not Subject to Physical Damage: GRC.
  2. Exposed, Not Subject to Severe Physical Damage: GRC.
  3. Exposed and Subject to Severe Physical Damage: GRC. Raceway locations include the following:
    - a. Loading dock.
    - b. Corridors used for traffic of mechanized carts, forklifts, and pallet-handling units.
    - c. Mechanical rooms up to 8ft above finished floor. Use of EMT above the 8ft is permitted
    - d. Vehicle Maintenance and supporting areas up to 8ft above finished floor. Use of EMT above the 8ft is permitted.
  4. Concealed in Ceilings and Interior Walls and Partitions: EMT (use of MC cable in administration areas is allowed).
  5. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
  6. Damp or Wet Locations: GRC.
  7. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4 stainless steel in institutional and commercial kitchens and damp or wet locations.
- C. Minimum Raceway Size: 3/4-inch trade size.
- D. Raceway Fittings: Compatible with raceways and suitable for use and location.
1. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings unless otherwise indicated. Comply with NEMA FB 2.10.
  2. PVC Externally Coated, Rigid Steel Conduits: Use only fittings listed for use with this type of conduit. Patch and seal all joints, nicks, and scrapes in PVC coating after installing conduits and fittings. Use sealant recommended by fitting manufacturer and apply in thickness and number of coats recommended by manufacturer.
  3. EMT: Use setscrew or compression, cast-metal fittings. Comply with NEMA FB 2.10.
  4. Flexible Conduit: Use only fittings listed for use with flexible conduit. Comply with NEMA FB 2.20.
- E. Install nonferrous conduit or tubing for circuits operating above 60 Hz. Where aluminum raceways are installed for such circuits and pass through concrete, install in nonmetallic sleeve.
- F. Do not install aluminum conduits, boxes, or fittings in contact with concrete or earth.
- G. Install surface raceways only where indicated on Drawings.

- H. Do not install nonmetallic conduit where ambient temperature exceeds 120 deg F.

### 3.2 INSTALLATION

- A. Comply with NECA 1 and NECA 101 for installation requirements except where requirements on Drawings or in this article are stricter. Comply with NECA 102 for aluminum conduits. Comply with NFPA 70 limitations for types of raceways allowed in specific occupancies and number of floors.
- B. Keep raceways at least 6 inches away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.
- C. Complete raceway installation before starting conductor installation.
- D. Comply with requirements in Section 260529 "Hangers and Supports for Electrical Systems" for hangers and supports.
- E. Arrange stub-ups so curved portions of bends are not visible above finished slab.
- F. Install no more than the equivalent of three 90-degree bends in any conduit run except for control wiring conduits, for which fewer bends are allowed. Support within 12 inches of changes in direction.
- G. Conceal conduit and EMT within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines.
- H. Support conduit within 12 inches of enclosures to which attached.
- I. Raceways Embedded in Slabs:
  - 1. Run conduit larger than 1-inch trade size, parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support. Secure raceways to reinforcement at maximum 10-foot intervals.
  - 2. Arrange raceways to cross building expansion joints at right angles with expansion fittings.
  - 3. Arrange raceways to keep a minimum of 3 inch of concrete cover in all directions.
  - 4. Do not embed threadless fittings in concrete unless specifically approved by Architect for each specific location.
  - 5. Change from RNC to RMC before rising above floor.
- J. Stub-ups to Above Recessed Ceilings:
  - 1. Use EMT, IMC, or RMC for raceways.
  - 2. Use a conduit bushing or insulated fitting to terminate stub-ups not terminated in hubs or in an enclosure.
- K. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.

- L. Coat field-cut threads on PVC-coated raceway with a corrosion-preventing conductive compound prior to assembly.
- M. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors including conductors smaller than No. 4 AWG.
- N. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install bushings on conduits up to 1-1/4-inch trade size and insulated throat metal bushings on 1-1/2-inch trade size and larger conduits terminated with locknuts. Install insulated throat metal grounding bushings on service conduits.
- O. Install raceways square to the enclosure and terminate at enclosures with locknuts. Install locknuts hand tight plus 1/4 turn more.
- P. Do not rely on locknuts to penetrate nonconductive coatings on enclosures. Remove coatings in the locknut area prior to assembling conduit to enclosure to assure a continuous ground path.
- Q. Cut conduit perpendicular to the length. For conduits 2-inch trade size and larger, use roll cutter or a guide to make cut straight and perpendicular to the length.
- R. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 12 inches of slack at each end of pull wire. Cap underground raceways designated as spare above grade alongside raceways in use.
- S. Surface Raceways:
  - 1. Install surface raceway with a minimum 2-inch radius control at bend points.
  - 2. Secure surface raceway with screws or other anchor-type devices at intervals not exceeding 48 inches and with no less than two supports per straight raceway section. Support surface raceway according to manufacturer's written instructions. Tape and glue are not acceptable support methods.
- T. Install raceway sealing fittings at accessible locations according to NFPA 70 and fill them with listed sealing compound. For concealed raceways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces. Install raceway sealing fittings according to NFPA 70.
- U. Install devices to seal raceway interiors at accessible locations. Locate seals so no fittings or boxes are between the seal and the following changes of environments. Seal the interior of all raceways at the following points:
  - 1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
  - 2. Where an underground service raceway enters a building or structure.
  - 3. Where otherwise required by NFPA 70.
- V. Comply with manufacturer's written instructions for solvent welding RNC and fittings.
- W. Expansion-Joint Fittings:

1. Install in each run of aboveground RNC that is located where environmental temperature change may exceed 30 deg F and that has straight-run length that exceeds 25 feet. Install in each run of aboveground RMC and EMT conduit that is located where environmental temperature change may exceed 100 deg F and that has straight-run length that exceeds 100 feet.
  2. Install type and quantity of fittings that accommodate temperature change listed for each of the following locations:
    - a. Outdoor Locations Not Exposed to Direct Sunlight: 125 deg F temperature change.
    - b. Outdoor Locations Exposed to Direct Sunlight: 155 deg F temperature change.
    - c. Indoor Spaces Connected with Outdoors without Physical Separation: 125 deg F temperature change.
  3. Install fitting(s) that provide expansion and contraction for at least 0.00041 inch per foot of length of straight run per deg of temperature change for PVC conduits. Install fitting(s) that provide expansion and contraction for at least 0.000078 inch per foot of length of straight run per deg F of temperature change for metal conduits.
  4. Install expansion fittings at all locations where conduits cross building or structure expansion joints.
  5. Install each expansion-joint fitting with position, mounting, and piston setting selected according to manufacturer's written instructions for conditions at specific location at time of installation. Install conduit supports to allow for expansion movement.
- X. Flexible Conduit Connections: Comply with NEMA RV 3. Use a maximum of 72 inches of flexible conduit for recessed and semirecessed luminaires, equipment subject to vibration, noise transmission, or movement; and for transformers and motors.
1. Use LFMC in damp or wet locations subject to severe physical damage.
  2. Use LFMC or LFNC in damp or wet locations not subject to severe physical damage.
- Y. Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not individually indicated, give priority to ADA requirements. Install boxes with height measured to center of box unless otherwise indicated.
- Z. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block, and install box flush with surface of wall. Prepare block surfaces to provide a flat surface for a raintight connection between box and cover plate or supported equipment and box.
- AA. Horizontally separate boxes mounted on opposite sides of walls so they are not in the same vertical channel.
- BB. Locate boxes so that cover or plate will not span different building finishes.
- CC. Support boxes of three gangs or more from more than one side by spanning two framing members or mounting on brackets specifically designed for the purpose.
- DD. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.
- EE. Set metal floor boxes level and flush with finished floor surface.



- FF. Set nonmetallic floor boxes level. Trim after installation to fit flush with finished floor surface.

### 3.3 INSTALLATION OF UNDERGROUND CONDUIT

#### A. Direct-Buried Conduit:

1. Excavate trench bottom to provide firm and uniform support for conduit. Prepare trench bottom as specified in Section 312000 "Earth Moving Site Work" for pipe less than 6 inches in nominal diameter.
2. Install backfill as specified in Section 312000 " Earth Moving Site Work."
3. After installing conduit, backfill and compact. Start at tie-in point, and work toward end of conduit run, leaving conduit at end of run free to move with expansion and contraction as temperature changes during this process. Firmly hand tamp backfill around conduit to provide maximum supporting strength. After placing controlled backfill to within 12 inches of finished grade, make final conduit connection at end of run and complete backfilling with normal compaction as specified in Section 312000 " Earth Moving Site Work."
4. Install manufactured duct elbows for stub-ups at poles and equipment and at building entrances through floor unless otherwise indicated. Encase elbows for stub-up ducts throughout length of elbow.
5. Install manufactured rigid steel conduit elbows for stub-ups at poles and equipment and at building entrances through floor.
  - a. Couple steel conduits to ducts with adapters designed for this purpose, and encase coupling with 3 inches of concrete for a minimum of 12 inches on each side of the coupling.
  - b. For stub-ups at equipment mounted on outdoor concrete bases and where conduits penetrate building foundations, extend steel conduit horizontally a minimum of 60 inches from edge of foundation or equipment base. Install insulated grounding bushings on terminations at equipment.
6. Underground Warning Tape: Comply with requirements in Section 260553 "Identification for Electrical Systems."

### 3.4 INSTALLATION OF UNDERGROUND HANDHOLES AND BOXES

- A. Install handholes and boxes level and plumb and with orientation and depth coordinated with connecting conduits to minimize bends and deflections required for proper entrances.
- B. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1/2-inch sieve to No. 4 sieve and compacted to same density as adjacent undisturbed earth.
- C. Elevation: In paved areas, set so cover surface will be flush with finished grade. Set covers of other enclosures 1 inch above finished grade.
- D. Install handholes with bottom below frost line, below grade.

- E. Install removable hardware, including pulling eyes, cable stanchions, cable arms, and insulators, as required for installation and support of cables and conductors and as indicated. Select arm lengths to be long enough to provide spare space for future cables but short enough to preserve adequate working clearances in enclosure.
- F. Field-cut openings for conduits according to enclosure manufacturer's written instructions. Cut wall of enclosure with a tool designed for material to be cut. Size holes for terminating fittings to be used, and seal around penetrations after fittings are installed.

### 3.5 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR ELECTRICAL PENETRATIONS

- A. Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies.

### 3.6 PROTECTION

- A. Protect coatings, finishes, and cabinets from damage and deterioration.
  - 1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
  - 2. Repair damage to PVC coatings or paint finishes with matching touchup coating recommended by manufacturer.

END OF SECTION 260533

## SECTION 260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

### PART 1 - GENERAL

#### 1.1 GENERAL REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Examine all other Sections of the Specifications for requirements that affect work under this Section whether or not such work is specifically mentioned in this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Identification for conductors.
  - 2. Equipment identification labels.

#### 1.3 SUBMITTALS

- A. Product Data: For each electrical identification product indicated.

#### 1.4 QUALITY ASSURANCE

- A. Comply with ANSI A13.1 and ANSI C2.
- B. Comply with NFPA 70.
- C. Comply with 29 CFR 1910.145.

#### 1.5 COORDINATION

- A. Coordinate identification names, abbreviations, colors, and other features with requirements in the Contract Documents, Shop Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual, and with those required by codes, standards, and 29 CFR 1910.145. Use consistent designations throughout Project.
- B. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.
- C. Coordinate installation of identifying devices with location of access panels and doors.
- D. Install identifying devices before installing acoustical ceilings and similar concealment.

## PART 2 - PRODUCTS

### 2.1 CONDUCTOR MATERIALS

- A. Color-Coding Conductor Tape: Colored, self-adhesive vinyl tape not less than 3 mils (0.08 mm) thick by 1 to 2 inches (25 to 50 mm) wide.
- B. Marker Tapes: Vinyl or vinyl-cloth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equivalent process.

### 2.2 EQUIPMENT IDENTIFICATION LABELS

- A. Engraved, Laminated Acrylic or Melamine Label: Punched or drilled for screw mounting. White letters on a black background. Minimum letter height shall be 3/8 inch (10 mm).

## PART 3 - EXECUTION

### 3.1 APPLICATION

- A. Branch-Circuit Conductor Identification: Where there are conductors for more than three branch circuits in same junction or pull box, use color-coding conductor tape. Identify each ungrounded conductor according to source and circuit number.
- B. Equipment Identification Labels: On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and Operation and Maintenance Manual. Apply labels to disconnect switches and protection equipment, central or master units, control panels, control stations, terminal cabinets, and racks of each system. Systems include power, lighting, control, communication, signal, monitoring, and alarm systems unless equipment is provided with its own identification.
  - 1. Labeling Instructions:
    - a. Indoor Equipment: Engraved, laminated acrylic or melamine label.
  - 2. Equipment to Be Labeled:
    - a. Panelboards, electrical cabinets, and enclosures.
    - b. Transformers.
    - c. Disconnect switches.
    - d. Push-button stations.

### 3.2 INSTALLATION

- A. Verify identity of each item before installing identification products.

- B. Location: Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment.
- C. Apply identification devices to surfaces that require finish after completing finish work.
- D. Self-Adhesive Identification Products: Clean surfaces before application, using materials and methods recommended by manufacturer of identification device.
- E. Attach nonadhesive signs and plastic labels with screws and auxiliary hardware appropriate to the location and substrate.
- F. Color-Coding for Phase and Voltage Level Identification, 600 V and Less: Use the colors listed below for ungrounded service, feeder, and branch-circuit conductors.
  - 1. Colors for 208/120-V Circuits:
    - a. Phase A: Black.
    - b. Phase B: Red.
    - c. Phase C: Blue.
    - d. Neutral: White
    - e. Ground: Green
  - 2. Colors for 480/277-V Circuits:
    - a. Phase A: Brown.
    - b. Phase B: Orange.
    - c. Phase C: Yellow.
    - d. Neutral: White
    - e. Ground: Green
  - 3. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches (150 mm) from terminal points and in boxes where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding. Locate bands to avoid obscuring factory cable markings.

END OF SECTION 260553

## SECTION 262816 - ENCLOSED SWITCHES AND CIRCUIT BREAKERS

### PART 1 - GENERAL

#### 1.1 GENERAL REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Examine all other Sections of the Specifications for requirements that affect work under this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

#### 1.2 SUMMARY

- A. This Section includes the following individually mounted, enclosed switches and circuit breakers:
  - 1. Fusible switches.
  - 2. Nonfusible switches.
  - 3. Molded-case circuit breakers.
  - 4. Enclosures.

#### 1.3 DEFINITIONS

- A. GD: General duty.
- B. GFCI: Ground-fault circuit interrupter.
- C. HD: Heavy duty.

#### 1.4 SUBMITTALS

- A. Product Data: For each type of enclosed switch, circuit breaker, accessory, and component indicated. Include dimensioned elevations, sections, weights, and manufacturers' technical data on features, performance, electrical characteristics, ratings, and finishes.
  - 1. Enclosure types and details for types other than NEMA 250, Type 1.
  - 2. Current and voltage ratings.
  - 3. Short-circuit current rating.
  - 4. UL listing for series rating of installed devices.
  - 5. Features, characteristics, ratings, and factory settings of individual overcurrent protective devices and auxiliary components.

- B. Field quality-control test reports including the following:
  - 1. Test procedures used.
  - 2. Test results that comply with requirements.
  - 3. Results of failed tests and corrective action taken to achieve test results that comply with requirements.
  
- C. Operation and Maintenance Data: For enclosed switches and circuit breakers to include in emergency, operation, and maintenance manuals. In addition to items specified in Division 01 Section "Operation and Maintenance Data," include the following:
  - 1. Manufacturer's written instructions for testing and adjusting enclosed switches and circuit breakers.
  - 2. Time-current curves, including selectable ranges for each type of circuit breaker.

#### 1.5 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
  
- B. Comply with NFPA 70.

#### 1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Rate equipment for continuous operation under the following conditions, unless otherwise indicated:
  - 1. Ambient Temperature: Not less than minus 22 deg F (minus 30 deg C) and not exceeding 104 deg F (40 deg C).
  - 2. Altitude: Not exceeding 6600 feet (2010 m).

#### 1.7 COORDINATION

- A. Coordinate layout and installation of switches, circuit breakers, and components with other construction, including conduit, piping, equipment, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

## 2.2 FUSIBLE AND NONFUSIBLE SWITCHES

### A. Available Manufacturers:

1. Eaton Corporation; Cutler-Hammer Products.
2. General Electric Co.; Electrical Distribution & Control Division.
3. Siemens Energy & Automation, Inc.
4. Square D/Group Schneider.

### B. Fusible Switch, 600 A and Smaller: NEMA KS 1, Type HD, with clips or bolt pads to accommodate specified fuses, lockable handle with capability to accept two padlocks, and interlocked with cover in closed position.

### C. Nonfusible Switch, 600 A and Smaller: NEMA KS 1, Type HD, lockable handle with capability to accept two padlocks, and interlocked with cover in closed position.

### D. Accessories:

1. Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors.
2. Neutral Kit: Internally mounted; insulated, capable of being grounded, and bonded; and labeled for copper and aluminum neutral conductors.
3. Auxiliary Contact Kit: Auxiliary set of contacts arranged to open before switch blades open.

## 2.3 MOLDED-CASE CIRCUIT BREAKERS AND SWITCHES

### A. Available Manufacturers:

1. Eaton Corporation; Cutler-Hammer Products.
2. General Electric Co.; Electrical Distribution & Control Division.
3. Siemens Energy & Automation, Inc.
4. Square D/Group Schneider.

### B. Molded-Case Circuit Breaker: NEMA AB 1, with interrupting capacity to meet available fault currents.

1. Thermal-Magnetic Circuit Breakers: Inverse time-current element for low-level overloads and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.

## 2.4 ENCLOSURES

### A. NEMA AB 1 and NEMA KS 1 to meet environmental conditions of installed location.

1. Outdoor Locations or as noted on the plans: NEMA 250, Type 3R.



### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine elements and surfaces to receive enclosed switches and circuit breakers for compliance with installation tolerances and other conditions affecting performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 INSTALLATION

- A. Comply with applicable portions of NECA 1, NEMA PB 1.1, and NEMA PB 2.1 for installation of enclosed switches and circuit breakers.
- B. Mount individual wall-mounting switches and circuit breakers with tops at uniform height, unless otherwise indicated. Anchor floor-mounting switches to concrete base.

#### 3.3 IDENTIFICATION

- A. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs as specified in Division 26 Section "Identification for Electrical Systems."
- B. Enclosure Nameplates: Label each enclosure with engraved metal or laminated-plastic nameplate as specified in Division 26 Section "Identification for Electrical Systems."

#### 3.4 FIELD QUALITY CONTROL

- A. Prepare for acceptance testing as follows:
  - 1. Inspect mechanical and electrical connections.
  - 2. Verify switch and relay type and labeling verification.
  - 3. Verify rating of installed fuses.
  - 4. Inspect proper installation of type, size, quantity, and arrangement of mounting or anchorage devices complying with manufacturer's certification.
- B. Perform the following field tests and inspections and prepare test reports:
  - 1. Perform each electrical test and visual and mechanical inspection stated in NETA ATS, Section 7.5 for switches and Section 7.6 for molded-case circuit breakers. Certify compliance with test parameters.
  - 2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.

#### 3.5 ADJUSTING

- A. Set field-adjustable switches.

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3.6 CLEANING

- A. On completion of installation, vacuum dirt and debris from interiors; do not use compressed air to assist in cleaning.
- B. Inspect exposed surfaces and repair damaged finishes.

END OF SECTION 262816