



water

CONTRACT AND SPECIFICATIONS

**RIVERHEAD WATER DISTRICT  
TOWN OF RIVERHEAD  
SUFFOLK COUNTY, NEW YORK**



WELLHEAD TREATMENT FOR  
PERCHLORATE REMOVAL

PLANT NO. 16

Project No: RDWD 14-06

**SUPERVISOR**

Sean Walter

**TOWN COUNCIL**

John Dunleavy  
George E. Gabrielsen  
Jodi Giglio  
James Wooten

**TOWN CLERK**

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**FEBRUARY 2015**

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**RIVERHEAD WATER DISTRICT**

**WELLHEAD TREATMENT FOR PERCHLORATE REMOVAL – PLANT NO. 16**

**CONTRACT B – BUILDING AND PIPING INSTALLATION**

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## RIVERHEAD WATER DISTRICT

## WELLHEAD TREATMENT FOR PERCHLORATE REMOVAL – PLANT NO. 16

## CONTRACT B – BUILDING AND PIPING INSTALLATION

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**RIVERHEAD WATER DISTRICT**

**WELLHEAD TREATMENT FOR PERCHLORATE REMOVAL – PLANT NO. 16**

**CONTRACT B – BUILDING AND PIPING INSTALLATION**

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**RIVERHEAD WATER DISTRICT**

**WELLHEAD TREATMENT FOR PERCHLORATE REMOVAL – PLANT NO. 16**

**CONTRACT B – BUILDING AND PIPING INSTALLATION**

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The Town Board of Riverhead will receive bids for:

**WELLHEAD TREATMENT FOR PERCHLORATE REMOVAL  
PLANT NO. 16  
CONTRACT B – BUILDING AND PIPING INSTALLATION**

for the Riverhead Water District at the Town Clerk's office, Town Hall, 200 Howell Avenue, Riverhead, New York 11901, by **11:00 AM** on **Wednesday, February 25, 2015**, at which time and place all bids will be publicly opened and read aloud.

Specifications may be examined and obtained on or after February 12, 2015 by visiting the Town of Riverhead website: [www.townofriverheadny.gov](http://www.townofriverheadny.gov) and click on "Bid Requests".

Each proposal must be accompanied by a bid bond in the amount of five percent (5%) of the total bid, or a certified check made payable to the TOWN OF RIVERHEAD as assurance that the bid is made in good faith.

The right is reserved to reject any or all bids, to waive any informality, and to accept the lowest responsible bid.

BY ORDER OF THE TOWN BOARD  
TOWN OF RIVERHEAD  
SUFFOLK COUNTY, NEW YORK

ACTING AS THE GOVERNING BODY  
OF THE RIVERHEAD WATER DISTRICT

DIANE WILHELM, TOWN CLERK

DATED: FEBRUARY 12, 2015

**RIVERHEAD WATER DISTRICT**

**\*\* ADDENDUM No. 1 \*\*  
FEBRUARY 12, 2015**

**Project No.:** RDWD 14-06  
**Project Name:** Wellhead Treatment for Perchlorate Removal - Well No. 16  
**Revised Bid Due Date:** Thursday, March 5, 2015 at 1:00 PM  
**Description:** Extension of Bid Date

The bid due date has been extended for a period of two (2) weeks.

Notice is hereby given that SEALED PROPOSALS for:

**WELLHEAD TREATMENT FOR PERCHLORATE REMOVAL  
PLANT NO. 16  
CONTRACT B – BUILDING AND PIPING INSTALLATION**

for the Riverhead Water District at the Town Clerk's office, Town Hall, 200 Howell Avenue, Riverhead, New York 11901, by **1:00 P.M.** on **Thursday, March 5, 2015** at which time and place all bids will be publicly opened and read aloud.

Specifications may be examined and obtained on or after February 20, 2015 by visiting the Town of Riverhead website: [www.townofriverheadny.gov](http://www.townofriverheadny.gov) and click on "Bid Requests".

This addendum forms a part of the Contract documents and modifies the original bidding documents.

BIDS FOR PROJECT

The Town of Riverhead, at the Town Clerk's office, will receive SEALED PROPOSALS for:

**RIVERHEAD WATER DISTRICT  
WELLHEAD TREATMENT FOR PERCHLORATE REMOVAL  
PLANT NO. 16  
PROJECT NO.: RDWD 14-06**

TIME AND PLACE OF BID

Bids are to be submitted in sealed opaque envelopes, and will be received by the Town of Riverhead, at the Town Clerk's office, Town Hall, 200 Howell Avenue, Riverhead, New York, not later than **1:00 P.M.** prevailing time, on **Thursday, March 5, 2015** at which time and place they will be publicly opened and read aloud. Use of the mails shall be at the Bidder's own risk, and the Bidder shall be responsible for physical delivery of the bid at the time and place set for opening of bids.

BID ENVELOPE

All proposals and either the certified check or bid bond must be placed in a sealed opaque envelope bearing the Bidder's firm name and address and marked, "PROJECT NO.: RDWD 14-06, WELLHEAD TREATMENT FOR PERCHLORATE REMOVAL, PLANT 16, FOR THE RIVERHEAD WATER DISTRICT, TOWN OF RIVERHEAD, SUFFOLK COUNTY, NEW YORK", but otherwise unmarked. Bid package shall include Proposal sheets (P-A, P-B, P-C, and P-D), Qualifications of Bidder sheets (QB), List of Subcontractors sheets, Approval of Subcontractor sheets (ASSL), Iranian Investment Activities Certification sheets and the New York State Uniform Contracting Questionnaire.

PLANS AND SPECIFICATIONS

Plans and specifications may be examined on or after **Thursday, February 19, 2015** at the Office of the Town Clerk between the hours of 8:30 am and 4:30 pm weekdays, except holidays or by visiting the Town of Riverhead website: <http://townofriverheadny.gov> and click on "Bid Requests".

Plans and specifications are available from the aforementioned Town of Riverhead website only. All contractors who intend to submit a bid package are required to register on the web site.

VERBAL ANSWERS

The Town Board, its agents, servants or employees, or the Engineer, will not be responsible in any manner for verbal answers to any inquiries regarding the meaning of the contract drawings or Specifications given prior to the awarding of the contract.

### EXAMINATION OF SITE

Bidders must satisfy themselves by personal examination of the location of the proposed work and of the actual conditions and requirements of the work and shall not, at any time after the submission of a proposal, dispute or complain of such estimate or assert that there was any misunderstanding in regard to the depth or character of excavation to be made or the nature of the work to be done.

### PROPOSAL

The Proposal contained herein shall be used in making out bids. Any proposal not in accordance with these instructions or containing bids not asked for may be rejected. While separate prices are required for various items under this contract, it is understood that the contract will be awarded as a whole.

As the estimates of quantities of items stated in the Proposal are approximate only, bidders are required to submit their proposal upon and in the following express conditions, which shall apply and become part of every proposal received.

Bids will be compared by total amounts, said total amount being the sum of the products of the quantities multiplied by the unit price bid for the various items, with due consideration being given to the lump sum prices bid for any contingent or optional items. Unbalanced bids will not be accepted.

Each bidder shall fill out in ink, in both words and figures, in the spaces provided, its unit or lump sum bid, as the case may be, for each item in said Proposal for which it is submitting a bid. If there is any discrepancy between the prices in words and figures, the prices in words shall govern as unit and lump sum prices.

A bid which does not include bids for all items in the Proposal may not be considered valid.

If the contract is not awarded by the Town Board within ninety (90) days after the receipt of bids, the obligation of the bidder under this Proposal may terminate at its option and it shall thereupon be entitled to a refund of its certified check or release of its bid bond furnished by it as security with its proposal.

### BID BOND OR CERTIFIED CHECK

Each proposal from a Contractor shall be accompanied by a bid bond or certified check on a solvent bank of the STATE OF NEW YORK, in the amount of five percent (5%) of the total bid. Such check shall be made payable to TOWN OF RIVERHEAD, RIVERHEAD, NEW YORK, and the amount thereof shall be the measure of liquidated damages which the Town may sustain by failure, neglect or refusal of the bidder to execute and deliver the contract, should the contract be awarded to it. The checks of all unsuccessful bidders will be returned upon the rejection of bids and the awarding of the contract; also, the check of the successful bidder will be returned upon the execution of the contract and the furnishing of the required bond.

NAME OF BIDDER

Each bidder must state, in its proposal, its full name and business address, and the full name of every person, firm or corporation, interested in same, and the address of every person or firm, or president and secretary of every corporation, interested with it.

QUALIFICATIONS OF BIDDERS

(1) The Town Board reserves the right to waive any informalities in, or reject any and all bids. The Board reserves the right to reject any and all bids which do not conform to the Proposal.

(2) All bidders must prove to the satisfaction of the Town Board that they are reputable, reliable and responsible, and that they possess the necessary qualifications (financial, labor, equipment and otherwise) to complete successfully the proposed work.

(3) In determining the qualifications of a bidder, the Town Board will consider its record in the performance of any contracts entered into by it for the work contemplated or of similar nature, may make such investigation as it deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Board all such information and data for this purpose as the Town Board may request.

(4) The Town Board shall be the sole judge of the qualifications of the bidders and of the merits thereof and reserves the right to reject any bid if the record of the bidder in the performance of contracts, payment of bills and meeting of obligations to subcontractors, material men or employees is not satisfactory to the Town Board, or if the evidence submitted by, or the investigation of, such bidders fails to satisfy the Town Board that it is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein.

PERFORMANCE AND MAINTENANCE BOND

The Contractor shall furnish a Performance Bond, Labor and Materials Bond, and a one (1) year Maintenance Bond each in an amount equal to one hundred (100%) percent of the total contract price as security for its faithful performance of this contract, for the payment of all persons performing labor or furnishing materials in connection with this contract. Such bonds shall also cover any penalties, interest charges and assessments levied by any governmental unit for failure to comply with laws and/or regulations governing public work. The Maintenance Bond shall be an assurance that all work and materials provided under this contract shall be maintained for a minimum period of one (1) year. The Maintenance Bond shall be furnished following final completion, and payment under the contract. The contractor shall be required to furnish all guarantees and warranties of manufacturers of products in connection with this contract, but no manufacturer's limitation of time shall act to limit the responsibility of the contractor or its surety hereunder.

The surety must be licensed in the State of New York and have a BEST A rating, or the surety shall present information satisfactory to the TOWN/DISTRICT to permit the TOWN/DISTRICT to accept the bond.

At the time of submission of bonds or at any time thereafter, the TOWN/DISTRICT may evaluate the surety or sureties proposed, and demand a change of surety if it determines that the financial position of such surety does not provide for a proper protection of the interests of the TOWN/DISTRICT. The

TOWN/DISTRICT shall be guided by its legal counsel, and insurance industry consultants in determining proper sureties for TOWN/DISTRICT public works contracts. If the TOWN/DISTRICT notifies the contractor in writing that a surety is unacceptable for any reason, then the contractor shall replace the surety and the bond in question within five (5) business days with a surety and bond deemed suitable by the said TOWN/DISTRICT. The premiums charged for all such bonds shall be a cost of the contractor and not the TOWN/DISTRICT. Upon notice to change surety being forwarded to a contractor, no further payments shall be made until a new bond in proper form naming an acceptable surety is provided.

#### SIGNATURE OF CONTRACTOR

The bidder to whom a contract may be awarded shall attend at the office of the Town Board, with the sureties offered by it, within seven (7) days, Saturdays and Sundays excepted, after date of notification of the acceptance of its proposal, and there sign the contract in quadripartite for the work and furnish approved security for its performance.

In case of failure to do so, the bidder shall be considered as having abandoned the same, and the check accompanying its proposal shall be forfeited to the Town Board, or the penalty of the bid bond shall be invoked.

#### CONTRACTOR'S INSURANCE

The Contractor shall not commence any work until it has obtained and had approved by the Town all of the insurance specified and required by the Contract.

The Contractor shall not permit any subcontractor to commence any operation on the site until satisfactory proof of carriage of the above required insurance has been posted with, and approved by, the Town Board.

#### RESPONSIBILITY OF BIDDER

Attention is hereby particularly directed to the provisions of the contract whereby the Contractor will be responsible for any loss or damage that may happen to the work or any part thereof during its progress; and also whereby the Contractor shall make good any defects or faults that may occur during the progress of the work or within twelve (12) months after date of the Engineer's approval of the final payment request.

#### LABOR RATES

The Contractor shall pay not less than the minimum hourly wage rates on this contract as established in accordance with Section 220 of the Labor Law, as shown on the Wage Schedule and Prevailing Rate Schedule, either shown on the following pages or the current prevailing rates paid at the time of construction. This project has been registered with the New York State Department of Labor under PRC#2015001379. Bidders are required to visit <http://www.labor.state.ny.us> wage schedules and updates and enter the corresponding project number to view the original prevailing wage schedule. The Contractor shall agree to accept the Wage Rates and shall not pay less than the minimum hourly wage rates furnished. No contractor or subcontractor listed on the New York State Department of Labor Debarment List will be permitted to work on this project. Inclusion of any contractor on this list represents an immediate forfeiture of bid and is cause to reject bid.

Each bidder shall submit with its bid a separate sealed list that names each subcontractor that the bidder will use to perform work on the contract, and the agreed-upon amount to be paid to each, for: (i) plumbing and gas fitting, (ii) steam heating, hot water heating, ventilating and air conditioning apparatus and (iii) electric wiring and standard illuminating fixtures. After the low bid is announced, the sealed list of subcontractors submitted with such low bid shall be opened and the names of such subcontractors shall be announced, and thereafter any change of subcontractor or agreed-upon amount to be paid to each shall require the approval of the owner, upon a showing presented to the owner of legitimate construction need for such change, which shall be open to public inspection. Legitimate construction need shall include, but not be limited to, a change in project specifications, a change in construction material costs, a change to subcontractor status as determined pursuant to paragraph (e) of subdivision two (2) of section two hundred twenty-two (222) of the labor law, or the subcontractor has become otherwise unwilling, unable or unavailable to perform the subcontract. The sealed lists of subcontractors submitted by all other bidders shall be returned to them unopened after the contract award.

#### OSHA 10-HOUR CERTIFICATION

On all Public Works projects with a value of \$250,000 or greater, all laborers, workers, and mechanics working on site shall be certified as successfully completing the OSHA 10-hour Construction Safety and Health Course. Certificates of completion of an approved OSHA 10-hour course shall be provided to the Engineer/Owner for all workers proposed to be on-site prior to start of construction.

#### COMPLETION OF WORK

Work is required to be completed to the satisfaction of the Engineer, and in substantial accordance with the Specifications hereunto annexed and the Plans therein referred to and the Change Orders amended to the Contract.

#### RESPONSIBILITY OF CONTRACTOR

Attention is hereby particularly directed to the provisions of the contract whereby the Contractor will be responsible for any loss or damage that may happen to the work or any part thereof during its progress; and also whereby the Contractor shall make good any defects or faults that may occur during the progress of the work or within twelve (12) months after its completion and acceptance. Any progress payments made by the Town during the completion of this contract by the Contractor shall not be a waiver of the foregoing provision.

#### WICKS LAW SUBCONTRACTORS

Each bidder shall submit with its bid a separate sealed list that names each subcontractor that the bidder will use to perform work on the contract, and the agreed-upon amount to be paid to each, for: (i) plumbing work, and (ii) electrical work. After the low bid is announced, the sealed list of subcontractors submitted with such low bid shall be opened and the names of such subcontractors shall be announced, and thereafter any change of subcontractor or agreed-upon amount to be paid to each shall require the approval of the owner, upon a showing presented to the owner of legitimate construction need for such change, which shall be open to public inspection. Legitimate construction need shall include, but not be limited to, a change in project specifications, a change in construction material costs, a change to subcontractor status as determined pursuant to paragraph (e) of subdivision two (2) of section two

hundred twenty-two (222) of the labor law, or the subcontractor has become otherwise unwilling, unable or unavailable to perform the subcontract. The sealed lists of subcontractors submitted by all other bidders shall be returned to them unopened after the contract award.

TOWN BOARD  
TOWN OF RIVERHEAD  
SUFFOLK COUNTY, NEW YORK



Andrew M. Cuomo, Governor

., Commissioner

Riverhead Water District  
Steven Mirra, Staff Engineer  
H2M Group  
538 Broad Hollow Road  
Melville NY 11747

Schedule Year 2014 through 2015  
Date Requested 02/13/2015  
PRC# 2015001379

Location Plant No. 16  
Project ID# RDWD 14-06  
Project Type Wellhead Treatment for perchlorate at the Riverhead Water District's Plant No. 16

### 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 2014 through June 2015. All updates, corrections, posted on the 1st business day of each month, and future copies of the annual determination are available on the Department's website [www.labor.state.ny.us](http://www.labor.state.ny.us). Updated PDF copies of your schedule can be accessed by entering your assigned PRC# at the proper location on the website.

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

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

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

#### NOTICE OF COMPLETION / CANCELLATION OF PROJECT

Date Completed: \_\_\_\_\_ Date Cancelled: \_\_\_\_\_

Name & Title of Representative: \_\_\_\_\_

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



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

## Introduction

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

## Responsibilities of the Department of Jurisdiction

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

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

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

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

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

## Hours

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

There are very few exceptions to this rule. Complete information regarding these exceptions is available on the "[4 Day / 10 Hour Work Schedule](#)" form (PW 30R).

## 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.state.ny.us](http://www.labor.state.ny.us).

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.state.ny.us](http://www.labor.state.ny.us).

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.state.ny.us](http://www.labor.state.ny.us).

## Payrolls and Payroll Records

Every contractor and subcontractor MUST keep original payrolls or transcripts subscribed and affirmed as true under penalty of perjury. Payrolls must be maintained for at least three (3) years from the project's date of completion. At a minimum, payrolls must show the following information for each person employed on a public work project: Name, Address, Last 4 Digits of Social Security Number, Classification(s) in which the worker was employed, Hourly wage rate(s) paid, Supplements paid or provided, and Daily and weekly number of hours worked in each classification.

Every contractor and subcontractor shall submit to the Department of Jurisdiction (Contracting Agency), within thirty (30) days after issuance of its first payroll and every thirty (30) days thereafter, a transcript of the original payrolls, subscribed and affirmed as true under penalty of perjury. The Department of Jurisdiction (Contracting Agency) shall collect, review for facial validity, and maintain such payrolls.

In addition, the Commissioner of Labor may require contractors to furnish, with ten (10) days of a request, payroll records sworn to as their validity and accuracy for public work and private work. Payroll records include, but are not limited to time cards, work description sheets, proof that supplements were provided, cancelled payroll checks and payrolls. Failure to provide the requested information within the allotted ten (10) days will result in the withholding of up to 25% of the contract, not to exceed \$100,000.00. If the contractor or subcontractor does not maintain a place of business in New York State and the amount of the contract exceeds \$25,000.00, payroll records and certifications must be kept on the project worksite.

The prime contractor is responsible for any underpayments of prevailing wages or supplements by any subcontractor.

All contractors or their subcontractors shall provide to their subcontractors a copy of the Prevailing Rate Schedule specified in the public work contract as well as any subsequently issued schedules. A failure to provide these schedules by a contractor or subcontractor is a violation of Article 8, Section 220-a of the Labor Law.

All subcontractors engaged by a public work project contractor or its subcontractor, upon receipt of the original schedule and any subsequently issued schedules, shall provide to such contractor a verified statement attesting that the subcontractor has received the Prevailing Rate Schedule and will pay or provide the applicable rates of wages and supplements specified therein. (See NYS Labor Laws, Article 8 . Section 220-a).

### **Determination of Prevailing Wage and Supplement Rate Updates Applicable to All Counties**

The wages and supplements contained in the annual determination become effective July 1st whether or not the new determination has been received by a given contractor. Care should be taken to review the rates for obvious errors. Any corrections should be brought to the Department's attention immediately. It is the responsibility of the public work contractor to use the proper rates. If there is a question on the proper classification to be used, please call the district office located nearest the project. Any errors in the annual determination will be corrected and posted to the NYS DOL website on the first business day of each month. Contractors are responsible for paying these updated rates as well, retroactive to July 1st.

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. To the extent possible, the Department posts rates in its possession that cover periods of time beyond the July 1st to June 30th time frame covered by a particular annual determination. Rates that extend beyond that instant time period are informational ONLY and may be updated in future annual determinations that actually cover the then appropriate July 1st to June 30th time period.

### **Withholding of Payments**

When a complaint is filed with the Commissioner of Labor alleging the failure of a contractor or subcontractor to pay or provide the prevailing wages or supplements, or when the Commissioner of Labor believes that unpaid wages or supplements may be due, payments on the public work contract shall be withheld from the prime contractor in a sufficient amount to satisfy the alleged unpaid wages and supplements, including interest and civil penalty, pending a final determination.

When the Bureau of Public Work finds that a contractor or subcontractor on a public work project failed to pay or provide the requisite prevailing wages or supplements, the Bureau is authorized by Sections 220-b and 235.2 of the Labor Law to so notify the financial officer of the Department of Jurisdiction (Contracting Agency) that awarded the public work contract. Such officer MUST then withhold or cause to be withheld from any payment due the prime contractor on account of such contract the amount indicated by the Bureau as sufficient to satisfy the unpaid wages and supplements, including interest and any civil penalty that may be assessed by the Commissioner of Labor. The withholding continues until there is a final determination of the underpayment by the Commissioner of Labor or by the court in the event a legal proceeding is instituted for review of the determination of the Commissioner of Labor.

The Department of Jurisdiction (Contracting Agency) shall comply with this order of the Commissioner of Labor or of the court with respect to the release of the funds so withheld.

### **Summary of Notice Posting Requirements**

The current Prevailing Rate Schedule must be posted in a prominent and accessible place on the site of the public work project. The prevailing wage schedule must be encased in, or constructed of, materials capable of withstanding adverse weather conditions and be titled "PREVAILING RATE OF WAGES" in letters no smaller than two (2) inches by two (2) inches.

The "[Public Work Project](#)" notice must be posted at the beginning of the performance of every public work contract, on each job site.

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

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

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

## **Apprentices**

Employees cannot be paid apprentice rates unless they are individually registered in a program registered with the NYS Commissioner of Labor. The allowable ratio of apprentices to 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

\_\_\_\_\_, Commissioner

Riverhead Water District  
Steven Mirra, Staff Engineer  
H2M Group  
538 Broad Hollow Road  
Melville NY 11747

Schedule Year 2014 through 2015  
Date Requested 02/13/2015  
PRC# 2015001379

Location Plant No. 16  
Project ID# RDWD 14-06  
Project Type Wellhead Treatment for perchlorate at the Riverhead Water District's Plant No. 16

### 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: _____<br>_____                       |  |            |
| City: _____                                   | State: _____                                       | Zip: _____ |
| Amount of Contract: \$ _____                  | Contract Type:                                     |            |
| Approximate Starting Date: ____/____/____     | <input type="checkbox"/> (01) General Construction |            |
| Approximate Completion Date: ____/____/____   | <input type="checkbox"/> (02) Heating/Ventilation  |            |
|   | <input type="checkbox"/> (03) Electrical           |            |
|   | <input type="checkbox"/> (04) Plumbing             |            |
|   | <input type="checkbox"/> (05) Other : _____        |            |

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



# IMPORTANT NOTICE

FOR

## CONTRACTORS & CONTRACTING AGENCIES

### Social Security Numbers on Certified Payrolls

The Department of Labor is cognizant of the concerns of the potential for misuse or inadvertent disclosure of social security numbers. Identity theft is a growing problem and we are sympathetic to contractors' concerns with regard to inclusion of this information on payrolls if another identifier will suffice.

For these reasons, *the substitution of the use of the last four digits of the social security number on certified payrolls submitted to contracting agencies on public work projects is now acceptable to the Department of Labor.*

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

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

## **Budget Policy & Reporting Manual**

# **B-610**

### **Public Work Enforcement Fund**

*effective date December 7, 2005*

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

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

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

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

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

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

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

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

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

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

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

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

Reports should contain the following information:

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

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

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

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

# **Construction Industry Fair Play Act**

## **Required Posting For Labor Law Article 25-B § 861-d**

Construction industry employers must post the "Construction Industry Fair Play Act" notice in a prominent and accessible place on the job site.

Failure to post the notice can result in penalties of up to \$1,500 for a first offense and up to \$5,000 for a second offense.

The posting is included as part of this wage schedule. Additional copies may be obtained from the NYS DOL website, [www.labor.ny.gov](http://www.labor.ny.gov).

If you have any questions concerning the Fair Play Act, please call the State Labor Department toll-free at 1-866-435-1499 or email us at: [dol.misclassified@labor.state.ny.us](mailto:dol.misclassified@labor.state.ny.us) .



New York State Department of Labor  
Required Notice under Article 25-B of the Labor Law

**ATTENTION ALL EMPLOYEES, CONTRACTORS AND SUBCONTRACTORS:  
YOU ARE COVERED BY THE  
CONSTRUCTION INDUSTRY FAIR PLAY ACT**

**The law says that you are an employee unless:**

- You are free from direction and control in performing your job AND
- You perform work that is not part of the usual work done by the business that hired you AND
- You have an independently established business

Your employer cannot consider you to be an independent contractor unless all three of these facts apply to your work.

**IT IS AGAINST THE LAW FOR AN EMPLOYER TO MISCLASSIFY EMPLOYEES AS  
INDEPENDENT CONTRACTORS OR PAY EMPLOYEES OFF-THE-BOOKS.**

**Employee rights.** If you are an employee:

- You are entitled to state and federal worker protections such as
  - unemployment benefits, if unemployed through no fault of your own, able to work, and otherwise qualified
  - workers' compensation benefits for on-the-job injuries
  - payment for wages earned, minimum wage, and overtime (under certain conditions)
  - prevailing wages on public work projects
  - the provisions of the National Labor Relations Act and
  - a safe work environment
- It is a violation of this law for employers to retaliate against anyone who asserts their rights under the law. Retaliation subjects an employer to civil penalties, a private lawsuit or both.

**Independent Contractors:** If you are an independent contractor:

- You must pay all taxes required by New York State and Federal Law.

**Penalties** for paying off-the-books or improperly treating employees as independent contractors:

- **Civil Penalty**                      First Offense: up to \$2,500 per employee.  
    Subsequent Offense(s): up to \$5,000 per employee.
- **Criminal Penalty**                First Offense: Misdemeanor - up to 30 days in jail, up to a \$25,000 fine and debarment from performing Public Work for up to one year.  
    Subsequent Offense(s): Misdemeanor - up to 60 days in jail, up to a \$50,000 fine and debarment from performing Public Work for up to 5 years.

**If you have questions about your employment status or believe that your employer may have violated your rights and you want to file a complaint, call the Department of Labor at 1(866)435-1499 or send an email to [dol.misclassified@labor.state.ny.us](mailto:dol.misclassified@labor.state.ny.us). All complaints of fraud and violations are taken seriously and you can remain anonymous.**

**Employer Name:**

# WORKER NOTIFICATION

(Labor Law §220, paragraph a of subdivision 3-a)

*Effective February 24, 2008*

This provision is an addition to the existing prevailing wage rate law, Labor Law §220, paragraph a of subdivision 3-a. It requires contractors and subcontractors to provide written notice to all laborers, workers or mechanics of the *prevailing wage rate* for their particular job classification *on each pay stub*\*. It also requires contractors and subcontractors to *post a notice* at the beginning of the performance of every public work contract *on each job site* that includes the telephone number and address for the Department of Labor and a statement informing laborers, workers or mechanics of their right to contact the Department of Labor if he/she is not receiving the proper prevailing rate of wages and/or supplements for his/her particular job classification. The required notification will be provided with each wage schedule, may be downloaded from our website [www.labor.state.ny.us](http://www.labor.state.ny.us) or made available upon request by contacting the Bureau of Public Work at 518-457-5589.

\* In the event that the required information will not fit on the pay stub, an accompanying sheet or attachment of the information will suffice.



New York State Department of Labor  
Bureau of Public Work

# 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) 775-3568 | White Plains | (914) 997-9507 |
| Newburgh      | (845) 568-5287 |              |                |

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



# **OSHA 10-hour Construction Safety and Health Course – S1537-A**

*Effective July 18, 2008*

This provision is an addition to the existing prevailing wage rate law, Labor Law §220, section 220-h. It requires that on all public work projects of at least \$250,000.00, all laborers, workers and mechanics working on the site, be certified as having successfully completed the OSHA 10-hour construction safety and health course. It further requires that the advertised bids and contracts for every public work contract of at least \$250,000.00, contain a provision of this requirement.

***NOTE: The OSHA 10 Legislation only applies to workers on a public work project that are required, under Article 8, to receive the prevailing wage.***

## Where to find OSHA 10-hour Construction Course

1. NYS Department of Labor website for scheduled outreach training at:

[www.labor.state.ny.us/workerprotection/safetyhealth/DOSH\\_ONSITE\\_CONSULTATION.shtm](http://www.labor.state.ny.us/workerprotection/safetyhealth/DOSH_ONSITE_CONSULTATION.shtm)

2. OSHA Training Institute Education Centers:

### **Rochester Institute of Technology OSHA Education Center**

Rochester, NY

Donna Winter

Fax (585) 475-6292

e-mail: [dlwtpo@rit.edu](mailto:dlwtpo@rit.edu)

(866) 385-7470 Ext. 2919

[www.rit.edu/~outreach/course.php3?CourseID=54](http://www.rit.edu/~outreach/course.php3?CourseID=54)

### **Atlantic OSHA Training Center**

UMDNJ – School of Public Health

Piscataway, NJ

Janet Crooks

Fax (732) 235-9460

e-mail: [crooksje@umdnj.edu](mailto:crooksje@umdnj.edu)

(732) 235-9455

<https://ophp.umdnj.edu/wconnect/ShowSchedule.awp?~~GROUP~AOTCON~10~>

### **Atlantic OSHA Training Center**

University at Buffalo

Buffalo, New York

Joe Syracuse

Fax (716) 829-2806

e-mail: [mailto:japs@buffalo.edu](mailto:mailto:japs@buffalo.edu)

(716) 829-2125

[http://www.smbs.buffalo.edu/CENTERS/trc/schedule\\_OSHA.php](http://www.smbs.buffalo.edu/CENTERS/trc/schedule_OSHA.php)

### **Keene State College**

Manchester, NH

Leslie Singleton

e-mail: [lsingletin@keene.edu](mailto:lsingletin@keene.edu)

(800) 449-6742

[www.keene.edu/courses/print/courses\\_osh.cfm](http://www.keene.edu/courses/print/courses_osh.cfm)

3. List of trainers and training schedules for OSHA outreach training at:

[www.OutreachTrainers.org](http://www.OutreachTrainers.org)

# Requirements for OSHA 10 Compliance

Chapter 282 of the Laws of 2007, codified as Labor Law 220-h took effect on July 18, 2008. The statute provides as follows:

The advertised specifications for every contract for public work of \$250,000.00 or more must contain a provision requiring that every worker employed in the performance of a public work contract shall be certified as having completed an OSHA 10 safety training course. The clear intent of this provision is to require that all employees of public work contractors, required to be paid prevailing rates, receive such training “prior to the performing any work on the project.”

The Bureau will enforce the statute as follows:

All contractors and sub contractors must attach a copy of proof of completion of the OSHA 10 course to the first certified payroll submitted to the contracting agency and on each succeeding payroll where any new or additional employee is first listed.

Proof of completion may include but is not limited to:

- Copies of bona fide course completion card (*Note: Completion cards do not have an expiration date.*)
- Training roster, attendance record of other documentation from the certified trainer pending the issuance of the card.
- Other valid proof

\*\*A certification by the employer attesting that all employees have completed such a course is not sufficient proof that the course has been completed.

Any questions regarding this statute may be directed to the New York State Department of Labor, Bureau of Public Work at 518-485-5696.

# WICKS Reform 2008

(For all contracts advertised or solicited for bid on or after 7/1/08)

- Raises the threshold for public work projects subject to the Wicks Law requiring separate specifications and bidding for the plumbing, heating and electrical work. The total project's threshold would increase from \$50,000 to: \$3 million in Bronx, Kings, New York, Queens and Richmond counties; \$1.5 million in Nassau, Suffolk and Westchester counties; and \$500,000 in all other counties.
- For projects below the monetary threshold, bidders must submit a sealed list naming each subcontractor for the plumbing, HVAC and electrical work and the amount to be paid to each. The list may not be changed unless the public owner finds a legitimate construction need, including a change in specifications or costs or use of a Project Labor Agreement (PLA), and must be open to public inspection.
- Allows the state and local agencies and authorities to waive the Wicks Law and use a PLA if it will provide the best work at the lowest possible price. If a PLA is used, all contractors shall participate in apprentice training programs in the trades of work it employs that have been approved by the Department of Labor (DOL) for not less than three years. They shall also have at least one graduate in the last three years and use affirmative efforts to retain minority apprentices. PLA's would be exempt from Wicks, but deemed to be public work subject to prevailing wage enforcement.
- The Commissioner of Labor shall have the power to enforce separate specification requirements on projects, and may issue stop-bid orders against public owners for non-compliance.
- Other new monetary thresholds, and similar sealed bidding for non-Wicks projects, would apply to certain public authorities including municipal housing authorities, NYC Construction Fund, Yonkers Educational Construction Fund, NYC Municipal Water Finance Authority, Buffalo Municipal Water Finance Authority, Westchester County Health Care Association, Nassau County Health Care Corp., Clifton-Fine Health Care Corp., Erie County Medical Center Corp., NYC Solid Waste Management Facilities, and the Dormitory Authority.
- Reduces from 15 to 7 days the period in which contractors must pay subcontractors.

## **IMPORTANT INFORMATION**

### **Regarding Use of Form PW30R**

**“Employer Registration for Use of 4 Day / 10 Hour Work Schedule”**

### **To use the ‘4 Day / 10 Hour Work Schedule’:**

There **MUST** be a *Dispensation of Hours (PW30)* in place on the project

***AND***

You **MUST** register your intent to work 4 / 10 hour days, by completing the PW30R Form.

### ***REMEMBER...***

The ‘4 Day / 10 Hour Work Schedule’ applies **ONLY** to Job Classifications and Counties listed on the PW30R Form.

Do not write in any additional Classifications or Counties.

**(Please note :** For each Job Classification check the individual wage schedule for specific details regarding their 4/10 hour day posting.)

# Instructions for Completing Form PW30R

## “Employer Registration for Use of 4 Day / 10 Hour Work Schedule”

### ***Before completing Form PW30R check to be sure ...***

- There is a *Dispensation of Hours* in place on the project.
- The 4 Day / 10 Hour Work Schedule applies to the Job Classifications you will be using.
- The 4 Day / 10 Hour Work Schedule applies to the County / Counties where the work will take place.

### **Instructions (Type or Print legibly):**

#### Contractor Information:

- Enter the Legal Name of the business, FEIN, Street Address, City, State, Zip Code; the Company’s Phone and Fax numbers; and the Company’s email address (if applicable)
- Enter the Name of a Contact Person for the Company along with their Phone and Fax numbers, and the personal email address (if applicable)

#### Project Information:

- Enter the Prevailing Rate Case number (PRC#) assigned to this project
- Enter the Project Name / Type (i.e. Smithtown CSD – Replacement of HS Roof)
- Enter the Exact Location of Project (i.e. Smithtown HS, 143 County Route #2, Smithtown, NY; Bldgs. 1 & 2)
- If you are a Subcontractor, enter the name of the Prime Contractor for which you work
- On the Checklist of Job Classifications -
  - Go to pages 2 and 3 of the form
  - Place a checkmark in the box to the right of the Job Classification you are choosing
  - Mark all Job Classifications that apply

\*\*\*Do not write in any additional Classifications or Counties.\*\*\*

#### Requestor Information:

- Enter the name of the person submitting the registration, their title with the company , and the date the registration is filled out

#### Return Completed Form:

- **Mail** the completed PW30R form (3 pages) to: NYSDOL Bureau of Public Work, SOBC – Bldg.12 – Rm.130, Albany, NY 12240 **-OR-**
- **Fax** the completed PW30R form (3 pages) to: NYSDOL Bureau of Public Work at (518)485-1870



**New York State Department of Labor**  
**Bureau of Public Work**  
 W. Averell Harriman State Office Campus  
 Building 12 - Room 130  
 Albany, New York 12240  
 Phone - (518) 457-5589 Fax - (518) 485-1870

**Employer Registration for Use of 4 Day / 10 Hour Work Schedule**

*Before completing Form PW30R check to be sure ...*  
 There is a *Dispensation of Hours* in place on the project.  
 The 4 Day / 10 Hour Work Schedule applies to the Job Classifications you will be using.  
 The 4 Day / 10 Hour Work Schedule applies to the County / Counties where the work will take place.

**Please Type or Print the Requested Information**

*When completed ...*  
 Mail to NYSDOL Bureau of Public Work, SOBC, Bldg. 12, Rm.130, Albany, NY 12240  
 -or-  
 Fax to NYSDOL Bureau of Public Work at (518) 485-1870

**Contractor Information**

Company Name: \_\_\_\_\_ FEIN: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
 Phone Number \_\_\_\_\_ Fax Number: \_\_\_\_\_ Email Address: \_\_\_\_\_  
 Contact Person: \_\_\_\_\_  
 Phone No: \_\_\_\_\_ Fax No: \_\_\_\_\_ Email: \_\_\_\_\_

**Project Information**

Project PRC#: \_\_\_\_\_ Project Name/Type: \_\_\_\_\_  
 Exact Location of Project: \_\_\_\_\_ County: \_\_\_\_\_  
 (If you are Subcontractor)  
 Prime Contractor Name: \_\_\_\_\_  
 Job Classification(s) to Work 4/10 Schedule: *(Choose all that apply on Job Classification Checklist - Pages 3-6)*  
 \*\*\* Do not write in any additional Classifications or Counties\*\*\*

**Requestor Information**

Name: \_\_\_\_\_  
 Title: \_\_\_\_\_ Date : \_\_\_\_\_

**Please use the list below with the number assigned to each county as a reference to the corresponding numbers listed in the following pages under "Entire Counties" & "Partial Counties".**

- |     |                             |     |                                 |
|-----|-----------------------------|-----|---------------------------------|
| 1.  | Albany County               | 33. | Oneida County                   |
| 2.  | Allegany County             | 34. | Onondaga County                 |
| 3.  | Bronx County                | 35. | Ontario County                  |
| 4.  | Broome County               | 36. | Orange County                   |
| 5.  | Cattaraugus County          | 37. | Orleans County                  |
| 6.  | Cayuga County               | 38. | Oswego County                   |
| 7.  | Chautauqua County           | 39. | Otsego County                   |
| 8.  | Chemung County              | 40. | Putnam County                   |
| 9.  | Chenango County             | 41. | Queens County                   |
| 10. | Clinton County              | 42. | Rensselaer County               |
| 11. | Columbia County             | 43. | Richmond County (Staten Island) |
| 12. | Cortland County             | 44. | Rockland County                 |
| 13. | Delaware County             | 45. | Saint Lawrence County           |
| 14. | Dutchess County             | 46. | Saratoga County                 |
| 15. | Erie County                 | 47. | Schenectady County              |
| 16. | Essex County                | 48. | Schoharie County                |
| 17. | Franklin County             | 49. | Schuyler County                 |
| 18. | Fulton county               | 50. | Seneca County                   |
| 19. | Genesee County              | 51. | Steuben County                  |
| 20. | Greene County               | 52. | Suffolk County                  |
| 21. | Hamilton County             | 53. | Sullivan County                 |
| 22. | Herkimer County             | 54. | Tioga County                    |
| 23. | Jefferson County            | 55. | Tompkins County                 |
| 24. | Kings County (Brooklyn)     | 56. | Ulster County                   |
| 25. | Lewis County                | 57. | Warren county                   |
| 26. | Livingston County           | 58. | Washington County               |
| 27. | Madison County              | 59. | Wayne County                    |
| 28. | Monroe County               | 60. | Westchester County              |
| 29. | Montgomery County           | 61. | Wyoming County                  |
| 30. | Nassau County               | 62. | Yates County                    |
| 31. | New York County (Manhattan) |     |                                 |
| 32. | Niagara County              |     |                                 |

## Job Classification Checklist

(Place a checkmark by all classifications that will be using the 4/10 schedule)

\*\*\* Do not write in any additional Classifications or Counties\*\*\*

| <b>Job Classification</b>          | <b>Tag #</b> | <b>Entire Counties</b>                                | <b>Partial Counties</b> | <b>Check Box</b>         |
|------------------------------------|--------------|---|-------------------------|--------------------------|
| Carpenter-Building                 | 276B-All     | 7   | 2, 5                    | <input type="checkbox"/> |
| Carpenter-Building                 | 276B-Cat     | 15  | 5                       | <input type="checkbox"/> |
| Carpenter - Building               | 276-B-DW-LIV | 26, 28, 35, 59  | 61                      | <input type="checkbox"/> |
| Carpenter-Building                 | 276B-Gen     | 19, 32, 37  | 61                      | <input type="checkbox"/> |
| Carpenter-Floor Layers             | 276B-FL-Liv  | 26, 28, 35, 59  | 61                      | <input type="checkbox"/> |
| Carpenter-Heavy&Highway            | 276HH-All    | 2, 5, 7   |                         | <input type="checkbox"/> |
| Carpenter-Heavy&Highway            | 276HH-Erie   | 15  |                         | <input type="checkbox"/> |
| Carpenter-Heavy&Highway            | 276HH- Gen   | 19, 32, 37, 61  |                         | <input type="checkbox"/> |
| Carpenter-Heavy&Highway            | 276HH-Liv    | 26, 28, 35, 59  |                         | <input type="checkbox"/> |
| Carpenter-Residential              | 276R-All     | 7   | 2, 5                    | <input type="checkbox"/> |
| Carpenter - Building               | 277B-Bro     | 4, 54   |                         | <input type="checkbox"/> |
| Carpenter - Building               | 277B-CAY     | 6, 50, 62   |                         | <input type="checkbox"/> |
| Carpenter - Building               | 277B-CS      | 8, 12, 49, 51, 55                                     | 2                       | <input type="checkbox"/> |
| Carpenter - Building               | 277 JLS      | 23, 25, 45  |                         | <input type="checkbox"/> |
| Carpenter - Building               | 277 omh      | 22, 27, 33  |                         | <input type="checkbox"/> |
| Carpenter - Building               | 277 On       | 34  |                         | <input type="checkbox"/> |
| Carpenter - Building               | 277 Os       | 38  |                         | <input type="checkbox"/> |
| Carpenter - Building               | 277CDO Bldg  | 9, 13, 39   |                         | <input type="checkbox"/> |
| Carpenter - Heavy&Highway          | 277CDO HH    | 9, 13, 39   |                         | <input type="checkbox"/> |
| Carpenter - Heavy&Highway          | 277HH-BRO    | 4, 6, 8, 12, 49, 50, 51, 54, 55, 62                   |                         | <input type="checkbox"/> |
| Carpenter - Heavy/Highway          | 277 oneida   | 22, 23, 25, 27, 33, 34, 38, 45                        |                         | <input type="checkbox"/> |
| Carpenter - Building               | 291B-Alb     | 1, 18, 20, 29, 42, 47, 48                             |                         | <input type="checkbox"/> |
| Carpenter - Building               | 291B-Cli     | 10, 16, 17  |                         | <input type="checkbox"/> |
| Carpenter - Building               | 291B-Ham     | 21, 57, 58  |                         | <input type="checkbox"/> |
| Carpenter - Building               | 291B-Sar     | 46  |                         | <input type="checkbox"/> |
| Carpenter - Heavy&Highway          | 291HH-Alb    | 1, 10, 16, 17, 18, 20, 21, 29, 42, 46, 47, 48, 57, 58 |                         | <input type="checkbox"/> |
| Electrician                        | 25m          | 30, 52  |                         | <input type="checkbox"/> |
| Electrician-Teledata Cable Splicer | 43           | 12, 22, 27, 33, 38                                    | 6, 9, 34, 39, 55, 59    | <input type="checkbox"/> |

## Job Classification Checklist

(Place a checkmark by all classifications that will be using the 4/10 schedule)

\*\*\* Do not write in any additional Classifications or Counties\*\*\*

| <b>Job Classification</b> | <b>Tag #</b>           | <b>Entire Counties</b>   | <b>Partial Counties</b> | <b>Check Box</b>         |
|---------------------------|------------------------|--|-------------------------|--------------------------|
| Electrician               | 86                     | 26, 28   | 19, 35, 37, 59, 61      | <input type="checkbox"/> |
| Electrician               | 840Teledata and 840 Z1 | 62   | 6, 34, 35, 50, 59       | <input type="checkbox"/> |
| Electrician               | 910                    | 10, 16, 17, 23, 25, 45   |                         | <input type="checkbox"/> |
| Electrician Lineman       | 1049Line/Gas           | 30, 41, 52   |                         | <input type="checkbox"/> |
| Electrician Lineman       | 1249a                  | 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 32, 33, 34, 35, 36, 37, 38, 39, 40, 42, 44, 46, 47, 48, 49, 50, 45, 51, 53, 54, 55, 56, 57, 58, 59, 61, 62 |                         | <input type="checkbox"/> |
| Electrical Lineman        | 1249a West             | 60   |                         | <input type="checkbox"/> |
| Electrical Lineman        | 1249a-LT               | 1, 2, 4, 5, 6, 7, 8, 9, 10, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 32, 33, 34, 35, 37, 38, 39, 42, 46, 47, 48, 49, 50, 45, 51, 53, 54, 55, 57, 58, 59, 61, 62                         |                         | <input type="checkbox"/> |
| Electrical Lineman        | 1249aREG8LT            | 11, 14, 36, 40, 44, 56   |                         | <input type="checkbox"/> |
| Electrical Lineman        | 1249aWestLT            | 60   |                         | <input type="checkbox"/> |
| Elevator Constructor      | 138                    | 11, 14, 20, 36, 40, 53, 56   | 13, 44, 60              | <input type="checkbox"/> |
| Elevator Constructor      | 14                     | 2, 5, 7, 15, 19, 32, 37, 61  |                         | <input type="checkbox"/> |
| Elevator Constructor      | 27                     | 8, 26, 28, 35, 49, 50, 51, 59, 62  |                         | <input type="checkbox"/> |
| Elevator Constructor      | 35                     | 1, 10, 16, 18, 21, 22, 29, 39, 42, 46, 47, 48, 57, 58  |                         | <input type="checkbox"/> |
| Elevator Constructor      | 62.1                   | 4, 6, 9, 12, 23, 25, 27, 33, 34, 38, 45, 54, 55  | 13                      | <input type="checkbox"/> |
| Glazier                   | 201                    | 1, 10, 11, 16, 17, 18, 20, 21, 29, 42, 46, 47, 48, 57, 58  |                         | <input type="checkbox"/> |
| Glazier                   | 660r                   | 2, 5, 7, 15, 19, 32, 37, 61  |                         | <input type="checkbox"/> |
| Glazier                   | 660                    | 2, 5, 7, 15, 19, 32, 37, 61  |                         | <input type="checkbox"/> |
| Glazier                   | 677.1                  | 23, 25, 26, 28, 35, 45, 50, 59, 62   |                         | <input type="checkbox"/> |
| Glazier                   | 677Z-2                 | 6, 12, 22, 27, 33, 34, 38  |                         | <input type="checkbox"/> |
| Glazier                   | 677z3                  | 4, 8, 9, 13, 39, 49, 51, 54, 55  |                         | <input type="checkbox"/> |
| Glazier                   | 677r.2                 | 6, 12, 22, 27, 33, 34, 38  |                         | <input type="checkbox"/> |
| Insulator - Heat & Frost  | 30-Syracuse            | 4, 6, 8, 9, 12, 22, 23, 25, 27, 33, 34, 38, 39, 49, 50, 45, 54, 55   |                         | <input type="checkbox"/> |
| Laborers - Building       | 322-2H                 | 17, 23, 25, 45   |                         | <input type="checkbox"/> |
| Laborers - Building       | 785(7)                 | 4  | 9, 13, 54               | <input type="checkbox"/> |

## Job Classification Checklist

(Place a checkmark by all classifications that will be using the 4/10 schedule)

\*\*\* Do not write in any additional Classifications or Counties\*\*\*

| <b>Job Classification</b>  | <b>Tag #</b> | <b>Entire Counties</b>  | <b>Partial Counties</b> | <b>Check Box</b>         |
|----------------------------|--------------|---|-------------------------|--------------------------|
| Laborers - Building        | 785B-CS      | 8, 51   | 49                      | <input type="checkbox"/> |
| Laborers- Heavy & Highway  | 322/2h       | 17, 23, 25, 45  |                         | <input type="checkbox"/> |
| Laborers- Heavy & Highway  | 7-785b       | 12, 55  | 49, 54                  | <input type="checkbox"/> |
| Laborers Heavy & Highway   | 785(7)       | 4   | 9, 13, 54               | <input type="checkbox"/> |
| Laborer - Heavy & Highway  | 785HH-CS     | 8, 51   | 49                      | <input type="checkbox"/> |
| Laborer - Building         | 621b         | 2, 7  | 5                       | <input type="checkbox"/> |
| Laborer - Residential      | 621r         | 2, 7  | 5                       | <input type="checkbox"/> |
| Mason-Building             | 3b-Co-Z2     | 8, 49, 51   | 2                       | <input type="checkbox"/> |
| Mason-Building             | 3B-Z1        | 19, 26, 28, 35, 50, 59, 61, 62  |                         | <input type="checkbox"/> |
| Mason-Building-Residential | 3B-Z1R       | 19, 26, 28, 35, 50, 59, 61, 62  |                         | <input type="checkbox"/> |
| Mason-Building             | 3B-Bing-Z2   | 4, 9, 13, 39, 54  |                         | <input type="checkbox"/> |
| Mason-Building             | 3B-lth-Z2    | 12, 55  |                         | <input type="checkbox"/> |
| Mason-Building             | 3B-Jam-Z2    | 7   | 2, 5                    | <input type="checkbox"/> |
| Mason-Building-Residential | 3B-Jam-Z2R   | 2, 4, 8, 7, 9, 12, 39, 13, 49, 51, 54, 55                                     | 5                       | <input type="checkbox"/> |
| Mason-Building             | 3B-Z3        | 15, 32, 37  | 5                       | <input type="checkbox"/> |
| Mason-Building-Residential | 3B-Z3R       | 15, 32, 37  | 5                       | <input type="checkbox"/> |
| Mason-Heavy Highway        | 3h           | 2, 4, 8, 7, 9, 12, 13, 19, 26, 28, 35, 37, 39, 49, 50, 51, 54, 55, 59, 61, 62 | 5, 15, 32               | <input type="checkbox"/> |
| Mason-Tile Finisher        | 3TF-Z1       | 19, 26, 28, 35, 50, 59, 61, 62  |                         | <input type="checkbox"/> |
| Mason-Tile Finisher        | 3TF-Z2       | 2, 4, 8, 7, 9, 12, 13, 39, 49, 51, 54, 55                                     | 5                       | <input type="checkbox"/> |
| Mason-Tile Finisher        | 3TF-Z3       | 15, 32, 37  | 5                       | <input type="checkbox"/> |
| Mason-Tile Finisher        | 3TF-Z1R      | 19, 26, 28, 35, 50, 59, 61, 62  |                         | <input type="checkbox"/> |
| Mason-Tile Finisher        | 3TF-Z2R      | 2, 4, 7, 9, 12, 13, 39, 49, 51, 54, 55  | 5                       | <input type="checkbox"/> |
| Mason-Tile Finisher        | 3TF-Z3R      | 15, 32, 37  | 5                       | <input type="checkbox"/> |
| Mason-Tile Setter          | 3TS-Z1       | 19, 26, 28, 35, 50, 59, 61, 62  |                         | <input type="checkbox"/> |

# Job Classification Checklist

(Place a checkmark by all classifications that will be using the 4/10 schedule)

\*\*\* Do not write in any additional Classifications or Counties\*\*\*

| <b>Job Classification</b>           | <b>Tag #</b>    | <b>Entire Counties</b>                    | <b>Partial Counties</b> | <b>Check Box</b>         |
|-------------------------------------|-----------------|---|-------------------------|--------------------------|
| Mason-Tile Setter Residential       | 3TS-Z2R         | 2, 4, 7, 8, 9, 12, 13, 39, 49, 51, 54, 55 | 5                       | <input type="checkbox"/> |
| Mason-Tile Setter Residential       | 3TS-Z3R         | 15, 32, 37                                | 5                       | <input type="checkbox"/> |
| Mason - Building/Heavy&Highway      | 780             | 3, 24, 30, 31, 41, 43, 52                 |                         | <input type="checkbox"/> |
| Operating Engineer - Heavy/Highway  | 137H/H          | 40, 60                                    | 14                      | <input type="checkbox"/> |
| Operating Engineer - Heavy& Highway | 832H            | 2, 8, 26, 28, 35, 49, 51, 59, 62          | 19                      | <input type="checkbox"/> |
| Painter                             | 150             | 28, 59, 62                                | 26, 35                  | <input type="checkbox"/> |
| Painter                             | 178 B           | 4, 9, 54                                  |                         | <input type="checkbox"/> |
| Painter                             | 178 E           | 8, 49                                     | 51                      | <input type="checkbox"/> |
| Painter                             | 178 I           | 12, 55                                    |                         | <input type="checkbox"/> |
| Painter                             | 178 O           | 13, 39                                    |                         | <input type="checkbox"/> |
| Painter                             | 31              | 6, 22, 27, 33, 34, 50                     | 25, 35, 38              | <input type="checkbox"/> |
| Painter                             | 38.O            |   | 38                      | <input type="checkbox"/> |
| Painter                             | 38.W            | 23, 45                                    | 25                      | <input type="checkbox"/> |
| Painter                             | 4-Buf,Nia,Olean | 2, 15, 19, 32, 37, 61                     | 5, 7, 26, 51            | <input type="checkbox"/> |
| Painter                             | 4-Jamestown     |   | 5, 7                    | <input type="checkbox"/> |
| Sheetmetal Worker                   | 46              | 26, 28, 35, 50, 59, 62                    |                         | <input type="checkbox"/> |
| Sheetmetal Worker                   | 46r             | 26, 28, 35, 50, 59, 62                    |                         | <input type="checkbox"/> |
| Teamsters-Heavy&Highway             | 294h/h          | 1, 11, 18, 20, 29, 42, 46, 47, 48, 58     | 57                      | <input type="checkbox"/> |
| Teamsters-Heavy&Highway             | 317bhh          | 6, 12, 50, 51, 55, 62                     | 2                       | <input type="checkbox"/> |
| Teamsters-Building/Heavy&Highway    | 456             | 40, 60                                    |                         | <input type="checkbox"/> |
|                                     |                 |   |                         | <input type="checkbox"/> |
|                                     |                 |   |                         | <input type="checkbox"/> |
|                                     |                 |   |                         | <input type="checkbox"/> |

## 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.

#### 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. In most cases the payment or provision of supplements is for each hour worked (noted in the schedule as 'Per hour worked'). Some classifications require the payment or provision of supplements for each hour paid (noted in the schedule as 'Per hour paid'), which require supplements to be paid or provided at a premium rate for premium hours worked. Some classifications may also require the payment or provision of supplements for paid holidays on which no work is performed.

#### Effective Dates

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. The rate listed is valid until the next effective rate change or until the new annual determination which takes effect on July 1 of each year. All contractors and subcontractors are required to pay the current prevailing rates of wages and supplements. If you have any questions please contact the Bureau of Public Work or visit the New York State Department of Labor website ([www.labor.state.ny.us](http://www.labor.state.ny.us)) for current wage rate information.

#### Apprentice Training Ratios

The following are the allowable ratios of registered Apprentices to Journey-workers.

For example, the ratio 1:1,1:3 indicates the allowable initial ratio is one Apprentice to one Journeyworker. The Journeyworker must be in place on the project before an Apprentice is allowed. Then three additional Journeyworkers are needed before a second Apprentice is allowed. The last ratio repeats indefinitely. Therefore, three more Journeyworkers must be present before a third Apprentice can be hired, and so on.

Please call Apprentice Training Central Office at (518) 457-6820 if you have any questions.

| Title (Trade)                                  | Ratio   |
|--|---------|
| Boilermaker (Construction)                     | 1:1,1:4 |
| Boilermaker (Shop)                             | 1:1,1:3 |
| Carpenter (Bldg.,H&H, Pile Driver/Dockbuilder) | 1:1,1:4 |
| Carpenter (Residential)                        | 1:1,1:3 |

|  |         |
|--|---------|
| Electrical (Outside) Lineman                 | 1:1,1:2 |
| Electrician (Inside)                         | 1:1,1:3 |
| Elevator/Escalator Construction & Modernizer | 1:1,1:2 |
| Glazier                                      | 1:1,1:3 |
| Insulation & Asbestos Worker                 | 1:1,1:3 |
| Iron Worker                                  | 1:1,1:4 |
| Laborer                                      | 1:1,1:3 |
| Mason  | 1:1,1:4 |
| Millwright                                   | 1:1,1:4 |
| Op Engineer                                  | 1:1,1:5 |
| Painter                                      | 1:1,1:3 |
| Plumber & Steamfitter                        | 1:1,1:3 |
| Roofer                                       | 1:1,1:2 |
| Sheet Metal Worker                           | 1:1,1:3 |
| Sprinkler Fitter                             | 1:1,1:2 |

If you have any questions concerning the attached schedule or would like additional information, please contact the nearest BUREAU of PUBLIC WORK District Office or write to:

New York State Department of Labor  
Bureau of Public Work  
State Office Campus, Bldg. 12  
Albany, NY 12240

| District Office Locations:             | Telephone #  | FAX #        |
|--|--------------|--------------|
| Bureau of Public Work - Albany         | 518-457-2744 | 518-485-0240 |
| Bureau of Public Work - Binghamton     | 607-721-8005 | 607-721-8004 |
| Bureau of Public Work - Buffalo        | 716-847-7159 | 716-847-7650 |
| Bureau of Public Work - Garden City    | 516-228-3915 | 516-794-3518 |
| Bureau of Public Work - Newburgh       | 845-568-5287 | 845-568-5332 |
| Bureau of Public Work - New York City  | 212-775-3568 | 212-775-3579 |
| Bureau of Public Work - Patchogue      | 631-687-4882 | 631-687-4904 |
| 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 |

**Suffolk County General Construction**

**Asbestos Worker** **02/01/2015**

**JOB DESCRIPTION** Asbestos Worker **DISTRICT 4**

**ENTIRE COUNTIES**  
 Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

**WAGES**

|  |            |                          |
|--|------------|--------------------------|
| Per Hour:                                    | 07/01/2014 | 12/01/2014<br>Additional |
| Asbestos Worker<br>Removal & Abatement Only* | \$ 47.00   | \$ 0.50**                |

NOTE: \*On Mechanical Systems that are NOT to be SCRAPPED. To be allocated to (\*\*) To be allocated at a later date

**SUPPLEMENTAL BENEFITS**

Per Hour:

|   |         |
|---|---------|
| Asbestos Worker<br>Removal & Abatement Only | \$ 4.70 |
|---|---------|

**OVERTIME PAY**  
 See (B, B2, \*E, J) on OVERTIME PAGE  
 Hours worked on Saturdays are paid at time and one half only if forty hours have been worked during the week.

**HOLIDAY**  
 Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 8) on HOLIDAY PAGE

**REGISTERED APPRENTICES**  
 Apprentice Removal & Abatement Only:  
 1000 hour terms at the following percentage of Journeyman's rates.

|     |     |     |     |
|-----|-----|-----|-----|
| 1st | 2nd | 3rd | 4th |
| 78% | 80% | 83% | 89% |

**SUPPLEMENTAL BENEFIT**

Per Hour:

|                                   |         |                      |
|-----------------------------------|---------|----------------------|
| Apprentice<br>Removal & Abatement | \$ 4.70 | 4-12a - Removal Only |
|-----------------------------------|---------|----------------------|

**Boilermaker** **02/01/2015**

**JOB DESCRIPTION** Boilermaker **DISTRICT 4**

**ENTIRE COUNTIES**  
 Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Sullivan, Ulster, Westchester

**WAGES**

|                       |            |            |
|-----------------------|------------|------------|
| Per Hour:             | 07/01/2014 | 01/01/2015 |
| Boilermaker           | \$ 50.45   | \$ 51.56   |
| Repairs & Renovations | \$ 50.45   | \$ 51.56   |

**SUPPLEMENTAL BENEFITS**

|                       |                            |                            |
|-----------------------|----------------------------|----------------------------|
| Per Hour:             | 07/01/2014                 | 01/01/2015                 |
| Boilermaker           | 32% of hourly<br>Wage Paid | 32% of hourly<br>Wage Paid |
| Repairs & Renovations | + \$25.16                  | + \$25.19                  |

NOTE: "Hourly Wage Paid" shall include any and all premium(s) pay.

Repairs & Renovation Includes replacement of parts and repairs & renovation of existing unit.

**OVERTIME PAY**  
 OVERTIME PAY  
 See (D, O) on OVERTIME PAGE  
**HOLIDAY**  
 Paid: See (8, 16, 23, 24) on HOLIDAY PAGE

Overtime: See (5, 6, 11, 12, 15, 25) on HOLIDAY PAGE  
 NOTE: \*Employee must work in pay week to receive Holiday Pay.  
 \*\*Boilermaker gets 4 times the hourly wage rate for working on Labor Day.  
 \*\*\*Repairs & Renovation see (B,E,Q) on HOLIDAY PAGE

**HOLIDAY**

**REGISTERED APPRENTICES**

Wage per hour:  
 (1/2) Year Terms at the following percentage of Boilermaker's Wage

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

Supplemental Benefits Per Hour:

| Apprentice(s) | 07/01/2014                                | 01/01/2015                                |
|---------------|---|---|
|               | 32% of Hourly Wage Paid plus amount below | 32% of Hourly Wage Paid Plus Amount Below |
| 1st Term      | \$ 19.25                                  | \$ 19.27                                  |
| 2nd Term      | 20.10                                     | 20.11                                     |
| 3rd Term      | 20.94                                     | 20.95                                     |
| 4th Term      | 21.78                                     | 21.80                                     |
| 5th Term      | 22.62                                     | 22.65                                     |
| 6th Term      | 23.47                                     | 23.49                                     |
| 7th Term      | 24.31                                     | 24.33                                     |

NOTE: "Hourly Wage Paid" shall include any and all premium(s)

4-5

**Carpenter**

**02/01/2015**

**JOB DESCRIPTION** Carpenter

**DISTRICT 8**

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Westchester

**PARTIAL COUNTIES**

Orange: South of but including the following, Waterloo Mills, Slate Hill, New Hampton, Goshen, Blooming Grove, Mountainville, east to the Hudson River.

Putnam: South of but including the following, Cold Spring, TompkinsCorner, Mahopac, Croton Falls, east to Connecticut border.

Suffolk: West of Port Jefferson and Patchogue Road to Route 112 to the Atlantic Ocean.

**WAGES**

| Per hour:   | 07/01/2014 | 10/17/2014 |
|---|------------|------------|
| Core Drilling:  |            |            |
| Driller   | \$ 35.71   | \$ 36.82   |
| Driller Helper  | \$ 28.60   | \$ 29.44   |
| Additional Helpers: One (1) year increments. This is not an apprenticeship for Driller: |            |            |
| Helper 1st year   | \$ 20.02   | \$ 20.61   |
| Helper 2nd year   | 22.88      | 23.55      |
| Helper 3rd year   | 25.74      | 26.50      |
| Helper 4th year   | 28.60      | 29.44      |

Note: Hazardous Waste Pay Differential:

For Level C, an additional 10% above wage rate per hour

For Level B, an additional 10% above wage rate per hour

For Level A, an additional 10% above wage rate per hour

Note: When required to work on water: an additional \$ 0.50 per hour.

**SUPPLEMENTAL BENEFITS**

| Per hour paid:          | 07/01/2014 | 10/17/2014 |
|-------------------------|------------|------------|
| Driller and All Helpers | \$21.69    | \$ 22.79   |

**OVERTIME PAY**

OVERTIME: See (B,E,K\*,P,R\*\*) on OVERTIME PAGE.

**HOLIDAY**

Paid: See (5,6) on HOLIDAY PAGE.  
Overtime: \* See (5,6) on HOLIDAY PAGE.  
\*\* See (8,10,11,13) on HOLIDAY PAGE.

8-1536-CoreDriller

**Carpenter**

**02/01/2015**

**JOB DESCRIPTION** Carpenter

**DISTRICT 8**

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**WAGES**

Per Hour: 07/01/2014

Timberman \$ 44.33

**SUPPLEMENTAL BENEFITS**

Per Hour: 07/01/2014  
\$ 45.36

**OVERTIME PAY**

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

**HOLIDAY**

Paid: See (18,19) on HOLIDAY PAGE.

Paid: for 1st & 2nd yr.

Apprentices See (5,6,11,13,16,18,19,25)

Overtime: See (5,6,11,13,16,18,19,25) on HOLIDAY PAGE.

**REGISTERED APPRENTICES**

Wages per hour:

( 1 ) year terms:

|         |         |         |         |
|---------|---------|---------|---------|
| 1st     | 2nd     | 3rd     | 4th     |
| \$17.73 | \$22.16 | \$28.81 | \$35.46 |

Supplemental benefits per hour:  
\$ 30.86

8-1556 Tm

**Carpenter**

**02/01/2015**

**JOB DESCRIPTION** Carpenter

**DISTRICT 8**

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Rockland, Suffolk, Westchester

**WAGES**

Per hour: 07/01/2014

Building  
Millwright \$ 48.44

**SUPPLEMENTAL BENEFITS**

Per hour paid:  
Millwright \$ 50.49

**OVERTIME PAY**

See (B, E, Q) on OVERTIME PAGE

**HOLIDAY**

Paid: See (18,19)\* on HOLIDAY PAGE.

Overtime See (5,6,8,11,13,18,19,25) on HOLIDAY PAGE.

\* must show up to work

**REGISTERED APPRENTICES**

Wages per hour is Percentage of Journeyworkers wage:

(1) year terms:

|         |         |         |         |
|---------|---------|---------|---------|
| 1st.    | 2nd.    | 3rd.    | 4th.    |
| \$26.64 | \$31.49 | \$36.33 | \$46.02 |

Supplemental benefits per hour paid:

(1) year terms:

|         |         |         |         |
|---------|---------|---------|---------|
| 1st.    | 2nd.    | 3rd.    | 4th.    |
| \$32.81 | \$36.15 | \$40.63 | \$46.21 |

8-740.1

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**Carpenter**

**02/01/2015**

**JOB DESCRIPTION** Carpenter

**DISTRICT 8**

**ENTIRE COUNTIES**

Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Westchester

**WAGES**

Per Hour: 07/01/2014

Marine Construction:

|               |          |
|---------------|----------|
| Marine Diver  | \$ 61.30 |
| Marine Tender | 43.45    |

**SUPPLEMENTAL BENEFITS**

Per Hour Paid:

Journeyman \$ 46.09

**OVERTIME PAY**

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

**HOLIDAY**

Paid: See (18, 19) on HOLIDAY PAGE

Overtime: See (5, 6, 10, 11, 13, 16, 18, 19) on HOLIDAY PAGE

8-1456MC

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**Carpenter**

**02/01/2015**

**JOB DESCRIPTION** Carpenter

**DISTRICT 8**

**ENTIRE COUNTIES**

Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Westchester

**WAGES**

Per hour: 07/01/2014

|                                   |          |
|-----------------------------------|----------|
| Carpet/Resilient<br>Floor Coverer | \$ 49.88 |
|-----------------------------------|----------|

INCLUDES HANDLING & INSTALLATION OF ARTIFICIAL TURF AND SIMILAR TURF INDOORS/OUTDOORS.

**SUPPLEMENTAL BENEFITS**

Per hour paid:

Floor Coverer \$ 44.07

**OVERTIME PAY**

See (B, E, Q) on OVERTIME PAGE

**HOLIDAY**

Paid: See (18, 19) on HOLIDAY PAGE.

Paid: for 1st & 2nd yr.  
Apprentices See (5,6,11,13,16,18,19,25)

Overtime: See (5,6,11,13,16,18,19,25) on HOLIDAY PAGE.

**REGISTERED APPRENTICES**

Wage per hour is Percentage of Journeyworkers Wage

(1) year terms:

| 1st.    | 2nd.    | 3rd.    | 4th.    |
|---------|---------|---------|---------|
| \$19.95 | \$24.94 | \$32.42 | \$39.90 |

Supplemental benefits per hour:

\$ 30.22

8-2287

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**Carpenter**

**02/01/2015**

**JOB DESCRIPTION** Carpenter

**DISTRICT 8**

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Rockland, Suffolk, Westchester

**WAGES**

Per hour: 07/01/2014

|             |          |
|-------------|----------|
| Piledriver  | \$ 48.35 |
| Dockbuilder | \$ 48.35 |

**SUPPLEMENTAL BENEFITS**

Per hour paid:

Journeyworker \$ 46.09

**OVERTIME PAY**

See (B, E2, O) on OVERTIME PAGE

**HOLIDAY**

Paid: See (18,19)on HOLIDAY PAGE.

Paid: for 1st & 2nd yr.

Apprentices See (5,6,11,13,16,18,19,25)

Overtime: See (5,6,11,13,16,18,19,25) on HOLIDAY PAGE.

**REGISTERED APPRENTICES**

Wages per hour

(1)year terms:

| 1st     | 2nd     | 3rd     | 4th     |
|---------|---------|---------|---------|
| \$19.34 | \$24.17 | \$31.43 | \$38.68 |

Supplemental benefits per hour:

Apprentices \$ 31.23

8-1556 Db

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**Carpenter - Building / Heavy&Highway**

**02/01/2015**

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

**DISTRICT 4**

**ENTIRE COUNTIES**

Suffolk

**PARTIAL COUNTIES**

Nassau: Work performed "North of Southern State Parkway and East of Seaford Creek"

**WAGES**

Per Hour: 07/01/2014

Carpenter (Building) \$ 46.72

Carpenter (Heavy Highway) \$ 46.72

"NOTE" ADD 15% to straight time hourly wage for NEW YORK STATE D.O.T. and other GOVERNMENTAL MANDATED Off-Shift Work.

**SUPPLEMENTAL BENEFITS**

Per Hour:

Both Carpenter  
Categories \$ 29.49

**OVERTIME PAY**

See (B, E, Q) on OVERTIME PAGE

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

One(1) Year Terms at the following:

Per Hour:

|          |          |          |          |
|----------|----------|----------|----------|
| 1st      | 2nd      | 3rd      | 4th      |
| \$ 18.14 | \$ 23.98 | \$ 27.88 | \$ 31.78 |

Supplemental Benefits

Per Hour:

All Terms: \$ 16.00

4-Reg.Council Nass/Suff

**Electrician**

**02/01/2015**

**JOB DESCRIPTION** Electrician

**DISTRICT 4**

**ENTIRE COUNTIES**

Nassau, Suffolk

**WAGES**

Per Hour: 07/01/2014

Electrician

Pump & Tank \$ 40.05

**SUPPLEMENTAL BENEFITS**

Per Hour:

Electrician

Pump & Tank 65.25%  
of \*Wage  
Paid

\*Wage Paid includes any and all Premiums

**OVERTIME PAY**

See (B, E, Q) on OVERTIME PAGE

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

1 Year Terms at the Following:

Per Hour:

|          |          |
|----------|----------|
| 1st Term | \$ 14.02 |
| 2nd Term | \$ 16.02 |
| 3rd Term | \$ 18.02 |
| 4th Term | \$ 20.03 |
| 5th Term | \$ 26.03 |
| 6th Term | \$ 30.04 |

**SUPPLEMENTAL BENEFITS**

Per Hour:

All Terms 65.25%

of \*Wage  
 Paid

\*Wage Paid includes any and all Premiums

4-25 Pump & Tank

**Electrician** **02/01/2015**

**JOB DESCRIPTION** Electrician **DISTRICT 4**

**ENTIRE COUNTIES**  
 Nassau, Suffolk

**WAGES**

|                     |            |            |
|---------------------|------------|------------|
| Per Hour:           | 07/01/2014 | 04/25/2015 |
| Electrician/Wireman | \$ 49.20   | \$ 50.45   |
| HVAC Controls       | 49.20      | 50.45      |
| Fire Alarms         | 49.20      | 50.45      |

**SUPPLEMENTAL BENEFITS**

|   |  |  |
|---|--|--|
| Per Hour:                               | 07/01/2014                             | 04/25/2015                             |
| Electrician/Wireman<br>(all categories) | 16.0% of Hourly<br>Wage Paid + \$22.14 | 16.0% of Hourly<br>Wage Paid + \$23.08 |

NOTE: "Hourly Wage Paid" shall include any and all premium[s]

**OVERTIME PAY**

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

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 15, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

One(1) Year Terms at the following Percentage of Journeyman(s) Wage:

Apprentices with start dates PRIOR TO 10/02/2010:

|     |     |     |
|-----|-----|-----|
| 4th | 5th | 6th |
| 50% | 60% | 70% |

Apprentices with start dates AFTER 10/02/2010:

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| 1st | 2nd | 3rd | 4th | 5th | 6th |
| 35% | 40% | 45% | 55% | 65% | 75% |

Supplemental Benefits Per Hour:

|     | Apprentices Hired<br>Prior to 10/02/2010 |               | Apprentices Hired<br>After 10/02/2010 |               |
|-----|--|---------------|---------------------------------------|---------------|
|     | 07/01/2014                               | 04/26/2015    | 07/01/2014                            | 04/26/2015    |
| 1st | 0% + \$0.00                              | 0% + \$0.00   | 3% + \$2.56                           | 3% + \$2.72   |
| 2nd | 0% + \$0.00                              | 0% + \$0.00   | 8% + \$3.88                           | 8% + \$4.09   |
| 3rd | 0% + \$0.00                              | 0% + \$0.00   | 9% + \$4.69                           | 9% + \$4.96   |
| 4th | 16% + \$11.07                            | 16% + \$11.53 | 10% + \$6.66                          | 10% + \$7.00  |
| 5th | 16% + \$13.28                            | 16% + \$13.84 | 13% + \$10.21                         | 13% + \$10.70 |
| 6th | 16% + \$15.50                            | 16% + \$16.15 | 14% + \$16.45                         | 14% + \$17.14 |

NOTE: Percentages are on "Hourly Wage Paid"

NOTE: "Hourly Wage Paid" shall include any and all premium(s).

4-25

**Electrician** **02/01/2015**

**JOB DESCRIPTION** Electrician **DISTRICT 4**

**ENTIRE COUNTIES**  
 Nassau, Suffolk

**WAGES**

|  |            |            |
|--|------------|------------|
| Per Hour:  | 07/01/2014 | 04/25/2015 |
| Telephone and Intergrated Tele-Data System Electrician | \$ 36.38   | \$ 36.58   |

This rate classification applies to ALL Voice, Data & Video work.: Excluding Fire Alarm Systems and Energy Managment Systems (HVAC Controls), in those cases the regular Electrician rate applies. To ensure proper use of this rate please call Nassau Offices at (516)228-3915 or Suffolk Offices at (631)687-4882.

**SUPPLEMENTAL BENEFITS**

|                       |                                   |                                   |
|-----------------------|-----------------------------------|-----------------------------------|
| Per Hour:             |                                   |                                   |
| Tele-Data Electrician | 16% of Hourly Wage Paid + \$16.63 | 16% Of Hourly Wage Paid + \$16.68 |

NOTE: "Hourly Wage Paid" shall include any and all premium(s) pay

**OVERTIME PAY**

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

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 15, 16, 25) on HOLIDAY PAGE

4-25tela

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**Electrician** **02/01/2015**

**JOB DESCRIPTION** Electrician

**DISTRICT 4**

**ENTIRE COUNTIES**

Nassau, Suffolk

**WAGES**

|  |            |
|--|------------|
| Per Hour:                                  | 07/01/2014 |
| Tree Trimmer/<br>Line Clearance Specialist | \$ 30.09   |
| Ground Man                                 | \$ 18.05   |

These rates apply to all tree trimming/removal contracts including but not limited to "Electrical Line Clearance"/"Long Island Railroad Right of Ways".

All tree removal for heavy highway or building construction contracts MUST use Heavy Highway Laborer and Operating Engineer classifications.

**SUPPLEMENTAL BENEFITS**

|  |                                      |
|--|--------------------------------------|
| Per Hour:                                  | 07/01/2014                           |
| Tree Trimmer/<br>Line Clearance Specialist | 19.25% of Hourly Wage Paid + \$ 8.60 |
| Ground Man                                 |                                      |

NOTE: "Hourly Wage Paid" shall include any and all premium(s) paid

**OVERTIME PAY**

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

**HOLIDAY**

Paid: See (5, 6, 8, 16, 23, 24, 25, 26) on HOLIDAY PAGE  
 Overtime: See (5, 6, 8, 16, 23, 24, 25, 26) on HOLIDAY PAGE

4-1049/Tree

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**Electrician** **02/01/2015**

**JOB DESCRIPTION** Electrician

**DISTRICT 4**

**ENTIRE COUNTIES**

Nassau, Suffolk

**WAGES**

Per Hour: 07/01/2014 04/25/2015

Electrician  
 Electrical Maintenance \$ 40.70 \$ 41.45

**"PLEASE NOTE"**

Applicable to "EXISTING ELECTRICAL SYSTEMS" including, but not limited to TRAFFIC SIGNALS & STREET LIGHTING. Not used for add-ons.

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday, with one-half (1/2) hour allowed for a lunch period.

NOTE - In order to use the '4 Day/10 Hour Work Schedule,' you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30R; additionally, there must be a dispensation of hours in place on the project.

**SUPPLEMENTAL BENEFITS**

Per Hour:

Electrician 12% of Hourly Wage Paid + \$ 16.07 12% of Hourly Wage Paid + \$ 16.46

NOTE: "Hourly Wage Paid" shall include any and all premium(s) pay

**OVERTIME PAY**

See (B, E2, K, P) on OVERTIME PAGE

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 15, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

One(1) Year Term(s) at the following Percentage of Journeyman(s) Wage:

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| 1st | 2nd | 3rd | 4th | 5th | 6th |
| 40% | 50% | 60% | 70% | 80% | 90% |

Supplemental Benefits:

|     | Apprentices Hired Prior to 04/26/2014 |               | Apprentices Hired After 04/26/2014 |               |
|-----|---------------------------------------|---------------|------------------------------------|---------------|
|     | 07/01/2014                            | 04/25/2015    | 07/01/2014                         | 04/25/2015    |
| 1st | 12% + \$9.93                          | 12% + \$9.93  | 3% + \$3.50                        | 3% + \$3.50   |
| 2nd | 12% + \$10.82                         | 12% + \$10.82 | 8% + \$4.04                        | 8% + \$4.04   |
| 3rd | 12% + \$11.73                         | 12% + \$11.73 | 9% + \$5.08                        | 9% + \$5.08   |
| 4th | 12% + \$12.62                         | 12% + \$12.62 | 10% + \$6.84                       | 10% + \$6.84  |
| 5th | 12% + \$13.51                         | 12% + \$13.51 | 11% + \$10.79                      | 11% + \$10.79 |
| 6th | 12% + \$13.64                         | 12% + \$13.69 | DNA                                | DNA           |

NOTE: Percentages are on "Hourly Wage Paid"  
 NOTE: "Hourly Wage Paid" shall include any and all premium(s) pay

4-25m

**Electrician Lineman 02/01/2015**

**JOB DESCRIPTION** Electrician Lineman

**DISTRICT** 4

**ENTIRE COUNTIES**

Nassau, Queens, Suffolk

**WAGES**

For Utility Distribution & Transmission Line Construction:  
 Per Hour: 07/01/2014 03/29/2015

Lineman/Splicer \$ 49.52 \$ 50.76

|                       |       |       |
|-----------------------|-------|-------|
| Material Man          | 43.08 | 44.16 |
| Heavy Equip. Operator | 39.62 | 40.61 |
| Groundman             | 29.71 | 30.46 |
| Flagman               | 22.28 | 22.84 |

For Natural Gasline Construction:

|                      |            |            |
|----------------------|------------|------------|
| Per Hour:            | 07/01/2014 | 06/01/2015 |
| Journeyman U.G.Mech. | \$ 41.45   | \$ 42.69   |

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

NOTE - In order to use the '4 Day/10 Hour Work Schedule,' you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30R; additionally, there must be a dispensation of hours in place on the project.

**SUPPLEMENTAL BENEFITS**

Per Hour:

Utility Distribution & Transmission Line Construction:

|                     |                         |                         |
|---------------------|-------------------------|-------------------------|
|                     | 07/01/2014              | 03/29/2015              |
| All Classifications | 30.75% of Hourly        | 30.75% of Hourly        |
|                     | Wage Paid +<br>\$ 10.56 | Wage Paid +<br>\$ 11.36 |

NOTE: "Hourly Wage Paid" shall include any and all premium(s) pay

Natural Gasline Construction:

|                      |            |            |
|----------------------|------------|------------|
| Per Hour:            | 07/01/2014 | 06/01/2015 |
| Journeyman U.G.Mech. | \$ 20.51   | \$ 21.75   |

**OVERTIME PAY**

See (B, E, Q) on OVERTIME PAGE  
 OVERTIME for Natural Gas Mechanic:(B,G,P)

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 8, 16, 23, 25, 26) on HOLIDAY PAGE  
 Same as Above for natural Gas Mechanic.

**REGISTERED APPRENTICES**

1000 hour Terms at the following Percentage of Journeyman's Wage.

|     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|
| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th |
| 60% | 65% | 70% | 75% | 80% | 85% | 90% |

SUPPLEMENTAL BENEFIT:

|                               |   |   |
|-------------------------------|---|---|
|                               | 07/01/2014                                  | 03/29/2015                                  |
| All Terms                     | 30.75% of Hourly<br>Wage Paid +<br>\$ 10.56 | 30.75% of Hourly<br>Wage Paid +<br>\$ 11.36 |
| Natural Gasline Construction: | 07/01/2014                                  | 06/01/2015                                  |
| Natural Gas Mechanic:         | \$ 20.51                                    | \$ 21.75                                    |

4-1049 Line/Gas

|                             |                   |
|-----------------------------|-------------------|
| <b>Elevator Constructor</b> | <b>02/01/2015</b> |
|-----------------------------|-------------------|

**JOB DESCRIPTION** Elevator Constructor

**DISTRICT** 4

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

**PARTIAL COUNTIES**

Rockland: Entire County except for the Township of Stony Point  
 Westchester: Entire County except for the Townships of Bedford, Lewisboro, Cortland, Mt. Kisco, North Salem, Pound Ridge, Somers and Yorktown.

**WAGES**

|                                |            |            |
|--------------------------------|------------|------------|
| Per hour:                      | 07/01/2014 | 03/17/2015 |
| Elevator Constructor           | \$ 58.23   | \$ 59.55   |
| Modernization & Service/Repair | 46.00      | 46.92      |

**SUPPLEMENTAL BENEFITS**

Per Hour:

|                                |           |           |
|--------------------------------|-----------|-----------|
| Elevator Constructor           | \$ 29.745 | \$ 31.045 |
| Modernization & Service/Repair | 29.595    | 31.195    |

**OVERTIME PAY**

Constructor. See ( D, M, T ) on OVERTIME PAGE.

Modern./Service See ( B, F, S ) on OVERTIME PAGE.

**HOLIDAY**

Paid: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE  
 Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

**WAGES PER HOUR:**

\*Note:1st Term is based on Average wage of Constructor & Modernization.  
 Terms 2 thru 4 Based on Journeymans wage of classification Working in.

**1 YEAR TERMS:**

|           |          |          |          |
|-----------|----------|----------|----------|
| 1st Term* | 2nd Term | 3rd Term | 4th Term |
| 50%       | 55%      | 65%      | 75%      |

**SUPPLEMENTAL BENEFITS**

|                                |           |           |  |
|--------------------------------|-----------|-----------|--|
| Elevator Constructor           |           |           |  |
| 1st Term                       | \$ 25.745 | \$ 27.220 |  |
| 2nd Term                       | 26.145    | 27.635    |  |
| 3rd Term                       | 26.945    | 28.455    |  |
| 4th Term                       | 27.745    | 29.285    |  |
| Modernization & Service/Repair |           |           |  |
| 1st Term                       | \$ 25.67  | \$ 27.145 |  |
| 2nd Term                       | 26.065    | 27.550    |  |
| 3rd Term                       | 26.845    | 28.36     |  |
| 4th Term                       | 27.635    | 29.17     |  |

4-1

**Glazier** **02/01/2015**

**JOB DESCRIPTION** Glazier

**DISTRICT 8**

**ENTIRE COUNTIES**

Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Sullivan, Ulster, Westchester

**WAGES**

|   |            |            |                      |
|---|------------|------------|----------------------|
| Per hour:   | 07/01/2014 | 11/01/2014 | 05/01/2015           |
| Glazier   | \$ 51.00*  | \$ 51.35*  | Additional \$ 1.50** |
| Scaffolding   | \$ 52.00*  | \$ 52.35*  | Additional \$ 1.50** |
| Scaffolding includes swing scaffold, mechanical equipment, scissor jacks, man lifts, booms & buckets 24' or more, but not pipe scaffolding. |            |            |                      |
| Repair & Maintenance  | \$ 26.70*  | \$ 26.70*  | Additional \$ 0.60** |

Repair & Maintenance- All repair & maintenance work on a particular building, whenever performed, where the total cumulative contract value is under \$100,000.00.

\*Additional \$ .10 per hour for all regular hours worked  
 \*\*To be allocated at a later date.

**SUPPLEMENTAL BENEFITS**

| Per hour paid:       | 07/01/2014 | 11/01/2014 | 05/01/2015 |
|----------------------|------------|------------|------------|
| Journeyworker        | \$ 26.69   | \$ 27.19   | \$ 27.19   |
| Repair & Maintenance | 16.14      | 16.14      | 16.14      |

**OVERTIME PAY**

OVERTIME: Premium is applied to the respective base wage only.  
 See (C\*,D\* E2, O) on OVERTIME PAGE.

\* If an optional 8th hour is required to complete the entire project, the same shall be paid at the regular rate of pay. If a 9th hour is worked, then both hours or more (8th & 9th or more) will be paid at double time rate of pay.

For Repair & Maintenance see ( B, F, P) on overtime page.

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (4, 6, 16, 25) on HOLIDAY PAGE  
 Paid for the Repair & Maintenance (5, 6, 16 & 25)

**REGISTERED APPRENTICES**

Wage per hour:

(1) year terms at the following wage rates:

|          | 07/01/2014 | 11/01/2014 | 05/01/2014 |
|----------|------------|------------|------------|
| 1st term | \$ 17.05   | \$ 17.25   | \$ 17.25   |
| 2nd term | 25.24      | 25.24      | 25.24      |
| 3rd term | 30.40      | 30.81      | 30.81      |
| 4th term | 40.75      | 41.27      | 41.27      |

Supplemental Benefits:  
 (Per hour worked)

|          |          |          |          |
|----------|----------|----------|----------|
| 1st term | \$ 13.17 | \$ 13.32 | \$ 13.32 |
| 2nd term | 22.45    | 22.45    | 22.45    |
| 3rd term | 24.95    | 25.30    | 25.30    |
| 4th term | 30.07    | 30.22    | 30.22    |

8-1281 (DC9 NYC)

**Insulator - Heat & Frost**

**02/01/2015**

**JOB DESCRIPTION** Insulator - Heat & Frost

**DISTRICT 4**

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

**WAGES**

Per Hour: 07/01/2014

Insulators \$ 63.68  
 Heat & Frost

**SUPPLEMENTAL BENEFITS**

Per Hour:

Insulators \$ 30.44  
 Heat & Frost

**OVERTIME PAY**

See (A, D, O, V) on OVERTIME PAGE

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 11, 15, 16, 25, 26) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Wages:

1 year terms at the following wage rate.

|         |         |         |         |
|---------|---------|---------|---------|
| 1st     | 2nd     | 3rd     | 4th     |
| \$25.47 | \$38.21 | \$44.59 | \$50.94 |

Supplemental Benefits per hour:

Apprentice Insulator(s)

|         |         |         |         |
|---------|---------|---------|---------|
| 1st     | 2nd     | 3rd     | 4th     |
| \$12.80 | \$18.26 | \$21.30 | \$24.35 |

4-12

**Ironworker**

**02/01/2015**

**JOB DESCRIPTION** Ironworker

**DISTRICT** 4

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**PARTIAL COUNTIES**

Rockland: Southern section - south of Convent Road and east of Blue Hills Road.

**WAGES**

|                             |            |                     |
|-----------------------------|------------|---------------------|
| Per hour:                   | 07/01/2014 | 07/01/2015          |
| Reinforcing & Metal Lathing | \$ 52.03   | Additional \$ 2.00* |

\*To be allocated

**SUPPLEMENTAL BENEFITS**

Per hour paid:

|                             |          |
|-----------------------------|----------|
| Reinforcing & Metal Lathing | \$ 31.55 |
|-----------------------------|----------|

**OVERTIME PAY**

See (B, B1, Q) on OVERTIME PAGE

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 8, 11, 13, 18, 19, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

(1) year terms at the following wage rates:

Wages Per Hour:

Apprentices Registered BEFORE 6/29/2011

|          |          |          |
|----------|----------|----------|
| 1st term | 2nd term | 3rd term |
| \$ 28.11 | \$ 32.71 | \$ 37.77 |

Apprentices Registered ON or AFTER 6/29/2011

|       |       |       |
|-------|-------|-------|
| 17.71 | 22.81 | 27.91 |
|-------|-------|-------|

**SUPPLEMENTAL BENEFITS**

Per Hour:

Apprentices Registered BEFORE 6/29/2011

|          |          |          |
|----------|----------|----------|
| 1st term | 2nd term | 3rd term |
| \$ 23.02 | \$ 24.67 | \$ 25.82 |

Apprentices Registered On or AFTER 6/29/2011

|       |       |       |
|-------|-------|-------|
| 20.08 | 20.08 | 20.08 |
|-------|-------|-------|

4-46Reinf

**Ironworker**

**02/01/2015**

**JOB DESCRIPTION** Ironworker

**DISTRICT 4**

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**WAGES**

Per hour: 07/01/2014

|                         |          |
|-------------------------|----------|
| Ornamental              | \$ 44.95 |
| Chain Link Fence        | 44.95    |
| Guide Rail Installation | 44.95    |

**SUPPLEMENTAL BENEFITS**

Per hour paid:

Journeyworker: \$ 43.71

**OVERTIME PAY**

OVERTIME: See (A\*,D1,E\*\*,Q,V) on OVERTIME PAGE.

\*Time and one-half shall be paid for all work in excess of seven (7) hours at the end of a work day to a maximum of two (2) hours on any regular work day (8th & 9th hours of work) and double time shall be paid for all work thereafter.

\*\*Time and one-half shall be paid for all work on Saturday up to seven (7) hours and double time shall be paid for all work thereafter.

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE

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

**REGISTERED APPRENTICES**

1st term represents first 1-10 months, thereafter (1/2) year terms at the following percentage of Journeyman's wage.

|     |     |     |     |     |
|-----|-----|-----|-----|-----|
| 1st | 2nd | 3rd | 4th | 5th |
| 50% | 55% | 60% | 70% | 80% |

Supplemental Benefits per hour paid:

|          |          |
|----------|----------|
| 1st Term | \$ 34.02 |
| 2nd Term | 34.98    |
| 3rd Term | 35.95    |
| 4th Term | 37.90    |
| 5th Term | 39.65    |

4-580-Or

**Ironworker**

**02/01/2015**

**JOB DESCRIPTION** Ironworker

**DISTRICT 9**

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**WAGES**

Per Hour: 07/01/2014

IRONWORKER:

Ironworker Rigger \$ 53.25

Ironworker Stone  
Derrickman \$ 53.25

**SUPPLEMENTAL BENEFITS**

Ironworker: \$ 37.13

**OVERTIME PAY**

See (\*A, D1, \*\*E, Q, V) on OVERTIME PAGE

\*Time and one-half shall be paid for all work in excess of seven (7) hours at the end of a work day to a maximum of two hours on any regular work day (the eighth (8th) and ninth (9) hours of work) and double time shall be paid for all work thereafter.

\*\*Time and one-half shall be paid for all work on Saturday up to seven (7) hours and double time shall be paid for all work thereafter.

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 10, \*24, 25) on HOLIDAY PAGE

\*Work stops at schedule lunch break with full day's pay.

**REGISTERED APPRENTICES**

Wage per hour:

(1/2) year terms at the following hourly wage rate:

|            | 1st     | 2nd     | 3rd     | 4th     | 5th     | 6th     |
|------------|---------|---------|---------|---------|---------|---------|
| 07/01/2014 | \$26.38 | \$26.38 | \$39.73 | \$42.13 | \$45.56 | \$45.56 |

Supplemental benefits

Per hour paid:

|                 |         |
|-----------------|---------|
| 1st & 2nd terms | \$18.82 |
| 3rd & 4th terms | \$27.86 |
| 5th & 6th terms | \$27.84 |

9-197D/R

**Ironworker**

**02/01/2015**

**JOB DESCRIPTION** Ironworker

**DISTRICT 4**

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**WAGES**

PER HOUR:

07/01/2014

Ironworker:

|            |         |
|------------|---------|
| Structural | \$47.25 |
| Bridges    |         |
| Machinery  |         |

**SUPPLEMENTAL BENEFITS**

PER HOUR:

|            |         |
|------------|---------|
| Journeyman | \$65.20 |
|------------|---------|

**OVERTIME PAY**

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

\* Time and one-half shall be paid for all work in excess of (8) eight hours at the end of a work day to a maximum of two hours on any regular work day (the ninth (9th) and tenth (10th) hours of work)and double time shall be paid for all work thereafter.

\*\* Time and one-half shall be paid for all work on Saturday up to eight (8) hours and double time shall be paid for all work thereafter.

**HOLIDAY**

|           |                                    |
|-----------|------------------------------------|
| Paid:     | See (1) on HOLIDAY PAGE            |
| Overtime: | See (5, 6, 18, 19) on HOLIDAY PAGE |

**REGISTERED APPRENTICES**

WAGES PER HOUR:

6 month terms at the following rate:

|           |          |
|-----------|----------|
| 1st       | \$ 24.73 |
| 2nd       | 25.33    |
| 3rd - 6th | 25.93    |

Supplemental Benefits

PER HOUR:

|           |       |
|-----------|-------|
| All Terms | 45.84 |
|-----------|-------|

4-40/361-Str

**Laborer - Building**

**02/01/2015**

**JOB DESCRIPTION** Laborer - Building

**DISTRICT 4**

**ENTIRE COUNTIES**

Nassau, Suffolk

**WAGES**

WAGES

Per Hour:

|            |            |
|------------|------------|
| 07/01/2014 | 12/01/2014 |
|------------|------------|

|   |          |                     |
|---|----------|---------------------|
| Building Laborer  | \$ 35.65 |                     |
| Asbestos Abatement Workers<br>(Re-Roofing Removal see Roofer) | 36.00    | Additional \$ 0.50* |

**SUPPLEMENTAL BENEFITS**

Per Hour:

|                           |          |
|---------------------------|----------|
| Building Laborer          | \$ 26.16 |
| Asbestos Abatement Worker | 15.45    |

**OVERTIME PAY**

See (B, E, Q) on OVERTIME PAGE  
 See also(H)for Fire Watch on OVERTIME PAGE  
 Asbestos Worker See (B, H)

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 25) on HOLIDAY PAGE  
 Asbestos Worker see (5,6,8 &28)

**REGISTERED APPRENTICES**

Regular Hours Work Terms

|         |                    |
|---------|--------------------|
| TERM #1 | 1 hr to 1000hrs    |
| TERM #2 | 1001hrs to 2000hrs |
| TERM #3 | 2001hrs to 3000hrs |
| TERM #4 | 3001hrs to 4000hrs |

Wages per hour:

|          |          |
|----------|----------|
| 1st Term | \$ 16.60 |
| 2nd Term | 19.45    |
| 3rd Term | 22.85    |
| 4th Term | 27.12    |

Benifits per hour

|          |          |
|----------|----------|
| 1st Term | \$ 16.77 |
| 2nd Term | 18.87    |
| 3rd Term | 19.64    |
| 4th Term | 19.64    |

4-66

**Laborer - Heavy&Highway**

**02/01/2015**

**JOB DESCRIPTION** Laborer - Heavy&Highway

**DISTRICT 4**

**ENTIRE COUNTIES**

Nassau, Suffolk

**WAGES**

Laborer (Heavy/Highway):

GROUP # 1: Asphalt Rakers, Concrete Curb Formsetters.

GROUP # 2: Asphalt Shovelers, Roller Boys and Tampers.

GROUP # 3: Basic Laborer, Power Tool(Jackhammer), Landscape Construction, Traffic Control Personnel(flaggers)

WAGES PER HOUR:

|                 | 07/01/2014 | 06/01/2015<br>Additional |
|-----------------|------------|--------------------------|
| GROUP # 1       |            |                          |
| Total Wage Paid | \$ 44.85   | 4% of Total Package*     |
| "Base Wage"     | 39.68      |                          |
| GROUP # 2       |            |                          |
| Total Wage Paid | \$ 43.71   | 4% of Total Package*     |
| "Base Wage"     | 38.54      |                          |
| GROUP # 3       |            |                          |
| Total Wage Paid | \$ 40.22   | 4% of Total Package*     |
| "Base Wage"     | 35.05      |                          |

NOTE: "Base Wage" for Premium/Overtime calculation Only. \$5.17 is difference between "Base" and "Total"

(\*) To be allocated at a later date

**SUPPLEMENTAL BENEFITS**

Per Hour:  
 ALL GROUPS \$ 25.95

After Forty (40)paid  
 Hours in a work Week  
 OVERTIME PAY \$ 15.96

**OVERTIME PAY**

OVERTIME PAY  
 See (B, E2, F) on OVERTIME PAGE  
 NOTES: Premium/Overtime Pay to be calculated on "Base Wage" only  
 Example Group# 3: \$35.05 X Time and One Half = 52.58+\$5.17 = \$57.75.  
 Premium Pay of 30% of base wage for all Straight time hours on all New York State, D.O.T. and other Government Mandated Off-Shift Work.  
 Hazardous Material Work add an Additional 10% of base wage

**HOLIDAY**

HOLIDAY  
 Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (1) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

2000 hour(s) Terms at the following Percentage of the Journeyman's Wage:

1st 0-1999/Hrs 80%  
 2nd 2000-3999/Hrs 90%

Supplemental Benefits per hour:

All APPRENTICES \$ 25.95  
 After Forty(40) paid hours  
 in a work Week \$ 15.96

4-1298

**Mason** **02/01/2015**

**JOB DESCRIPTION** Mason **DISTRICT 4**

**ENTIRE COUNTIES**  
 Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

**WAGES**  
 Per Hour: 07/01/2014

Brick/Blocklayer \$53.71

**SUPPLEMENTAL BENEFITS**

Per Hour:  
 Brick/Block Layer \$23.18

**OVERTIME PAY**

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

**HOLIDAY**

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

**REGISTERED APPRENTICES**

(800 hour) Terms at the following Percentage of Journeyworkers Wage:

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

Supplemental Benefits per hour:

All Apprentices \$ 14.90

4-1Brk

**Mason - Building** **02/01/2015**

**JOB DESCRIPTION** Mason - Building **DISTRICT 9**

**ENTIRE COUNTIES**  
 Nassau, Rockland, Suffolk, Westchester

**WAGES**

|              |            |               |               |
|--------------|------------|---------------|---------------|
| Per hour:    | 07/01/2014 | 12/01/2014    | 06/01/2015    |
|              |            | An additional | An additional |
| Building:    |            |               |               |
| Tile Setters | \$ 52.58   | \$ 1.13*      | \$ 1.13*      |

\* May be allocated between wages and benefits

**SUPPLEMENTAL BENEFITS**

Per Hour:

Journey Worker \$22.14\* plus \$8.05

**OVERTIME PAY**

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

\* This portion of benefits subject to same premium rate as shown for overtime wages.  
 Work beyond 10 hours on Saturday shall be paid at double the hourly wage rate.

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 11, 15, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Wage per hour:

Tile Setters:  
 (750 hour) term at the following wage rate:

| Term: | 1st     | 2nd      | 3rd       | 4th       | 5th       | 6th       | 7th       | 8th       | 9th       | 10th      |
|-------|---------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|       | 1-750   | 751-1500 | 1501-2250 | 2251-3000 | 3001-3750 | 3751-4500 | 4501-5250 | 5251-6000 | 6001-6750 | 6750-7500 |
|       | \$26.91 | \$30.04  | \$33.86   | \$36.07   | \$39.91   | 43.53     | \$46.63   | \$46.17   | \$49.89   | 51.70     |

Starting 12/01/2014

|                |        |        |        |        |        |        |        |        |        |        |
|----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| An additional: | \$0.65 | \$0.72 | \$0.78 | \$0.85 | \$0.91 | \$0.98 | \$1.04 | \$1.11 | \$1.17 | \$1.25 |
|----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|

Starting 06/01/2015

|                |        |        |        |        |        |        |        |        |        |        |
|----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| An additional: | \$0.65 | \$0.72 | \$0.78 | \$0.85 | \$0.91 | \$0.98 | \$1.04 | \$1.11 | \$1.17 | \$1.25 |
|----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|

NOTE: INCREASES MAY BE ALLOCATED BETWEEN WAGES AND BENEFITS

Supplemental Benefits per hour:

|          |                      |           |                      |
|----------|----------------------|-----------|----------------------|
| 1st term | \$13.95* plus \$0.71 | 6th term  | \$17.35* plus \$1.49 |
| 2nd term | \$14.95* plus \$0.75 | 7th term  | \$17.55* plus \$5.34 |
| 3rd term | \$14.95* plus \$1.09 | 8th term  | \$18.75* plus \$5.71 |
| 4th term | \$16.85* plus \$1.13 | 9th term  | \$19.15* plus \$5.75 |
| 5th term | \$16.85* plus \$1.45 | 10th term | \$20.87* plus \$5.79 |

9-7/52A

**Mason - Building** **02/01/2015**

**JOB DESCRIPTION** Mason - Building **DISTRICT 9**

**ENTIRE COUNTIES**  
 Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Sullivan, Ulster, Westchester

**WAGES**

|        |            |            |
|--------|------------|------------|
| Wages: | 07/01/2014 | 01/01/2015 |
|--------|------------|------------|

Marble Cutters & Setters \$ 55.85 \$ 56.15

**SUPPLEMENTAL BENEFITS**

Per Hour:

Journeyworker \$ 29.58 \$ 30.31

**OVERTIME PAY**

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

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Wage Per Hour:

750 hour terms at the following wage.

| 1st      | 2nd      | 3rd       | 4th       | 5th       | 6th       | 7th       | 8th       | 9th       | 10th      |
|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1-750    | 751-1500 | 1501-2250 | 2251-3000 | 3001-3750 | 3751-4500 | 4501-5250 | 5251-6000 | 6001-6751 | 6751-7500 |
| \$ 22.34 | \$25.13  | \$27.93   | \$30.72   | \$33.51   | \$36.30   | \$39.10   | \$41.89   | \$47.47   | \$53.06   |

Supplemental Benefits per hour paid at the following term:

| 1st     | 2nd     | 3rd     | 4th     | 5th     | 6th     | 7th     | 8th     | 9th     | 10th    |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| \$21.86 | \$22.51 | \$23.14 | \$23.80 | \$24.43 | \$25.07 | \$25.71 | \$26.36 | \$27.64 | \$29.93 |

9-7/4

**Mason - Building**

**02/01/2015**

**JOB DESCRIPTION** Mason - Building

**DISTRICT 9**

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**WAGES**

Per hour: 07/01/2014 01/01/2014

Building-Marble Restoration:

Marble, Stone & Terrazzo Polisher, etc \$ 38.96 \$ 39.25

**SUPPLEMENTAL BENEFITS**

Per Hour Paid:

Journeyworker:

Building-Marble Restoration:

Marble, Stone & Polisher \$ 23.00 \$ 23.38

**OVERTIME PAY**

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

\*ON SATURDAYS, 8TH HOUR AND SUCCESSIVE HOURS PAID AT DOUBLE HOURLY RATE.

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 11, 15, 25) on HOLIDAY PAGE

1ST TERM APPRENTICE GETS PAID FOR ALL OBSERVED HOLIDAYS.

**REGISTERED APPRENTICES**

WAGES per hour:

(900 hour)terms at the following wages:

| 1st   | 2nd      | 3rd       | 4th       |
|-------|----------|-----------|-----------|
| 0-900 | 901-1800 | 1801-2700 | over 2700 |

|            |                          |                          |                          |                          |
|------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 07/01/2014 | \$ 27.27                 | \$ 31.17                 | \$35.06                  | \$ 38.96                 |
| 01/01/2015 | An additional<br>\$0.47* | An additional<br>\$0.54* | An additional<br>\$0.60* | An additional<br>\$0.67* |

\* May be allocated between wages and benefits

Supplemental Benefits Per Hour:

|            |          |          |          |          |           |
|------------|----------|----------|----------|----------|-----------|
| 07/01/2014 | \$ 21.11 | \$ 21.73 | \$ 22.36 | \$ 23.00 | 9-7/24-MP |
|------------|----------|----------|----------|----------|-----------|

**Mason - Building** **02/01/2015**

**JOB DESCRIPTION** Mason - Building **DISTRICT 9**

**ENTIRE COUNTIES**  
 Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**WAGES**

|                            |            |                        |
|----------------------------|------------|------------------------|
| Building:                  |            |                        |
| Per Hour:                  | 07/01/2014 | 01/01/2015             |
| Mosaic & Terrazzo Mechanic | \$ 45.88   | Additional<br>\$ 0.96* |
| Mosaic & Terrazzo Finisher | \$ 47.28   | \$ 0.96*               |

\*May be allocated between wages and benefits

**SUPPLEMENTAL BENEFITS**

|                                   |                        |
|-----------------------------------|------------------------|
| Journeyworker:<br>per hour worked |                        |
| Mechanic                          | \$ 22.40* plus \$ 9.68 |
| Finisher                          | \$ 22.40* plus \$ 9.68 |

\* This portion of benefit subject to same premium as wages.

**OVERTIME PAY**

See (A, \*E, Q) on OVERTIME PAGE  
 Double the rate after 10 hours on Saturday

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE  
 Easter Sunday is an observed holiday. Holidays falling on a Saturday will be observed on that Saturday. Holidays falling on a Sunday will be celebrated on the Monday.

**REGISTERED APPRENTICES**

Wage per hour:  
 (750 Hour) terms at the following wage rate.

|         |          |           |           |           |           |           |           |
|---------|----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1st     | 2nd      | 3rd       | 4th       | 5th       | 6th       | 7th       | 8th       |
| 1-750   | 751-1500 | 1500-2250 | 2251-3000 | 3001-3750 | 3751-4500 | 4501-5250 | 5251-6000 |
| \$23.96 | \$26.36  | \$28.76   | \$31.15   | \$33.55   | \$35.96   | \$40.74   | \$45.53   |

Supplemental benefits per worked:

(750 hour) terms as shown above.

|          |          |          |          |          |          |          |          |          |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1st      | 2nd      | 3rd      | 4th      | 5th      | 6th      | 7th      | 8th      | 9th      |
| \$11.20* | \$12.32* | \$13.44* | \$14.56* | \$15.68* | \$16.80* | \$19.04* | \$21.28* | \$22.40* |
| +4.85    | +5.33    | +5.81    | +6.30    | +6.78    | +7.26    | +8.23    | +9.20    | +9.68    |

\*This portion of benefits subject to same premium as overtime wages.

9-7/3

**Mason - Building** **02/01/2015**

**JOB DESCRIPTION** Mason - Building **DISTRICT 9**

**ENTIRE COUNTIES**  
 Nassau, Rockland, Suffolk, Westchester

**WAGES**  
 Per hour: 07/01/2014 12/01/2014 06/01/2015

Buidling:  
 Tile Finisher \$40.78 \$0.82\* \$0.82\*

\* May be allocated between wages and benefits

**SUPPLEMENTAL BENEFITS**

Per Hour:  
 Journey worker \$ 19.57\* plus \$7.90

**OVERTIME PAY**

See (B, E, Q, \*V) on OVERTIME PAGE  
 \* This portion of Supplemental benefits subject to same premium rate as shown for overtime wages.  
 Work beyond 10 hours on a Saturday shall be paid at double the hourly wage rate.

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 11, 15, 16, 25) on HOLIDAY PAGE

9-7/88A-tf

**Mason - Building** **02/01/2015**

**JOB DESCRIPTION** Mason - Building **DISTRICT 9**

**ENTIRE COUNTIES**  
 Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**WAGES**  
 Per hour: 07/01/2014 01/01/2015

Marble, Stone,etc.  
 Maintenance Finishers: \$ 21.24 \$ 21.38

Note 1: An additional \$2.00 per hour for time spent grinding floor using "60 grit" and below.  
 Note 2: Flaming equipment operator shall be paid an additional \$25.00 per day.

**SUPPLEMENTAL BENEFITS**

Per Hour:  
 Marble, Stone, etc  
 Maintenance Finishers: \$ 11.77 \$ 11.99

**OVERTIME PAY**

See (B, \*E, Q, V) on OVERTIME PAGE  
 \*Double hourly rate after 8 hours on Saturday

**HOLIDAY**

Paid: See (5, 6, 8, 11, 15, 25) on HOLIDAY PAGE  
 Overtime: See (5, 6, 8, 11, 15, 25) on HOLIDAY PAGE  
 1st term apprentice gets paid for all observed holidays.

**REGISTERED APPRENTICES**

WAGES per hour:  
 (750 hour)terms at the 07/01/2014  
 following percentage  
 of journeyman's wage

rate:

|          |           |     |
|----------|-----------|-----|
| 1st term | 0-750     | 70% |
| 2nd term | 750-1500  | 74% |
| 3rd term | 1501-2250 | 78% |
| 4th term | 2251-3000 | 82% |
| 5th term | 3001-3750 | 88% |
| 6th term | 3751-4500 | 96% |

Supplemental Benefits:

Per hour paid

|          |          |
|----------|----------|
| 1st term | \$ 11.58 |
| 2nd term | 11.59    |
| 3rd term | 11.72    |
| 4th term | 11.73    |
| 5th term | 11.74    |
| 6th term | 11.76    |

9-7/24M-MF

**Mason - Building / Heavy&Highway**

**02/01/2015**

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

**DISTRICT 9**

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**WAGES**

|                 |            |            |
|-----------------|------------|------------|
| Per hour:       | 07/01/2014 | 01/01/2015 |
| Marble-Finisher | \$ 44.54   | 44.81      |

**SUPPLEMENTAL BENEFITS**

Journeyworker:

per hour paid

|                  |          |          |
|------------------|----------|----------|
| Marble- Finisher | \$ 29.16 | \$ 29.79 |
|------------------|----------|----------|

**OVERTIME PAY**

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

**HOLIDAY**

Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE

\* Work beyond 8 hours on a Saturday shall be paid at double the rate.

\*\* When an observed holiday falls on a Sunday, it will be observed the next day.

9-7/20-MF

**Mason - Building / Heavy&Highway**

**02/01/2015**

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

**DISTRICT 4**

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

**WAGES**

|              |            |
|--------------|------------|
| Per Hour:    | 07/01/2014 |
| Cement Mason | \$ 45.53   |

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Friday. Any make-up day must be paid at the premium rate.

NOTE - In order to use the '4 Day/10 Hour Work Schedule,' you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30R; additionally, there must be a dispensation of hours in place on the project.

**SUPPLEMENTAL BENEFITS**

Per Hour:

|              |          |
|--------------|----------|
| Cement Mason | \$ 32.80 |
|--------------|----------|

**OVERTIME PAY**

See (\*B1, E2, \*\*Q, \*\*\*) on OVERTIME PAGE

\* Applies to 9th and 10th hours on Saturday

\*\* "Holidays" only for Building Construction

\*\*\* Additional \$10.18 to be added to all Time and a Half hours paid

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 8, 11, 13, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

( 1 ) year terms at the following Percentage of Journeyworkers Wage.

|          |     |
|----------|-----|
| 1st Term | 50% |
| 2nd Term | 60% |
| 3rd Term | 70% |

Supplement Benefits per hour paid:

|          |          |
|----------|----------|
| 1st Term | \$ 16.40 |
| 2nd Term | 19.68    |
| 3rd Term | 25.99    |

4-780

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**Mason - Building / Heavy&Highway** **02/01/2015**

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

**DISTRICT 4**

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

**WAGES**

WAGES

NOTE: Shall include but not limited to Precast concrete slabs (London Walks)  
 Marble and Granite pavers 2'x 2' or larger.

Per Hour:

07/01/2014

|              |                         |
|--------------|-------------------------|
| Stone Setter | \$58.72<br>plus \$1.50* |
| Stone Tender | \$40.54<br>plus \$1.50* |

\*Additional Amounts to be added to Wages and or Benefits.

**SUPPLEMENTAL BENEFITS**

Per Hour:

|              |          |
|--------------|----------|
| Stone Setter | \$ 27.35 |
| Stone Tender | 17.45    |

**OVERTIME PAY**

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

\* On weekdays the eighth (8th) and ninth (9th) hours are time and one-half all work thereafter is paid at double the hourly rate.

\*\* The first nine (9) hours on Saturday is paid at time and one-half all work thereafter is paid at double the hourly rate.

**HOLIDAY**

Paid: See (\*18) on HOLIDAY PAGE  
 Overtime: See (5, 6, 10) on HOLIDAY PAGE

Paid: \*Must work First 1/2.

**REGISTERED APPRENTICES**

Per Hour:

Stone Setter(800 hour) terms at the following Percentage of  
 Stone Setters wage rate per hour:

|     |     |     |     |     |      |
|-----|-----|-----|-----|-----|------|
| 1st | 2nd | 3rd | 4th | 5th | 6th  |
| 50% | 60% | 70% | 80% | 90% | 100% |

Supplemental Benefits:

All Apprentices \$17.53

4-1Stn

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**Mason - Heavy&Highway** **02/01/2015**

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**JOB DESCRIPTION** Mason - Heavy&Highway

**DISTRICT** 4

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

**WAGES**

Per Hour: 07/01/2014

Pointer, Caulkers & Cleaners \$47.41

**SUPPLEMENTAL BENEFITS**

Per Hour:

Pointer, Cleaners & Caulkers \$ 24.60

**OVERTIME PAY**

See (B, E2, H) on OVERTIME PAGE

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 25, 26) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Wages per hour:

One (1) year terms at the following wage rates.

|  | 1st     | 2nd     | 3rd     | 4th     |
|--|---------|---------|---------|---------|
|  | \$25.01 | \$27.25 | \$32.24 | \$38.66 |

Apprentices Supplemental Benefits:  
 (per hour paid)

|  |        |        |         |         |
|--|--------|--------|---------|---------|
|  | \$4.75 | \$9.70 | \$12.45 | \$12.45 |
|--|--------|--------|---------|---------|

4-1PCC

**Operating Engineer - Building**

**02/01/2015**

**JOB DESCRIPTION** Operating Engineer - Building

**DISTRICT** 4

**ENTIRE COUNTIES**

Nassau, Suffolk

**WAGES**

BUILDING CATEGORIES:

CLASS " AA "CRANES:

Crane, Truck Crane, Derrick, Dragline, Dredge, Crawler Crane, Tower Crane & Pile Driver.

CLASS "A":

Asphalt Spreader, Backhoe Crawler/Hydraulic Excavator(360 upto & over 150,000lbs),Boiler, Boring Machine, Cherry Picker(over 70 tons), Concrete Pump, Gradall, Grader, Hoist, Loading Machine(10 yds. or more), Milling Machine, Power Winch-Stone Setting/Structural Steel & Truck Mounted, Powerhouse, Road Paver, Scoop-Carryall-Scraper in Tandem, Steam Shovel, Sideboom Tractor, Stone Spreader(selfpropelled), Tank Work, Tower Crane Engineer.

CLASS "B":

Backhoe(other than 360), Boom Truck, Bulldozer, Boring Machine/Auger, Cherry Picker(under 70 Tons), Conveyor-Multi, Dinkey Locomotive, Fork Lift, Hoist(2 Drum), Loading Machine & Front Loader, Mulch Machine(Machine Fed), Power Wincher(Not Included in Class "A"), Asphalt Roller, Hydraulic Pump with Boring Machine, Scoop, Carryall/Scaper, Skid Loader/Skid Steer, Maintenance Man on Tower Crane,Trenching Machine, Vermeer Cutter, Work Boat.

CLASS "C":

Curb Machine(asphalt & Concrete), Maintenance Engineer(Small Equip. & Well Point), Field Mechanic, Milling Machine(Small), Pulvi Mixer, Pumps(all), Roller(dirt), Ridge Cutter, Vac-All(Truck), Jet Pump(Truck), Shotblaster, Interior Hoist, Concrete Finish Machine, Concrete Spreader, Conveyer, Curing Machine, Hoist(one drum).

CLASS "D":

Concrete Breaker, Concrete Saw/Cutter, Fork Life or Walk Behind (power operated), Generator, Hydra Hammer, Compactors(mechanical or hand operated), Pin Puller, Portable Heaters, Power Booms, Power Buggies, Pump(double action diaphragm).

CLASS "E":

Batching Plant, Generator, Grinder, Mixer, Mulching Machine, Oiler, Pump(gypsum), Pump(single action diaphragm), Stump Chipper, Track Tamper, Tractor(caterpillar or wheel), Vibrator, Deckhand on Workboat.

07/01/2014

Class "AA" \$ 69.79  
 Cranes: Boom length over 100 feet add \$ 1.00 per hour  
 " " " 150 " " \$ 1.50 " "  
 " " " 250 " " \$ 2.00 " "  
 " " " 350 " " \$ 3.00 " "

Class "A" \$ 58.28  
 Add \$3.50 for Hazardous Waste Work

Class "B" \$ 55.38  
 Add \$2.50 for Hazardous Waste Work

Class "C" \$ 53.44  
 Add \$1.50 for Hazardous Waste Work

Class "D" \$ 49.53  
 Add \$1.00 for Hazardous Waste Work

Class "E" \$ 47.58

**SUPPLEMENTAL BENEFITS**

Per Hour:

All Classes \$ 31.45  
 Overtime Rate 24.35

**OVERTIME PAY**

See (D, O) on OVERTIME PAGE

**HOLIDAY**

Paid: See (5, 6, 15, 16, 25) on HOLIDAY PAGE  
 Overtime: See (5, 6, 15, 16, 25) on HOLIDAY PAGE

"NOTE" Employee must be Employed day before  
 and day after Holiday to receive Holiday Pay.

**REGISTERED APPRENTICES**

One(1) Year Terms at the following Rate:

1st Term \$ 20.84  
 2nd Term 21.67  
 3rd Term 22.33

Supplemental Benefits per hour:

All Apprentices \$ 15.64  
 Overtime Rate 5.60

**Operating Engineer - Building / Heavy&Highway**

**02/01/2015**

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

**DISTRICT 4**

**ENTIRE COUNTIES**

Nassau, Suffolk

**WAGES**

Per Hour: 07/01/2014

Well Driller \$ 33.98

Well Driller  
 Helper \$ 29.76

Hazardous Waste Differential

Added to Hourly Wage:

Level A \$ 3.00  
 Level B 2.00

Level C 1.00

Monitoring Well Work  
Add to Hourly Wage:

Level A \$ 3.00  
Level B 2.00

**SUPPLEMENTAL BENEFITS**

Per Hour: 07/01/2014

Well Driller \$ 10% of straight  
& Helper time rate plus \$ 10.79

Additional \$ 3.42 for Premium Time

**OVERTIME PAY**

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

**HOLIDAY**

Paid: See (5, 6, 16, 23) on HOLIDAY PAGE

Overtime: See (5, 6, 16, 23) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Apprentices at 12 Month Terms

Wages Per Hour: 07/01/2014

1st Term \$ 20.84  
2nd Term \$ 21.67  
3rd Term \$ 22.33

**SUPPLEMENTAL BENEFITS**

Per Hour:

1st Term 10% of Wage + \$ 5.10  
2nd Term 10% of Wage + \$ 5.60  
3rd Term 10% of Wage + \$ 6.60

**BENEFITS AT PREMIUM TIME**

Per Hour:

1st Term 10% of Wage + \$ 5.85  
2nd Term 10% of Wage + \$ 6.60  
3rd Term 10% of Wage + \$ 8.10

4-138well

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**Operating Engineer - Heavy&Highway**

**02/01/2015**

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

**DISTRICT 4**

**ENTIRE COUNTIES**

Nassau, Suffolk

**WAGES**

HEAVY/HIGHWAY CATEGORIES:

**CLASS "AA" CRANES:**

Crane, Truck Crane, Derrick, Dragline, Dredge, Crawler Crane, Tower Crane, Pile Driver.

**CLASS "A":**

Asphalt Spreader, Backhoe Crawler/Hydraulic Excavator(360 up to & over 150,000lbs), Barrier Machine, Cherrypicker(over 70 tons), Concrete Pump, Grader, Gradall, Hoist, Loading Machine(bucket 10 yds. or more), Laser Screed, Milling Machine(Large), Power Winch-Stone Setting/Structural Steel or Truck Mounted, Powerhouse, Road Paver, Scoop-Carryall-Scaper in Tandem, Side Boom Tractor, Stone Spreader(self propelled), Striping Machine(long line/truck mounted), Tree Grapple, Tank Work, Track Alignment Machine.

**CLASS "B":**

Backhoe(other than 360), Boom Truck, Bulldozer, Boring Machine/Auger, Cherry Picker(under 70 tons), Conveyor-Multi, Post Hole-Auger, Fork Lift, Hoist(2 drum), Loading Machine & Front Loader, Mulch Machine(machine fed), Power Wincher(all others not included in class A), Asphalt Roller, Hydraulic Pump with Boring Machine, Scoop, Carryall/Scraper, Skid Loader/Skid Steer, Maintenance Man on Tower Crane, Trenching Machine, Vermeer Cutter, Work Boat.

**CLASS "C":**

Boiler(Thermoplastic), Curb Machine(Asphalt & Concrete), Maintenance Engineer(Small Equip. & Well Point), Field Mechanic, Milling Machine(Small), Pulvi Mixer, Pumps(Hydraulic & 4in or over), Roller(Dirt), Vac-All (Truck), Jet Pump (Truck),Power Winch (Truck Mounted), Compressor(Structural Steel & 2 or more Batteries), Concrete Finish Machine, Concrete Spreader, Conveyor, Curing Machine, Fireman, Hoist (One Drum), Ridge Cutter, Shot Blaster, Welding Machine(Structural Steel & Pile Work).

**CLASS "D":**

Compressor(Pile, Crane, Stone Setting), Concrete Saw Cutter/ Breaker, Work Lift (Walk Behind, Power Operated), Generator(Pile Work), Hydra Hammer, Hand Operated Compactor, Pin Puller, Portable Heater, Powered Broom/Buggy/Grinder, Pum(Single)Action-1 to 3 Inches/Gypsum/Double Action Diaphragm), Welding Machine, Robotic Units, Hand Line Striper.

**CLASS "E":**

Batching Plant(On Job Site), Compressor, Generator, Grinder, Mixer, Mulching Machine(Hand Feed), Oiler, Pumps(Single action up to 3 In.), Root Cutter, Stump Chipper, Oiler on Tower Crane, Trenching Machine(Hand, walk behind), Track Tamper, Tractor, Vibrator, Deckhand on Work Boat.

07/01/2014

Class "AA" \$ 69.12

Cranes: Boom Length over 100 feet add \$ 1.00 per hour

" " " 150 " " \$ 1.50 " "

" " " 250 " " \$ 2.00 " "

" " " 350 " " \$ 3.00 " "

Class "A" \$ 61.35\*

\*Add \$3.50 for Hazardous Waste Work.

Class "B" \$ 57.43\*

\*Add \$2.50 for Hazardous Waste Work.

Class "C" \$ 55.44\*

\*Add \$1.50 for Hazardous Waste Work

Class "D" \$ 51.43\*

\*Add \$1.00 for Hazardous Waste Work

Class "E" \$ 49.47

"NOTE": ADD 30% to straight time hrly wage for NEW YORK STATE D.O.T. and other GOVERNMENTAL MANDATED off-shift work.

**SUPPLEMENTAL BENEFITS**

Per Hour:

ALL CLASSES \$ 31.70

Note: OVERTIME AMOUNT \$ 24.35

**OVERTIME PAY**

See (D, O) on OVERTIME PAGE

**HOLIDAY**

Paid: See (5, 6, 7, 8) on HOLIDAY PAGE

Overtime: See (5, 6, 7, 8) on HOLIDAY PAGE

"Note" Employee must be employed day before and day after a holiday to receive holiday pay.

**REGISTERED APPRENTICES**

REGISTERED APPRENTICES

One(1) Year Terms at the following Rate:

1st Term \$ 20.84

2nd Term 21.67

3rd Term 22.33

**SUPPLEMENTAL:**

APPRENTICES 15.64

Note:

OVERTIME AMOUNT 5.60

**Operating Engineer - Heavy&Highway** **02/01/2015**

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

**DISTRICT 4**

**ENTIRE COUNTIES**

Nassau, Suffolk

**WAGES**

Party Chief - One who directs a survey party  
 Instrument Man - One who runs the instrument and assists Party Chief  
 Rodman - One who holds the rod and in general, assists the survey party  
 Categories cover GPS & Under Ground Surveying

Per Hour: 07/01/2014

Heavy Highway/Building

|                |          |
|----------------|----------|
| Party Chief    | \$ 60.40 |
| Instrument Man | 46.02    |
| Rodman         | 39.46    |

**SUPPLEMENTAL BENEFITS**

Per Hour:

Heavy Highway/Building \$ 30.62

Premium\*:  
 Heavy Highway/Building \$ 42.74

Premium\*\*:  
 Heavy Highway/Building \$ 54.84

\* Applies to instances where 1-1/2 regular rate are paid  
 \*\*Applies to instances where 2 times the rate are paid.

**OVERTIME PAY**

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

\* Doubletime paid on the 9th hour on Saturday.

**HOLIDAY**

Paid: See (5, 6, 8, 11, 12, 15, 25) on HOLIDAY PAGE  
 Overtime: See (5, 6, 8, 11, 12, 15, 25) on HOLIDAY PAGE

4-15D-N/S co.

**Operating Engineer - Marine Construction** **02/01/2015**

**JOB DESCRIPTION** Operating Engineer - Marine Construction

**DISTRICT 4**

**ENTIRE COUNTIES**

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

**WAGES**

|                     |            |            |
|---------------------|------------|------------|
| Per Hour:           |            |            |
| DREDGING OPERATIONS | 07/01/2014 | 10/01/2014 |
| CLASS A             |            |            |
| Operator, Leverman, | \$ 34.73   | \$ 35.63   |
| Lead Dredgeman      |            |            |

|                    |  |
|--------------------|--|
| CLASS A1           | To conform to Operating Engineer       |
| Dozer,Front Loader | Prevailing Wage in locality where work |
| Operator           | is being performed including benefits. |

|                              |          |          |
|------------------------------|----------|----------|
| CLASS B                      |          |          |
| Spider/Spill Barge Operator, | \$ 30.05 | \$ 30.81 |
| Tug Operator(over1000hp),    |          |          |
| OperatorII, Fill Placer,     |          |          |
| Derrick Operator, Engineer,  |          |          |
| Chief Mate, Electrician,     |          |          |

Chief Welder,  
 Maintenance Engineer

|  |          |          |
|--|----------|----------|
| Certified Welder,<br>Boat Operator(licensed) | \$ 28.30 | \$ 29.01 |
|--|----------|----------|

|   |          |          |
|---|----------|----------|
| CLASS C<br>Drag Barge Operator,<br>Steward, Mate,<br>Assistant Fill Placer, | \$ 27.54 | \$ 28.22 |
|---|----------|----------|

Welder (please add)\$ 0.06

|               |          |          |
|---------------|----------|----------|
| Boat Operator | \$ 26.55 | \$ 27.30 |
|---------------|----------|----------|

|   |          |          |
|---|----------|----------|
| CLASS D<br>Shoreman, Deckhand,<br>Rodman, Scowman, Cook,<br>Messman, Porter/Janitor | \$ 22.17 | \$ 22.68 |
|---|----------|----------|

Oiler(please add)\$ 0.09

**SUPPLEMENTAL BENEFITS**

Per Hour:

THE FOLLOWING SUPPLEMENTAL BENEFITS APPLY TO ALL CATEGORIES

|                   | 07/01/2014   | 10/01/2014   |
|-------------------|--|--|
| All Classes A & B | \$ 9.42 plus 8%<br>of straight time<br>wage, Overtime hours<br>add \$ 0.63 | \$ 9.99 plus 8%<br>of straight time<br>wage, Overtime hours<br>add \$ 0.63 |
| All Class C       | \$ 9.12 plus 8%<br>of straight time<br>wage, Overtime hours<br>add \$ 0.48 | \$ 9.69 plus 8%<br>of straight time<br>wage, Overtime hours<br>add \$ 0.48 |
| All Class D       | \$ 8.82 plus 8%<br>of straight time<br>wage, Overtime hours<br>add \$ 0.33 | \$ 9.39 plus 8%<br>of straight time<br>wage, Overtime hours<br>add \$ 0.33 |

**OVERTIME PAY**

See (B, F, R) on OVERTIME PAGE

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 8, 15, 26) on HOLIDAY PAGE

4-25a-MarConst

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**Operating Engineer - Survey Crew - Consulting Engineer** **02/01/2015**

**JOB DESCRIPTION** Operating Engineer - Survey Crew - Consulting Engineer **DISTRICT 9**

**ENTIRE COUNTIES**  
 Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Suffolk, Westchester

**PARTIAL COUNTIES**  
 Dutchess: That part in Dutchess County lying South of the North City line of Poughkeepsie.

**WAGES**  
 Feasibility and preliminary design surveying, any line and grade surveying for inspection or supervision of construction.

| Per hour:              | 07/01/2014        | 07/01/2015 | 07/01/2016 |
|------------------------|-------------------|------------|------------|
| Survey Classifications |                   | Additional | Additional |
| Party Chief            | \$35.55 + \$1.06* | \$1.63*    | \$2.24*    |
| Instrument Man         | 29.41 + 0.94*     | 1.44*      | 1.98*      |
| Rodman                 | 25.54 + 0.86*     | 1.32*      | 1.82*      |

\* To be allocated at a future date

**SUPPLEMENTAL BENEFITS**

Per Hour:

All Crew Members: \$17.90 \$17.90 \$17.90

**OVERTIME PAY**

OVERTIME:.... See ( B, E\*, Q, V ) ON OVERTIME PAGE.

\*Doubletime paid on the 9th hour on Saturday.

**HOLIDAY**

Paid: See (5, 6, 7, 11, 16) on HOLIDAY PAGE  
Overtime: See (5, 6, 7, 11, 16) on HOLIDAY PAGE

9-15dconsult

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**Operating Engineer - Trenchless Pipe Rehab**

**02/01/2015**

**JOB DESCRIPTION** Operating Engineer - Trenchless Pipe Rehab

**DISTRICT 4**

**ENTIRE COUNTIES**

Nassau, Suffolk

**WAGES**

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IMPORTANT NOTE: This Category & Classifications are now located in  
Operating Engineers/Heavy Highway & Laborers/ Heavy Highway.

Per Hour:

07/01/2014  
(SEE)

Robotic Unit Operator Operator(class D)

Technician/Boiler, Generator Operator(classes C&D)

AM Liner/Hydra Seal Laborer(Grp#3)

Hobas Pipe, Polyethylene Pipe or  
Pull and Inflate Liner Laborer(Grp#3)

**OVERTIME PAY**

**HOLIDAY**

4-138TrchPReh

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**Painter**

**02/01/2015**

**JOB DESCRIPTION** Painter

**DISTRICT 8**

**ENTIRE COUNTIES**

Putnam, Suffolk, Westchester

**PARTIAL COUNTIES**

Nassau: All of Nassau except the areas described below: Atlantic Beach, Ceaderhurst, East Rockaway, Gibson, Hewlett, Hewlett Bay, Hewlett Neck, Hewlett Park, Inwood, Lawrence, Lido Beach, Long Beach, parts of Lynbrook, parts of Oceanside, parts of Valley Stream, and Woodmere. Starting on the South side of Sunrise Hwy in Valley Stream running east to Windsor and Rockaway Ave., Rockville Centre is the boundary line up to Lawson Blvd. turn right going west all the above territory. Starting at Union Turnpike and Lakeville Rd. going north to Northern Blvd. the west side of Lakeville road to Northern blvd. At Northern blvd. going east the district north of Northern blvd. to Port Washington Blvd. West of Port Washington blvd.to St.Francis Hospital then north of first traffic light to Port Washington and Sands Point, Manor HAVen, Harbour Acres.

**WAGES**

Per hour: 07/01/2014

Drywall Taper \$ 41.75

**SUPPLEMENTAL BENEFITS**

Per hour worked: 07/01/2014

Journeyman \$ 20.97

**OVERTIME PAY**

See (A, H) on OVERTIME PAGE

For Journeyman: Deduct \$4.25 from wage rate BEFORE calculating overtime pay.

For Apprentices: Deduct \$ 2.44 from 2nd term wage rate, and \$ 3.25 from 3rd term wage rate BEFORE calculating overtime pay.

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
Overtime: See (4, 5, 6, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Wages(per Hour) 07/01/2014

1500 hour terms at the following wage rate:

|          |          |
|----------|----------|
| 1st term | \$ 18.13 |
| 2nd term | \$ 27.19 |
| 3rd term | \$ 36.26 |

Supplemental Benefits per hour:

One year term (1500 hours)at the following dollar amount.

|          |          |
|----------|----------|
| 1st year | \$ 10.25 |
| 2nd year | \$ 16.43 |
| 3rd year | \$ 19.25 |

8-NYDCT9-DWT

**Painter**

**02/01/2015**

**JOB DESCRIPTION** Painter

**DISTRICT 8**

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Suffolk, Westchester

**WAGES**

|  |            |
|--|------------|
| Per hour:  | 07/01/2014 |
| Brush  | \$ 43.75   |
| Abatement/Removal of lead based<br>or lead containing paint on<br>materials to be repainted. | \$ 43.75   |
| Spray & Scaffold   | \$ 46.75   |
| Fire Escape  | \$ 46.75   |
| Decorator  | \$ 46.75   |
| Paperhanger/Wall Coverer   | \$ 41.08   |

**SUPPLEMENTAL BENEFITS**

|                  |            |
|------------------|------------|
| Per hour worked: | 07/01/2014 |
| Paperhanger      | \$ 29.33   |
| All others       | \$ 20.97   |
| Premium*         | \$ 23.47*  |

\*Applies only to "All others" category,not paperhanger journeyman.

**OVERTIME PAY**

See (A, H) on OVERTIME PAGE

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Indentured after 5/31/93 ( 1 ) year terms at the following wage rate.  
(per hour)

|                  |            |
|------------------|------------|
|                  | 07/01/2014 |
| Appr 1st term... | \$ 16.55   |

|                  |          |
|------------------|----------|
| Appr 2nd term... | \$ 21.66 |
| Appr 3rd term... | \$ 26.24 |
| Appr 4th term... | \$ 35.02 |

Spplmental benefis:  
 (per Hour worked)

|                  |          |
|------------------|----------|
| Appr 1st term... | \$ 10.23 |
| Appr 2nd term... | \$ 12.92 |
| Appr 3rd term... | \$ 15.20 |
| Appr 4th term... | \$ 19.70 |

8-NYDC9-B/S

**Painter - Bridge & Structural Steel**

**02/01/2015**

**JOB DESCRIPTION** Painter - Bridge & Structural Steel

**DISTRICT 8**

**ENTIRE COUNTIES**

Albany, Bronx, Clinton, Columbia, Dutchess, Essex, Franklin, Fulton, Greene, Hamilton, Kings, Montgomery, Nassau, New York, Orange, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Suffolk, Sullivan, Ulster, Warren, Washington, Westchester

**WAGES**

Per Hour Worked:

**STEEL:**

|                                |                     |                     |
|--------------------------------|---------------------|---------------------|
| Bridge Painting:               | 07/01/2014          | 10/01/2014          |
| From May 1st to Nov. 15th -    | \$ 47.00<br>+ 5.38* | \$ 48.75<br>+ 5.63* |
| From Nov. 16th to April 30th - | \$ 47.00<br>+ 5.38* | \$ 48.75<br>+ 5.63* |

\*Not subject to overtime and limited to first 40 hours

NOTE: All premium wages are to be calculated on \$47.00 or \$48.75 per hour only.

EXCEPTION: During the period of May 1st to November 15th, for the first and last week of employment on the project, and for the weeks of Memorial Day, Independence Day and Labor Day, this rate shall be paid for the actual number of hours worked.

Power Tool/Spray is an additional \$6.00 per hour above hourly rate, whether straight time or overtime

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

**SUPPLEMENTAL BENEFITS**

Per Hour Worked:

|                                |            |            |
|--------------------------------|------------|------------|
| Journeyworker:                 | 07/01/2014 | 10/01/2014 |
| From May 1st to Nov. 15th -    |            |            |
| Hourly Rate up to 40 hours     | \$ 28.20   | \$ 28.95   |
| Hourly Rate after 40 hours     | 7.50       | 7.50       |
| From Nov. 16th to April 30th - |            |            |
| Hourly Rate up to 50 hours     | 28.20      | 28.95      |
| Hourly Rate after 50 hours     | 7.50       | 7.50       |

EXCEPTION: During the period of May 1st to November 15th, for the first and last week of employment on the project, and for the weeks of Memorial Day, Independence Day and Labor Day, this rate shall be paid for the actual number of hours worked.

**OVERTIME PAY**

See (A, F, R) on OVERTIME PAGE

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (4, 6) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

(Wage per hour Worked):

|                             |            |            |
|-----------------------------|------------|------------|
| Apprentices: (1) year terms |            |            |
|                             | 07/01/2014 | 10/01/2014 |
| 1st 90 days                 | \$ 20.96   | \$ 21.76   |
| 1st year after 90 days      | 20.96      | 21.76      |

|  |            |            |
|--|------------|------------|
| 2nd year                               | 31.43      | 32.63      |
| 3rd year                               | 41.91      | 43.51      |
| Supplemental Benefits per hour worked: |            |            |
|  | 07/01/2014 | 10/01/2014 |
| 1st 90 days                            | \$ 8.29    | \$ 8.59    |
| 1st year after 90 days                 | 8.54       | 8.84       |
| 2nd year                               | 16.93      | 17.38      |
| 3rd year                               | 22.57      | 26.17      |

8-DC-9/806/155-BrSS

**Painter - Line Striping** **02/01/2015**

**JOB DESCRIPTION** Painter - Line Striping **DISTRICT 8**

**ENTIRE COUNTIES**

Albany, Bronx, Clinton, Columbia, Dutchess, Essex, Franklin, Fulton, Greene, Hamilton, Kings, Montgomery, Nassau, New York, Orange, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Suffolk, Sullivan, Ulster, Warren, Washington, Westchester

**WAGES**

Per hour:

|                             |            |
|-----------------------------|------------|
| Painter (Striping-Highway): | 07/01/2014 |
| Striping-Machine Operator*  | \$ 27.11   |
| Linerman Thermoplastic      | \$ 32.37   |

Note: \* Includes but is not limited to: Positioning of cones and directing of traffic using hand held devices. Excludes the Driver/Operator of equipment used in the maintenance and protection of traffic safety

Four (4), ten (10) hour days may be worked at straight time during a week.

NOTE - In order to use the '4 Day/10 Hour Work Schedule,' you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30R; additionally, there must be a dispensation of hours in place on the project.

**SUPPLEMENTAL BENEFITS**

|                |            |
|----------------|------------|
| Per hour paid: | 07/01/2014 |
| Journeyworker: |            |

|                           |          |
|---------------------------|----------|
| Striping-Machine operator | \$ 14.18 |
| Linerman Thermoplastic    | \$ 14.55 |

**OVERTIME PAY**

See (B, E, E2, F, S) on OVERTIME PAGE

**HOLIDAY**

|           |  |
|-----------|--|
| Paid:     | See (5, 20) on HOLIDAY PAGE                                |
| Overtime: | See (5, 8, 11, 12, 15, 16, 17, 20, 21, 22) on HOLIDAY PAGE |

8-1456-LS

**Painter - Metal Polisher** **02/01/2015**

**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**

|                   |            |
|-------------------|------------|
|                   | 07/01/2014 |
| Metal Polisher    | \$ 27.15   |
| Metal Polisher**  | 28.24      |
| Metal Polisher*** | 30.65      |

\*\*Note: Applies on New Construction & complete renovation

\*\*\* Note: Applies when working on scaffolds over 34 feet.

**SUPPLEMENTAL BENEFITS**

|           |            |
|-----------|------------|
| Per Hour: | 07/01/2014 |
|-----------|------------|

Journeyworker:  
 All classification \$ 13.61

**OVERTIME PAY**

See (B, E, E2, 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:

|         |         |         |
|---------|---------|---------|
| 1st     | 2nd     | 3rd     |
| \$11.00 | \$12.50 | \$15.50 |

Supplemental benefits:

Per hour paid:

|         |         |         |
|---------|---------|---------|
| 1st     | 2nd     | 3rd     |
| \$ 9.94 | \$10.31 | \$10.51 |

8-8A/28A-MP

**Plasterer**

**02/01/2015**

**JOB DESCRIPTION** Plasterer

**DISTRICT** 9

**ENTIRE COUNTIES**

Kings, Nassau, Queens, Suffolk

**PARTIAL COUNTIES**

New York: Includes work in all Islands in New York City, except Manhattan.

**WAGES**

Per hour: 07/01/2014

Building:  
 Plasterer/Traditional \$ 35.53

**SUPPLEMENTAL BENEFITS**

Per hour worked:  
 Journeyworker \$ 21.80

**OVERTIME PAY**

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

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 8, 11, 13, 25, 26) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Wages:  
 (per hour)  
 ( 1 ) year terms at the following % Journeyworkers wage rate.

|              |              |              |
|--------------|--------------|--------------|
| First year:  | 1st 6 months | 2nd 6 months |
|              | 40%          | 45%          |
| Second year: | 1st 6 months | 2nd 6 months |
|              | 55%          | 60%          |
| Third year:  | 1st 6 months | 2nd 6 months |
|              | 70%          | 75%          |

Supplemental Benefits:

(per hour paid):

(1) year term broken down into six month periods:

1st year:

|                |         |
|----------------|---------|
| 1st six months | \$ 8.37 |
| 2nd six months | 9.35    |
| 3rd six months | 11.35   |
| 4th six months | 12.33   |
| 5th six months | 14.33   |
| 6th six months | 15.33   |

9-530-Z1

**Plumber** **02/01/2015**

**JOB DESCRIPTION** Plumber **DISTRICT 4**

**ENTIRE COUNTIES**  
 Nassau, Suffolk

**WAGES**

|                  |            |            |
|------------------|------------|------------|
| Per Hour:        | 07/01/2014 | 05/01/2015 |
| Plumber          |            |            |
| MAINTENANCE ONLY | \$ 29.46   | \$ 29.96   |

Maintenance: Correction of problem(s)with the existing fixture or group of fixtures, preventive repairs or servicing of said fixtures

**SUPPLEMENTAL BENEFITS**

SUPPLEMENTAL BENEFITS

Per Hour:

|             |          |          |
|-------------|----------|----------|
| Plumber     |          |          |
| Maintenance | \$ 12.05 | \$ 13.55 |

**OVERTIME PAY**

See (B, J) on OVERTIME PAGE

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 15, 16) on HOLIDAY PAGE

4-200 Maintance

**Plumber** **02/01/2015**

**JOB DESCRIPTION** Plumber **DISTRICT 4**

**ENTIRE COUNTIES**  
 Nassau, Suffolk

**WAGES**

|           |            |
|-----------|------------|
| Per Hour: | 07/01/2014 |
|-----------|------------|

|             |          |
|-------------|----------|
| Plumber/    |          |
| PUMP & TANK | \$ 43.24 |

**SUPPLEMENTAL BENEFITS**

Per Hour:

|         |          |
|---------|----------|
| Plumber | \$ 23.06 |
|---------|----------|

**OVERTIME PAY**

See (B, Q, \*V) on OVERTIME PAGE  
 (V) For Sundays & Holidays if Worked Only

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

One(1) Year Terms at the Following  
 Percentage of Journeymans wage:

|          |     |
|----------|-----|
| 1st Term | 30% |
| 2nd Term | 40% |
| 3rd Term | 50% |
| 4th Term | 60% |
| 5th Term | 70% |
| 6th Term | 85% |

Supplemental Benifits Per Hour:

|          |         |
|----------|---------|
| 1st Term | \$11.38 |
| 2nd Term | \$12.01 |
| 3rd Term | \$12.79 |
| 4th Term | \$13.16 |
| 5th Term | \$16.36 |
| 6th Term | \$19.65 |

4-200 Pump & Tank

**Plumber** **02/01/2015**

**JOB DESCRIPTION** Plumber **DISTRICT 4**

**ENTIRE COUNTIES**  
 Nassau, Suffolk

**WAGES**

|           |            |            |
|-----------|------------|------------|
| Per Hour: | 07/01/2014 | 11/01/2014 |
| Plumber   | \$ 48.48   | \$ 48.48   |

**SUPPLEMENTAL BENEFITS**

|           |          |          |
|-----------|----------|----------|
| Per Hour: |          |          |
| Plumber   | \$ 34.27 | \$ 35.77 |

**OVERTIME PAY**

See (A, E, Q, \*V) on OVERTIME PAGE  
 CODE "V" is only for SUNDAYS and HOLIDAYS WORKED

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 15, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

One(1) Year Terms at the following percentage of Plumbers Rate:

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| 1st Term | 2nd Term | 3rd Term | 4th Term | 5th Term |
| 30%      | 40%      | 50%      | 60%      | 70%      |

Supplemental Benefits per hour:

|          |            |            |
|----------|------------|------------|
|          | 07/01/2014 | 11/01/2014 |
| 1st Term | \$ 20.75   | \$ 22.25   |
| 2nd Term | 23.06      | 24.56      |
| 3rd Term | 24.43      | 25.93      |
| 4th Term | 25.92      | 27.42      |
| 5th Term | 27.56      | 29.00      |

4-200

**Roofer** **02/01/2015**

**JOB DESCRIPTION** Roofer **DISTRICT 4**

**ENTIRE COUNTIES**  
 Nassau, Suffolk

**WAGES**

|          |            |            |
|----------|------------|------------|
| Per Hour | 07/01/2014 | 10/01/2014 |
|----------|------------|------------|

ROOFER/Waterproofers

|                       |          |          |
|-----------------------|----------|----------|
| Total Wage to be Paid | \$ 43.00 | \$ 43.00 |
|-----------------------|----------|----------|

|             |            |            |
|-------------|------------|------------|
| "Base" Wage | \$ 39.00** | \$ 39.00** |
|-------------|------------|------------|

**SUPPLEMENTAL BENEFITS**

|                      |          |          |
|----------------------|----------|----------|
| Per Hour:            |          |          |
| ROOFER/Waterproofers | \$ 25.61 | \$ 27.11 |

**OVERTIME PAY**

Per Hour:  
 NEW ROOF SEE (B,E,Q)  
 RE-ROOF SEE (B,E,E2,Q)  
 NOTE:\*\* Overtime Pay to be calculated on "BASE" Wage then add \$4.00.  
 (Example: \$39.00 x time and one half = \$58.50 + \$4.00 = \$62.50 )

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 13, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

(1) Year terms at the following Percentage of Roofers/Waterproofers Wage.

| 1st<br>40% | 2nd<br>50% | 3rd<br>70% | 4th<br>80% |
|------------|------------|------------|------------|
|------------|------------|------------|------------|

Supplemental Benefits per hour:

|          | 07/01/2014 | 10/01/2014 |
|----------|------------|------------|
| 1st Term | \$ 7.20    | \$ 7.38    |
| 2nd Term | 8.99       | 9.23       |
| 3rd Term | 12.58      | 12.92      |
| 4th Term | 14.37      | 14.77      |

4-154

**Sheetmetal Worker**

**02/01/2015**

**JOB DESCRIPTION** Sheetmetal Worker

**DISTRICT 4**

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

**WAGES**

Per Hour: 07/01/2014  
 Sheetmetal Worker \$ 50.67

Temporary Operation or  
 Maintenance of Fans 40.42

**SUPPLEMENTAL BENEFITS**

Per Hour:  
 Sheetmetal Worker \$ 39.91  
 Maintenance Worker 39.91

**OVERTIME PAY**

See (A, E, E2, Q, V) on OVERTIME PAGE  
 For Maintenance See Codes B,E, Q & V

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 11, 15, 16, 25, 26) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Per Hour:Wages

Six(6) Month Terms As Follows:

|          |          |
|----------|----------|
| 1st Term | \$ 14.35 |
| 2nd Term | 17.72    |
| 3rd Term | 22.12    |
| 4th Term | 24.89    |
| 5th Term | 26.24    |
| 6th Term | 28.45    |
| 7th Term | 34.53    |
| 8th Term | 37.23    |
| 9th Term | 40.34    |

Per Hour: Supplemental Benefits

|          |         |
|----------|---------|
| 1st Term | \$ 5.50 |
| 2nd Term | 14.80   |
| 3rd Term | 21.51   |
| 4th Term | 23.31   |
| 5th Term | 24.94   |
| 6th Term | 27.04   |
| 7th Term | 30.60   |
| 8th Term | 31.77   |
| 9th Term | 32.94   |

4-28

**Sheetmetal Worker** **02/01/2015**

**JOB DESCRIPTION** Sheetmetal Worker **DISTRICT 4**

**ENTIRE COUNTIES**  
 Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Suffolk, Westchester

**WAGES**  
 Per Hour: 07/01/2014 08/01/2014  
 Sign Erector \$ 44.20 \$ 45.60

NOTE: Overhead Highway Signs and Structurally Supported Signs(See IRON WORKER CLASS)

**SUPPLEMENTAL BENEFITS**  
 Per Hour: 07/01/2014 08/01/2014  
 Sign Erector \$ 38.22 \$ 40.25

**OVERTIME PAY**  
 See (A, F, S) on OVERTIME PAGE

**HOLIDAY**  
 Paid: See (5, 6, 10, 11, 12, 16, 25) on HOLIDAY PAGE  
 Overtime: See (5, 6, 10, 11, 12, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**  
 Per Hour:  
 6 month Terms at the following percentage of Sign Erectors wage rate:

|     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th |
| 35% | 40% | 45% | 50% | 55% | 60% | 65% | 70% | 75% | 80%  |

**SUPPLEMENTAL BENEFITS**  
 Per Hour:

|         |         |         |         |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1st     | 2nd     | 3rd     | 4th     | 5th     | 6th     | 7th     | 8th     | 9th     | 10th    |
| \$11.08 | \$12.55 | \$14.04 | \$15.51 | \$21.93 | \$23.86 | \$26.46 | \$28.45 | \$30.42 | \$32.40 |

4-137-SE

**Steamfitter** **02/01/2015**

**JOB DESCRIPTION** Steamfitter **DISTRICT 4**

**ENTIRE COUNTIES**  
 Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

**WAGES**  
 Per Hour: 07/01/2014  
 Steam/Sprinkler Fitter \$ 58.81  
 Temporary Heat & AC \$ 44.71

NOTE: Add 30% to Hourly Wage for "Contracting Agency" Mandated Off Shift Work.

**SUPPLEMENTAL BENEFITS**  
 Per Hour:  
 Steam/Sprinkler Fitter \$ 45.67  
 Temporary Heat & AC \$ 37.26

**OVERTIME PAY**  
 See (C, \*D, O, V) on OVERTIME PAGE  
 (\*D) On all HVAC and Mechanical contracts that do not exceed \$15,000,000. and on all fire protection/sprinklet contracts that do not exceed \$1,500,000.

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
 Overtime: See (5, 6, 11, 15, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

1 year Terms at the Following:

WAGES per hour:

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| 1st Term | 2nd Term | 3rd Term | 4th Term | 5th Term |
| \$ 23.56 | \$ 29.44 | \$ 38.25 | \$ 47.06 | \$ 50.00 |

**SUPPLEMENTAL BENEFIT**

Per Hour:

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| 1st Term | 2nd Term | 3rd Term | 4th Term | 5th Term |
| \$ 18.79 | \$ 23.29 | \$ 29.99 | \$ 36.71 | \$ 38.95 |

4-638A-StmSpFtr

**Steamfitter**

**02/01/2015**

**JOB DESCRIPTION** Steamfitter

**DISTRICT 4**

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

**WAGES**

|                         |            |            |
|-------------------------|------------|------------|
| Per Hour:               | 07/01/2014 | 01/01/2015 |
| AC Service/Heat Service | \$ 38.30   | Additional |
| Steamfitter Maintenance |            | \$ 0.75*   |

Refrigeration, A/C, Oil Burner and Stoker Service and Repair.  
 Refrigeration Compressor installation up to 5hp (combined).  
 Air Condition / Heating Compressor installation up to 10hp (combined).

(\*)To be allocated at a later date

**SUPPLEMENTAL BENEFITS**

Per Hour

|                         |         |
|-------------------------|---------|
| AC Service/Heat Service | \$ 9.70 |
| Steamfitter Maintenance |         |

**OVERTIME PAY**

See (B, E, Q) on OVERTIME PAGE

**HOLIDAY**

Paid: See (5, 6, 11, 15, 25, 26) on HOLIDAY PAGE

4-638B-StmFtrRef

**Teamster - Asphalt Delivery**

**02/01/2015**

**JOB DESCRIPTION** Teamster - Asphalt Delivery

**DISTRICT 4**

**ENTIRE COUNTIES**

Nassau, Suffolk

**WAGES**

Per Hour:

Heavy Construction Work:  
 Shall include the supply of Asphalt for construction, improvement and modification of all or any part of Streets, Highways, Bridges, Tunnels, Railroads, Canals, Dams, Airports, Schools, Power Generation Plants, where distance between project and asphalt plant is not more than 50 miles.

TRUCK DRIVER

|                  |            |
|------------------|------------|
| Asphalt Delivery | 07/01/2014 |
|                  | \$ 35.105  |

Light Construction Work:

Shall include the supply of Asphalt for construction of Single & Multi Family Homes, Town Houses, Apartment Buildings, including Driveways, Streets and Curbs within those projects. Parking Lots, Office Buildings, where distance between project and asphalt plant is not more than 50 miles.

**TRUCK DRIVER**

Asphalt Delivery 07/01/2014  
\$ 28.89

**SUPPLEMENTAL BENEFITS**

Per Hour:

**Heavy Construction Work**

**TRUCK DRIVER**

Asphalt Delivery 07/01/2014  
\$40.1825

**Light Construction Work**

**TRUCK DRIVER**

Asphalt Delivery 07/01/2014  
\$11.55

**OVERTIME PAY**

See (B, \*B2, E, \*\*I, P, \*\*\*R, \*\*\*\*U) on OVERTIME PAGE

(NOTE) PREMIUM PAY of 25% on straight time hours for New York State D.O.T. and or other GOVERNMENTAL MANDATED off shift work.

Note: (B,E,P,T&\*U) Apply to Heavy Construction.

Note: (B2,I,T&\*U) Apply to Light Construction.

Note: (\*U) Only applies after 8 hours worked on holiday.

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, \*16, \*\*25) on HOLIDAY PAGE

NOTE:(\*16) Paid at Double if Worked; (\*\*25) Paid at Double if Worked.

4-282

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**Teamster - Building**

**02/01/2015**

**JOB DESCRIPTION** Teamster - Building

**DISTRICT 4**

**ENTIRE COUNTIES**

Nassau, Suffolk

**WAGES**

Per Hour:

Truck Driver (Building Demolition & Debris)

Trailers 07/01/2014  
\$ 29.98  
Straight Jobs 07/01/2014  
\$ 29.68

**SUPPLEMENTAL BENEFITS**

Per Hour:

All Classifications

07/01/2014  
\$ 31.34

**OVERTIME PAY**

See (B, E, S1) on OVERTIME PAGE

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 11, 12, 15, 25, 26) on HOLIDAY PAGE

4-282

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**Teamster - Delivery of Concrete**

**02/01/2015**

**JOB DESCRIPTION** Teamster - Delivery of Concrete

**DISTRICT 4**

**ENTIRE COUNTIES**

Nassau, Suffolk

**WAGES**

Per Hour:

**Heavy Construction Work:**

Shall include the supply of Ready-Mix Concrete for construction, improvement and modification of all or any part of Streets, Highways, Bridges, Tunnels, Railroads, Canals, Dams, Airports, Schools & Power Generation Plants, where distance between project and asphalt plant is not more than 50 miles.

**TRUCK DRIVER**

Concrete Delivery 07/01/2014  
\$ 37.065

**Light Construction Work:**

Shall include the supply of Ready-Mix Concrete for construction of Single & Multi Family Homes, Town Houses, Apartment Buildings, including Driveways, Streets and Curbs within those projects. Parking Lots and Office Buildings, where distance between project and asphalt plant is not more than 50 miles.

**TRUCK DRIVER**

Concrete Delivery 07/01/2014  
\$ 33.765

**SUPPLEMENTAL BENEFITS**

Per Hour:

Heavy Construction Work 07/01/2014  
Concrete Delivery \$ 37.125

Light Construction Work 07/01/2014  
Concrete Delivery \$ 11.525

**OVERTIME PAY**

NOTE: Heavy Construction:B2,I  
Light Construction:B,E,P

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE  
Overtime: See (5, 6, \*16, \*\*25) on HOLIDAY PAGE  
NOTE:(\*16) Paid at Double if Worked. (\*\*25) Paid at Double if Worked.

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**Teamster - Heavy&Highway**

**02/01/2015**

**JOB DESCRIPTION** Teamster - Heavy&Highway

**DISTRICT 4**

**ENTIRE COUNTIES**

Nassau, Suffolk

**WAGES**

Per Hour:

**Heavy Construction Work:**

Shall include the construction, improvement or modification of all or any part of streets, highways, Bridges, Tunnels, Railroads, Canals, Dams, Airports, Schools, Power Generation Plants.

07/01/2014  
Site Excavating (Chauffeurs) \$ 35.105

**Light Construction Work:**

Shall include the construction, improvement and modification of Single & Multi Family Homes, Town Houses, Apartment Buildings, including driveways, Streets and Curbs within those projects. Parking Lots and Office Buildings.

07/01/2014  
Site Excavating (Chauffeurs) \$ 28.89

**SUPPLEMENTAL BENEFITS**

Per Hour: 07/01/2014

Heavy Construction Work  
Chauffeurs \$ 40.1825

Light Construction Work

Chauffers \$ 11.55

**OVERTIME PAY**

See (B, \*B2, E, \*\*I, P, \*\*\*R, \*\*\*\*U) on OVERTIME PAGE

(NOTE) PREMIUM PAY of 25% on straight time hours for NEW YORK STATE D.O.T. and or other GOVERNMENTAL MANDATED off shift work.

Note: (B,E,P,T & \*U) Apply to Heavy Construction.

Note: (B2,I,T & \*U) Apply to Light Construction.

Note: (\*U) Only applies after 8 hours work on holiday

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, \*16, \*\*25) on HOLIDAY PAGE

NOTE:(\*16) Paid at Double if Worked. (\*\*25) Paid at Double if Worked.

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**Welder**

**02/01/2015**

**JOB DESCRIPTION** Welder

**DISTRICT 1**

**ENTIRE COUNTIES**

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

**WAGES**

Per hour 07/01/2014

Welder (To be paid the same rate of the mechanic performing the work)

**OVERTIME PAY**

**HOLIDAY**

1-As Per Trade

## Overtime Codes

Following is an explanation of the code(s) listed in the OVERTIME section of each classification contained in the attached schedule. Additional requirements may also be listed in the HOLIDAY section.

NOTE: Supplemental Benefits are 'Per hour worked' (for each hour worked) unless otherwise noted

- ( AA ) Time and one half of the hourly rate after 7 and one half hours per day
- ( A ) Time and one half of the hourly rate after 7 hours per day
- ( B ) Time and one half of the hourly rate after 8 hours per day
- ( B1 ) Time and one half of the hourly rate for the 9th & 10th hours week days and the 1st 8 hours on Saturday.  
Double the hourly rate for all additional hours
- ( B2 ) Time and one half of the hourly rate after 40 hours per week
- ( C ) Double the hourly rate after 7 hours per day
- ( C1 ) Double the hourly rate after 7 and one half hours per day
- ( D ) Double the hourly rate after 8 hours per day
- ( D1 ) Double the hourly rate after 9 hours per day
- ( E ) Time and one half of the hourly rate on Saturday
- ( E1 ) Time and one half 1st 4 hours on Saturday; Double the hourly rate all additional Saturday hours
- ( E2 ) Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
- ( E3 ) Between November 1st and March 3rd Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather, provided a given employee has worked between 16 and 32 hours that week
- ( E4 ) Saturday and Sunday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
- ( E5 ) Double time after 8 hours on Saturdays
- ( F ) Time and one half of the hourly rate on Saturday and Sunday
- ( G ) Time and one half of the hourly rate on Saturday and Holidays
- ( H ) Time and one half of the hourly rate on Saturday, Sunday, and Holidays
- ( I ) Time and one half of the hourly rate on Sunday
- ( J ) Time and one half of the hourly rate on Sunday and Holidays
- ( K ) Time and one half of the hourly rate on Holidays
- ( L ) Double the hourly rate on Saturday
- ( M ) Double the hourly rate on Saturday and Sunday
- ( N ) Double the hourly rate on Saturday and Holidays
- ( O ) Double the hourly rate on Saturday, Sunday, and Holidays
- ( P ) Double the hourly rate on Sunday
- ( Q ) Double the hourly rate on Sunday and Holidays
- ( R ) Double the hourly rate on Holidays
- ( S ) Two and one half times the hourly rate for Holidays, if worked

- ( S1 ) Two and one half times the hourly rate the first 8 hours on Sunday or Holidays One and one half times the hourly rate all additional hours.
- ( T ) Triple the hourly rate for Holidays, if worked
- ( U ) Four times the hourly rate for Holidays, if worked
- ( V ) Including benefits at SAME PREMIUM as shown for overtime
- ( W ) Time and one half for benefits on all overtime hours.

## 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





**New York State Department of Labor - Bureau of Public Work  
State Office Building Campus  
Building 12 - Room 130  
Albany, New York 12240**

**REQUEST FOR WAGE AND SUPPLEMENT INFORMATION**

As Required by Articles 8 and 9 of the NYS Labor Law

Fax (518) 485-1870 or mail this form for new schedules or for determination for additional occupations.

**This Form Must Be Typed**

Submitted By:

(Check Only One)

Contracting Agency

Architect or Engineering Firm

Public Work District Office

Date:

**A. Public Work Contract to be let by:** (Enter Data Pertaining to Contracting/Public Agency)

1. Name and complete address  (Check if new or change)

Telephone: ( )

Fax: ( )

E-Mail:

2. NY State Units (see Item 5)

01 DOT

02 OGS

03 Dormitory Authority

04 State University  
Construction Fund

05 Mental Hygiene  
Facilities Corp.

06 OTHER N.Y. STATE UNIT

07 City

08 Local School District

09 Special Local District, i.e.,  
Fire, Sewer, Water District

10 Village

11 Town

12 County

13 Other Non-N.Y. State  
(Describe)

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

Telephone:( )

Fax: ( )

E-Mail:

4. SERVICE REQUIRED. Check appropriate box and provide project information.

New Schedule of Wages and Supplements.

APPROXIMATE BID DATE :

Additional Occupation and/or Redetermination

PRC NUMBER ISSUED PREVIOUSLY FOR  
THIS PROJECT :

OFFICE USE ONLY

**B. PROJECT PARTICULARS**

5. Project Title \_\_\_\_\_

Description of Work \_\_\_\_\_

Contract Identification Number \_\_\_\_\_

Note: For NYS units, the OSC Contract No. \_\_\_\_\_

6. Location of Project:  
Location on Site \_\_\_\_\_

Route No/Street Address \_\_\_\_\_

Village or City \_\_\_\_\_

Town \_\_\_\_\_

County \_\_\_\_\_

7. Nature of Project - Check One:

1. New Building

2. Addition to Existing Structure

3. Heavy and Highway Construction (New and Repair)

4. New Sewer or Waterline

5. Other New Construction (Explain)

6. Other Reconstruction, Maintenance, Repair or Alteration

7. Demolition

8. Building Service Contract

8. OCCUPATION FOR PROJECT :

Construction (Building, Heavy  
Highway/Sewer/Water)

Tunnel

Residential

Landscape Maintenance

Elevator maintenance

Exterminators, Fumigators

Fire Safety Director, NYC Only

Guards, Watchmen

Janitors, Porters, Cleaners,  
Elevator Operators

Moving furniture and  
equipment

Trash and refuse removal

Window cleaners

Other (Describe)

9. Has this project been reviewed for compliance with the Wicks Law involving separate bidding?

YES  NO

10. Name and Title of Requester

**Signature**





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

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

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

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

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

A list of those barred from bidding, or being awarded, any public work contract or subcontract with the State, under section 141-b of the Workers' Compensation Law, may be obtained at the following link, on the NYS DOL Website:

<https://dbr.labor.state.ny.us/EDList/searchPage.do>



**NYS DOL Bureau of Public Work Debarment List 01/07/2015**

**Article 8**

| AGENCY | Fiscal Officer | FEIN     | EMPLOYER NAME                           | EMPLOYER DBA NAME                | ADDRESS   | DEBARMENT START DATE | DEBARMENT END DATE |
|--------|----------------|----------|---|----------------------------------|---|----------------------|--------------------|
| DOL    | DOL            |          | 4618 FOSTER AVE LLC                     |                                  | C/O KAHAN & KAHAN<br>225 BROADWAY-SUITE<br>715NEW YORK NY 10007       | 02/05/2013           | 02/05/2018         |
| DOL    | DOL            | ****0711 | A ULIANO & SON LTD                      |                                  | 22 GRIFFEN COURT<br>MILLER PLACE NY 11746                             | 10/26/2010           | 10/26/2015         |
| DOL    | DOL            |          | A ULIANO CONSTRUCTION                   |                                  | 22 GRIFFEN COURT<br>MILLER PLACE NY 11746                             | 10/26/2010           | 10/26/2015         |
| DOL    | NYC            | ****4486 | ABBAY PAINTING CORP                     |                                  | 21107 28TH AVENUE<br>BAYSIDE NY 11360                                 | 07/02/2012           | 07/02/2017         |
| DOL    | DOL            | ****9095 | ABDO TILE CO                            |                                  | 6179 EAST MOLLOY ROAD<br>EAST SYRACUSE NY 13057                       | 06/25/2010           | 07/02/2017         |
| DOL    | DOL            | ****9095 | ABDO TILE COMPANY                       |                                  | 6179 EAST MOLLOY ROAD<br>EAST SYRACUSE NY 13057                       | 06/25/2010           | 07/02/2017         |
| DOL    | DOL            | ****8488 | ABELCRAFT OF NEW YORK CORP              |                                  | 640 ASHFORD AVENUE<br>ARDSLEY NY 10502                                | 08/27/2013           | 08/27/2018         |
| DOL    | DOL            | ****1219 | ABSOLUTE GENERAL CONTRACTING INC        |                                  | 1229 AVENUE U<br>BROOKLYN NY 11229                                    | 01/28/2013           | 01/28/2018         |
| DOL    | DOL            | ****4539 | ACCOMPLISHED WALL SYSTEMS INC           |                                  | 112 OSCAWANA HEIGHTS ROAD<br>PUTNAM VALLEY NY 10542                   | 08/27/2013           | 08/27/2018         |
| DOL    | DOL            | ****8018 | ACCURATE MECHANICAL LLC                 |                                  | 9547 BUSTLETON AVENUE<br>PHILADELPHIA PA 19115                        | 02/05/2014           | 02/05/2019         |
| DOL    | DOL            |          | ACCURATE MECHANICAL OF PHILADELPHIA LLC |                                  | 9547 BUSTLETON AVENUE<br>PHILADELPHIA PA 19115                        | 02/05/2014           | 02/05/2019         |
| DOL    | DOL            |          | ADAM A CEMERYS                          |                                  | 2718 CURRY ROAD<br>SCHENECTADY NY 12303                               | 07/08/2010           | 07/08/2015         |
| DOL    | DOL            | ****7584 | ADAM'S FLOOR COVERING LLC               |                                  | 2718 CURRY ROAD<br>SCHENECTADY NY 12303                               | 07/08/2010           | 02/15/2017         |
| DOL    | DOL            |          | ADESUWA UWUIGBE                         |                                  | P O BOX 21-1022<br>BROOKLYN NY 11221                                  | 05/16/2012           | 05/16/2017         |
| DOL    | NYC            |          | ADRIANA SELA                            | C/O COLONIAL ROOFING COMPANY INC | 247 48TH STREET<br>BROOKLYN NY 11220                                  | 02/05/2014           | 02/05/2019         |
| DOL    | DOL            | ****6367 | ADVANCED METALS                         |                                  | 387 RIVERSIDE DRIVE<br>JOHNSON CITY NY 13790                          | 10/01/2012           | 10/01/2017         |
| DOL    | DOL            |          | AFFORDABLE PAINTING PLUS                |                                  | 367 GREEVES ROAD<br>NEW HAMPTON NY 10958                              | 10/01/2010           | 10/01/2015         |
| DOL    | DOL            | ****2538 | AGG MASONRY INC                         |                                  | 160 72ND ST - SUITE 721<br>BROOKLYN NY 11209                          | 03/19/2013           | 03/19/2018         |
| DOL    | DOL            |          | ALBERT CASEY                            |                                  | 43-28 54TH STREET<br>WOODSIDE NY 11377                                | 07/01/2011           | 07/01/2016         |
| DOL    | DOL            |          | ALEJANDRO MATOS                         |                                  | C/O SEVEN STAR ELECTRICAL<br>23-24 STEINWAY<br>STREETASTORIA NY 11105 | 06/27/2011           | 06/27/2016         |
| DOL    | DOL            |          | ALISHER KARIMOV                         |                                  | C/O AGG MASONRY INC<br>7105 3RD AVENUEBROOKLYN NY 11209               | 03/19/2013           | 03/19/2018         |
| DOL    | DOL            | ****8740 | ALLSTATE ENVIRONMENTAL CORP             |                                  | C/O JOSE MONTAS<br>27 BUTLER PLACEYONKERS NY 10710                    | 03/18/2011           | 03/15/2017         |
| DOL    | DOL            | ****8534 | ALPHA INTERIORS INC                     |                                  | 513 ACORN STREET/ SUITE C<br>DEER PARK NY 11729                       | 05/27/2010           | 05/27/2015         |
| DOL    | DOL            | ****4274 | AMERICAN STEEL MECHANICAL INC           |                                  | 693 PAINTER STREET<br>MEDIA PA 19063                                  | 02/20/2013           | 02/20/2018         |
| DOL    | NYC            |          | ANDERSON LOPEZ                          |                                  | 670 SOUTHERN BLVD<br>BRONX NY 10455                                   | 06/14/2011           | 06/14/2016         |
| DOL    | DOL            |          | ANDREW DIPAUL                           |                                  | C/O CONSOLIDATED INDUSTRI<br>2051 ROUTE 44/55MODENA NY 12548          | 12/11/2012           | 12/11/2017         |
| DOL    | NYC            |          | ANDRZEJ WROBEL                          |                                  | 24 CONGRESS LANE<br>SOUTH RIVER NJ 08882                              | 05/01/2013           | 05/01/2018         |
| DOL    | DOL            | ****7004 | ANNEX CONTRACTING LTD                   |                                  | 3005 WYNSUM AVENUE<br>MERRICK NY 11566                                | 08/18/2014           | 08/18/2019         |
| DOL    | DOL            | ****7004 | ANNEX GENERAL CONTRACTING INC           |                                  | 3005 WYNSUM AVENUE<br>MERRICK NY 11566                                | 08/18/2014           | 08/18/2019         |
| DOL    | DA             |          | ANTHONY CARDINALE                       |                                  | 58-48 59TH STREET<br>MASPETH NY 11378                                 | 05/16/2012           | 05/16/2017         |
| DOL    | DOL            |          | ANTHONY ULIANO                          |                                  | 22 GRIFFEN COURT<br>MILLER PLACE NY 11746                             | 10/26/2010           | 10/26/2015         |
| DOL    | DOL            | ****3020 | APCO CONTRACTING CORP                   |                                  | 24 SOUTH MARYLAND AVENUE<br>PORT WASHINGTON NY 11050                  | 09/24/2012           | 09/24/2017         |
| DOL    | DOL            | ****3219 | APOLLO CONSTRUCTION SERVICES CORP       | APOLLO PAINTING CO               | 157 TIBBETTS ROAD<br>YONKERS NY 10705                                 | 03/12/2014           | 03/12/2019         |

**NYS DOL Bureau of Public Work Debarment List 01/07/2015**

**Article 8**

|     |     |          |   |  |   |            |            |
|-----|-----|----------|---|--|---|------------|------------|
| DOL | DOL |          | APOLLO PAINTING CO                      |  | 157 TIBBETTS ROAD<br>YONKERS NY 10705                               | 03/12/2014 | 03/12/2019 |
| DOL | DOL | ****3295 | APOLLO PAINTING CORP                    |  | 3 ALAN B SHEPART PLACE<br>YONKERS NY 10705                          | 03/12/2014 | 03/12/2019 |
| DOL | AG  | ****0194 | APPLIED CONSTRUCTION INC                |  | 46 RUGBY ROAD<br>WESTBURY NY 11590                                  | 11/20/2013 | 11/20/2018 |
| DOL | NYC | ****8403 | AQUA JET PAINTING CORP                  |  | 10 VIKING DRIVE<br>WEST ISLIP NY 11795                              | 04/16/2014 | 04/16/2019 |
| DOL | DOL | ****3953 | ASCAPE LANDSCAPE &<br>CONSTRUCTION CORP |  | 634 ROUTE 303<br>BLAUVELT NY 10913                                  | 07/26/2012 | 11/19/2018 |
| DOL | DOL | ****2534 | B & B CONCRETE<br>CONTRACTORS INC       |  | 55 OLD TURNPIKE ROAD<br>SUITE 612 NANUET NY 10954                   | 02/04/2011 | 02/04/2016 |
| DOL | NYC |          | BASIL ROMEO                             |  | 243-03 137TH AVENUE<br>ROSEDALE NY 11422                            | 03/25/2010 | 03/25/2015 |
| DOL | DOL | ****2294 | BEDELL CONTRACTING CORP                 |  | 2 TINA LANE<br>HOPEWELL JUNCTION NY<br>12533                        | 01/06/2012 | 01/06/2017 |
| DOL | DOL |          | BENNY VIGLIOTTI                         |  | C/O LUVIN CONSTRUCTION<br>CO<br>P O BOX 357 CARLE PLACE NY<br>11514 | 03/15/2010 | 03/15/2015 |
| DOL | DOL | ****6999 | BEST ROOFING OF NEW<br>JERSEY LLC       |  | 30 MIDLAND AVENUE<br>WALLINGTON NJ 07057                            | 11/05/2010 | 11/05/2015 |
| DOL | DOL |          | BEVERLY F WILLIAMS                      |  | 1238 PRESIDENT STREET<br>BROOKLYN NY 11225                          | 11/18/2013 | 11/18/2018 |
| DOL | DOL |          | BIAGIO CANTISANI                        |  | 200 FERRIS AVENUE<br>WHITE PLAINS NY 10603                          | 12/04/2009 | 05/04/2017 |
| DOL | NYC | ****8377 | BOSPHORUS CONSTRUCTION<br>CORPORATION   |  | 3817 KINGS HIGHWAY-STE 1D<br>BROOKLYN NY 11234                      | 06/30/2010 | 06/30/2015 |
| DOL | DOL | ****6156 | C & J LANDSCAPING &<br>MAINTENANCE INC  |  | 520 PINE HILL ROAD<br>CHESTER NY 10940                              | 06/23/2014 | 06/23/2019 |
| DOL | DOL |          | CANTISANI & ASSOCIATES<br>LTD           |  | 442 FERRIS AVENUE<br>WHITE PLAINS NY 10603                          | 12/04/2009 | 05/04/2017 |
| DOL | DOL |          | CANTISANI HOLDING LLC                   |  | 220 FERRIS AVENUE<br>WHITE PLAINS NY 10603                          | 05/04/2012 | 05/04/2017 |
| DOL | DOL | ****1143 | CARMODY BUILDING CORP                   |  | 442 ARMONK ROAD<br>MOUNT KISCO NY 10549                             | 05/04/2012 | 05/04/2017 |
| DOL | DOL | ****3368 | CARMODY CONCRETE CORP                   |  | 442 ARMONK ROAD<br>MOUNT KISCO NY 10549                             | 12/04/2009 | 05/04/2017 |
| DOL | DOL |          | CARMODY CONTRACTING<br>CORP             |  | 220 FERRIS AVENUE<br>WHITE PLAINS NY 10603                          | 05/04/2012 | 05/04/2017 |
| DOL | DOL | ****6215 | CARMODY CONTRACTING INC                 |  | 220 FERRIS AVENUE<br>WHITE PLAINS NY 10603                          | 05/04/2012 | 05/04/2017 |
| DOL | DOL |          | CARMODY ENTERPRISES LTD                 |  | 220 FERRIS AVENUE<br>WHITE PLAINS NY 10603                          | 12/04/2009 | 05/04/2017 |
| DOL | DOL | ****3812 | CARMODY INC                             |  | 442 ARMONK ROAD<br>MOUNT KISCO NY 10549                             | 12/04/2009 | 05/04/2017 |
| DOL | DOL | ****3812 | CARMODY INDUSTRIES INC                  |  | 442 FERRIS AVENUE<br>WHITE PLAINS NY 10603                          | 05/04/2012 | 05/04/2017 |
| DOL | DOL |          | CARMODY MAINTENANCE<br>CORP             |  | 105 KISCO AVENUE<br>MOUNT KISCO NY 10549                            | 05/04/2012 | 05/04/2017 |
| DOL | DOL | ****0324 | CARMODY MASONRY CORP                    |  | 442 ARMONK ROAD<br>MOUNT KISCO NY 10549                             | 12/04/2009 | 05/04/2017 |
| DOL | DOL | ****3812 | CARMODY"2" INC                          |  | 220 FERRIS AVENUE<br>WHITE PLAINS NY 10603                          | 12/04/2009 | 05/04/2017 |
| DOL | NYC | ****9172 | CASSIDY EXCAVATING INC                  |  | 14 RAILROAD AVENUE<br>VALHALLA NY 10595                             | 05/15/2014 | 05/15/2019 |
| DOL | DOL | ****1683 | CATONE CONSTRUCTION<br>COMPANY INC      |  | 294 ALPINE ROAD<br>ROCHESTER NY 14423                               | 03/09/2012 | 03/09/2017 |
| DOL | DOL |          | CATONE ENTERPRISES INC                  |  | 225 DAKOTA STREET<br>ROCHESTER NY 14423                             | 03/09/2012 | 03/09/2017 |
| DOL | DOL | ****6745 | CATSKILL FENCE<br>INSTALLATIONS INC     |  | 5445 ROUTE 32<br>CATSKILL NY 12414                                  | 08/22/2014 | 08/22/2019 |
| DOL | DOL | ****8530 | CAZ CONTRACTING CORP                    |  | 37-11 35TH AVENUE<br>LONG ISLAND CITY NY 11101                      | 08/26/2013 | 08/26/2018 |
| DOL | DOL | ****7924 | CBI CONTRACTING<br>INCORPORATED         |  | 2081 JACKSON AVENUE<br>COPIAGUE NY 11726                            | 06/03/2010 | 06/03/2015 |
| DOL | DOL | ****5556 | CERTIFIED INSTALLERS INC                |  | 113 N MAPLE AVENUE<br>GREENSBURG PA 15601                           | 02/21/2013 | 02/21/2018 |
| DOL | NYC |          | CHARLES CASSIDY JR                      |  | 14 RAILROAD AVENUE<br>VALHALLA NY 10595                             | 05/15/2014 | 05/15/2019 |
| DOL | DOL |          | CHARLES OKRASKI                         |  | 67 WARD ROAD<br>SALT POINT NY 12578                                 | 01/21/2011 | 01/21/2016 |
| DOL | DOL |          | CHARLES RIBAUDO                         |  | 513 ACORN ST - SUITE C<br>DEER PARK NY 11729                        | 05/27/2010 | 05/27/2015 |
| DOL | DOL | ****1416 | CHEROMINO CONTROL<br>GROUP LLC          |  | 61 WILLET ST - SUITE 14<br>PASSAIC NJ 07055                         | 12/03/2009 | 02/23/2017 |

**NYS DOL Bureau of Public Work Debarment List 01/07/2015**

**Article 8**

|     |     |          |   |                                |  |            |            |
|-----|-----|----------|---|--------------------------------|--|------------|------------|
| DOL | DOL |          | CHRIS SAVOURY                                       |                                | 44 THIELLS-MT IVY ROAD<br>POMONA NY 10970  | 10/14/2011 | 10/14/2016 |
| DOL | DOL |          | CHRIST R PAPAS                                      |                                | C/O TRAC CONSTRUCTION<br>INC<br>9091 ERIE ROADANGOLA NY<br>14006                       | 02/03/2011 | 02/03/2016 |
| DOL | DOL |          | CHRISTOF PREZBYL                                    |                                | 2 TINA LANE<br>HOPEWELL JUNCTION NY<br>12533   | 01/06/2012 | 01/06/2017 |
| DOL | DOL |          | CITY GENERAL BUILDERS INC                           |                                | 131 MELROSE STREET<br>BROOKLYN NY 11206  | 03/02/2010 | 03/02/2015 |
| DOL | DOL | ****7086 | CITY GENERAL IRON WORKS<br>INC                      |                                | 131 MELROSE STREET<br>BROOKLYN NY 11206  | 03/02/2010 | 03/02/2015 |
| DOL | DOL | ****3360 | CITY LIMITS GROUP INC                               |                                | 2279 HOLLERS AVENUE<br>BRONX NY 10475  | 01/07/2014 | 06/23/2019 |
| DOL | NYC | ****1768 | COFIRE PAVING<br>CORPORATION                        |                                | 120-30 28TH AVENUE<br>FLUSHING NY 11354  | 01/14/2011 | 01/14/2016 |
| DOL | NYC | ****2905 | COLONIAL ROOFING<br>COMPANY INC                     |                                | 247 48TH STREET<br>BROOKLYN NY 11220   | 02/05/2014 | 02/05/2019 |
| DOL | NYC | ****3182 | COLORTECH INC                                       |                                | 5990 58TH AVENUE<br>MASPETH NY 11378   | 11/18/2013 | 11/18/2018 |
| DOL | DOL | ****8342 | CONKLIN PORTFOLIO LLC                               |                                | 60 COLONIAL ROAD<br>STILLWATER NY 12170  | 02/15/2011 | 02/15/2016 |
| DOL | DOL | ****2703 | CONKLIN'S TECH-<br>MECHANICAL INC                   |                                | 5 PARKER AVENUE<br>POUGHKEEPSIE NY 12601   | 03/25/2014 | 03/25/2019 |
| DOL | DOL | ****4175 | CONSOLIDATED INDUSTRIAL<br>SERVICES INC             |                                | 2051 ROUTE 44/55<br>MODENA NY 12548  | 12/11/2012 | 01/28/2018 |
| DOL | DOL |          | CONSTANTINOS ZERVAS                                 |                                | 37-11 35TH AVENUE<br>LONG ISLAND CITY NY 11101   | 08/26/2013 | 08/26/2018 |
| DOL | DOL | ****5740 | CORTLAND GLASS COMPANY<br>INC                       |                                | 336 TOMPKINS STREET<br>CORTLAND NY 13045   | 10/21/2010 | 07/15/2016 |
| DOL | NYC | ****4468 | CRAFT CONTRACTING<br>GROUP INC                      |                                | 3256 BRUNER AVENUE<br>BRONX NY 10469   | 07/29/2014 | 07/29/2019 |
| DOL | NYC | ****8507 | CRAFT FENCE INC                                     |                                | 3256 BRUNER AVENUE<br>BRONX NY 10469   | 07/29/2014 | 07/29/2019 |
| DOL | DOL | ****0810 | D & G PAINTING &<br>DECORATING INC                  |                                | 53 LITTLE COLLABAR ROAD<br>MONTGOMERY NY 12549   | 04/19/2012 | 04/19/2017 |
| DOL | DOL |          | DANIEL CELLUCCI ELECTRIC                            |                                | 17 SALISBURY STREET<br>GRAFTON MA 01519  | 06/02/2010 | 06/02/2015 |
| DOL | DOL | ****7129 | DANIEL T CELLUCCI                                   | DANIEL<br>CELLUCCI<br>ELECTRIC | 17 SALISBURY STREET<br>GRAFTON MA 01519  | 06/02/2010 | 06/02/2015 |
| DOL | NYC |          | DAWN AVILA AKA DAWN<br>BECHTOLD                     |                                | 1ST FLOOR STORE FRONT<br>88-10 LITTLE NECK<br>PARKWAYFLORAL PARK NY<br>11001           | 06/24/2014 | 06/24/2019 |
| DOL | NYC |          | DAWN BECHTOLD AKA DAWN<br>AVILA                     |                                | 1ST FLOOR STORE FRONT<br>88-10 LITTLE NECK<br>PARKWAYFLORAL PARK NY<br>11001           | 06/24/2014 | 06/24/2019 |
| DOL | DOL |          | DEAN ROBBINS III                                    |                                | 212 OXFORD WAY<br>SCHENECTADY NY 12309   | 12/11/2012 | 09/16/2018 |
| DOL | NYC | ****3865 | DECOMA BUILDING<br>CORPORATION                      |                                | 134 EVERGREEN PL/STE 101<br>EAST ORANGE NJ 07018                                       | 12/30/2013 | 12/30/2018 |
| DOL | DOL | ****1446 | DELTA CONTRACTING<br>PAINTING AND DECORATING<br>INC |                                | 437 SUNRISE HIGHWAY<br>WEST BABYLON NY 11707   | 08/12/2013 | 08/12/2018 |
| DOL | DOL | ****3538 | DELTA CONTRACTING<br>PAINTING AND DESIGN INC        |                                | 75 MCCULLOCH DRIVE<br>DIX HILLS NY 11746   | 10/19/2010 | 08/12/2018 |
| DOL | DOL |          | DEMETRIOS KOUTSOURAS                                |                                | 530 BEECH STREET<br>NEW HYDE PARK NY 11040   | 07/02/2012 | 07/02/2017 |
| DOL | DOL | ****9868 | DESANTIS ENTERPRISES                                |                                | 161 OSWEGO RIVER ROAD<br>PHOENIX NY 13135  | 09/24/2013 | 11/18/2018 |
| DOL | NYC | ****8234 | DEWATERS PLUMBING AND<br>HEATING LLC                |                                | 30 COLUMBUS CIRCLE<br>EASTCHESTER NY 10709   | 08/21/2012 | 08/21/2017 |
| DOL | DOL | ****9252 | DI BERNARDO TILE AND<br>MARBLE CO INC               |                                | 15 WALKER WAY<br>ALBANY NY 12205   | 03/21/2014 | 03/21/2019 |
| DOL | DOL |          | DIANE DEAVER  |                                | 731 WARWICK TURNPIKE<br>HEWITT NJ 07421  | 06/25/2012 | 12/11/2017 |
| DOL | DOL |          | DORIS SKODA   |                                | C/O APCO CONTRACTING<br>CORP<br>24 SOUTH MARYLAND<br>AVENUEPORT WASHINGTON<br>NY 11050 | 09/24/2012 | 09/24/2017 |
| DOL | DOL |          | DRAGOLJUB RADOJEVIC                                 |                                | 61 WILLET ST - SUITE 14<br>PASSAIC NJ 07055  | 12/03/2009 | 07/09/2015 |
| DOL | DOL | ****6982 | DUFOR GROUP INC                                     | DUFOR<br>MASONRY               | 353 WEST 56TH STREET #7M<br>NEW YORK NY 10019  | 06/10/2014 | 06/10/2019 |

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| DOL | DOL |           | DUFOUR MASONRY                          |                         | 353 WEST 56TH ST #7M<br>NEW YORK NY 10019                            | 06/10/2014 | 06/10/2019 |
| DOL | DOL |           | DUFOUR MASONRY &<br>RESTORATION INC     |                         | 353 WEST 56TH STREET #7M<br>NEW YORK NY 10019                        | 06/10/2014 | 06/10/2019 |
| DOL | DOL | *****5840 | DYNA CONTRACTING INC                    |                         | 363 88TH STREET<br>BROOKLYN NY 11209                                 | 11/18/2013 | 11/18/2018 |
| DOL | NYC | *****6176 | E N E L ELECTRICAL CORP                 |                         | 1107 MCDONALD AVENUE<br>BROOKLYN NY 11230                            | 07/30/2010 | 07/30/2015 |
| DOL | DOL |           | EARL GALBREATH                          |                         | 640 ASHFORD AVENUE<br>ARDSLEY NY 10502                               | 08/27/2013 | 08/27/2018 |
| DOL | DOL | *****1496 | EAST COAST DRYWALL INC                  |                         | 1238 PRESIDENT STREET<br>BROOKLYN NY 11225                           | 11/18/2013 | 11/18/2018 |
| DOL | DOL | *****8011 | EOCA CLEANING<br>CONTRACTORS INC        |                         | P O BOX 21-1022<br>BROOKLYN NY 11221                                 | 05/16/2012 | 05/16/2017 |
| DOL | NYC | *****8074 | ECONOMY IRON WORKS INC                  |                         | 670 SOUTHERN BLVD<br>BRONX NY 10455                                  | 06/14/2011 | 06/14/2016 |
| DOL | DOL |           | EDWARD L GAUTHIER                       |                         | C/O IMPERIAL MASONRY<br>REST<br>141 ARGONNE<br>DRIVEKENMORE NY 14217 | 10/03/2012 | 10/03/2017 |
| DOL | NYC |           | EDWARD MENKEN                           |                         | C/O AQUA JET PAINTING<br>10 VIKING DRIVEWEST ISLIP<br>NY 11795       | 04/16/2014 | 04/16/2019 |
| DOL | NYC | *****0900 | EF PRO CONTRACTING INC                  |                         | 147 BROOME AVENUE<br>ATLANTIC BEACH NY 11509                         | 03/03/2014 | 03/03/2019 |
| DOL | NYC |           | EFSTRATIOS BERNARDIS                    |                         | 23-73 48TH STREET<br>LONG ISLAND CITY NY 11103                       | 04/24/2014 | 04/24/2019 |
| DOL | NYC | *****6260 | EL TREBOL SPECIAL<br>CLEANING INC       |                         | 95-26 76TH STREET<br>OZONE PARK NY 11416                             | 10/12/2011 | 10/12/2016 |
| DOL | DOL |           | ELIZABETH RAMADANI                      |                         | C/O RAMADA CONSTRUCTION<br>80 SAVO LOOPSTATEN<br>ISLAND NY 10309     | 01/07/2014 | 01/07/2019 |
| DOL | DOL |           | ELLEN DESANTIS                          | DESANTIS<br>ENTERPRISES | 161 OSWEGO RIVER ROAD<br>PHOENIX NY 13135                            | 09/24/2013 | 11/18/2018 |
| DOL | DOL | *****0780 | EMES HEATING & PLUMBING<br>CONTR        |                         | 5 EMES LANE<br>MONSEY NY 10952                                       | 01/20/2002 | 01/20/3002 |
| DOL | AG  |           | EMILIO FRANZA                           |                         | 90 JUNIUS STREET<br>BROOKLYN NY 11212                                | 01/23/2014 | 01/23/2019 |
| DOL | DOL |           | EMPIRE CONCRETE<br>SERVICES LLC         |                         | 101 SULLYS TRAIL/SUITE 20<br>PITTSFORD NY 14534                      | 11/18/2013 | 01/07/2019 |
| DOL | DOL | *****0511 | EMPIRE CONCRETE SYSTEMS<br>LLC          |                         | 101 SULLYS TRAIL/ SUITE 2<br>PITTSFORD NY 14534                      | 11/18/2013 | 01/07/2019 |
| DOL | DOL | *****2353 | EMPIRE CONSTRUCTORS LLC                 |                         | 101 SULLYS TRAIL/SUITE 20<br>PITTSFORD NY 14534                      | 11/18/2013 | 01/07/2019 |
| DOL | DOL |           | EMPIRE PRECAST LLC                      |                         | 101 SULLYS TRAIL/SUITE 20<br>PITTSFORD NY 14534                      | 11/18/2013 | 01/07/2019 |
| DOL | DOL | *****6101 | ENHANCED DATA COM INC                   |                         | 75 SHERBROOK ROAD<br>NORTH BABYLON NY 11704                          | 07/01/2010 | 07/01/2015 |
| DOL | DOL |           | ERIKA BARNETT                           |                         | 253 BEACH BREEZE LANE<br>UNIT BARVERNE NY 11692                      | 02/05/2013 | 02/05/2018 |
| DOL | DOL |           | ESTEVEES & FRAGA<br>CONSTRUCTION CO INC |                         | 986 MADISON AVENUE<br>PATERSON NJ 07501                              | 01/03/2013 | 01/03/2018 |
| DOL | DOL |           | ESTEVEES & FRAGA INC                    |                         | 986 MADISON AVENUE<br>PATERSON NJ 07501                              | 01/03/2013 | 01/03/2018 |
| DOL | DOL |           | EVELIO ELLEDIAS                         |                         | 114 PEARL STREET<br>PORT CHESTER NY 10573                            | 08/15/2012 | 08/15/2017 |
| DOL | NYC |           | EVERTON CARLESS                         |                         | 134 EVERGREEN PL/STE 101<br>EAST ORANGE NJ 07018                     | 12/30/2013 | 12/30/2018 |
| DOL | DOL |           | F KALAFATIS                             |                         | 2279 HOLLERS AVENUE<br>BRONX NY 10475                                | 01/07/2014 | 06/23/2019 |
| DOL | DOL |           | FANTASTIC PAINTING                      |                         | 493 LANSING ROAD<br>FULTONVILLE NY 12072                             | 11/18/2013 | 11/18/2018 |
| DOL | DOL | *****5867 | FJM-FERRO INC                           |                         | 6820 14TH AVENUE<br>BROOKLYN NY 11219                                | 10/27/2011 | 10/27/2016 |
| DOL | DOL | *****1311 | FLOZ-ON PAINTING &<br>DECORATING INC    |                         | 12 DUNDERBERG ROAD<br>TOMKINS NY 10986                               | 10/16/2013 | 10/16/2018 |
| DOL | DOL | *****8961 | FLOZ-ON PAINTING INC                    |                         | 12 DUNDERBERG ROAD<br>TOMKINS NY 10986                               | 10/16/2013 | 10/16/2018 |
| DOL | DOL |           | FMS                                     |                         | 4 LEGHORN COURT<br>NEW YORK NY 11746                                 | 11/28/2012 | 11/28/2017 |
| DOL | DOL | *****8067 | FORTH SPORT FLOORS INC                  |                         | P O BOX 74<br>EAST GREENBUSH NY 12061                                | 02/28/2012 | 10/01/2017 |
| DOL | DOL |           | FRAN MICELI                             |                         | 2279 HOLLERS AVENUE<br>BRONX NY 10475                                | 01/07/2014 | 06/23/2019 |
| DOL | DOL |           | FRANCES KALAFATIS                       |                         | 2279 HOLLERS AVENUE<br>BRONX NY 10475                                | 01/07/2014 | 06/23/2019 |

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| DOL | DOL |           | FRANCES KALAFATIS-MICELI               |  | 2279 HOLLERS AVENUE<br>BRONX NY 10475                              | 01/07/2014 | 06/23/2019 |
| DOL | NYC |           | FRANK ACOCELLA                         |  | 68 GAYLORD ROAD<br>SCARSDALE NY 10583                              | 02/10/2011 | 02/10/2016 |
| DOL | DOL |           | FRANK J MERCANDO                       |  | 134 MURRAY AVENUE<br>YONKERS NY 10704                              | 12/11/2009 | 02/03/2019 |
| DOL | DOL |           | FRANK MICELI JR                        | C/O FRANK<br>MICELI JR<br>CONTRACTIN<br>G INC    | 19 CLIFF STREET<br>NEW ROCHELLE NY 10801                           | 10/16/2013 | 10/16/2018 |
| DOL | DOL | *****1321 | FRANK MICELI JR<br>CONTRACTING INC     |  | 19 CLIFF STREET<br>NEW ROCHELLE NY 10801                           | 10/16/2013 | 10/16/2018 |
| DOL | DOL |           | FRANK ORTIZ                            |  | 75 SHERBROOK ROAD<br>NORTH BABYLON NY 11704                        | 07/01/2010 | 07/01/2015 |
| DOL | DOL |           | FRED ABDO                              | ABDO TILE<br>COMPANY<br>AKA ABDO<br>TILE CO      | 6179 EAST MOLLOY ROAD<br>EAST SYRACUSE NY 13057                    | 06/25/2010 | 07/02/2017 |
| DOL | DOL | *****2724 | FRESH START PAINTING<br>CORP           |  | 157 TIBBETS ROAD<br>YONKERS NY 10705                               | 03/12/2014 | 03/12/2019 |
| DOL | DOL | *****9202 | G & M PAINTING<br>ENTERPRISES INC      |  | 13915 VILLAGE LANE<br>RIVERVIEW MI 48192                           | 02/05/2010 | 02/05/2015 |
| DOL | DOL |           | G FUCCI CONSTRUCTION<br>SERVICES       |  | 3 ALAN B SHEPARD PLACE<br>YONKERS NY 10705                         | 03/12/2014 | 03/12/2019 |
| DOL | DOL | *****6767 | G FUCCI PAINTING INC                   |  | C/O SPIEGEL & UTRERA<br>1 MAIDEN LANE - 5TH FLNEW<br>YORK NY 10038 | 03/12/2014 | 03/12/2019 |
| DOL | DOL | *****4546 | GAF PAINTING LLC                       |  | 157 TIBBETS ROAD<br>YONKERS NY 10705                               | 03/12/2014 | 03/12/2019 |
| DOL | DOL |           | GARDEN STATE PAINTING                  |  | 157 TIBBETTS ROAD<br>YONKERS NY 10705                              | 03/12/2014 | 03/12/2019 |
| DOL | DOL |           | GARY MCDOWELL                          | GM<br>CONSTRUCTI<br>ON & LAWN<br>CARE<br>SERVICE | 76 PLEASANT STREET<br>WELLSVILLE NY 14895                          | 06/11/2013 | 06/11/2018 |
| DOL | DOL | *****6826 | GBE CONTRACTING<br>CORPORATION         |  | 12-14 UTOPIA PARKWAY<br>WHITESTONE NY 11357                        | 02/10/2010 | 02/10/2015 |
| DOL | NYC |           | GELSOMINA TASSONE                      |  | 25 CLIFF STREET<br>NEW ROCHELLE NY 10801                           | 06/15/2010 | 06/15/2015 |
| DOL | DOL |           | GEORGE A PATTI III                     |  | P O BOX 772<br>JAMESTOWN NY 14701                                  | 08/13/2010 | 08/13/2015 |
| DOL | DOL |           | GEORGE DI BERNARDO                     |  | C/O DI BERNARDO TILE<br>15 WALKER WAYALBANY NY<br>12205            | 03/21/2014 | 03/21/2019 |
| DOL | NYC |           | GEORGE LUCEY                           |  | 150 KINGS STREET<br>BROOKLYN NY 11231                              | 01/19/1998 | 01/19/2998 |
| DOL | DOL |           | GEORGE SHINAS                          |  | 12-14 UTOPIA PARKWAY<br>WHITESTONE NY 11357                        | 02/10/2010 | 02/10/2015 |
| DOL | DOL |           | GERALD A POLLOCK                       |  | 336 TOMPKINS STREET<br>CORTLAND NY 13045                           | 06/29/2010 | 07/15/2016 |
| DOL | DOL |           | GERALD F POLUCH JR                     |  | 2085 BRIGHTON HENRIETTA<br>TOWN LINE<br>ROADROCHESTER NY 14623     | 11/04/2010 | 11/04/2015 |
| DOL | DOL | *****1075 | GLOBAL TANK<br>CONSTRUCTION LLC        |  | P O BOX 1238<br>SALINA OK 74365                                    | 11/28/2012 | 11/28/2017 |
| DOL | DOL | *****0878 | GM CONSTRUCTION & LAWN<br>CARE SERVICE |  | 76 PLEASANT STREET<br>WELLSVILLE NY 14895                          | 06/11/2013 | 06/11/2018 |
| DOL | DOL | *****0090 | GOLDS FLOORING<br>INSTALLATIONS INC    |  | 25 HAMILTON ROAD<br>MONTICELLO NY 12701                            | 10/16/2013 | 10/16/2018 |
| DOL | DOL | *****4013 | GR GRATES CONSTRUCTION<br>CORPORATION  |  | 63 IRONWOOD ROAD<br>UTICA NY 13520                                 | 06/14/2010 | 06/14/2015 |
| DOL | DOL |           | GRATES MERCHANT NANNA<br>INC           |  | 63 IRONWOOD ROAD<br>UTICA NY 13520                                 | 06/14/2010 | 06/15/2015 |
| DOL | DOL |           | GREGG G GRATES                         |  | 63 IRONWOOD ROAD<br>UTICA NY 13520                                 | 06/14/2010 | 06/14/2015 |
| DOL | DOL |           | GREGORY A FUCCI                        |  | C/O PAF PAINTING SERVICES<br>157 TIBBETTS ROADYONKERS<br>NY 10705  | 03/12/2014 | 03/12/2019 |
| DOL | DOL |           | GREGORY FUCCI JR                       |  | C/O APOLLO CONSTRUCTION<br>157 TIBBETTS ROADYONKERS<br>NY 10705    | 03/12/2014 | 03/12/2019 |
| DOL | DOL |           | GRETCHEN SULLIVAN                      |  | P O BOX 130<br>CRETE IL 60417                                      | 11/10/2011 | 11/10/2016 |
| DOL | DOL | *****7735 | GRYF CONSTRUCTION INC                  |  | 394 SPOTSWOOD-ENGLISH<br>RD<br>MONROE NJ 08831                     | 08/08/2011 | 08/08/2016 |
| DOL | DOL | *****9456 | GUILLO CONTRACTING CORP                |  | P O BOX 229<br>CALVERTON NY 11933                                  | 07/08/2013 | 07/08/2018 |

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| DOL | DOL |          | GUS PAPASTEFANOU                    |  | C/O D & G PAINTING & DECO<br>53 LITTLE COLLABAR<br>ROADMONTGOMERY NY<br>12549 | 04/19/2012 | 04/19/2017 |
| DOL | NYC | ****0346 | H N H CONTRACTORS CORP              |  | 4558 BROADWAY # 6<br>NEW YORK NY 10040  | 08/04/2014 | 08/04/2019 |
| DOL | DOL |          | H.H. RAUH CONSTRUCTION,<br>LLC      |  | 2930 RT. 394<br>ASHVILLE NY 14710   | 01/14/2011 | 01/14/2016 |
| DOL | DOL | ****2499 | H.H. RAUH CONTRACTING<br>CO., LLC   |  | 2930 RT. 394<br>ASHVILLE NY 14710   | 01/14/2011 | 01/14/2016 |
| DOL | DOL |          | H.H. RAUH PAVING, INC.              |  | 7 WEST 1ST ST.<br>LAKEWOOD NY 14750   | 01/14/2011 | 01/14/2016 |
| DOL | DOL |          | HALSSAM FOSTOK                      |  | 5 HANSEN PLACE<br>WAYNE NJ 07470  | 09/18/2013 | 09/18/2018 |
| DOL | NYC |          | HAMEEDUL HASAN                      |  | 240 HOME STREET<br>TEANECK NJ 07666   | 08/04/2014 | 08/04/2019 |
| DOL | AG  | ****9918 | HARA ELECTRIC CORP                  |  | 2461 47TH STREET<br>ASTORIA NY 11103  | 09/26/2013 | 09/26/2018 |
| DOL | DOL | ****5405 | HARD LINE CONTRACTING<br>INC        |  | 89 EDISON AVENUE<br>MOUNT VERNON NY 10550                                     | 10/28/2011 | 10/28/2016 |
| DOL | AG  |          | HARVINDER SINGH PAUL                |  | 90 JUNIUS STREET<br>BROOKLYN NY 11212   | 01/23/2014 | 01/23/2019 |
| DOL | DOL |          | HI-TECH CONTRACTING CORP            |  | 114 PEARL STREET<br>PORT CHESTER NY 10573                                     | 08/15/2012 | 08/15/2017 |
| DOL | DOL | ****4331 | HIDDEN VALLEY EXCAVATING<br>INC     |  | 225 SEYMOUR STREET<br>FREDONIA NY 14063                                       | 02/08/2011 | 02/08/2016 |
| DOL | DOL | ****8426 | IMPERIAL MASONRY<br>RESTORATION INC |  | 141 ARGONNE DRIVE<br>KENMORE NY 14217   | 10/03/2012 | 10/03/2017 |
| DOL | DOL | ****7561 | INDUS GENERAL<br>CONSTRUCTION       |  | 33-04 91ST STREET<br>JACKSON HEIGHTS NY 11372                                 | 04/28/2010 | 04/28/2015 |
| DOL | DA  | ****1958 | IRON HORSE ONE INC                  |  | 10 ROSWELL AVENUE<br>OCEANSIDE NY 11572                                       | 09/30/2010 | 09/30/2015 |
| DOL | DOL |          | ISABEL FRAGA                        |  | C/O THREE FRIENDS CONSTR<br>986 MADISON<br>AVENUEPATERSON NJ 07501            | 01/03/2013 | 01/03/2018 |
| DOL | DOL | ****7598 | J M RICH LLC                        |  | P O BOX 268<br>STILLWATER NY 12170  | 09/16/2013 | 03/21/2019 |
| DOL | DOL | ****3478 | J N P CONSTRUCTION CORP             |  | 50 LOUIS COURT<br>P O BOX 1907SOUTH<br>HACKENSACK NY 07606                    | 03/21/2014 | 03/21/2019 |
| DOL | DOL |          | J N RICH LLC                        |  | P O BOX 268<br>STILLWATER NY 12170  | 09/16/2013 | 03/21/2019 |
| DOL | DOL | ****9368 | J TECH CONSTRUCTION                 |  | PO BOX 64782<br>ROCHESTER NY 14624  | 09/24/2012 | 09/24/2017 |
| DOL | DOL |          | J THE HANDYMAN                      |  |   | 09/24/2012 | 09/24/2017 |
| DOL | DOL |          | JACQUELINE HOWE                     |  | C/O FLOZ-ON PAINTING INC<br>12 DUNDERBERG<br>ROADTOMKINS NY 10986             | 10/16/2013 | 10/16/2018 |
| DOL | DOL | ****8627 | JAG I LLC                           |  | 635 LUZERNE ROAD<br>QUEENSBURY NY 12804                                       | 09/16/2013 | 09/16/2018 |
| DOL | DOL | ****2868 | JAG INDUSTRIES INC                  |  | 175 BROAD ST - SUITE 320<br>GLENS FALLS NY 12801                              | 09/16/2013 | 09/16/2018 |
| DOL | DOL |          | JAMES BOYCE                         |  | C/O EMPIRE CONCRETE SYST<br>101 SULLYS TRAIL/SUITE<br>20PITTSFORD NY 14534    | 11/18/2013 | 01/07/2019 |
| DOL | DOL |          | JAMES SICKAU                        |  | 3090 SHIRLEY ROAD<br>NORTH COLLINS NY 14111                                   | 04/19/2011 | 12/30/2016 |
| DOL | DOL |          | JAMES WALSH                         |  | 89 EDISON AVENUE<br>MOUNT VERNON NY 10550                                     | 10/28/2011 | 10/28/2016 |
| DOL | DOL |          | JASON M RICH                        |  | P O BOX 268<br>STILLWATER NY 12170  | 09/16/2013 | 03/21/2019 |
| DOL | DOL |          | JAY PRESUTTI                        |  | C/O CONSOLIDATED<br>INDUSTRI<br>2051 ROUTE 44/55MODENA NY<br>12548            | 01/28/2013 | 01/28/2018 |
| DOL | DOL |          | JEFF P BRADLEY                      |  | 520 PINE HILL ROAD<br>CHESTER NY 10940  | 06/23/2014 | 06/23/2019 |
| DOL | DOL |          | JEFFREY A NANNA                     |  | 502 WOODBURNE DRIVE<br>UTICA NY 13502   | 06/14/2010 | 06/14/2015 |
| DOL | NYC |          | JEFFREY CASSIDY                     |  | 14 RAILROAD AVENUE<br>VALHALLA NY 10595                                       | 05/15/2014 | 05/15/2019 |
| DOL | DOL |          | JERALD HOWE                         |  | C/O FLOZ-ON PAINTING INC<br>12 DUNDERBERG<br>ROADTOMKINS NY 10986             | 10/16/2013 | 10/16/2018 |
| DOL | DOL |          | JEROME LACITIGNOLA                  |  | C/O CATSKILL FENCE INSTAL<br>5445 ROUTE 32 CATSKILL NY<br>12414               | 08/22/2014 | 08/22/2019 |

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| DOL | NYC |          | JERRY DEWATERS                                      |  | 30 COLUMBUS CIRCLE<br>EASTCHESTER NY 10709                       | 08/21/2012 | 08/21/2017 |
| DOL | DOL |          | JOHN CATONE   |  | C/O CATONE CONSTRUCTION<br>294 ALPINE<br>ROADROCHESTER NY 14612  | 03/09/2012 | 03/09/2017 |
| DOL | DOL |          | JOHN DESCUL   |  | 437 SUNRISE HIGHWAYA<br>WEST BABYLON NY 11704                    | 08/12/2013 | 08/12/2018 |
| DOL | NYC |          | JOHN DITURI   |  | 1107 MCDONALD AVENUE<br>BROOKLYN NY 11230                        | 07/30/2010 | 07/30/2015 |
| DOL | NYC |          | JOHN FICARELLI                                      |  | 120-30 28TH AVENUE<br>FLUSHING NY 11354                          | 01/14/2011 | 01/14/2016 |
| DOL | DOL |          | JOHN H LEE  | JOHN LEE<br>QUALITY<br>PAVING          | 67 WILER ROAD<br>HILTON NY 14468                                 | 01/28/2013 | 01/28/2018 |
| DOL | DOL |          | JOHN JIULIANNI                                      |  | 222 GAINSBORG AVENUE E<br>WEST HARRISON NY 10604                 | 05/10/2010 | 05/10/2015 |
| DOL | DOL | ****1749 | JOHN LEE QUALITY PAVING                             |  | 67 WILER ROAD<br>HILTON NY 14468                                 | 01/28/2013 | 01/28/2018 |
| DOL | DOL | ****2701 | JOHN SMYKLA   | AFFORDABLE<br>PAINTING<br>PLUS         | 367 GREEVES ROAD<br>NEW HAMPTON NY 10958                         | 10/01/2010 | 10/01/2015 |
| DOL | DOL | ****9368 | JORGE I DELEON                                      | J TECH<br>CONSTRUCTI<br>ON             | PO BOX 64782<br>ROCHESTER NY 14624                               | 09/24/2012 | 09/24/2017 |
| DOL | DOL |          | JORGE OUVINA  |  | 344 SOUNDVIEW LANE<br>COLLEGE POINT NY 11356                     | 11/22/2011 | 11/22/2016 |
| DOL | DOL |          | JOSE MONTAS   |  | 27 BUTLER PLACE<br>YONKERS NY 10710                              | 03/18/2011 | 03/15/2017 |
| DOL | DOL |          | JOSEPH CASUCCI                                      |  | 6820 14TH AVENUE<br>BROOKLYN NY 11219                            | 10/27/2011 | 10/27/2016 |
| DOL | DOL |          | JOSEPH MARTONE                                      |  | 112 OSCAWANA HEIGHTS<br>ROAD<br>PUTNAM VALLEY NY 10542           | 08/27/2013 | 08/27/2018 |
| DOL | DOL |          | JOSHUA DEBOWSKY                                     |  | 9547 BUSTLETON AVENUE<br>PHILADELPHIA PA 19115                   | 02/05/2014 | 02/05/2019 |
| DOL | DOL |          | JOYA MUSCOLINO                                      |  | 10 ST CHARLES STREET<br>THORNWOOD NY 10594                       | 09/03/2013 | 09/03/2018 |
| DOL | DOL | ****4340 | JUBCO SITE DEVELOPMENT<br>LLC                       |  | 462 LAKEVIEW AVENUE<br>VALHALLA NY 10595                         | 12/16/2013 | 12/16/2018 |
| DOL | DOL |          | JULIUS AND GITA BEHREND                             |  | 5 EMES LANE<br>MONSEY NY 10952                                   | 11/20/2002 | 11/20/3002 |
| DOL | NYC |          | KAMIL OZTURK  |  | 3715 KINGS HWY - STE 1D<br>BROOKLYN NY 11234                     | 06/30/2010 | 06/30/2015 |
| DOL | DOL |          | KAREN HARTMAN                                       |  | C/O GUILLO CONTRACTING<br>P O BOX 229CALVERTON NY<br>11933       | 07/08/2013 | 07/08/2018 |
| DOL | NYC |          | KATHLEEN SELA                                       | C/O COLONIAL<br>ROOFING<br>COMPANY INC | 247 48TH STREET<br>BROOKLYN NY 11220                             | 02/05/2014 | 02/05/2019 |
| DOL | DOL |          | KEITH SCHEPIS                                       |  | C/O KJS HAULING AND HOME<br>95 MAPLE AVENUE NEW CITY<br>NY 10956 | 04/15/2013 | 04/15/2018 |
| DOL | DOL |          | KEN DEAVER  |  | 731 WARWICK TURNPIKE<br>HEWITT NJ 07421                          | 06/25/2012 | 12/11/2017 |
| DOL | DOL |          | KEVIN BABCOCK JR                                    |  | P O BOX 46<br>THOMPSON RIDGE NY 10985                            | 08/22/2014 | 08/22/2019 |
| DOL | DOL |          | KEVIN M BABCOCK                                     |  | P O BOX 46<br>THOMPSON RIDGE NY 10985                            | 08/22/2014 | 08/22/2019 |
| DOL | DOL | ****5941 | KINGSVIEW ENTERPRISES<br>INC                        |  | 7 W FIRST STREET<br>P O BOX 2LAKEWOOD NY<br>14750                | 01/14/2011 | 01/14/2016 |
| DOL | DOL | ****2463 | KJS HAULING AND HOME<br>IMPROVEMENT INC             |  | 95 MAPLE AVENUE<br>NEW CITY NY 10956                             | 04/15/2013 | 04/15/2018 |
| DOL | AG  |          | KOSTAS "GUS"<br>ANDRIKOPOULOS                       |  | 2461 47TH STREET<br>ASTORIA NY 11103                             | 09/26/2013 | 09/26/2018 |
| DOL | DOL |          | KRZYSZTOF PRXYBYL                                   |  | 2 TINA LANE<br>HOPEWELL JUNCTION NY<br>12533                     | 01/06/2012 | 01/06/2017 |
| DOL | DOL | ****6033 | KUSNIR CONSTRUCTION                                 |  | 2677 ANAWALK ROAD<br>KATONAH NY 10536                            | 08/03/2012 | 08/03/2017 |
| DOL | DOL | ****0526 | LAGUARDIA CONSTRUCTION<br>CORP                      |  | 47-40 48TH STREET<br>WOODSIDE NY 11377                           | 07/01/2011 | 07/01/2016 |
| DOL | NYC | ****8816 | LAKE CONSTRUCTION AND<br>DEVELOPMENT<br>CORPORATION |  | 150 KINGS STREET<br>BROOKLYN NY 11231                            | 08/19/1998 | 08/19/2998 |
| DOL | DOL |          | LARRY DOMINGUEZ                                     |  | 114 PEARL STREET<br>PORT CHESTER NY 10573                        | 08/15/2012 | 08/15/2017 |

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| DOL | DOL |          | Laura A. Gauthier                           |                                | C/O IMPERIAL MASONRY<br>REST<br>141 ARGONNE<br>DRIVEKENMORE NY 14217         | 10/03/2012 | 10/03/2017 |
| DOL | DOL |          | Lauri Martone                               |                                | 112 OSCAWANA HEIGHTS<br>ROAD<br>PUTNAM VALLEY NY 10542                       | 08/27/2013 | 08/27/2018 |
| DOL | DOL |          | Lavern Glave                                |                                | C/O RAW POWER ELECTRIC<br>3 PARK CIRCLEMIDDLETOWN<br>NY 10940                | 09/15/2014 | 09/15/2019 |
| DOL | DOL |          | Lawrence J Ruggles                          |                                | P O BOX 371<br>ROUND LAKE NY 12151   | 05/12/2014 | 05/12/2019 |
| DOL | DOL | ****0597 | LEED INDUSTRIES CORP                        | HI-TECH<br>CONTRACTING<br>CORP | 114 PEART STREET<br>PORT CHESTER NY 10573                                    | 08/15/2012 | 08/15/2017 |
| DOL | AG  |          | Leonid Fridman                              |                                | APT 5<br>200 BRIGHTON, 15TH<br>STBROOKLYN NY 11235                           | 01/23/2013 | 01/23/2019 |
| DOL | DOL | ****8453 | LINPHILL ELECTRICAL<br>CONTRACTORS INC      |                                | 523 SOUTH 10TH AVENUE<br>MOUNT VERNON NY 10553                               | 01/07/2011 | 04/15/2018 |
| DOL | DOL |          | Linval Brown                                |                                | 523 SOUTH 10TH AVENUE<br>MOUNT VERNON NY 10553                               | 01/07/2011 | 04/15/2018 |
| DOL | DOL | ****5171 | LUVIN CONSTRUCTION CORP                     |                                | P O BOX 357<br>CARLE PLACE NY 11514  | 03/15/2010 | 03/15/2015 |
| DOL | NYC | ****2850 | M A 2 FLAGS CONTRACTING<br>CORP             |                                | 25-18 100TH STREET<br>EAST ELMHURST NY 11369                                 | 08/21/2013 | 08/21/2018 |
| DOL | NYC | ****3141 | Mackey Reed Electric Inc                    |                                | 1ST FLOOR STORE FRONT<br>88-10 LITTLE NECK<br>PARKWAYFLORAL PARK NY<br>11001 | 06/24/2014 | 06/24/2019 |
| DOL | DOL |          | Manuel Esteves                              |                                | 55 OLD TURNPIKE ROAD<br>SUITE 612NANUET NY 10954                             | 02/04/2011 | 02/04/2016 |
| DOL | NYC |          | Manuel P Tobio                              |                                | 150 KINGS STREET<br>BROOKLYN NY 14444  | 08/19/1998 | 08/19/2998 |
| DOL | NYC |          | Manuel Tobio                                |                                | 150 KINGS STREET<br>BROOKLYN NY 11231  | 08/19/1998 | 08/19/2998 |
| DOL | DOL |          | MAR CONTRACTING CORP                        |                                | 620 COMMERCE STREET<br>THORNWOOD NY 10594                                    | 09/24/2012 | 09/24/2017 |
| DOL | DOL |          | Margaret Forth                              |                                | P O BOX 74<br>EAST GREENBUSH NY 12061  | 02/28/2012 | 10/01/2017 |
| DOL | DOL |          | Maria Esteves aka Maria<br>Martins          |                                | C/O THREE FRIENDS CONSTR<br>986 MADISON<br>AVENUEPATERSON NJ 07501           | 01/03/2013 | 01/03/2018 |
| DOL | DOL |          | Maria Martins aka Maria<br>Esteves          |                                | C/O THREE FRIENDS CONSTR<br>986 MADISON<br>AVENUEPATERSON NJ 07501           | 01/03/2013 | 01/03/2018 |
| DOL | DOL |          | Mario Luis                                  |                                | 31 DURANT AVENUE<br>BETHEL CT 06801  | 07/02/2012 | 07/02/2017 |
| DOL | DOL |          | Mario R Echeverria Jr                       |                                | 588 MEACHAM AVE-SUITE 103<br>ELMONT NY 11003                                 | 08/24/2010 | 08/24/2015 |
| DOL | DOL | ****5533 | MARQUISE CONSTRUCTION &<br>DEVELOPMENT CORP |                                | 10 ST CHARLES STREET<br>THORNWOOD NY 10594                                   | 09/03/2013 | 09/03/2018 |
| DOL | DOL | ****8810 | MARQUISE CONSTRUCTION<br>ASSOCIATES INC     |                                | 20 BOSWELL ROAD<br>PUTNAM VALLEY NY 10579                                    | 09/03/2013 | 09/03/2018 |
| DOL | DOL | ****1134 | MARQUISE CONSTRUCTION<br>CORP               |                                | 10 ST CHARLES STREET<br>THORNWOOD NY 10594                                   | 09/03/2013 | 09/03/2018 |
| DOL | NYC | ****4314 | MASCON RESTORATION INC                      |                                | 129-06 18TH AVENUE<br>COLLEGE POINT NY 11356                                 | 02/09/2012 | 02/09/2017 |
| DOL | NYC | ****4314 | MASCON RESTORATION LLC                      |                                | 129-06 18TH AVENUE<br>COLLEGE POINT NY 11356                                 | 02/09/2012 | 02/09/2017 |
| DOL | DOL | ****0845 | MASONRY CONSTRUCTION<br>INC                 |                                | 442 ARMONK ROAD<br>MOUNT KISCO NY 10549                                      | 12/04/2009 | 05/04/2017 |
| DOL | DOL | ****3333 | MASONRY INDUSTRIES INC                      |                                | 442 ARMONK ROAD<br>MOUNT KISCO NY 10549                                      | 12/04/2009 | 05/04/2017 |
| DOL | DOL | ****4638 | MATSOS CONTRACTING<br>CORPORATION           |                                | 12-14 UTOPIA PARKWAY<br>WHITESTONE NY 11357                                  | 02/10/2010 | 02/10/2015 |
| DOL | DOL | ****9857 | MBL CONTRACTING<br>CORPORATION              |                                | 2620 ST RAYMOND AVENUE<br>BRONX NY 10461                                     | 08/30/2011 | 08/30/2016 |
| DOL | DOL | ****9028 | MCINTOSH INTERIORS LLC                      |                                | 8531 AVENUE B<br>BROOKLYN NY 11236   | 02/05/2013 | 02/05/2018 |
| DOL | DOL | ****5936 | MCSI ADVANCED AV<br>SOLUTIONS LLC           |                                | 2085 BRIGHTON HENRIETTA<br>TOWN LINE<br>ROADROCHESTER NY 14623               | 11/04/2010 | 11/04/2015 |
| DOL | DOL | ****4259 | MERCANDO CONTRACTING<br>CO INC              |                                | 134 MURRAY AVENUE<br>YONKERS NY 10704  | 12/11/2009 | 02/03/2019 |
| DOL | DOL | ****0327 | MERCANDO INDUSTRIES LLC                     |                                | 134 MURRAY AVENUE<br>YONKERS NY 10704  | 12/11/2009 | 02/03/2019 |

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| DOL | NYC | ****5330 | METRO DUCT SYSTEMS INC  |                              | 12-19 ASTORIA BOULEVARD<br>LONG ISLAND CITY NY 11102              | 04/16/2014 | 06/24/2019 |
| DOL | DOL | ****3368 | MICEK CONSTRUCTION CO<br>INC                                    |                              | 20 CROSS STREET<br>FALCONER NY 14733                              | 12/02/2014 | 12/02/2019 |
| DOL | DOL | ****9198 | MICHAEL CZECHOWICZ  | OCTAGON CO                   | 37-11 35TH AVENUE-2ND FL<br>LONG ISLAND CITY NY 11101             | 01/08/2013 | 01/08/2018 |
| DOL | DOL |          | MICHAEL F LEARY JR  |                              | 3813 SNOWDEN HILL<br>ROADNEW HARTFORD NY<br>13413                 | 06/19/2013 | 06/19/2018 |
| DOL | DOL |          | MICHAEL F LEARY JR METAL<br>STUD & DRYWALL                      |                              | 3813 SNOWDEN HILL ROAD<br>NEW HARTFORD NY 13413                   | 06/19/2013 | 06/19/2018 |
| DOL | DOL |          | MICHAEL KTISTAKIS   |                              | 363 88TH STREET<br>BROOKLYN NY 11209                              | 11/18/2013 | 11/18/2018 |
| DOL | DOL | ****6033 | MICHAEL KUSNIR  | KUSNIR<br>CONSTRUCTI<br>ON   | 2677 ANAWALK ROAD<br>KATONAH NY 10536                             | 08/03/2012 | 08/03/2017 |
| DOL | DOL |          | MICHAEL MARGOLIN  |                              | 4 LEGHORN COURT<br>NEW YORK NY 11746                              | 11/28/2012 | 11/28/2017 |
| DOL | DOL |          | MICHELLE L BARBER   |                              | 635 LUZERNE ROAD<br>QUEENSBURY NY 12804                           | 09/16/2013 | 09/16/2018 |
| DOL | DOL | ****2635 | MIDLAND CONSTRUCTION OF<br>CEDAR LAKE INC                       |                              | 13216 CALUMET AVENUE<br>CEDAR LAKE IL 46303                       | 11/10/2011 | 11/10/2016 |
| DOL | NYC |          | MIGUEL ACOSTA   |                              | 25-18 100TH STREET<br>EAST ELMHURST NY 11369                      | 08/21/2013 | 08/21/2018 |
| DOL | DOL | ****5517 | MILLENNIUM PAINTING INC   |                              | 67 WARD ROAD<br>SALT POINT NY 12578                               | 01/21/2011 | 01/21/2016 |
| DOL | AG  |          | MOHAMMAD RIAZ   |                              | 46 RUGBY ROAD<br>WESTBURY NY 11590                                | 11/20/2013 | 11/20/2018 |
| DOL | NYC |          | MOHAMMAD SELIM  |                              | 73-12 35TH AVE - APT F63<br>JACKSON HEIGHTS NY 11372              | 03/04/2010 | 03/04/2015 |
| DOL | DA  |          | MOHAMMED SALEEM   |                              | 768 LYDIG AVENUE<br>BRONX NY 10462                                | 08/18/2009 | 05/25/2015 |
| DOL | NYC | ****2690 | MONDOL CONSTRUCTION INC   |                              | 11-27 30TH DRIVE<br>LONG ISLAND CITY NY 11102                     | 05/25/2011 | 05/25/2016 |
| DOL | DOL |          | MORTON LEVITIN  |                              | 3506 BAYFIELD BOULEVARD<br>OCEANSIDE NY 11572                     | 08/30/2011 | 08/30/2016 |
| DOL | DOL | ****2737 | MOUNTAIN'S AIR INC  |                              | 2471 OCEAN AVENUE- STE 7A<br>BROOKLYN NY 11229                    | 09/24/2012 | 09/24/2017 |
| DOL | NYC |          | MUHAMMAD ZULFIQAR   |                              | 129-06 18TH AVENUE<br>COLLEGE POINT NY 11356                      | 02/09/2012 | 02/09/2017 |
| DOL | DOL | ****2357 | MUNICIPAL MILLING & MIX-IN-<br>PLACE                            |                              | 9091 ERIE ROAD<br>ANGOLA NY 14006                                 | 02/03/2011 | 02/03/2016 |
| DOL | DOL |          | MURRAY FORTH  |                              | P O BOX 74<br>EAST GREENBUSH NY 12061                             | 02/28/2012 | 10/01/2017 |
| DOL | DA  | ****9642 | MUTUAL OF AMERICAL<br>GENERAL CONSTRUCTION &<br>MANAGEMENT CORP |                              | 768 LYDIG AVENUE<br>BRONX NY 10462                                | 08/18/2009 | 05/25/2015 |
| DOL | DOL |          | MUZAFFAR HUSSAIN  |                              | C/O ABSOLUTE GENERAL<br>CONT<br>1129 AVENUE UBROOKLYN NY<br>11229 | 01/28/2013 | 01/28/2018 |
| DOL | DA  | ****6988 | NEW YORK INSULATION INC   |                              | 58-48 59TH STREET<br>MASPETH NY 11378                             | 05/16/2012 | 05/16/2017 |
| DOL | DOL |          | NICHOLAS DEGREGORY JR   | NJ<br>DEGREGORY<br>& COMPANY | 1698 ROUTE 9<br>GLENNS FALLS NY 12801                             | 05/23/2013 | 05/23/2018 |
| DOL | NYC |          | NICHOLAS PROVENZANO   |                              | 147 BROOME AVENUE<br>ATLANTIC BEACH NY 11509                      | 03/03/2014 | 03/03/2019 |
| DOL | NYC |          | NICHOLAS PROVENZANO   |                              | 147 BROOME AVENUE<br>ATLANTIC BEACH NY 11509                      | 03/03/2014 | 03/03/2019 |
| DOL | DOL |          | NICOLE SPELLMAN   |                              | 2081 JACKSON AVENUE<br>COPIAGUE NY 11726                          | 06/03/2010 | 06/03/2015 |
| DOL | DOL |          | NIKOLAS PSAREAS   |                              | 656 N WELLWOOD AVE/STE C<br>LINDENHURST NY 11757                  | 09/01/2011 | 09/01/2016 |
| DOL | DOL | ****5279 | NJ DEGREGORY & COMPANY  |                              | 1698 ROUTE 9<br>GLENNS FALLS NY 12801                             | 05/23/2013 | 05/23/2018 |
| DOL | DOL |          | NJ DEGREGORY & SONS<br>CONSTRUCTION                             |                              | 1698 ROUTE 9<br>GLENNS FALLS NY 12801                             | 05/23/2013 | 05/23/2018 |
| DOL | DOL | ****9198 | OCTAGON CO  |                              | 37-11 35TH AVENUE-2ND FL<br>LONG ISLAND CITY NY 11101             | 01/08/2013 | 01/08/2018 |
| DOL | DOL |          | OKBY ELSAYED  |                              | 1541 EAST 56TH STREET<br>BROOKLYN NY 11234                        | 05/04/2012 | 05/04/2017 |
| DOL | NYC |          | OLIVER HOLGUIN  |                              | 95-26 76TH STREET<br>OZONE PARK NY 11416                          | 10/12/2011 | 10/12/2016 |
| DOL | NYC | ****8337 | OPTIMUM CONSTRUCTION<br>INC                                     |                              | 23-73 48TH STREET<br>LONG ISLAND CITY NY 11103                    | 04/24/2014 | 04/24/2019 |

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| DOL | NYC |          | ORSON ARROYO                                |                             | C/O METRO DUCT SYSTEMS<br>12-19 ASTORIA<br>BOULEVARDLONG ISLAND<br>CITY NY 11102 | 04/16/2014 | 06/24/2019 |
| DOL | DOL | ****4546 | PAF PAINTING CORP                           |                             | 161 TIBBETTS ROAD<br>YONKERS NY 10705  | 03/12/2014 | 03/12/2019 |
| DOL | DOL | ****5242 | PAF PAINTING SERVICES INC                   | GARDEN<br>STATE<br>PAINTING | 157 TIBBETTS ROAD<br>YONKERS NY 10103  | 03/12/2014 | 03/12/2019 |
| DOL | DOL |          | PAF PAINTING SERVICES OF<br>WESTCHESTER INC |                             | C/O SPIEGEL & UTRERA<br>1 MAIDEN LANE - 5TH FLNEW<br>YORK NY 10038               | 03/12/2014 | 03/12/2019 |
| DOL | DOL | ****5226 | PASCARELLA & SONS                           |                             | 459 EVERDALE AVENUE<br>WEST ISLIP NY 11759                                       | 01/10/2010 | 01/10/2015 |
| DOL | DOL | ****8802 | PAT'S HEATING AND AIR<br>CONDITIONING LTD   |                             | P O BOX 371<br>ROUND LAKE NY 12151   | 05/12/2014 | 05/12/2019 |
| DOL | DOL |          | PATRICIA M RUGGLES                          |                             | P O BOX 371<br>ROUND LAKE NY 12151   | 05/12/2014 | 05/12/2019 |
| DOL | DOL |          | PAUL VERNA                                  |                             | C/O AMERICAN STEEL<br>MECHA<br>693 PAINTER STREETMEDIA<br>PA 19063               | 02/20/2013 | 02/20/2018 |
| DOL | DOL |          | PEDRO RINCON                                |                             | 131 MELROSE STREET<br>BROOKLYN NY 11206  | 03/02/2010 | 03/02/2015 |
| DOL | DOL | ****9569 | PERFORM CONCRETE INC                        |                             | 31 DURANT AVENUE<br>BETHEL CT 06801  | 07/02/2012 | 07/02/2017 |
| DOL | NYC |          | PETER LUSTIG                                |                             | 30 COLUMBUS CIRCLE<br>EASTCHESTER NY 10709                                       | 08/21/2012 | 08/21/2017 |
| DOL | NYC |          | PETER TRITARIS                              |                             | 5990 58TH AVENUE<br>MASPETH NY 11378   | 11/18/2013 | 11/18/2018 |
| DOL | DOL | ****1136 | PHOENIX ELECTRICIANS<br>COMPANY INC         |                             | 540 BROADWAY<br>P O BOX 22222ALBANY NY<br>12201                                  | 03/09/2010 | 03/09/2015 |
| DOL | DOL | ****7914 | PRECISION SITE<br>DEVELOPMENT INC           |                             | 89 EDISON AVENUE<br>MOUNT VERNON NY 10550  | 10/28/2011 | 10/28/2016 |
| DOL | DOL | ****2989 | PROFESSIONAL ESTIMATING<br>& BUSINESS CORP  |                             | 157 TIBBETS ROAD<br>YONKERS NY 10705   | 03/12/2014 | 03/12/2019 |
| DOL | DOL | ****6895 | PROLINE CONCRETE OF WNY<br>INC              |                             | 3090 SHIRLEY ROAD<br>NORTH COLLINS NY 14111                                      | 04/19/2011 | 12/30/2016 |
| DOL | DOL | ****0015 | RAMADA CONSTRUCTION<br>CORP                 |                             | 80 SAVO LOOP<br>STATEN ISLAND NY 10309   | 01/07/2014 | 01/07/2019 |
| DOL | DOL |          | RAMON BONILLA                               |                             | 938 E 232ND STREET #2<br>BRONX NY 10466  | 05/25/2010 | 05/25/2015 |
| DOL | DOL | ****2633 | RAW POWER ELECTRIC CORP                     |                             | 3 PARK PLACE<br>MIDDLETOWN NY 10940  | 09/16/2013 | 09/15/2019 |
| DOL | NYC |          | RAYMOND PEARSON                             |                             | P O BOX 957<br>PORT JEFFERSON STA NY<br>11776                                    | 03/12/2014 | 03/12/2019 |
| DOL | DOL |          | REBECCA THORNE                              |                             | 113 N MAPLE AVENUE<br>GREENSBURG PA 15601  | 02/21/2013 | 02/21/2018 |
| DOL | DOL |          | REGINALD WARREN                             |                             | C/O RAW POWER ELECTRIC<br>3 PARK CIRCLEMIDDLETOWN<br>NY 10940                    | 09/15/2014 | 09/15/2019 |
| DOL | DOL |          | REVOLUTIONARY FLOORS<br>LLC                 |                             | P O BOX 268<br>STILLWATER NY 12170   | 09/16/2013 | 03/21/2019 |
| DOL | DOL |          | RHINO CONCRETE LLC                          |                             | 101 SULLYS TRAIL/SUITE 20<br>PITTSFORD NY 14534                                  | 11/18/2013 | 01/07/2019 |
| DOL | DOL |          | RICHARD WILSON                              |                             | C/O DUFOUR GROUP INC<br>353 WEST 56TH STREET<br>#7MNEW YORK NY 10019             | 06/10/2014 | 06/10/2019 |
| DOL | NYC | ****6978 | RISINGTECH INC                              |                             | 243-03 137TH AVENUE<br>ROSEDALE NY 11422   | 03/25/2010 | 03/25/2015 |
| DOL | DOL |          | ROBBYE BISSEsar                             |                             | 89-51 SPRINGFIELD BLVD<br>QUEENS VILLAGE NY 11427                                | 01/11/2003 | 01/11/3003 |
| DOL | DOL | ****1855 | ROBERT D BISHOP JR                          | ROBERT D<br>BISHOP JR       | P O BOX 112<br>MORRISONVILLE NY 12962  | 07/15/2014 | 07/15/2019 |
| DOL | DOL |          | ROBERT D BISHOP JR                          |                             | P O BOX 112<br>MORRISONVILLE NY 12962  | 07/15/2014 | 07/15/2019 |
| DOL | NYC |          | ROBERT FICARELLI                            |                             | 120-30 28TH AVENUE<br>FLUSHING NY 11354  | 01/14/2011 | 01/14/2016 |
| DOL | NYC |          | ROBERT GUIDO                                |                             | 3256 BRUNER AVENUE<br>BRONX NY 10469   | 07/29/2014 | 07/29/2019 |
| DOL | DOL |          | ROBERT L EVANS                              |                             | 128A NORTH STAMFORD<br>ROAD<br>STAMFORD CT 06903                                 | 05/23/2013 | 05/23/2018 |

**NYS DOL Bureau of Public Work Debarment List 01/07/2015**

**Article 8**

|     |     |          |   |                                      |  |            |            |
|-----|-----|----------|---|--------------------------------------|--|------------|------------|
| DOL | DOL |          | ROCCO ESPOSITO                                |                                      | C/O ROCMAR CONTRACTING<br>CO<br>620 COMMERCE<br>STREET THORNWOOD NY<br>10594 | 09/24/2012 | 09/24/2017 |
| DOL | DOL |          | ROCMAR CONSTRUCTION<br>CORP                   |                                      | 620 COMMERCE STREET<br>THORNWOOD NY 10594                                    | 09/24/2012 | 09/24/2017 |
| DOL | DOL | ****7083 | ROCMAR CONTRACTING<br>CORP                    |                                      | 620 COMMERCE STREET<br>THORNWOOD NY 10594                                    | 09/24/2012 | 09/24/2017 |
| DOL | DOL | ****9025 | ROJO MECHANICAL LLC                           |                                      | 938 E 232ND STREET #2<br>BRONX NY 10466                                      | 05/25/2010 | 05/25/2015 |
| DOL | DOL |          | ROMEO WARREN                                  |                                      | C/O RAW POWER ELECTR<br>CORP<br>3 PARK PLACEMIDDLETOWN<br>NY 10940           | 09/16/2013 | 09/15/2019 |
| DOL | DOL | ****5905 | ROSE PAINTING CORP                            |                                      | 222 GAINSBORG AVENUE<br>EAST<br>WEST HARRISON NY 10604                       | 05/10/2010 | 05/10/2015 |
| DOL | DOL |          | ROSEANNE CANTISANI                            |                                      | 11 TATAMUCK ROAD<br>POUND RIDGE NY 10576                                     | 05/04/2012 | 05/04/2017 |
| DOL | NYC |          | ROSS J HOLLAND                                |                                      | 120-30 28TH AVENUE<br>FLUSHING NY 11354                                      | 01/14/2011 | 01/14/2016 |
| DOL | DOL |          | ROSS J MUSCOLINO                              |                                      | 10 ST CHARLES STREET<br>THORNWOOD NY 10594                                   | 09/03/2013 | 09/03/2018 |
| DOL | DOL |          | S & M CONTRACTING LLC                         |                                      | 30 MIDLAND AVENUE<br>WALLINGTON NJ 07057                                     | 11/05/2010 | 11/05/2015 |
| DOL | DOL |          | S & S ELECTRIC                                |                                      | 235 BROADWAY<br>SCHENECTADY NY 12306   | 06/19/2013 | 06/19/2018 |
| DOL | NYC |          | SAEED HASAN                                   |                                      | 4558 BROADWAY #6<br>NEW YORK NY 10040  | 08/04/2014 | 08/04/2019 |
| DOL | DOL | ****4923 | SCHENLEY CONSTRUCTION<br>INC                  |                                      | 731 WARWICK TURNPIKE<br>HEWITT NJ 07421                                      | 06/25/2012 | 12/11/2017 |
| DOL | DOL |          | SCOTT LEONARD                                 | GLOBAL TANK<br>CONSTRUCTI<br>ON LLC  | P O BOX 1238<br>SALINA OK 74365  | 11/28/2012 | 11/28/2017 |
| DOL | DOL |          | SEAKCO CONSTRUCTION<br>COMPANY LLC            |                                      | 128A NORTH STAMFORD<br>ROAD<br>STAMFORD CT 06903                             | 05/23/2013 | 05/23/2018 |
| DOL | DOL | ****9030 | SEAKCO NEW YORK LLC                           | SEAKCO CONSTRUCTI<br>ON COMPANY      | 128A NORTH STAMFORD<br>ROAD<br>STAMFORD CT 06903                             | 05/23/2013 | 05/23/2018 |
| DOL | DOL |          | SEAN BURBAGE                                  | C/O SEAN<br>BURBAGE<br>CORP          | 445 ROOSA GAP ROAD<br>BLOOMINGBURG NY 12721                                  | 04/14/2014 | 04/14/2019 |
| DOL | DOL | ****6586 | SEAN BURBAGE CORP                             |                                      | 445 ROOSA GAP ROAD<br>BLOOMINGBURG NY 12721                                  | 04/14/2014 | 04/14/2019 |
| DOL | DOL | ****3540 | SEVEN STAR ELECTRICAL<br>CONTRACTING CORP     |                                      | 23-24 STEINWAY STREET<br>ASTORIA NY 11105                                    | 06/27/2011 | 06/27/2016 |
| DOL | DOL |          | SEVEN STAR ELECTRICAL INC                     |                                      | C/O THEONI ATHANASIADIS<br>1023 COMMACK ROAD<br>DIX HILLS NY 11746           | 06/27/2011 | 06/27/2016 |
| DOL | NYC |          | SHAFIQL ISLAM                                 |                                      | 11-27 30TH DRIVE<br>LONG ISLAND CITY NY 11102                                | 05/25/2011 | 05/25/2016 |
| DOL | NYC |          | SHAHZAD ALAM                                  |                                      | 21107 28TH AVE<br>BAYSIDE NY 11360   | 07/02/2012 | 07/02/2017 |
| DOL | DOL |          | SHAIKF YOUSUF                                 |                                      | C/O INDUS GENERAL CONST<br>33-04 91ST STREET<br>JACKSON HEIGHTS NY 11372     | 04/28/2010 | 04/28/2015 |
| DOL | DOL | ****0415 | SIGNAL CONSTRUCTION LLC                       |                                      | 199 GRIDER STREET<br>BUFFALO NY 14215  | 11/14/2006 | 02/25/2015 |
| DOL | DOL | ****8469 | SIGNATURE PAVING AND<br>SEALCOATING           |                                      | P O BOX 772<br>JAMESTOWN NY 14701  | 08/13/2010 | 08/13/2015 |
| DOL | DOL | ****8469 | SIGNATURE SEALCOATING<br>AND STRIPING SERVICE |                                      | 345 LIVINGSTON AVENUE<br>P O BOX 772<br>JAMESTOWN NY 14702                   | 04/04/2007 | 08/13/2015 |
| DOL | DOL | ****6904 | SIGNING STAR LIMITED<br>LIABILITY COMPANY     |                                      | 5 HANSEN PLACE<br>WAYNE NJ 07470   | 09/18/2013 | 09/18/2018 |
| DOL | DOL | ****0667 | SNEEM CONSTRUCTION INC                        |                                      | 43-22 42ND STREET<br>SUNNYSIDE NY 11104                                      | 07/01/2011 | 07/01/2016 |
| DOL | DOL |          | SPASOJE DOBRIC                                |                                      | 61 WILLET STREET - SUITE<br>PASSAIC NJ 07055                                 | 07/09/2010 | 02/23/2017 |
| DOL | NYC | ****4934 | SPHINX CONTRACTING CORP                       |                                      | 240 HOME STREET<br>TEANECK NJ 07666  | 08/04/2014 | 08/04/2019 |
| DOL | DOL |          | SPORTSCRAFTERS INC                            |                                      | 113 N MAPLE AVENUE<br>GREENSBURG PA 15601                                    | 02/21/2013 | 02/21/2018 |
| DOL | DOL | ****3539 | SPOTLESS CONTRACTING                          | IMPACT<br>INDUSTRIAL<br>SERVICES INC | 44 THIELLS-MT IVY ROAD<br>POMONA NY 10970                                    | 10/14/2011 | 10/14/2016 |

**NYS DOL Bureau of Public Work Debarment List 01/07/2015**

**Article 8**

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|-----|-----|----------|---|--|---|------------|------------|
| DOL | DOL | ****3496 | STAR INTERNATIONAL INC                        |  | 89-51 SPRINGFIELD BLVD<br>QUEENS VILLAGE NY 11427                     | 08/11/2003 | 08/11/3003 |
| DOL | DOL |          | STEFANIE MCKENNA                              |  | 30 MIDLAND AVENUE<br>WALLINGTON NJ 07057                              | 11/05/2010 | 11/05/2015 |
| DOL | DOL |          | STEPHEN BIANCHI                               |  | 462 LAKEVIEW AVENUE<br>VALHALLA NY 10595                              | 12/16/2013 | 12/16/2018 |
| DOL | DOL |          | STEPHEON SHELDON                              | FANTASTIC<br>PAINTING                          | 493 LANSING ROAD<br>FULTONVILLE NY 12072                              | 11/18/2013 | 11/18/2018 |
| DOL | DOL |          | STEVEN CONKLIN                                |  | 60 COLONIAL ROAD<br>STILLWATER NY 12170                               | 02/15/2011 | 02/15/2016 |
| DOL | DOL |          | STEVEN SAGGESE                                |  | 3005 WYNSUM AVENUE<br>MERRICK NY 11566                                | 08/18/2014 | 08/18/2019 |
| DOL | DOL |          | STUART CHAITIN                                |  | 634 ROUTE 303<br>BLAUVET NY 10913                                     | 07/26/2012 | 11/19/2018 |
| DOL | DOL | ****3210 | SUPER SWEEP                                   | FMS  | 4 LEGHORN COURT<br>NEW YORK NY 11746                                  | 11/28/2012 | 11/28/2017 |
| DOL | DOL |          | SUZANNE G GOLD                                | C/O GOLDS<br>FLOORING<br>INSTALLATION<br>S INC | 25 HAMILTON ROAD<br>MONTICELLO NY 12701                               | 10/16/2013 | 10/16/2018 |
| DOL | DOL | ****9676 | T D CONTRACTORS CORP                          | T D<br>CONTRACTOR<br>S INC                     | 113 N MAPLE AVENUE<br>GREENSBURG PA 15601                             | 02/21/2013 | 02/21/2018 |
| DOL | DOL |          | T D CONTRACTORS INC                           |  | 113 N MAPLE AVENUE<br>GREENSBURG PA 15601                             | 02/21/2013 | 02/21/2018 |
| DOL | DOL |          | TAMMY LACITIGNOLA                             |  | C/O CATSKILL FENCE INSTAL<br>5445 ROUTE 32CATSKILL NY<br>12414        | 08/22/2014 | 08/22/2019 |
| DOL | DOL |          | TECH-MECHANICAL FAB DC<br>INC                 |  | 5 PARKER AVENUE<br>POUGHKEEPSIE NY 12601                              | 03/25/2014 | 03/25/2019 |
| DOL | DOL | ****4293 | THE J OUVINA GROUP LLC                        |  | 344 SOUNDVIEW LANE<br>COLLEGE POINT NY 11356                          | 11/22/2011 | 11/22/2016 |
| DOL | DOL |          | THE THORNE GROUP INC                          |  | 113 N MAPLE AVENUE<br>GREENSBURG PA 15601                             | 02/21/2013 | 02/21/2018 |
| DOL | DOL | ****2070 | THE UNIVERSAL GROUP OF<br>NEW YORK INC        |  | 212 OXFORD WAY<br>SCHENECTADY NY 12309                                | 12/11/2012 | 09/16/2018 |
| DOL | DOL | ****9243 | THE WELCOME MAT<br>PROPERTY MANAGEMENT<br>LLC |  | P O BOX 268<br>STILLWATER NY 12170                                    | 09/16/2013 | 03/21/2019 |
| DOL | DOL |          | THEONI ATHANASIADIS                           |  | C/O SEVEN STAR ELECTRICAL<br>23-24 STEINWAY<br>STREETASTORIA NY 11105 | 06/27/2011 | 06/27/2016 |
| DOL | DOL |          | THOMAS DESANTIS                               | DESANTIS<br>ENTERPRISES                        | 161 OSWEGO RIVER ROAD<br>PHOENIX NY 13135                             | 09/24/2013 | 11/18/2018 |
| DOL | NYC |          | THOMAS SCARINCI                               |  | 130-43 92ND AVENUE<br>RICHMOND HILLS NY 11418                         | 11/27/2013 | 11/27/2018 |
| DOL | DOL |          | THOMAS TERRANOVA                              |  | 13 NEW ROAD/SUITE 1<br>NEWBURGH NY 12550                              | 11/15/2010 | 11/15/2015 |
| DOL | DOL | ****2734 | THREE FRIENDS<br>CONSTRUCTION CORP            |  | 986 MADISON AVENUE<br>PATERSON NJ 07501                               | 01/03/2013 | 01/03/2018 |
| DOL | NYC | ****6253 | THUNDER BROTHERS CORP                         |  | 24 CONGRESS LANE<br>SOUTH RIVER NJ 08882                              | 05/01/2013 | 05/01/2018 |
| DOL | DOL |          | TIMOTHY F BARBER                              |  | 635 LUZERNE ROAD<br>QUEENSBURY NY 12804                               | 09/16/2013 | 09/16/2018 |
| DOL | NYC |          | TIMOTHY O'SULLIVAN                            |  | C/O SNEEM CONSTRUCTION<br>4322 42ND<br>STREETSUNNYSIDE NY 11104       | 07/01/2011 | 07/01/2016 |
| DOL | NYC | ****1523 | TM MECHANICAL CORP                            |  | 130-43 92ND AVENUE<br>RICHMOND HILLS NY 11418                         | 11/27/2013 | 11/27/2018 |
| DOL | DOL | ****8176 | TOURO CONTRACTING CORP                        |  | 1541 EAST 56TH STREET<br>BROOKLYN NY 11234                            | 05/04/2012 | 05/04/2017 |
| DOL | DOL | ****2357 | TRAC CONSTRUCTION INC                         | MUNICIPAL<br>MILLING & MIX<br>-IN- PLACE       | 9091 ERIE ROAD<br>ANGOLA NY 14006                                     | 02/03/2011 | 02/03/2016 |
| DOL | DOL | ****6914 | TRI-COUNTY RESTORATIONS<br>& CONSTRUCTION INC |  | 13 SUMMERSET DRIVE<br>WALLKILL NY 12589                               | 08/22/2014 | 08/22/2019 |
| DOL | DOL |          | TRI-COUNTY RESTORATIONS<br>INC                |  | 392 ROCK CUT ROAD<br>WALDEN NY 12586                                  | 08/22/2014 | 08/22/2019 |
| DOL | DOL | ****5213 | TRIAD PAINTING CO INC                         |  | 656 N WELLWOOD AVE/STE C<br>LINDENHURST NY 11757                      | 09/01/2011 | 09/01/2016 |
| DOL | DOL |          | TROY D CLARKE                                 | ADVANCED<br>METALS                             | 387 RIVERSIDE DRIVE<br>JOHNSON CITY NY 13790                          | 10/01/2012 | 10/01/2017 |
| DOL | DOL | ****4294 | TWT CONSTRUCTION<br>COMPANY INC               |  | 13 NEW ROAD/SUITE 1<br>NEWBURGH NY 12550                              | 11/15/2010 | 11/15/2015 |
| DOL | DOL |          | ULIANO AND SONS INC                           |  | 22 GRIFFEN COURT<br>MILLER PLACE NY 11746                             | 10/26/2010 | 10/26/2015 |
| DOL | AG  | ****6490 | UNIVERSAL STEEL<br>FABRICATORS INC            |  | 90 JUNIUS STREET<br>BROOKLYN NY 11212                                 | 01/23/2014 | 01/23/2019 |

**NYS DOL Bureau of Public Work Debarment List 01/07/2015**

**Article 8**

|     |     |          |                                |  |  |            |            |
|-----|-----|----------|--------------------------------|--|--|------------|------------|
| DOL | NYC | ****7174 | V&R CONTRACTING                |  | P O BOX 957<br>PORT JEFFERSON STA NY<br>11776                          | 03/12/2014 | 03/12/2019 |
| DOL | DOL | ****0854 | VANESSA CONSTRUCTION<br>INC    |  | 588 MEACHAM AVE/STE 103<br>ELMONT NY 11003                             | 08/24/2010 | 08/24/2015 |
| DOL | NYC |          | VEAP SELA                      | C/O COLONIAL<br>ROOFING<br>COMPANY INC | 247 48TH STREET<br>BROOKLYN NY 11220                                   | 02/05/2014 | 02/05/2019 |
| DOL | DOL | ****3270 | VEZANDIO CONTRACTING<br>CORP   |  | 530 BEECH STREET<br>NEW HYDE PARK NY 11040                             | 07/02/2012 | 07/02/2017 |
| DOL | NYC |          | VICK CONSTRUCTION              |  | 21 DAREWOOD LANE<br>VALLEY STREAM NY 11581                             | 12/31/2013 | 12/31/2018 |
| DOL | NYC |          | VICKRAM MANGRU                 | VICK<br>CONSTRUCTI<br>ON               | 21 DAREWOOD LANE<br>VALLEY STREAM NY 11581                             | 12/31/2013 | 12/31/2018 |
| DOL | NYC |          | VINCENT PIZZITOLA              |  | P O BOX 957<br>PORT JEFFERSON STA NY<br>11776                          | 03/12/2014 | 03/12/2019 |
| DOL | NYC | ****9936 | VISHAL CONSTRUCTION INC        |  | 73-12 35TH AVE - APT F63<br>JACKSON HEIGHTS NY 11272                   | 03/04/2010 | 03/04/2015 |
| DOL | DOL |          | WESLEY J STAROBA               |  | 206 TALLY HO COURT<br>SCHENECTADY NY 12303                             | 06/19/2013 | 06/19/2018 |
| DOL | DOL | ****0078 | WESLEY J STAROBA INC           | S & S<br>ELECTRIC                      | 235 BROADWAY<br>SCHENECTADY NY 12306                                   | 06/19/2013 | 06/19/2018 |
| DOL | DOL | ****7617 | WHITE PLAINS CARPENTRY<br>CORP |  | P O BOX 309<br>WHITE PLAINS NY 10603                                   | 12/04/2009 | 05/04/2017 |
| DOL | DOL |          | WILLIAM CONKLIN                |  | 5 PARKER AVENUE<br>POUGHKEEPSIE NY 12601                               | 03/25/2014 | 03/25/2019 |
| DOL | DOL |          | WILLIAM MAZZELLA               |  | 134 MURRAY AVENUE<br>YONKERS NY 10704                                  | 02/03/2014 | 02/03/2019 |
| DOL | DOL |          | WILLIAM SCRIVENS               |  | 30 MIDLAND AVENUE<br>WALLINGTON NJ 07057                               | 11/05/2010 | 11/05/2015 |
| DOL | DOL |          | WILLIAM THORNE                 |  | 113 N MAPLE AVENUE<br>GREENSBURG PA 15601                              | 02/21/2013 | 02/21/2018 |
| DOL | NYC | ****5498 | XAVIER CONTRACTING LLC         |  | 68 GAYLORD ROAD<br>SCARSDALE NY 10583                                  | 02/10/2011 | 02/10/2016 |
| DOL | DOL |          | YURIY IVANIN                   |  | C/O MOUNTAIN'S AIR INC<br>2471 OCEAN AVENUE-STE<br>7ABROOKLYN NY 11229 | 09/24/2012 | 09/24/2017 |

**TOWN OF RIVERHEAD / RIVERHEAD WATER TOWN/DISTRICT**

**SUFFOLK COUNTY**

**NEW YORK**

The Town/District may make such investigation as the Town/District deems necessary to determine the responsibility of any Bidder or to determine the ability of any Bidder to perform the Work. Bidders shall furnish to the Town/District all information and data required by the Town/District, including complete financial data, within the time and in the form and manner required by the Town/District. The Town/District reserves the right to reject any bid if the evidence required by the Town/District is not submitted as required or if the evidence submitted by or the investigation of any Bidder fails to satisfy the Town/District that the Bidder is responsible, or is able or qualified to carry out the obligations of the Contract or to complete the Work as contemplated. At the discretion of the Town/District, any bidder may be required to complete and submit the enclosed New York State Uniform Contracting Questionnaire to assist in determining the bidder's qualifications.

The following is a list showing the name of the Owner, Location, Date of Construction, General Description of Work, Amount of the Contract and Contract Period for projects of similar nature in size, construction method and construction procedure, which have been completed by the undersigned as the prime contractor, and which have been in operation for a period of not less than one year (minimum of five such projects).

**Project No.1**

Owner: \_\_\_\_\_

Contact Name and Phone Number: \_\_\_\_\_

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

General Description: \_\_\_\_\_

Contract Amount: \_\_\_\_\_

Contract Period: \_\_\_\_\_

**Project No.2**

Owner: \_\_\_\_\_

Contact Name and Phone Number: \_\_\_\_\_

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

General Description: \_\_\_\_\_

Contract Amount: \_\_\_\_\_

Contract Period: \_\_\_\_\_

**Project No.3**

Owner: \_\_\_\_\_

Contact Name and Phone Number: \_\_\_\_\_

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

General Description: \_\_\_\_\_

Contract Amount: \_\_\_\_\_

Contract Period: \_\_\_\_\_

**Project No.4**

Owner: \_\_\_\_\_

Contact Name and Phone Number: \_\_\_\_\_

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

General Description: \_\_\_\_\_

Contract Amount: \_\_\_\_\_

Contract Period: \_\_\_\_\_

**Project No.5**

Owner: \_\_\_\_\_

Contact Name and Phone Number: \_\_\_\_\_

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

General Description: \_\_\_\_\_

Contract Amount: \_\_\_\_\_

Contract Period: \_\_\_\_\_

The Town of Riverhead/Riverhead Water District reserves the right to reject any and all bids which do not include a completed qualifications section and/or do not meet the necessary qualifications criteria, for both prime contractor and subcontractors, as described within this qualifications section, for construction work to be performed and completed as required by the contract documents.

**BIDDER**

FIRM NAME: \_\_\_\_\_

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

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

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

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

**RIVERHEAD WATER DISTRICT**

**TOWN OF RIVERHEAD**

**SUFFOLK COUNTY**

**NEW YORK**

The Bidder shall list the subcontractors, if any, to be used for this project. Provide the required information for each proposed subcontractor. Make appropriate copies of this form should the Bidder propose more than five (5) subcontractors. List at least five projects for each subcontractor that demonstrates the subcontractor’s qualifications to perform the work of the project. The projects shall be similar in size and complexity and have been completed within the last five (5) years by the subcontractor.

The RIVERHEAD WATER DISTRICT reserves the right to reject any subcontractor which, in the opinion of the Water District, lacks the required experience, ability, workmanship, or other characteristic thereof, necessary to adequately execute the work to be performed as a subcontractor upon investigation and evaluation of the references provided. Additionally, there are construction trades which may be part of this project whereby the Water District has established a “prequalified” list of contractors who have been accepted as contractors permitted to perform work in the RIVERHEAD WATER DISTRICT as a result of past performance and prior experience. Such construction trades shall include, but not be limited to, electrical construction, water main construction, well construction, and mechanical construction. A proposed subcontractor will not be accepted and permitted to perform work on this project if the references provided herein are inadequate in demonstrating that the proposed subcontractor has adequate experience and abilities to properly execute the work.

**Subcontractor Name:** \_\_\_\_\_

**Type of Work:** \_\_\_\_\_

| <u>Owner</u> | <u>Contact Name</u> | <u>Phone Number</u> | <u>Location</u> | <u>Contract Amount</u> |
|--------------|---------------------|---------------------|-----------------|------------------------|
|              |                     |                     |                 |                        |
|              |                     |                     |                 |                        |
|              |                     |                     |                 |                        |
|              |                     |                     |                 |                        |
|              |                     |                     |                 |                        |

**Subcontractor Name:** \_\_\_\_\_

**Type of Work:** \_\_\_\_\_

| <u>Owner</u> | <u>Contact Name</u> | <u>Phone Number</u> | <u>Location</u> | <u>Contract Amount</u> |
|--------------|---------------------|---------------------|-----------------|------------------------|
|              |                     |                     |                 |                        |
|              |                     |                     |                 |                        |
|              |                     |                     |                 |                        |
|              |                     |                     |                 |                        |
|              |                     |                     |                 |                        |

**Subcontractor Name:** \_\_\_\_\_

**Type of Work:** \_\_\_\_\_

| <u>Owner</u> | <u>Contact Name</u> | <u>Phone Number</u> | <u>Location</u> | <u>Contract Amount</u> |
|--------------|---------------------|---------------------|-----------------|------------------------|
|              |                     |                     |                 |                        |
|              |                     |                     |                 |                        |
|              |                     |                     |                 |                        |
|              |                     |                     |                 |                        |
|              |                     |                     |                 |                        |

**Subcontractor Name:** \_\_\_\_\_

**Type of Work:** \_\_\_\_\_

| <u>Owner</u> | <u>Contact Name</u> | <u>Phone Number</u> | <u>Location</u> | <u>Contract Amount</u> |
|--------------|---------------------|---------------------|-----------------|------------------------|
|              |                     |                     |                 |                        |
|              |                     |                     |                 |                        |
|              |                     |                     |                 |                        |
|              |                     |                     |                 |                        |
|              |                     |                     |                 |                        |

**Subcontractor Name:** \_\_\_\_\_

**Type of Work:** \_\_\_\_\_

| <u>Owner</u> | <u>Contact Name</u> | <u>Phone Number</u> | <u>Location</u> | <u>Contract Amount</u> |
|--------------|---------------------|---------------------|-----------------|------------------------|
| _____        | _____               | _____               | _____           | _____                  |
| _____        | _____               | _____               | _____           | _____                  |
| _____        | _____               | _____               | _____           | _____                  |
| _____        | _____               | _____               | _____           | _____                  |
| _____        | _____               | _____               | _____           | _____                  |

**RIVERHEAD WATER DISTRICT  
TOWN OF RIVERHEAD**

**SUFFOLK COUNTY**

**NEW YORK**

Bidders shall submit to the District the names of the subcontractors, which the Bidder proposes to use on the project on attached pages LOS – List of Subcontractors. The District reserves the right to disapprove the use of any proposed subcontractor and in such event the Bidder shall submit the name of another Subcontractor in the like manner and in the time specified by the District. Such disapproval shall not result in additional costs to the District. The District reserves the right to reject any bid if the name of the proposed Subcontractors, or additional subcontractor information, is not submitted as required.

The Contractor shall not make subcontracts totaling a dollar amount which is more than 30% of the total contract price. The District may, at its own discretion, in writing, modify these requirements where the District determines it is in the best interest of the District.

BIDDER

FIRM NAME: \_\_\_\_\_

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

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

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

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

**NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE  
FOR PROFIT CONSTRUCTION (CCA-2)**

**INSTRUCTIONS FOR COMPLETING THE NEW YORK STATE  
VENDOR RESPONSIBILITY QUESTIONNAIRE FOR PROFIT CONSTRUCTION**

Please Read Before Completing Questionnaire

- Complete all sections of the Questionnaire.
- Submit this form as required by the contracting agency after being announced the low bidder for any competitively bid contract, or when proposed for subcontract work. If you have submitted one within six (6) months of the bid date with any contracting agency, as long as the information remains unchanged and accurate, you may submit a complete certified copy of that form, together with an Affidavit of No Change, to the Agency with which you are bidding. A contracting agency may require additional information deemed necessary for its review. Whenever more space is needed to answer any question or you wish to give further explanation, complete by attaching extra pages. All questions must be answered.
- For each “Yes” answer in Sections IV, V, VI, VII, VIII and IX, add additional explanatory material. For question 7.2, if your firm has OSHA citations, attach copies of each citation.
- A certified annual financial statement, including Accountant’s Review Report and Accompanying Notes, will be acceptable in lieu of completing the financial disclosure forms in the questionnaire.
- If you wish material in this Questionnaire to be held as confidential and exempt from disclosure under Freedom of Information, place an asterisk in front of all information you do not want disclosed to outside sources.
- This Questionnaire is generally valid for one calendar year, unless major changes have occurred (firm purchased by another business, bankruptcy, etc.), in which case re-submittal is required.
- Submit completed questionnaires marked “CONFIDENTIAL” to:

NEW YORK STATE DEPARTMENT OF TRANSPORTATION  
CONTRACT MANAGEMENT BUREAU  
50 WOLF ROAD, 1st FLOOR, SUITE 1CM  
ALBANY, NY 12232  
(518) 457-1564

**NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE  
FOR PROFIT CONSTRUCTION (CCA-2)**

| <b>BUSINESS ENTITY INFORMATION</b>  |      |         |                             |                                |
|---|------|---------|-----------------------------|--------------------------------|
| <u>Legal Business Name*</u>   |      |         | <u>EIN</u>                  |                                |
| Complete Address of the <u>Principal Place of Business</u>  |      |         | Phone Number                | Fax Number                     |
| E-mail  |      | Website |                             |                                |
| Authorized Contact for this Questionnaire   |      |         |                             |                                |
| Name  |      |         | Phone Number                | Fax Number                     |
| Title   |      |         | E-mail                      |                                |
| Additional <u>Business Entity</u> Identities: If applicable, list any other <u>DBA</u> , <u>Trade Name</u> , <u>Former Name</u> , <u>Other Identity</u> , or <u>EIN</u> used in the last five (5) years, the state or county where filed and the status (active or inactive). |      |         |                             |                                |
| Type<br>(DBA, Trade Name, Other)  | Name | EIN     | State or County where filed | Status<br>(ACTIVE OR INACTIVE) |
| SELECT  |      |         |                             | SELECT                         |
| SELECT  |      |         |                             | SELECT                         |

| <b>I. BUSINESS CHARACTERISTICS</b>   |  |                             |                              |                             |
|--|--|-----------------------------|------------------------------|-----------------------------|
| <b>1.0 <u>Business Entity</u> Type -</b>                                   |  |                             |                              |                             |
| a) <input type="checkbox"/>  | <u>Corporation</u> (including <u>P.C.</u> )    | Date of Incorporation       |                              |                             |
| b) <input type="checkbox"/>  | <u>Limited Liability Company</u> (LLC or PLLC) | Date Organized              |                              |                             |
| c) <input type="checkbox"/>  | <u>Limited Liability Partnership</u>           | Date of Registration        |                              |                             |
| d) <input type="checkbox"/>  | <u>Limited Partnership</u>                     | Date Established            |                              |                             |
| e) <input type="checkbox"/>  | <u>General Partnership</u>                     | Date Established            | County (if formed in NYS)    |                             |
| f) <input type="checkbox"/>  | <u>Sole Proprietor</u>                         | How many years in business? |                              |                             |
| g) <input type="checkbox"/>  | Other  | Date Established            |                              |                             |
| If Other, explain:   |  |                             |                              |                             |
| 1.1 Was the <u>Business Entity</u> formed in New York State?               |  |                             | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| If "No" indicate jurisdiction where the <u>Business Entity</u> was formed: |  |                             |                              |                             |
| United States <input type="checkbox"/> State                               |  |                             |                              |                             |
| Other <input type="checkbox"/> Country                                     |  |                             |                              |                             |

\*All under lined terms are defined in the "New York State Vendor Responsibility Definitions List", which can be found at: <http://www.osc.state.ny.us/vendrep/documents/definitions.pdf>.

*Note:* These terms may not have their ordinary, common or traditional meanings. Each vendor is strongly encouraged to read the respective definitions for any and all underlined terms. By submitting this questionnaire, the vendor agrees to be bound by the terms as defined in the "New York State Vendor Responsibility Definitions List" as it existed at the time of certifications.

**NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE  
FOR PROFIT CONSTRUCTION (CCA-2)**

EIN:

| I. BUSINESS CHARACTERISTICS  |   |  |   |
|--|---|--|---|
| 1.2 Is the <u>Business Entity</u> currently <u>registered to do business in New York State</u> ?<br><i>Note: Select "Not Required" if the <u>Business Entity</u> is a <u>Sole Proprietor</u> or <u>General Partnership</u></i>   |   |  | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> Not Required |
| If "No," explain why the <u>Business Entity</u> is not required to be <u>registered to do business in New York State</u> :   |   |  |   |
| 1.3 Is the responding <u>Business Entity</u> a <u>Joint Venture</u> ? <i>Note: If the submitting <u>Business Entity</u> is a <u>Joint Venture</u>, also submit a separate questionnaire for each <u>Business Entity</u> comprising the <u>Joint Venture</u>.</i>   |   |  | <input type="checkbox"/> Yes <input type="checkbox"/> No  |
| 1.4 If the <u>Business Entity's</u> <u>Principal Place of Business</u> is not in New York State, does the <u>Business Entity</u> maintain an office in New York State?<br><i>(Select "N/A" if <u>Principal Place of Business</u> is in New York State.)</i>  |   |  | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> N/A          |
| If "Yes," provide the address and telephone number for one office located in New York State.   |   |  |   |
| 1.5 Is the <u>Business Entity</u> a New York State certified <u>Minority-Owned Business Enterprise</u> , or <u>Women-Owned Business Enterprise</u> , or <u>New York State Small Business</u> , or federally certified <u>Disadvantaged Business Enterprise</u> ?   |   |  | <input type="checkbox"/> Yes <input type="checkbox"/> No  |
| If "Yes," check all that apply:<br><input type="checkbox"/> New York State certified <u>Minority-Owned Business Enterprise</u> (MBE)<br><input type="checkbox"/> New York State certified <u>Women-Owned Business Enterprise</u> (WBE)<br><input type="checkbox"/> <u>New York State Small Business</u><br><input type="checkbox"/> Federally certified <u>Disadvantaged Business Enterprise</u> (DBE) |   |  |   |
| 1.6 Identify each person who is, or has been within the past five (5) years, a <u>Business Entity Official</u> or <u>Principal Owner</u> of 5.0% or more of the firm's shares, or one of the five largest shareholders or a director, an officer, a partner or a proprietor. <u>Joint Ventures</u> : Provide information for all firms involved.<br><i>(Attach additional pages if necessary.)</i>     |   |  |   |
| Name   | Title                                     | Percentage Ownership <i>(Enter 0% if not applicable)</i> | Employment Status with the Firm   |
|  |   |  | <input type="checkbox"/> Current <input type="checkbox"/> Former                                  |
|  |   |  | <input type="checkbox"/> Current <input type="checkbox"/> Former                                  |
|  |   |  | <input type="checkbox"/> Current <input type="checkbox"/> Former                                  |
|  |   |  | <input type="checkbox"/> Current <input type="checkbox"/> Former                                  |
| II. AFFILIATE and JOINT VENTURE RELATIONSHIPS  |   |  |   |
| 2.0 Are there any other <u>construction</u> -related firms in which, now or in the past five years, the submitting <u>Business Entity</u> or any of the individuals listed in question 1.6 either owned or owns 5.0% or more of the shares of, or was or is one of the five largest shareholders or a director, officer, partner or proprietor of said other firm?                                     |   |  | <input type="checkbox"/> Yes <input type="checkbox"/> No  |
| Firm/Company Name  | Firm/Company EIN<br><i>(If Available)</i> | Firm/Company's Primary Business Activity                 |   |
|  |   |  |   |

**NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE  
FOR PROFIT CONSTRUCTION (CCA-2)**

EIN:

| II. AFFILIATE and JOINT VENTURE RELATIONSHIPS   |                                  |  |
|---|----------------------------------|--|
| Firm/Company Address  |                                  |  |
| Explain relationship with the firm and indicate percent ownership, if applicable (enter N/A, if not applicable):  |                                  |  |
| Are there any shareholders, directors, officers, owners, partners or proprietors that the submitting <b>Business Entity</b> has in common with this <b>affiliate</b> ?  |                                  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Individual's Name   | Position/Title with Firm/Company |  |
| 2.1 Does the <b>Business Entity</b> have any <b>construction</b> -related <b>affiliates</b> not identified in the response to 2.0 above?  |                                  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Affiliate Name  | Affiliate EIN (If available)     | Affiliate's Primary Business Activity                    |
| Affiliate Address   |                                  |  |
| Explain relationship with the affiliate and indicate percent ownership, if applicable (enter N/A, if not applicable):   |                                  |  |
| Are there any shareholders, directors, officers, owners, partners or proprietors that the submitting <b>Business Entity</b> has in common with this firm?   |                                  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Individual's Name   | Position/Title with Firm/Company |  |
| 2.2 Has the <b>Business Entity</b> participated in any <b>construction Joint Ventures</b> within the past three (3) years? <i>Attach additional pages if necessary.</i>   |                                  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Joint Venture Name  | Joint Venture EIN (If available) | Identify parties to the Joint Venture                    |
| III. CONTRACT HISTORY   |                                  |  |
| 3.0 List the ten most recent <b>construction</b> contracts the <b>Business Entity</b> has completed using Attachment A – Completed Construction Contracts, found at <a href="http://www.osc.state.ny.us/vendrep/documents/attachmenta.doc">http://www.osc.state.ny.us/vendrep/documents/attachmenta.doc</a> . If less than ten, include most recent subcontracts on projects up to that number. |                                  |  |
| 3.1 List all current uncompleted <b>construction</b> contracts by using Attachment B – Uncompleted Construction Contracts, found at <a href="http://www.osc.state.ny.us/vendrep/documents/attachmentb.doc">http://www.osc.state.ny.us/vendrep/documents/attachmentb.doc</a> .   |                                  |  |
| IV. INTEGRITY – CONTRACT BIDDING  |                                  |  |
| Within the past five (5) years, has the Business Entity, an affiliate or any predecessor company or entity:   |                                  |  |
| 4.0 Been <b>suspended</b> or <b>debarred</b> from any <b>government contracting process</b> or been <b>disqualified</b> on any government procurement?  |                                  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 4.1 Been subject to a denial or revocation of a government prequalification?  |                                  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 4.2 Had any bid rejected by a <b>government entity</b> for lack of qualifications, responsibility or because of the submission of an informal, non-responsive or incomplete bid?  |                                  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 4.3 Had a proposed subcontract rejected by a <b>government entity</b> for lack of qualifications, responsibility or because of the submission of an informal, non-responsive or incomplete bid?   |                                  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 4.4 Had a low bid rejected on a <b>government contract</b> for failure to make <b>good faith efforts</b> on any <b>Minority-Owned Business Enterprise, Women-Owned Business Enterprise or Disadvantaged Business Enterprise</b> goal or <b>statutory affirmative action requirements</b> on a previously held contract?   |                                  | <input type="checkbox"/> Yes <input type="checkbox"/> No |

**NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE  
FOR PROFIT CONSTRUCTION (CCA-2)**

EIN:

|   |  |
|---|--|
| <b>IV. INTEGRITY – CONTRACT BIDDING</b>   |  |
| Within the past five (5) years, has the Business Entity, an affiliate or any predecessor company or entity:   |  |
| 4.5 Agreed to a voluntary exclusion from bidding/contracting with a <u>government entity</u> ?  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 4.6 Initiated a request to withdraw a bid submitted to a <u>government entity</u> or made any claim of an error on a bid submitted to a <u>government entity</u> ?  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| <i>For each “Yes,” provide an explanation of the issue(s), the <u>Business Entity</u> involved, the relationship to the submitting <u>Business Entity</u>, the <u>government entity</u> involved, project(s), relevant dates, any remedial or corrective action(s) taken and the current status of the issue(s). Provide answer(s) below or attach additional sheets with numbered responses.</i> |  |

|  |  |
|--|--|
| <b>V. INTEGRITY – CONTRACT AWARD</b>   |  |
| Within the past five (5) years, has the Business Entity, an affiliate, or any predecessor company or entity:   |  |
| 5.0 Defaulted on or been <u>suspended</u> , cancelled or <u>terminated for cause</u> on any contract?  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 5.1 Been subject to an <u>administrative proceeding</u> or civil action seeking specific performance or restitution (except any disputed work proceeding) or requiring the <u>Business Entity</u> to enter into a formal monitoring agreement in connection with any <u>government contract</u> ?  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 5.2 Had its surety called upon to complete any contract whether government or private sector?  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| <i>For each “Yes,” provide an explanation of the issue(s), the <u>Business Entity</u> involved, the relationship to the submitting <u>Business Entity</u>, the <u>government entity</u>/owners involved, project(s), contract number(s), relevant dates, any remedial or corrective action(s) taken and the current status of the issue(s). Provide answer(s) below or attach additional sheets with numbered responses.</i> |  |

|   |  |
|---|--|
| <b>VI. CERTIFICATIONS/LICENSES</b>  |  |
| Within the past five (5) years, has the Business Entity, an affiliate, or any predecessor company or entity:  |  |
| 6.0 Had a revocation or <u>suspension</u> of any business or professional permit and/or license?  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 6.1 Had a denial, decertification, revocation or forfeiture of New York State certification of <u>Minority-Owned Business Enterprise</u> , <u>Women-Owned Business Enterprise</u> or a <u>federal</u> certification of <u>Disadvantaged Business Enterprise</u> status, for other than a change of ownership?   | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| <i>For each “Yes,” provide an explanation of the issue(s), the <u>Business Entity</u> involved, the relationship to the submitting <u>Business Entity</u>, the <u>government entity</u> involved, relevant dates, any remedial or corrective action(s) taken and the current status of the issue(s). Provide answer(s) below or attach additional sheets with numbered responses.</i> |  |

|  |  |
|--|--|
| <b>VII. LEGAL PROCEEDINGS</b>  |  |
| Within the past five (5) years, has the Business Entity, an affiliate, or any predecessor company or entity:   |  |
| 7.0 Been the subject of a criminal <u>investigation</u> , whether open or closed, or an indictment for any business-related conduct constituting a crime under local, state or <u>federal</u> law?   | <input type="checkbox"/> Yes <input type="checkbox"/> No   |
| 7.1 Been the subject of:<br>(i) An indictment, grant of immunity, <u>judgment</u> or conviction (including entering into a plea bargain) for conduct constituting a crime; or<br>(ii) Any criminal <u>investigation</u> , felony indictment or conviction concerning the formation of, or any business association with, an allegedly false or fraudulent <u>Minority-Owned Business Enterprise</u> , <u>Women-Owned Business Enterprise</u> , or a <u>Disadvantaged Business Enterprise</u> ? | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><br><input type="checkbox"/> Yes <input type="checkbox"/> No |
| 7.2 Received any OSHA citation and Notification of Penalty containing a violation classified as <u>serious</u> or <u>willful</u> ?   | <input type="checkbox"/> Yes <input type="checkbox"/> No   |

**NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE  
FOR PROFIT CONSTRUCTION (CCA-2)**

EIN:

|   |  |
|---|--|
| <b>VII. LEGAL PROCEEDINGS</b>   |  |
| Within the past five (5) years, has the Business Entity, an affiliate, or any predecessor company or entity:  |  |
| 7.3 Had a <u>government entity</u> find a willful prevailing wage or supplemental payment violation?  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 7.4 Had a New York State Labor Law violation deemed willful?  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 7.5 Entered into a consent order with the New York State Department of Environmental Conservation, or a <u>federal</u> , state or local government enforcement determination involving a violation of <u>federal</u> , state or local environmental laws?   | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 7.6 Other than previously disclosed, been the subject of any <u>citations, notices, violation orders</u> , pending administrative hearings or proceedings or determinations of a violation of:  |  |
| ▪ <u>Federal</u> , state or local health laws, rules or regulations;  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| ▪ <u>Federal</u> , state or local environmental laws, rules or regulations;   | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| ▪ Unemployment insurance or workers compensation coverage or <u>claim</u> requirements;   | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| ▪ Any labor law or regulation, which was deemed willful;  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| ▪ Employee Retirement Income Security Act (ERISA);  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| ▪ <u>Federal</u> , state or local human rights laws;  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| ▪ <u>Federal</u> , state or local security laws?  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| <i>For each "Yes," provide an explanation of the issue(s), the <u>Business Entity</u> involved, the relationship to the submitting <u>Business Entity</u>, the <u>government entity</u> involved, relevant dates, any remedial or corrective action(s) taken and the current status of the issue(s). Provide answer(s) below or attach additional sheets with numbered responses.</i> |  |

|   |  |
|---|--|
| <b>VIII. LEADERSHIP INTEGRITY</b>   |  |
| If the Business Entity is a Joint Venture Entity, answer "N/A - Not Applicable" to questions in this section.   |  |
| Within the past five (5) years has any individual previously identified or any individual having the authority to sign, execute or approve bids, proposals, contracts or supporting documentation on behalf of the Business Entity with New York State been subject to:   |  |
| 8.0 A <u>sanction</u> imposed relative to any business or professional permit and/or license?   | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> N/A |
| 8.1 A criminal <u>investigation</u> , whether open or closed, or an indictment for any business-related conduct constituting a crime under local, state or <u>federal</u> law?  | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> N/A |
| 8.2 Misdemeanor or felony charge, indictment or conviction for:   |  |
| (i) Any business-related activity including but not limited to fraud, coercion, extortion, bribe or bribe-receiving, giving or accepting unlawful gratuities, immigration or tax fraud, racketeering, mail fraud, wire fraud, price-fixing or collusive bidding; or   | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> N/A |
| (ii) Any crime, whether or not business-related, the underlying conduct of which related to truthfulness, including but not limited to the filing of false documents or false sworn statements, perjury or larceny?   | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> N/A |
| 8.3 A <u>debarment</u> from any <u>government contracting process</u> ?   | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> N/A |
| <i>For each "Yes," provide an explanation of the issue(s), the individual involved, the relationship to the submitting <u>Business Entity</u>, the <u>government entity</u> involved, relevant dates, any remedial or corrective action(s) taken and the current status of the issue(s). Provide answer(s) below or attach additional sheets with numbered responses.</i> |  |

**NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE  
FOR PROFIT CONSTRUCTION (CCA-2)**

EIN:

| IX. FINANCIAL AND ORGANIZATIONAL CAPACITY  |  |  |
|--|--|--|
| 9.0 Within the past five (5) years, has the <u>Business Entity</u> or any <u>affiliate</u> received any <u>formal unsatisfactory performance assessment(s)</u> from any <u>government entity</u> on any contract?  |  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| <i>If "Yes," provide an explanation of the issue(s), the <u>Business Entity</u> involved, the relationship to the submitting <u>Business Entity</u>, the <u>government entity</u> involved, relevant dates, any remedial or corrective action(s) taken and the current status of the issue(s). Provide answer below or attach additional sheets with numbered responses.</i> |  |  |
| 9.1 Within the past five (5) years, has the <u>Business Entity</u> or any <u>affiliate</u> had any <u>liquidated damages</u> assessed over \$25,000?   |  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| <i>If "Yes," provide an explanation of the issue(s), the <u>Business Entity</u> involved, the relationship to the submitting <u>Business Entity</u>, relevant dates, the contracting party involved, the amount assessed and the current status of the issue(s). Provide answer below or attach additional sheets with numbered responses.</i>                               |  |  |
| 9.2 Within the past five (5) years, has the <u>Business Entity</u> or any <u>affiliate</u> had any <u>liens, claims or judgments</u> (not including UCC filings) over \$25,000 filed against the <u>Business Entity</u> which remain undischarged or were unsatisfied for more than 90 days?   |  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| <i>If "Yes," provide an explanation of the issue(s), the <u>Business Entity</u> involved, the relationship to the submitting <u>Business Entity</u>, relevant dates, the Lien holder or Claimants' name(s), the amount of the <u>lien(s)</u> and the current status of the issue(s). Provide answer below or attach additional sheets with numbered responses.</i>           |  |  |
| 9.3 In the last seven (7) years, has the <u>Business Entity</u> or any <u>affiliate</u> initiated or been the subject of any bankruptcy proceedings, whether or not closed, or is any bankruptcy proceeding pending?   |  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| <i>If "Yes," provide the <u>Business Entity</u> involved, the relationship to the submitting <u>Business Entity</u>, the bankruptcy chapter number, the court name and the docket number. Indicate the current status of the proceedings as "Initiated," "Pending" or "Closed." Provide answer below or attach additional sheets with numbered responses.</i>                |  |  |
| 9.4 What is the <u>Business Entity's</u> Bonding Capacity?   |  |  |
| a. Single Project  |  | b. Aggregate (All Projects)                              |
| 9.5 List <u>Business Entity's</u> Gross Sales for the previous three (3) Fiscal Years:   |  |  |
| 1st Year (Indicate year )<br>Gross Sales   | 2nd Year (Indicate year )<br>Gross Sales | 3rd Year (Indicate year )<br>Gross Sales                 |
| 9.6 List <u>Business Entity's</u> Average Backlog for the previous three (3) fiscal years:<br>(Estimated total value of uncompleted work on outstanding contracts)   |  |  |
| 1st Year (Indicate year )<br>Amount  | 2nd Year (Indicate year )<br>Amount      | 3rd Year (Indicate year )<br>Amount                      |
| 9.7 Attach <u>Business Entity's</u> annual <u>financial statement</u> and accompanying notes or complete Attachment C – Financial Information, found at <a href="http://www.osc.state.ny.us/vendrep/documents/attachmentc.xls">http://www.osc.state.ny.us/vendrep/documents/attachmentc.xls</a>  |  |  |

| X. FREEDOM OF INFORMATION LAW (FOIL)   |  |
|--|--|
| 10.0 Indicate whether any information provided herein is believed to be exempt from disclosure under the Freedom of Information Law (FOIL).<br><i>Note: A determination of whether such information is exempt from FOIL will be made at the time of any request for disclosure under FOIL. Attach additional pages if necessary.</i> | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| <i>Indicate the question number(s) and explain the basis for the claim.</i>  |  |

**NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE  
FOR PROFIT CONSTRUCTION (CCA-2)**

**EIN:**

**Certification**

The undersigned: (1) recognizes that this questionnaire is submitted for the express purpose of assisting New York State contracting entities in making responsibility determinations regarding an award of a contract or approval of a subcontract; (2) recognizes that the Office of the State Comptroller (OSC) will rely on information disclosed in the questionnaire in making responsibility determinations and in approving a contract or subcontract; (3) acknowledges that the New York State contracting entities and OSC may, in their discretion, by means which they may choose, verify the truth and accuracy of all statements made herein; and (4) acknowledges that intentional submission of false or misleading information may constitute a misdemeanor or felony under New York State Penal Law, may be punishable by a fine and/or imprisonment under Federal Law, and may result in a finding of non-responsibility, contract suspension or contract termination.

The undersigned certifies that he/she:

- is knowledgeable about the submitting Business Entity's business and operations;
- has read and understands all of the questions contained in the questionnaire;
- has not altered the content of the questionnaire in any manner;
- has reviewed and/or supplied full and complete responses to each question;
- to the best of his/her knowledge, information and belief, confirms that the Business Entity's responses are true, accurate and complete, including all attachments, if applicable;
- understands that New York State will rely on the information disclosed in the questionnaire when entering into a contract with the Business Entity; and
- is under obligation to update the information provided herein to include any material changes to the Business Entity's responses at the time of bid/proposal submission through the contract award notification, and may be required to update the information at the request of the New York State contracting entities or OSC prior to the award and/or approval of a contract, or during the term of the contract.

Signature of Owner/Officer \_\_\_\_\_

Printed Name of Signatory \_\_\_\_\_

Title \_\_\_\_\_

Name of Business \_\_\_\_\_

Address \_\_\_\_\_

City, State, Zip \_\_\_\_\_

Sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_;

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

**NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE  
ATTACHMENT A - COMPLETED CONSTRUCTION CONTRACTS**

EIN:

| <b>Question 3.0: List the ten most recent construction contracts the Business Entity has completed. If less than ten, include most recent subcontractison projects up to that number.</b> |                |               |   |        |                          |                |
|---|----------------|---------------|---|--------|--------------------------|----------------|
| 1.  | Agency/Owner   |               | Award Date                              | Amount |                          | Date Completed |
|   | Contact Person | Telephone No. | Design Architect and/or Design Engineer |        |                          |                |
| 2.  | Contract No.   | Prime or Sub  | Joint Venture (JV) Name, if applicable  |        | EIN of JV, if applicable |                |
|   | Agency/Owner   |               | Award Date                              | Amount |                          | Date Completed |
|   | Contact Person | Telephone No. | Design Architect and/or Design Engineer |        |                          |                |
|   | Contract No.   | Prime or Sub  | Joint Venture (JV) Name, if applicable  |        | EIN of JV, if applicable |                |
| 3.  | Agency/Owner   |               | Award Date                              | Amount |                          | Date Completed |
|   | Contact Person | Telephone No. | Design Architect and/or Design Engineer |        |                          |                |
|   | Contract No.   | Prime or Sub  | Joint Venture (JV) Name, if applicable  |        | EIN of JV, if applicable |                |
|   | Agency/Owner   |               | Award Date                              | Amount |                          | Date Completed |
| 4.  | Contact Person | Telephone No. | Design Architect and/or Design Engineer |        |                          |                |
|   | Contract No.   | Prime or Sub  | Joint Venture (JV) Name, if applicable  |        | EIN of JV, if applicable |                |
| 5.  | Agency/Owner   |               | Award Date                              | Amount |                          | Date Completed |
|   | Contact Person | Telephone No. | Design Architect and/or Design Engineer |        |                          |                |
|   | Contract No.   | Prime or Sub  | Joint Venture (JV) Name, if applicable  |        | EIN of JV, if applicable |                |
|   | Agency/Owner   |               | Award Date                              | Amount |                          | Date Completed |
|   | Contact Person | Telephone No. | Design Architect and/or Design Engineer |        |                          |                |
|   | Contract No.   | Prime or Sub  | Joint Venture (JV) Name, if applicable  |        | EIN of JV, if applicable |                |

**NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE  
ATTACHMENT A - COMPLETED CONSTRUCTION CONTRACTS**

EIN:

| <b>Question 3.0: List the ten most recent construction contracts the Business Entity has completed. If less than ten, include most recent subcontracts on projects up to that number.</b> |               |   |  |                          |                |
|---|---------------|---|--|--------------------------|----------------|
| Agency/Owner  | Telephone No. | Design Architect and/or Design Engineer | Award Date                             | Amount                   | Date Completed |
| 6.  | Contract No.  | Prime or Sub                            | Joint Venture (JV) Name, if applicable | EIN of JV, if applicable |                |
|   | Agency/Owner  |   | Award Date                             | Amount                   | Date Completed |
| 7.  | Contract No.  | Prime or Sub                            | Joint Venture (JV) Name, if applicable | EIN of JV, if applicable |                |
|   | Agency/Owner  |   | Award Date                             | Amount                   | Date Completed |
| 8.  | Contract No.  | Prime or Sub                            | Joint Venture (JV) Name, if applicable | EIN of JV, if applicable |                |
|   | Agency/Owner  |   | Award Date                             | Amount                   | Date Completed |
| 9.  | Contract No.  | Prime or Sub                            | Joint Venture (JV) Name, if applicable | EIN of JV, if applicable |                |
|   | Agency/Owner  |   | Award Date                             | Amount                   | Date Completed |
| 10.   | Contract No.  | Prime or Sub                            | Joint Venture (JV) Name, if applicable | EIN of JV, if applicable |                |
|   | Agency/Owner  |   | Award Date                             | Amount                   | Date Completed |

**NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE  
ATTACHMENT B - UNCOMPLETED CONSTRUCTION CONTRACTS**  
EIN:

| <b>Question 3.1: List all current uncompleted construction contracts.</b> |                |                       |   |                    |                |                          |  |  |  |
|---|----------------|-----------------------|---|--------------------|----------------|--------------------------|--|--|--|
| 1.  | Agency/Owner   |                       | Award Date                              | Amount             | Date Completed |                          |  |  |  |
|   | Contact Person | Telephone No.         | Design Architect and/or Design Engineer |                    |                |                          |  |  |  |
|   | Contract No.   | Prime or Sub          | Joint Venture (JV) Name, if applicable  |                    |                | EIN of JV, if applicable |  |  |  |
|   |                | Total Contract Amount | Amount Sublet to Others                 | Uncompleted Amount |                |                          |  |  |  |
| 2.  | Agency/Owner   |                       | Award Date                              | Amount             | Date Completed |                          |  |  |  |
|   | Contact Person | Telephone No.         | Design Architect and/or Design Engineer |                    |                |                          |  |  |  |
|   | Contract No.   | Prime or Sub          | Joint Venture (JV) Name, if applicable  |                    |                | EIN of JV, if applicable |  |  |  |
|   |                | Total Contract Amount | Amount Sublet to Others                 | Uncompleted Amount |                |                          |  |  |  |
| 3.  | Agency/Owner   |                       | Award Date                              | Amount             | Date Completed |                          |  |  |  |
|   | Contact Person | Telephone No.         | Design Architect and/or Design Engineer |                    |                |                          |  |  |  |
|   | Contract No.   | Prime or Sub          | Joint Venture (JV) Name, if applicable  |                    |                | EIN of JV, if applicable |  |  |  |
|   |                | Total Contract Amount | Amount Sublet to Others                 | Uncompleted Amount |                |                          |  |  |  |
| 4.  | Agency/Owner   |                       | Award Date                              | Amount             | Date Completed |                          |  |  |  |
|   | Contact Person | Telephone No.         | Design Architect and/or Design Engineer |                    |                |                          |  |  |  |
|   | Contract No.   | Prime or Sub          | Joint Venture (JV) Name, if applicable  |                    |                | EIN of JV, if applicable |  |  |  |
|   |                | Total Contract Amount | Amount Sublet to Others                 | Uncompleted Amount |                |                          |  |  |  |

**NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE  
ATTACHMENT B - UNCOMPLETED CONSTRUCTION CONTRACTS**  
EIN:

| <b>Question 3.1: List all current uncompleted construction contracts.</b> |                     |   |  |                                 |  |                       |  |  |  |
|---|---------------------|---|--|---------------------------------|--|-----------------------|--|--|--|
| <b>5. Agency/Owner</b>  |                     | <b>Award Date</b>                             | <b>Amount</b>                                  |                                 |  | <b>Date Completed</b> |  |  |  |
| <b>Contact Person</b>   |                     | <b>Telephone No.</b>                          | <b>Design Architect and/or Design Engineer</b> |                                 |  |                       |  |  |  |
| <b>Contract No.</b>   | <b>Prime or Sub</b> | <b>Joint Venture (JV) Name, if applicable</b> |  | <b>EIN of JV, if applicable</b> |  |                       |  |  |  |
|   |                     | <b>Total Contract Amount</b>                  | <b>Amount Sublet to Others</b>                 | <b>Uncompleted Amount</b>       |  |                       |  |  |  |
| <b>6. Agency/Owner</b>  |                     | <b>Award Date</b>                             | <b>Amount</b>                                  |                                 |  | <b>Date Completed</b> |  |  |  |
| <b>Contact Person</b>   |                     | <b>Telephone No.</b>                          | <b>Design Architect and/or Design Engineer</b> |                                 |  |                       |  |  |  |
| <b>Contract No.</b>   | <b>Prime or Sub</b> | <b>Joint Venture (JV) Name, if applicable</b> |  | <b>EIN of JV, if applicable</b> |  |                       |  |  |  |
|   |                     | <b>Total Contract Amount</b>                  | <b>Amount Sublet to Others</b>                 | <b>Uncompleted Amount</b>       |  |                       |  |  |  |
| <b>7. Agency/Owner</b>  |                     | <b>Award Date</b>                             | <b>Amount</b>                                  |                                 |  | <b>Date Completed</b> |  |  |  |
| <b>Contact Person</b>   |                     | <b>Telephone No.</b>                          | <b>Design Architect and/or Design Engineer</b> |                                 |  |                       |  |  |  |
| <b>Contract No.</b>   | <b>Prime or Sub</b> | <b>Joint Venture (JV) Name, if applicable</b> |  | <b>EIN of JV, if applicable</b> |  |                       |  |  |  |
|   |                     | <b>Total Contract Amount</b>                  | <b>Amount Sublet to Others</b>                 | <b>Uncompleted Amount</b>       |  |                       |  |  |  |
| <b>8. Agency/Owner</b>  |                     | <b>Award Date</b>                             | <b>Amount</b>                                  |                                 |  | <b>Date Completed</b> |  |  |  |
| <b>Contact Person</b>   |                     | <b>Telephone No.</b>                          | <b>Design Architect and/or Design Engineer</b> |                                 |  |                       |  |  |  |
| <b>Contract No.</b>   | <b>Prime or Sub</b> | <b>Joint Venture (JV) Name, if applicable</b> |  | <b>EIN of JV, if applicable</b> |  |                       |  |  |  |
|   |                     | <b>Total Contract Amount</b>                  | <b>Amount Sublet to Others</b>                 | <b>Uncompleted Amount</b>       |  |                       |  |  |  |

**NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE  
ATTACHMENT B - UNCOMPLETED CONSTRUCTION CONTRACTS**

EIN:

| <b>Question 3.1: List all current uncompleted construction contracts.</b> |              |  |   |                    |               |                          |
|---|--------------|--|---|--------------------|---------------|--------------------------|
| 9.  | Agency/Owner | Telephone No.                          | Design Architect and/or Design Engineer | Award Date         | Amount        | Date Completed           |
| Contract No.  | Prime or Sub | Joint Venture (JV) Name, if applicable |   |                    |               | EIN of JV, if applicable |
|   |              | Total Contract Amount                  | Amount Sublet to Others                 | Uncompleted Amount |               |                          |
| 10.   | Agency/Owner | Telephone No.                          | Design Architect and/or Design Engineer | Award Date         | Amount        | Date Completed           |
| Contract No.  | Prime or Sub | Joint Venture (JV) Name, if applicable |   |                    |               | EIN of JV, if applicable |
|   |              | Total Contract Amount                  | Amount Sublet to Others                 | Uncompleted Amount |               |                          |
| <b>Grand Total All Uncompleted Contracts</b>                              |              |  |   |                    | <b>\$0.00</b> |                          |

**NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE  
ATTACHMENT C – FINANCIAL INFORMATION**

EIN:  
As of Date:

ASSETS

|  |  |    |      |
|--|--|----|------|
| <u>Current Assets</u>  |  |    |      |
| 1. <u>Cash</u>   |  | \$ |      |
| 2. <u>Accounts receivable – less allowance for doubtful accounts</u>     |  |    | \$   |
| Retainers included in accounts receivable                                |  |    |      |
| Claims included in accounts receivable not yet approved or in litigation |  |    |      |
| 3. <u>Total accounts receivable</u>                                      |  | \$ | 0.00 |
| 4. <u>Notes receivable – due within one year</u>                         |  | \$ |      |
| 4. <u>Inventory – materials</u>  |  | \$ |      |
| 5. <u>Contract costs in excess of billings on uncompleted contracts</u>  |  | \$ |      |
| 6. <u>Accrued income receivable</u>                                      |  |    |      |
| Interest   |  |    |      |
| Other (list)   |  |    |      |
| 7. <u>Total accrued income receivable</u>                                |  | \$ | 0.00 |
| <u>Deposits</u>  |  |    |      |
| Bid and plan   |  |    |      |
| Other (list)   |  |    |      |
| 8. <u>Total deposits</u>   |  | \$ | 0.00 |
| <u>Prepaid expenses</u>  |  |    |      |
| Income Taxes   |  |    |      |
| Insurance  |  |    |      |
| Other (List)   |  |    |      |
| 9. <u>Total prepaid expenses</u>   |  | \$ | 0.00 |
| <u>Other current assets</u>  |  |    |      |
| (List)   |  |    |      |
| 10. <u>Total other current assets</u>                                    |  | \$ | 0.00 |
| <u>Total current assets</u>  |  | \$ | 0.00 |

**NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE  
ATTACHMENT C – FINANCIAL INFORMATION**

**EIN:**

|     |  |    |      |
|-----|--|----|------|
| 11. | <u>Investments</u>                               |    |      |
|     | Listed securities present market value           | \$ |      |
|     | Unlisted securities present value                |    |      |
|     | Total investments                                | \$ | 0.00 |
| 12. | <u>Fixed Assets</u>                              |    |      |
|     | Land   |    |      |
|     | Building and improvements                        |    |      |
|     | Leasehold improvements                           |    |      |
|     | Machinery and equipment                          |    |      |
|     | Automotive equipment                             |    |      |
|     | Office furniture and fixtures                    |    |      |
|     | Other (list)                                     |    |      |
|     | Total  | \$ | 0.00 |
|     | Less: accumulated depreciation                   | \$ |      |
|     | Total fixed assets net                           |    | 0.00 |
| 13. | <u>Other Assets</u>                              |    |      |
|     | Loans receivable                                 |    |      |
|     | officers   |    |      |
|     | employees  |    |      |
|     | shareholders                                     |    |      |
|     | Cash surrender value of officers' life insurance |    |      |
|     | Organization expense – net of amortization       |    |      |
|     | Notes receivable – due after one year            |    |      |
|     | Other (list)                                     |    |      |
|     | Total Other Assets                               | \$ | 0.00 |
| 14. | <u>TOTAL ASSETS</u>                              | \$ | 0.00 |

**NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE  
ATTACHMENT C – FINANCIAL INFORMATION**

EIN:

**LIABILITIES**

|     |  |    |      |
|-----|--|----|------|
|     | <u>Current Liabilities</u>                         |    |      |
| 15. | Accounts payable                                   | \$ |      |
| 16. | Loans from shareholders – due within one year      |    |      |
| 17. | Notes payable – due within one year                |    |      |
| 18. | Mortgage payable – due within one year             |    |      |
| 19. | Other payables – due within one year<br>(List)     | \$ |      |
| 20. | Total other payables – due within one year         |    | 0.00 |
| 21. | Billings in excess of costs and estimated earnings |    |      |
|     | Accrued expenses payable                           |    |      |
|     | Salaries and wages                                 |    |      |
|     | Employees' benefits                                |    |      |
|     | Insurance  |    |      |
|     | Other  |    |      |
| 22. | Total accrued expenses payable                     |    | 0.00 |
| 23. | Dividends payable                                  |    |      |
|     | Income taxes payable                               |    |      |
|     | State  |    |      |
|     | Federal  |    |      |
|     | Other  |    |      |
|     | Total income taxes payable                         |    | 0.00 |
| 24. | Total Current Liabilities                          | \$ | 0.00 |
| 25. | Deferred Income Taxes                              |    |      |
|     | Payable  |    |      |
|     | State  |    |      |
|     | Federal  |    |      |
|     | Other  |    |      |
|     | Total deferred income taxes                        | \$ | 0.00 |



RIVERHEAD WATER DISTRICT  
WELLHEAD TREATMENT FOR PERCHLORATE REMOVAL  
PLANT NO. 16  
H2M PROJECT NO.: RDWD 14-06

TO THE TOWN COUNCIL

TOWN OF RIVERHEAD  
RIVERHEAD, NEW YORK

For the furnishing and installing of materials for all work included under contract as follows:

Made this day of \_\_\_\_\_, by

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BIDDER'S DECLARATION:

The party named as Bidder declares that the only person or persons interested in this bid or proposal as principal or principals is or are named herein; and that no other person than herein named has any interest in this proposal or in the contract proposed to be taken; that this bid or proposal is made without any connections with any other person and persons making a bid or proposal for the same purpose; that the bid or proposal is in all respects fair and without collusion or fraud; that it has examined the site of the work, the contract and specifications and the drawings referred to; and has read the Information for Bidders hereto attached; and it proposes and agrees, if this proposal is accepted, it will contract in the form as approved to perform all the work mentioned in said contract and specifications; and it will accept in full payment therefore the following sums to wit:



Riverhead Water District  
Town of Riverhead, New York  
Wellhead Treatment for Perchlorate  
Plant No. 16  
H2M Project No.: RDWD 14-06

BID DATE: THURSDAY, MARCH 5 2015 AT 1:00 P.M.

Gentlemen:

The undersigned hereby offers to furnish all labor, equipment, materials and appurtenances for Wellhead Treatment for Perchlorate – Plant No. 16, all in accordance with the plans and specifications prepared by H2M architects + engineers for the following individual and lump sum prices:

**ITEM 1 - MOBILIZATION AND DEMOBILIZATION**

For mobilization and demobilization (item shall not exceed 5% of total bid)

LUMP SUM \_\_\_\_\_ (\$ )  
DOLLARS

**ITEM 2 - NEW BUILDING AND ASSOCIATED WORK**

For furnishing all, including electrical and HVAC, labor, materials and equipment necessary for construction of the new building complete and all other work not specifically called out under any other item, as specified.

LUMP SUM \_\_\_\_\_ (\$ )  
DOLLARS

**ITEM 3 - BUILDING CONSTRUCTION OF VESSEL CONCRETE SUPPORT PAD AND FOUNDATION**

For all concrete work as specified.

LUMP SUM \_\_\_\_\_ (\$ )  
DOLLARS

**ITEM 4 - MECHANICAL PIPING / TESTING & DISINFECTION**

For all work associated with furnishing, painting, installing and disinfecting and testing of all new facilities, and all associated accessories etc. and all other work not specifically called for under any other item, as shown on the Plans and as specified.

LUMP SUM \_\_\_\_\_ (\$ )  
DOLLARS

Riverhead Water District  
Town of Riverhead, New York  
Wellhead Treatment for Perchlorate  
Plant No. 16  
H2M Project No.: RDWD 14-06

BID DATE: THURSDAY, MARCH 5 2015 AT 1:00 P.M.

**ITEM 5 - PERCHLORATE VESSELS AND ASSOCIATED EQUIPMENT**

For unloading, setting and installing a complete new perchlorate treatment system (supplied by District), including, but not limited to: one (1) new 12' diameter filter vessel with all internals, and all other associated equipment as specified.

LUMP SUM \_\_\_\_\_ (\$ )  
DOLLARS

**ITEM 6 - SITE WORK & RESTORATION**

For all work associated with site improvements and restoration. Price shall include the cost of work to furnish, coordinate placement of, and install all items as noted on the plans and in the specifications.

LUMP SUM \_\_\_\_\_ (\$ )  
DOLLARS

**ITEM 7 - GENERAL ALLOWANCES**

Cash allowance as specified in Section 012100 – General Allowance for all items specified or as approved by Owner.

LUMP SUM Fifteen Thousand & 00/100 (\$ **15,000.00**)  
DOLLARS

|  |
|--|
| <p><b>TOTAL BASE BID (Sum of All Base Items)</b></p> <hr/> <hr/> <p style="text-align: right;">DOLLARS (\$ )</p> |
|--|

BIDDER: \_\_\_\_\_

BIDDER'S ADDRESS: \_\_\_\_\_

SIGNED BY: \_\_\_\_\_ TITLE: \_\_\_\_\_



Riverhead Water District  
Town of Riverhead, New York  
Wellhead Treatment for Perchlorate  
Plant No. 16  
H2M Project No.: RDWD 14-06

BID DATE: THURSDAY, MARCH 5 2015 AT 1:00 P.M.

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

FEDERAL I.D. NO. OR SOCIAL SECURITY NO.: \_\_\_\_\_

TELEPHONE NUMBER WHERE THE CONTRACTOR OR A COMPETENT REPRESENTATIVE CAN ACCEPT A TELEPHONE MESSAGE AND PROVIDE A REASONABLE REPLY AS SOON AS POSSIBLE, BUT NOT LATER THAN 24 HOURS.

DAY: (\_\_\_\_) \_\_\_\_\_  
(\_\_\_\_) \_\_\_\_\_

NIGHT:

FAX: (\_\_\_\_) \_\_\_\_\_  
(\_\_\_\_) \_\_\_\_\_

EMERGENCY:

Riverhead Water District  
Town of Riverhead, New York  
Wellhead Treatment for Perchlorate  
Plant No. 16  
H2M Project No.: RDWD 14-06

BID DATE: THURSDAY, MARCH 5 2015 AT 1:00 P.M.

**THIS FORM MUST BE COMPLETED BY BIDDER AND INCLUDED IN SEPARATE SEALED ENVELOPE MARKED SUBCONTRACTORS**

Each bidder, where the preparation of separate specifications is not required shall submit with its bid a separate sealed list that names the subcontractors that the bidder will use to perform work and the agreed upon amount to be paid for: a.) Plumbing; and b.) Electrical. After the low bid is announced, the sealed list of subcontractors submitted by the apparent low bidder shall be opened and the names of the subcontractors announced. Any change of subcontractor or agreed upon amount to be paid shall require the approval of the public owner, upon a showing of "legitimate construction need" for such change.

"Legitimate construction need" shall include, but not be limited to:

- A change in project specifications,
- A change in construction material costs,
- A change in subcontractor status, or
- The subcontractor has become unwilling, unable or unavailable to perform the subcontract.

The sealed lists of subcontractors submitted by all other bidders shall be returned to them unopened after the contract award.

**(I) PLUMBING AND GAS FITTING**

**Subcontractor Name:** \_\_\_\_\_

**Type of Work:** \_\_\_\_\_

**Agreed upon amount to be paid subcontractor:** \_\_\_\_\_

**(II) ELECTRIC WIRING AND STANDARD ILLUMINATING FIXTURES**

**Subcontractor Name:** \_\_\_\_\_

**Type of Work:** \_\_\_\_\_

**Agreed upon amount to be paid subcontractor:** \_\_\_\_\_

Riverhead Water District  
Town of Riverhead, New York  
Wellhead Treatment for Perchlorate  
Plant No. 16  
H2M Project No.: RDWD 14-06

BID DATE: THURSDAY, MARCH 5 2015 AT 1:00 P.M.

THE TOWN OF RIVERHEAD/RIVERHEAD WATER DISTRICT RESERVES THE RIGHT TO AWARD THIS CONTRACT BASED ON EITHER THE TOTAL BID OR ANY COMBINATION OF ITEMS. THE TOWN/DISTRICT RESERVES THE RIGHT TO REJECT ANY OR ALL BIDS. THE AWARD SHALL BE MADE TO THE LOWEST RESPONSIBLE BIDDER BASED UPON THE BID ITEMS AWARDED. THE TOWN/DISTRICT RESERVES THE RIGHT TO REJECT ANY OR ALL BIDS. THE TOWN/DISTRICT RESERVES THE RIGHT TO AWARD BID WITHIN FORTY FIVE (45) DAYS OF THE BID OPENING.

### **CONSTRUCTION SCHEDULE**

The contractor shall be responsible for the unloading and setting of the perchlorate vessel. The contractor shall coordinate with the vessel manufacturer (Calgon Carbon Corp.) regarding times, dates and any necessary requirements to properly unload and set the perchlorate vessel. The weight of the empty vessel is approximately 21,000 pounds.

The Riverhead Water District intends to keep the well in service until the perchlorate vessel is ready for testing.

Upon Notice to Proceed from the Town/District or the Engineer, the contractor shall mobilize to site within **SEVEN (7)** days.

The contractor shall complete all work required to be ready to accept delivery and set the perchlorate vessel within **FORTY-FIVE (45)** days off Notice to proceed. The treatment system shall be tested and ready to accept the resin loading within **FORTY-FIVE (45)** days of the Notice to Proceed. The entire project shall be completed within **ONE HUNDRED AND TWENTY (120)** days of the Notice to Proceed.

WITHIN TEN (10) DAYS (WEEKENDS AND LEGAL HOLIDAYS EXCEPTED) AFTER ACCEPTANCE OF THIS BID BY THE TOWN/DISTRICT, THE BIDDER SHALL EXECUTE THE CONTRACT. THE BIDDER SHALL FURNISH THE REQUIRED BONDS AND INSURANCES TO THE WATER DISTRICT'S ATTORNEY WITHIN THE SAME TIME FRAME.

FAILURE OF THE CONTRACTOR TO COMPLETE ALL WORK WITHIN THE SPECIFIED TIME PERIOD WILL SUBJECT HIM TO LIQUIDATED DAMAGES AS SET FORTH IN THE CONTRACT, IN THE SUM OF FIVE HUNDRED DOLLARS (\$500.00) PER DAY, COMMENCING WITH THE RESPECTIVE DATE ESTABLISHED FROM THE NOTICE TO PROCEED.

IN ADDITION TO LIQUIDATED DAMAGES, SPECIFIC DAMAGES WILL BE ASSESSED AND DEDUCTED FROM AMOUNTS OTHERWISE DUE THE CONTRACTOR FOR ADDITIONAL INSPECTION AND CONTRACT MANAGEMENT TIME REQUIRED TO BE EXPENDED BY THE ENGINEER SHOULD THE PROJECT BE COMPLETED BEYOND THE CONTRACT COMPLETION DATE. SUCH DEDUCTIONS SHALL BE IN ACCORDANCE WITH THE BILLING RATES AND FEES ESTABLISHED BETWEEN H2M AND THE RIVERHEAD WATER DISTRICT.

THE BIDDER REPRESENTS HERewith THAT HE IS AWARE OF THE WORKING CONDITIONS, HAS CAREFULLY REVIEWED THE PROPOSAL AND SPECIFICATIONS, HAS CHECKED AND CERTIFIES THE ACCURACY OF THE BID.

THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE DISTRICT TO MINIMIZE DISTURBANCES TO DISTRICT OPERATIONS.



Riverhead Water District  
Town of Riverhead, New York  
Wellhead Treatment for Perchlorate  
Plant No. 16  
H2M Project No.: RDWD 14-06

BID DATE: THURSDAY, MARCH 5 2015 AT 1:00 P.M.

THE UNDERSIGNED HEREBY ACKNOWLEDGES RECEIPT OF THE FOLLOWING ADDENDA (IF ANY):

**ADDENDUM NO.**

**DATED**

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Enclosed is a certified check or bid bond for five percent (5%) of the total amount of the bid as required by the foregoing "Information for Bidders."

The Bidder hereby agrees to appear with its sureties at the office of the attorney of the Riverhead Water District within ten (10) days (Weekends and Legal Holidays excepted) after due notice from the Town Board that the contract has been awarded to it and is ready for signature; such notice to be given in writing within forty-five (45) days of opening of the bids; and, on the signing of such contract by the Bidder, to furnish the indemnifying bonds as provided in the General Conditions.

The Bidder hereby further agrees that in the event of its failure or refusal to enter into a contract in accordance with this bid within ten (10) days (Weekends and Legal Holidays excepted) after due notice from the Town Board that the contract has been awarded to it and is ready for signature, as given in accordance with the Information for Bidders and/or its failure to execute and deliver the bond for the full amount of the contract price, as provided in said Information for Bidders, the Bidder's check or bid bond which is herewith deposited with the Town Board shall (at the option of said Board) become due and payable as ascertained and liquidated damages for such default; otherwise, said check or bid bond will be returned to the undersigned.

The full names and residences of all persons and parties interested in the foregoing bid as principals are as follows:

| NAME  | ADDRESS |
|-------|---------|
| _____ | _____   |
| _____ | _____   |
| _____ | _____   |

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

BUSINESS ADDRESS OF BIDDER: \_\_\_\_\_

DATED AT: \_\_\_\_\_ THE \_\_\_\_\_ DAY OF \_\_\_\_\_, 20 \_\_\_\_.

**NON-COLLUSIVE BIDDING CERTIFICATE**

Pursuant to Section 103-D of the General Municipal Law, the Contractor makes the following statement under penalty of perjury, and by submission of this bid or proposal, the bidder certified that:

(a) This bid or proposal has been independently arrived at without collusion with any other bidder or with any competitor or potential competitor; (b) this bid or proposal has not been knowingly disclosed and will not be knowingly disclosed prior to the opening of the bids or proposals for this project to any other bidder, competitor or potential competitor; (c) no attempt has been or will be made to induce any other person, partnership or corporation to submit or not to submit a bid or proposal; (d) the person signing this bid or proposal certifies that he/she has fully informed him or herself regarding the accuracy of the statements contained in this certification and, under penalties of perjury, affirms the truth thereof, such penalties being applicable to the bidder as well as to the person signing in its behalf; (e) that attached hereto (if a corporate bidder) is a certified copy of resolution authorizing the execution of this certificate by the signatory of this bid or proposal on behalf of the corporate bidder.

Resolve that \_\_\_\_\_ be authorized  
NAME OF CORPORATION

to sign and submit the bid or proposal of this corporation for the following project:  
WELLHEAD TREATMENT FOR PERCHLORATE REMOVAL, PLANT NO. 16  
DESCRIBE PROJECT

and to include in such bid or proposal the certificate as to non-collusion required by Section 103-D of the General Municipal Law as the act and deed of such corporation, and for any inaccuracies or misstatements in such certificate, this corporate bidder shall be liable under the penalties of perjury. The foregoing is a true and correct copy of the resolution adopted by

\_\_\_\_\_ at a meeting of its Board of Directors held on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

(Seal of the Corporation)

Secretary: \_\_\_\_\_

RESPECTIVELY SUBMITTED:

Firm Name: \_\_\_\_\_

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

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

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

IRANIAN INVESTMENT ACTIVITIES CERTIFICATION

(To be completed by the Bidder and submitted with the bid)

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 its knowledge and belief that each bidder is not on the list created pursuant to paragraph (b) of subdivision 3 of section 165-a of the state finance law.

Dated: \_\_\_\_\_ 2015

\_\_\_\_\_  
(Name of corporation or partnership)

\_\_\_\_\_  
(Individual)

\_\_\_\_\_  
(Officer stating title) (Partner)

It is the Contractor's responsibility to inform the Engineer in advance when a situation arises that forces the Contractor to cancel work for a given day. For example, if the Contractor informs the Engineer that he will be on the job on a certain day and then has to cancel the appointment because he cannot obtain certain materials or equipment, it is the Contractor's responsibility to inform the Engineer of these latest developments and to let him know that construction observation services will not be needed for that day.

In the event that the Engineer is not given ample warning of such a cancellation and, as a result, unnecessary time is spent sending field personnel out to the project site to observe the previously scheduled construction, sufficient funds will be deducted from monies due the Contractor to reimburse the Engineer for his wasted time.

By the same token, sufficient funds will be deducted from monies due the Contractor to reimburse the Engineer for any services rendered in the field or in the office regarding work that had to be performed a second time due to substandard work on the part of the Contractor on the original work.

**1.0 - INDEMNITY**

The Contractor and all subcontractors performing work in connection with this Contract shall HOLD HARMLESS, INDEMNIFY and DEFEND the Owner and Engineer, their consultants and each of their officers, agents and employees from any liability, claims, losses or damage including reasonable costs of defense arising out of or alleged to arise from the Contractor's or subcontractor's negligence in the performance of the work described in the Contract Documents, but not including liability that may be due to the sole negligence of the Owner, the Engineer or their officers, agents and employees.

**2.0 - LIMITATION OF LIABILITY**

The Contractor and all subcontractors agree to limit the liability of the Owner and the Engineer due to the Engineer's professional negligent errors or omissions such that the total aggregate liability of the Engineer to those named shall not exceed Fifty Thousand Dollars (\$50,000) or five percent (5%) of the Contract award amount, whichever is greater.

**3.0 - NO CLAIM FOR DELAY**

The Contractor and all subcontractors agree to HOLD HARMLESS from any and all claims for loss or damages of any nature against the Owner or Engineer for delays in commencement, performance or completion of the Contract, regardless of whether said delays are, or may be, caused by the Owner, Engineer or any governmental agency.

CONTRACT

CONTRACT IN QUADRUPLICATE FOR \_\_\_\_\_  
AT TOWN OF RIVERHEAD, SUFFOLK COUNTY, NEW YORK, dated \_\_\_\_\_, 20\_\_, BY AND  
BETWEEN THE TOWN BOARD OF THE TOWN OF RIVERHEAD, SUFFOLK COUNTY, NEW YORK,  
acting for and in behalf of the RIVERHEAD WATER DISTRICT (herein called the TOWN DISTRICT), and  
\_\_\_\_\_ (herein called the CONTRACTOR).

WITNESSETH, that the TOWN DISTRICT and the CONTRACTOR, in consideration of the  
premises and of the mutual covenants, considerations and agreements herein contained, agree as  
follows:

This Contract is hereby awarded to the CONTRACTOR for the work and material called for under  
his bid in the Proposal section of the Contract and designated as Items: \_

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

for the sum of: \_\_\_\_\_  
\_\_\_\_\_ (\$ \_\_\_\_\_ )

for the unit and/or lump sum price(s) as listed in the Proposal herein.

## CONTRACT

### 1. CONTRACT DOCUMENTS AND DEFINITIONS

The Notice to Bidders, Information for Bidders, Proposal, General Conditions, Contract, Specifications and Plans, together with any Addenda, shall form part of this Contract, and the provisions thereof shall be as binding upon the parties hereto as if they were herein fully set forth. The titles, headings, headlines and marginal notes contained herein are solely to facilitate reference to the various provisions of the contract documents and in no way affect, limit or cast light upon the interpretation of the provisions to which they refer. Whenever the term "contract documents" is used, it shall mean and include this Contract, the Plans, Specifications, any Addenda, and the Notice to Bidders, Information for Bidders, General Conditions and Proposal. In case of any conflict or inconsistency between the provisions of the Contract and those of the Specifications, the provisions of the Contract shall govern.

WORK: The term WORK, as used herein, refers to all of the work proposed to be accomplished at the site of the project and all such other work as is in any manner required to accomplish the completed project, and includes all plant, labor, materials, supplies, equipment and other facilities and acts necessary or proper for or incidental to the carrying out and completion of the terms of this Contract. The term WORK PERFORMED shall be construed to include material delivered to and suitably stored at the site of the project.

EXTRA WORK: The term EXTRA WORK, as used herein, refers to and includes all work required by the TOWN DISTRICT which, in the judgment of the Engineer, with the Town's approval, involves changes in or additions to work required by the Plans, Specifications and any Addenda in their present form.

SUBCONTRACTOR: The term SUBCONTRACTOR, as used herein, shall mean any person, firm or corporation applying labor and material for work at the site of the project, but not including the parties to this Contract.

ENGINEER: In the performance of the work, the TOWN DISTRICT shall be represented by its Consulting Engineer H2M architects + engineers (herein called the ENGINEER).

NOTICE: The term NOTICE, as used herein, shall mean and include written notice. Written notice shall be deemed to have been duly served when delivered to, or at the last known business address of, the person, firm or corporation for whom intended or to his, their, or its duly authorized agents, representatives or officers, or when enclosed in a postage prepaid wrapper or envelope addressed to such person, firm, or corporation at his, their, or its last known business address and deposited in a United States Mail Box.

DIRECTED, REQUIRED, APPROVED, ACCEPTABLE: Whenever they refer to the work, or its performance, "directed", "required", "permitted", "ordered", "designated", "prescribed", and words of like import shall imply the direction, requirement, permission, order, designation or prescription of the Engineer, and "approved", "satisfied", or "satisfactory", "in the judgment of", and words of like import, shall mean approved or acceptable to, or satisfactory to, in the judgment of the Engineer.

### 2. SCOPE OF THE WORK

The Contractor will furnish all plant, labor, material, supplies, equipment and other facilities and things necessary or proper for or incidental to, the work contemplated by this Contract as required by,

## CONTRACT

and in strict accordance with, the applicable Plans, Specifications and Addenda prepared by the Engineer and/or required by and in strict accordance with, such changes as are ordered and approved pursuant to this Contract, and will perform all other obligations imposed on him by the Contract.

### 3. COMPENSATION TO BE PAID TO THE CONTRACTOR

A. Agreed Prices: It is understood and agreed that the Contractor will accept as payment in full the summation of products, of the actual quantities in place upon the completion of the work, as determined by the Engineer's measurements by the unit prices bid, no allowance being made for anticipated profit or for reason of variations from the estimated quantities set forth in the Proposal.

B. Extra Work and/or Changes: The TOWN DISTRICT may, at any time, by a written order, and without notice to the sureties, require the performance of such extra work or changes in the work as it may find necessary or desirable. The amount of compensation to be paid to the Contractor for any extra work, as so ordered, shall be determined as follows:

- (1) By such applicable unit prices, if any, as set forth in the contract; or
- (2) If no such unit prices are set forth, then by unit prices or by a lump sum mutually agreed upon by the TOWN DISTRICT and the Contractor; or
- (3) If no such unit prices are set forth, and if the parties cannot agree upon unit prices or a lump sum, then by actual net cost in money to the Contractor of the materials, permits, wages, or applied labor, premium for Workers' Compensation Insurance, payroll taxes required by law, rental for plant and equipment used (excluding small tools) to which total cost will be added 20 percent as full compensation for all other items of profit, costs and expenses, including administration, overhead, superintendence, insurance, insurance other than Workers' Compensation Insurance, material used in temporary structures, allowances made by the Contractor to subcontractors, additional premiums upon the Performance Bond of the Contractor and the use of small tools.

### 4. TIME OF ESSENCE

Inasmuch as the provisions of this Contract relating to the time for performance and completion of the work are for the purpose of enabling the TOWN DISTRICT to proceed with the construction of a public improvement, in accordance with a predetermined program, such provisions are of the essence of this Contract.

### 5. COMMENCEMENT OF WORK

The Contractor agrees that he will commence work within ten (10) consecutive calendar days after signing this Contract, and that the day he commences work shall constitute the first of the consecutive calendar days allowed for completion of the work.

## CONTRACT

### 6. TIME FOR COMPLETION

The time for completion of this Contract shall be within the number of calendar days stated in the Bid Proposal and the date of such completion shall be the date of the certificate of completion hereinafter specified.

The TOWN DISTRICT reserves the right to order the Contractor to suspend operations when, in the opinion of the Engineer, improper weather conditions make such action advisable, and to order the Contractor to resume operations when weather and ground conditions permit. The days during which such suspension of work is in force are not chargeable against the specified completion time.

### 7. LIQUIDATED DAMAGES FOR DELAY

The time limit being essential to and of the essence of this Contract, the Contractor hereby agrees that the TOWN DISTRICT shall be, and is hereby authorized to deduct and retain out of the money which may be due or may become due to said Contractor under this agreement, the sum of FIVE HUNDRED DOLLARS (\$500.00) per day, which amount is hereby agreed upon, fixed and determined by the parties hereto as the LIQUIDATED DAMAGES, including overhead charges, services, inspector's wages, and interest on the money invested, that the TOWN DISTRICT will suffer by reason of such default, for each and every day during which the aforesaid work may be incomplete over and beyond the time herein stipulated for its completion, provided, however, that the TOWN DISTRICT shall have the right to extend the time for the completion of said work.

### 8. EXTENSIONS OF TIME - NO WAIVER

If the Contractor shall be delayed in the completion of his work by reason of unforeseeable causes beyond his control and without his fault or negligence, including but not restricted to Acts of God or of any public enemy, acts or neglect of the TOWN DISTRICT, acts or neglect of any other Contractor, fires, floods, epidemics, quarantine restrictions, strikes, riots, civil commotion or freight embargoes, the period herein above specified for completion of his work shall be extended by such time as shall be fixed by the TOWN DISTRICT.

No such extension of time shall be considered a waiver by the TOWN DISTRICT of its right to terminate the Contract for abandonment or delay by the Contractor as hereinafter provided or relieve the Contractor from full responsibility for performance of his obligations hereunder.

### 9. CONTRACT SECURITY

A. The Contractor shall furnish a Performance Bond in an amount equal to one hundred percent (100%) of the total contract price as security for the faithful performance of this Contract, and for the payment of all persons performing labor or furnishing materials in connection with this Contract.

B. Additional or Substitute Bond - If, at any time, the TOWN DISTRICT shall be or become dissatisfied with any surety or sureties, then upon the Performance Bond, or if, for any other reason, such bond shall cease to be adequate security to the TOWN DISTRICT, the Contractor shall, within five (5) days after notice from the TOWN DISTRICT, substitute an acceptable bond in such form and sum, and signed by such other surety as may be satisfactory to the TOWN DISTRICT. The premiums on such

## CONTRACT

bonds shall be paid by the Contractor. No further payments shall be deemed due, nor shall be made until the new surety shall have been qualified.

C. Prior to release of the Performance Bond, the Contractor shall deliver to the TOWN DISTRICT a Maintenance Bond equal to one hundred percent (100%) of the total Contract price, including all extras. This Maintenance Bond shall remain in full force and effect for a period of one (1) year after the date of the Engineer's approval of the final payment request and such bond, which shall be executed by the Contractor and issued by a reliable, solvent surety company authorized to do business in the State of New York shall guarantee to the TOWN DISTRICT that the Contractor shall promptly remedy any defects or faults that may occur within twelve (12) months after completion and acceptance of the work performed by the Contractor pursuant to this Contract.

### 10. CONTRACTOR'S INSURANCE

The Contractor shall not commence any work until he has obtained and had approved by the TOWN DISTRICT all of the insurance required under this Contract, as enumerated herein:

Compensation Insurance

Public Liability and Property Damage Insurance

Contractor's Protective Liability and Property Damage Insurance

Owner's (TOWN DISTRICT) and Engineer's Protective Public Liability and Property Damage Insurance

Automobile Public Liability and Property Damage Insurance

The Contractor shall not permit any subcontractor to commence any operation on the site until satisfactory proof of carriage of the above required insurance has been posted with, and approved by, the TOWN DISTRICT.

A. Compensation Insurance - The Contractor shall take out and maintain, during the life of this Contract, Workers' Compensation Insurance for all of his employees employed at the site of the project, and in any case of any of the work being sublet, the Contractor shall require the subcontractor similarly to provide Workers' Compensation Insurance for all of the latter's employees, unless such employees are covered by the protection afforded by the Contractor.

B. Public Liability and Property Damage Insurance - The Contractor shall take out and maintain during the life of this Contract such Public Liability and Property Damage Insurance as shall protect him and any subcontractor performing work covered by this Contract for claims for damages for personal injury, including accidental death, as well as from claims for property damage which may arise from operations under this Contract, whether such operations be by himself or by any subcontractor, or by any one directly or indirectly employed by either of them, and the amounts of such insurance shall be as follows:

- (1) Public Liability Insurance in the amount not less than ONE MILLION DOLLARS (\$1,000,000.) for bodily injuries, including wrongful death to any one person, and

## CONTRACT

subject to the same limit for each person in an amount not less than TWO MILLION DOLLARS (\$2,000,000.) on account of one accident.

- (2) Property Damage Insurance in an amount not less than ONE HUNDRED THOUSAND DOLLARS (\$100,000.) for damages on account of any one accident and in an amount of not less than TWO HUNDRED THOUSAND DOLLARS (\$200,000.) for damages on account of all accidents.

C. Liability and Property Damage Insurance - The above policies for public liability and property damage insurance must be so written as to include Contractor's Protective Liability and Property Damage Insurance to protect the Contractor against claims arising from the operations of any subcontractor.

D. Owner's Protective Public Liability and Property Damage Insurance - (TOWN DISTRICT, and/or TOWN BOARD, TOWN OF RIVERHEAD as OWNER and/or H2M architects + engineers as ENGINEERS) - The Contractor shall furnish to the TOWN DISTRICT with respect to the operations he or any of his subcontractors perform, a regular Protective Public Liability Insurance Policy for and in behalf of the TOWN DISTRICT and/or TOWN BOARD, TOWN OF RIVERHEAD as OWNER and/or H2M architects + engineers, as ENGINEERS, providing for a limit of not less than ONE MILLION DOLLARS (\$1,000,000.) for all damages arising out of bodily injuries to, or death of, one person and subject to that limit for each person, a total limit of TWO MILLION DOLLARS (\$2,000,000.) for all damages arising out of bodily injuries to, or death of, two or more persons in any one accident; and regular Protective Property Damage Insurance providing for a limit of not less than ONE HUNDRED THOUSAND DOLLARS (\$100,000.) for all damages arising out of injury to, or destruction of, property in any one accident and subject to that limit per accident a total (or aggregate) limit of TWO HUNDRED THOUSAND DOLLARS (\$200,000.) for all damages arising out of injury to, or destruction of property during the policy period. The insurance must fully cover the legal liability of the TOWN DISTRICT and/or TOWN BOARD, TOWN OF RIVERHEAD as OWNER and/or H2M architects + engineers, as ENGINEERS. The coverage provided under this policy must not be affected if the TOWN DISTRICT performs work in connection with the project either for, or in cooperation with, the Contractor or as an aid thereto, whether the same be a part of the Contract or separate therefrom, by means of its own employees or agents, or if the TOWN DISTRICT directs or supervises the work to be performed by the Contractor.

E. Automobile Public Liability and Property Damage Insurance - The Contractor shall take out and maintain during the life of the Contract such automobile public liability and property damage insurance as shall protect him and any subcontractor performing work covered by this Contract from claims for damages for personal injury, including accidental death as well as from claims for property damage which may arise from operations under this Contract, whether such operations be by himself or by any subcontractor, or by any one directly or indirectly employed by either of them and the amounts of such insurance shall be as follows:

- (1) Automobile Public Liability Insurance in an amount not less than TWO MILLION DOLLARS (\$2,000,000.) for bodily injuries, including wrongful death by any one person, and subject to the same limit for each person in an amount not less than TWO MILLION DOLLARS (\$2,000,000.) on account of one accident.
- (2) Automobile Property Damage Insurance in an amount of not less than ONE HUNDRED THOUSAND DOLLARS (\$100,000.) for damages on account of any one accident and in an amount of not less than TWO HUNDRED THOUSAND DOLLARS (\$200,000.) for damages on account of all accidents.

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### 11. PROOF OF CARRIAGE OF INSURANCE

The Contractor shall furnish the TOWN DISTRICT with certificates of each insurer insuring the Contractor or any subcontractor under this Contract, except with respect to subdivision D. of paragraph 10. In respect to this paragraph, the Contractor shall furnish the TOWN DISTRICT with the original insurance policy and a copy to the Engineer.

Both certificates, as furnished, and the insurance policy, as required, shall bear the policy numbers, the expiration date of the policy and the limit or limits of liability thereunder. Both the certificates and the policy shall be further endorsed to provide the TOWN DISTRICT and Engineer with any notice of cancellation at least ten (10) days prior to the actual date of such cancellation.

### 12. COMPLIANCE WITH LABOR AND PENAL LAWS

The Contractor hereby expressly agrees to comply with all the provisions of the Labor Law and any and all amendments thereto, insofar as the same are applicable to this Contract. The Labor Laws, as amended, provide that no laborer, worker or mechanic in the employ of the Contractor, subcontractor or other person doing or contracting to do the whole or a part of the work contemplated by this Contract, shall be permitted or required to work more than eight (8) hours in any one calendar day, except in cases of extraordinary emergency caused by fire, flood, or danger to life or property; that no such person shall be employed more than eight (8) hours in any day or more than five (5) days in any week, except in such emergency; that the wages to be paid for a legal day's work as hereinbefore defined, to laborers, workers, or mechanics upon the work called for under this Contract, or for any materials used upon or in connection therewith shall not be less than the prevailing rate for a day's work in the same trade or occupation in the locality within the State where such work is to be done and each laborer, worker, or mechanic employed by the Contractor, subcontractor, or other person about or upon the work shall be paid the wages herein provided; that employees engaged in the construction outside the limits of cities and villages are no longer exempt from the provisions of the Labor Laws which required the payment of the prevailing rate of wages and the eight (8) hour day.

Section 220A of the Labor Law, as amended by Chapter 472 of the Laws of 1932, provides that before payment is made by or on behalf of the State or any City, County, Town or Village or other civil division of the State, of any sums due on account of a contract for a public improvement, it is the duty of the Comptroller or the financial officer of the Municipal Corporation to require the Contractor and each and every subcontractor to file a certified statement in writing, in satisfactory form, certifying to the amounts then due and owing to any and all laborers for daily or weekly wages on account of labor performed upon the work of the Contract, setting forth therein the names of the persons whose wages are unpaid and the amount due each, respectively.

Section 220B of the Labor Law, as amended, provides that any interested person who shall have previously filed a protest in writing objecting to the payment to any Contractor or subcontractor to the extent of the amount or amounts due or to become due to him for daily or weekly wages for labor performed on the public improvement for which the Contract was entered into, or if, for any other reason, it may be deemed advisable, the Comptroller of the State or other financial officer of the Municipal Corporation may deduct from the whole amount of any payment on account thereof the sum or sums admitted by any Contractor or subcontractor in such statement or statements so filed to be due and owing by him on account of labor performed and may withhold the amount so deducted for the benefit of the laborers for daily or weekly wages, whose wages are unpaid as shown by the verified statements filed by

## CONTRACT

any Contractor or subcontractor and may pay directly to any person the amount or amounts so shown to be due for such wages.

Section 220C of the Labor Law, as amended, provides the penalty for making of a false oath or verification.

Section 220D of the Labor Law provides that the advertised specifications for every Contract for the construction, reconstruction, maintenance and/or repair of highways to which the State, County, Town and/or Village is a party shall contain the provision stating the minimum rate of hourly wage that can be paid, as shall be designated by the Industrial Commissioner, to the laborers employed in the performance of the Contract, either by the Contractor, subcontractor or other person doing or contracting to do the whole or part of the work contemplated by the Contract, and the Contract shall contain a stipulation that such laborers shall be paid not less than such hourly minimum rate of wage. Any person or corporation that willfully pays after entering into such Contract less than such stipulated minimum hourly wage scale shall be guilty of a misdemeanor and, upon conviction, shall be punished for a first offense by a fine of Five Hundred Dollars (\$500.) or by imprisonment for not more than thirty (30) days, or by both fine and imprisonment for a second offense by a fine of One Thousand Dollars (\$1,000.) and, in addition thereto, the Contract on which the violation has occurred shall be forfeited; and no such person or corporation shall be entitled to receive any sum or nor shall any officer, agent or employee of the State pay the same or authorize its payment from the funds under his charge or control to any person or corporation for work done upon any contract, on which the Contractor has been convicted of second offense in violation of the provisions of this Section.

The minimum wage rates established by the Industrial Commissioner, State of New York, for this Contract, are as set forth in the INFORMATION FOR BIDDERS.

All excavation shall be done in compliance with Article 36 of the General Business Law and notices given as provided by GBL Section 761.

### 13. PAYMENT OF EMPLOYEES

The Contractor and each of his subcontractors shall pay each of his employees engaged in work on this project under this Contract in full (less deductions made mandatory by law) in cash and not less often than once each week.

### 14. ESTIMATES AND PAYMENTS

A. Monthly: At the end of each calendar month during the progress of the work, the Contractor shall submit a payment requisition to the Engineer. The Engineer will review the requisition and prepare a payment request based on the estimated amount of work performed and the quantity of materials furnished, based on the prices set forth in the Proposal. In consideration of the work done and the materials furnished, the TOWN DISTRICT will pay or cause to be paid to the Contractor the amount estimated by the Engineer as due him less a sum equal to five percent (5%) of such amount and less such additional amount as may be necessary to satisfy any claims, liens or judgments against the Contractor which have not been suitable discharged. The making of any such estimate or payment made thereon shall not be taken or construed as an acceptance by the Engineer or the TOWN DISTRICT of any work so estimated and paid for. The amount of the monthly estimate remaining unpaid will be retained by the TOWN DISTRICT as a guarantee that the Contractor will faithfully and completely fulfill all

## CONTRACT

obligations imposed by the Contract and Specifications, and against any damages incurred by the TOWN DISTRICT by reason of any failure on the part of the Contractor to fulfill all conditions and obligations herein contained. All partial payments are subject to correction in any subsequent payment. The retained amounts shall be paid as set forth in the following subsection B.

B. Final: Thirty (30) days after the Contractor shall have substantially completed the work required of it under the Contract the Engineer will prepare an approval of Final Payment Request. Thereafter the TOWN DISTRICT will pay to the Contractor the remaining amount of the Contract balance less a sum equal to two (2) times the value of any remaining items to be completed and less an amount necessary to satisfy any claims, liens or judgments against the Contractor which have not been suitably discharged. As the remaining items of work are satisfactorily completed or corrected, the TOWN DISTRICT shall promptly pay, upon receipt of a requisition for these items less an amount necessary to satisfy any claims, liens or judgments against the Contractor which have not been suitably discharged. Any claims, liens and judgments referred to in this section shall pertain to the project and shall be filed in accordance with the terms of the applicable Contract and/or applicable laws.

C. In order to secure the performance of the covenant of the Contractor, prior to release of the Performance Bond, the Contractor shall deliver to the TOWN DISTRICT a Maintenance Bond equal to one hundred percent (100%) of the total Contract price, including all extras. This Maintenance Bond shall remain in full force and effect for a period of one (1) year after the date of the Engineer's approval of the Final Payment Request and such bond, which shall be executed by the Contractor and issued by a reliable, solvent surety company authorized to do business in the State of New York shall guarantee to the TOWN DISTRICT that the Contractor shall promptly remedy any defects or faults that may occur within twelve (12) months after completion and acceptance of the work performed by the Contractor pursuant to this Contract.

D. Measurements for Payment: The Engineer shall make due measurement of the work done during the progress of the work and his estimate shall be final and conclusive evidence of the amounts of work performed by the Contractor under, and by virtue of, this agreement, and shall be taken as the full measure of compensation to be received by the Contractor. When requested by the Contractor, the Engineer shall measure, re-measure or re-estimate any portion of the work; but the expense of such re-measurement or re-estimating shall, unless material error be proved, be paid for by the Contractor.

E. Should all work not be completed and final payment request not submitted within one (1) year after the punch list has been issued, the TOWN DISTRICT will be under no obligation to make final payment.

### 15. FUEL SURCHARGES

The Town/District will not pay any type of fuel surcharge. Any fuel surcharges added will be deleted from any payments made to the vendor.

## CONTRACT

### 16. ACCEPTANCE OF FINAL PAYMENT CONSTITUTES RELEASE

The acceptance by the Contractor of the final payment shall be, and shall operate as a release to the TOWN DISTRICT from all claims and all liabilities to the Contractor for all things done or furnished in connection with this work, and for every act and neglect of the TOWN DISTRICT and other relating to, or arising out of, this work, excepting the Contractor's claims for interest upon the final payment, if these payments be improperly delayed. No payment, however, final or otherwise, shall operate to release the Contractor or his sureties from any obligations under this Contract or the Performance Bond.

### 17. CONSTRUCTION REPORTS

The Contractor shall submit to the Engineer prior to the commencing of any work under this Contract a detailed schedule and plan of operation, indicating the manner in which the Contractor proposes to prosecute the work, and a time schedule therefore. Such schedules are not intended to bind the Contractor to a predetermined plan or procedure, but rather to enable the Engineer to coordinate the work of the Contractor with work required of and to be performed by others.

The Contractor shall furnish the Engineer with periodic estimates for partial payments as required elsewhere in the contract documents and, in addition thereto, will furnish the Engineer with a detailed estimate for final payment. Prior to being eligible to receive final payment under this Contract, the Contractor shall furnish the Engineer with substantial proof that all bills for services rendered and materials supplied have been paid. The enumeration of the above reports in no way relieves the Contractor of his responsibility under existing Federal or State laws of filing such other reports with agencies other than the TOWN DISTRICT as may be required by such existing laws or regulations.

### 18. INSPECTION AND TESTS

All material and workmanship shall be subject to inspection, examination and test by the Engineer and other representatives of the TOWN DISTRICT at any time during the construction and at any and all places where manufacturing of materials used and/or construction is carried on.

Without additional charge, the Contractor shall furnish promptly all reasonable facilities, labor and materials necessary to make tests so required safe and convenient.

If, at any time, before final acceptance of the entire work, the Engineer, with the TOWN DISTRICT's approval, considers necessary or advisable an examination of any portion of the work already completed, by removing or tearing out the same, the Contractor shall, upon request, furnish promptly all necessary facilities, labor and materials for such examination. If such work is found to be defective in any material respect, due to the fault of the Contractor or any subcontractor, or if any work shall be covered over without the approval or consent of the Engineer, with the TOWN DISTRICT's approval, whether or not the same shall be defective, the Contractor shall be liable for the expenses of such examination and of satisfactory reconstruction.

If, however, such approval and consent shall have been given, and such work is found to meet the requirements of this Contract, the Contractor shall be recompensed for the expense of such examination and reconstruction in the manner herein provided for the payment of costs of extra work pursuant to a Change Order signed by the TOWN DISTRICT and the Contractor.

## CONTRACT

The selection of laboratories and/or agencies for the inspection and tests of supplies, materials or equipment shall be subject to the approval of the Engineer. Satisfactory documentary evidence that the material has passed the required inspection and test must be furnished the Engineer prior to the incorporation of the material in the work.

Any rejected work shall be removed from the site of the project completely at the expense of the Contractor.

### 19. PLANS AND SPECIFICATIONS - INTERPRETATIONS

The Contractor shall keep at the site of the work one (1) copy of the Plans and Specifications signed and identified by the Engineer. Anything shown on the Plans and not mentioned in the Specifications or mentioned in the Specifications and not shown on the Plans shall have the same effect as if shown or mentioned respectively in both. In case of any conflict or inconsistency between the Plans and Specifications, the Plans shall govern. Any discrepancy between the figures and drawings shall be submitted to the Engineer, whose decision therein shall be conclusive.

### 20. SUBSURFACE CONDITIONS FOUND DIFFERENT

Should the Contractor encounter subsurface conditions at the site materially differing from those shown on the Plans or indicated in the Specifications, he shall immediately give notice to the Engineer of such conditions before they are disturbed; the Engineer shall thereupon promptly investigate the conditions and if he finds that they materially differ from those shown on the Plans or indicated in the Specifications, he shall at once make such changes in the Plans and/or Specifications as he may find necessary.

Any increase or decrease of cost resulting from such changes will be adjusted in the manner provided herein for adjustment as to extra and/or additional work and changes shall be by Change Order executed by the TOWN DISTRICT and Contractor.

### 21. CONTRACTOR'S TITLE TO MATERIALS

No material or supplies for the work shall be purchased by the Contractor or by any subcontractor subject to any chattel mortgage or under a conditional sale or other agreement by which an interest is retained by the seller. The Contractor warrants that he has good title to all materials and supplies used by him in the work.

### 22. SUPERINTENDENCE BY CONTRACTOR

At the site of the work the Contractor shall employ a Construction Superintendent or Foreman who shall have full authority to act for the Contractor. It is understood that such representative shall be acceptable to the Engineer and shall be one who can be continued in that capacity for the particular job involved unless he ceases to be on the Contractor's payroll.

## CONTRACT

### 23. PROTECTION OF WORK, PERSONS AND PROPERTY

Precaution shall be exercised at all times for the proper protection of all persons, property and work. The safety provisions of applicable laws, building and construction codes shall be observed. Machinery equipment and all hazards shall be guarded or eliminated in accordance with the safety provisions of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America, to the extent that such provisions are not in contravention of applicable law. The Contractor shall furnish entirely at his own expense any and all additional safety measures deemed necessary by the TOWN DISTRICT or its Engineer to adequately safeguard the traveling public. The Contractor shall give notice to the owners of all utilities which may serve the area and request their assistance in predetermining the location and depth of the various pipes, conduits, manholes and other underground facilities.

The Contractor shall, at all hours of the day, safely guard and protect his own work and adjacent property from any damage and shall replace or make good any such damage, loss or injury unless such be caused directly by errors contained in the contract documents, or by the TOWN DISTRICT or its duly authorized representatives.

The Contractor shall provide and maintain such watchers, barriers, lights, flares and other signals, at his own expense, as will effectively prevent any accident in consequence of his work for which the TOWN DISTRICT might be liable. The Contractor shall be liable for all injury or damage caused by his act or neglect, or that of his employees.

### 24. PATENT RIGHTS

As part of his obligation hereunder and without any additional compensation, the Contractor will pay for any patent fees or royalties required in respect to the work or any part thereof and will fully indemnify the TOWN DISTRICT for any loss on account of any infringement of any patent rights, unless prior to his use in the work of a particular process or a product of a particular manufacturer, he notifies the TOWN DISTRICT in writing that such process or product is an infringement of a patent.

### 25. REPRESENTATIONS OF CONTRACTOR

The Contractor represents and warrants:

A. That he is financially solvent and that he is experienced in and competent to perform the type of work involved under this Contract and able to furnish the plan, materials, supplies and/or equipment to be furnished for the work; and

B. That he is familiar with all Federal, State and Municipal Laws, ordinances and regulations which may in any way affect the work of those employed hereunder, including but not limited to any special acts relating to the work; and

C. That such work required by these contract documents as is to be done by him can be satisfactorily constructed and used for the purpose for which it is intended and that such construction will not injure any person or damage any property; and

D. That he has carefully examined the Plans, Specifications, and the site of the work, and that from his own investigation he has satisfied himself as to the nature and location of the work, the character, location, quality and quantity of surface and subsurface materials, structures and utilities likely

## CONTRACT

to be encountered, the character of equipment, and other facilities needed for the performance of the work, the general local conditions which may in any way affect the work or its performance.

### 26. AUTHORITY OF THE ENGINEER

In the performance of the work, the Contractor shall abide by all orders and directions and requirements of the Engineer and shall perform all work to the satisfaction of the Engineer, at such time and places, by such methods, and in such manner and sequence as he may require. The Engineer shall determine the amount, quality, acceptability and fitness of all parts of the work, shall interpret the plans, specifications, contract documents and any extra work orders and shall decide all other questions in connection with the work. Upon request, the Engineer shall confirm in writing any oral orders, directions, requirements or determinations. The enumeration herein or else-where in the contract documents of particular instances in which the opinion, judgment, discretion or determination of the Engineer shall control, or in which work shall be performed to his satisfaction or subject to his approval, or inspection, shall not imply that only matters similar to those enumerated shall be so governed and so performed, but without exception all the work shall be governed and so performed. Nothing herein shall be construed to give the Contractor a claim for extra work unless prior thereto an appropriate Change Order has been executed by the TOWN DISTRICT and Contractor for such work.

### 27. SURVEYS

The Contractor shall provide all layouts, measurements, lines, and grades necessary for the execution of the work, and will furnish the necessary stakes and spikes for laying out such lines and grades and the unskilled labor necessary to place same and/or assist in measuring.

### 28. CHANGES AND ALTERATIONS

The TOWN DISTRICT reserves the right to make alterations in the location, line, grade, plans, form or dimensions of the work, or any part thereof, either before or after the commencement of the construction. If such alterations diminish the amount of work to be done, no claim for damages or anticipated profits will be warranted on the work which may be dispensed with. If such alterations increase the amount of work, such increases shall be paid for according to the quantity of work actually done and at the unit prices for such work as contained in the schedule of prices.

If such alterations decrease the amount of work, such decreases shall be a credit to the TOWN DISTRICT based on the quantity of work not performed as agreed to by the TOWN DISTRICT and the Contractor and at the unit prices for such work as contained in the Schedule of Prices.

### 29. CORRECTION OF WORK

All work and all materials, whether incorporated into the work or not, all processes of manufacture and all methods of construction shall be, at all times and places, subject to the inspection of the Engineer who shall be the final judge of quality, materials, processes of manufacture and methods of construction suitable for the purpose for which they are used. Should they fail to meet his approval they shall be forthwith reconstructed, made good and replaced and/or corrected as the case may be, by the Contractor at his own expense. Rejected materials shall immediately be removed from the site.

## CONTRACT

If, in the opinion of the Engineer, it is not desirable to replace any defective or damaged materials or to reconstruct or correct any portion of the work injured or not performed in accordance with the contract documents, the compensation to be paid to the Contractor hereunder shall be reduced by such amount as, in the judgment of the Engineer, shall be equitable.

The Contractor expressly warrants that his work shall be free from any defects in materials or workmanship, and agrees to correct any defects, settlements, or shrinkages which may appear within one (1) year following the date of the final payment request. Neither the acceptance of the completed work nor payment therefor shall operate to release the Contractor or his sureties from any obligations under or upon this Contract or the Performance Bond.

### 30. WEATHER CONDITIONS

The Contractor will and will cause his subcontractors to protect carefully his and their work and materials against damage or injury from the weather. If any work or materials shall have been damaged or injured by reason of the failure on the part of the Contractor or any of his subcontractors to protect his, or their work, such work and materials shall be removed and replaced at the expense of the Contractor.

### 31. THE TOWN DISTRICT'S RIGHT TO WITHHOLD PAYMENTS

The TOWN DISTRICT may withhold from the Contractor so much of any approved payments due him as may, in the judgment of the TOWN DISTRICT, be necessary:

- A. To assure the payment of just claims then due and unpaid of any persons supplying labor or materials for the work;
- B. To protect the TOWN DISTRICT from loss due to defective work not remedied; or
- C. To protect the TOWN DISTRICT from loss due to injury to persons or damage to the work or property of other contractors or subcontractors or others, caused by the act or neglect of the Contractor or any of his subcontractors. The TOWN DISTRICT shall have the right, as agent for the Contractor, to apply any such amount so withheld in such manner as the TOWN DISTRICT may deem proper to satisfy such claims or to secure such protection. Such application of such money shall be deemed payments for the account of the Contractor.

### 32. THE TOWN DISTRICT'S RIGHT TO STOP WORK OR TERMINATE CONTRACT

If:

- A. The Contractor shall file for any form of bankruptcy relief or make an assignment for the benefit of creditors; or
- B. A receiver or liquidator shall be appointed for the Contractor for any of his property and shall not be dismissed within twenty (20) days after such appointment, or the proceedings in connection therewith shall not be stayed on appeal within the said twenty (20) days; or

## CONTRACT

C. The Contractor shall violate any provision of this Contract; or

D. The Contractor shall fail or refuse to regard laws, ordinances, regulations, or the instructions of the Engineer and/or the TOWN DISTRICT;

then, and in any such event, the TOWN DISTRICT without prejudice to any other rights or remedy it may have, and after seven (7) days written notice to the Contractor and Contractor's Surety may terminate the employment of the Contractor and take possession of the premises and all material, tools and appliances therein, and complete the work by contract or otherwise, as the TOWN DISTRICT solely may deem expedient. In such case, the Contractor shall not be entitled to receive any further payment until the work is finished.

If the unpaid balance of the compensation to be paid the Contractor hereunder shall exceed the expense of so completing the work (including compensation for additional managerial, engineering, administration, legal, testing and observation services and any damages for delay), such excess shall be paid to Contractor.

If the expense shall exceed the unpaid balance, the Contractor and his sureties shall be liable to the TOWN DISTRICT for such excess.

### 33. CONTRACTOR'S RIGHT TO STOP WORK OR TERMINATE CONTRACT

If the work shall be stopped by order of the Court or any public authority, Federal or State agency, for a period of three (3) months through no act or fault of the Contractor or any of his agents, servants, employees, material men, or subcontractors, the Contractor may, upon ten (10) days notice to the TOWN DISTRICT, discontinue his performance of the work and/or terminate the Contract.

Upon termination by the Contractor the TOWN DISTRICT may take possession of the work and complete the work by Contract or otherwise, as the TOWN DISTRICT solely may deem expedient.

If the Contract is terminated by the Contractor, the liability of the TOWN DISTRICT to the Contractor shall be for all work executed and for any proven loss sustained upon any materials, equipment, tools, construction equipment, including reasonable profit and damages.

### 34. RESPONSIBILITY OF WORK

The Contractor agrees to be responsible for the entire work embraced in this Contract until its completion and final acceptance, and that any unfaithful or imperfect work that may become damaged from any cause, either by act or commission or omission to properly guard and protect the work that may be discovered at any time before the completion and acceptance shall be removed and replaced by good and satisfactory work without any charge to the TOWN DISTRICT and that such removal and replacement will be performed immediately on the requirement of the Engineer, notwithstanding the fact that it may have been overlooked by the proper inspector, and partial payment made thereon. It is fully understood by the Contractor that the inspection of the work shall not relieve him of any obligation to do sound and reliable work as herein prescribed, and that any omission to disapprove of any work by the Engineer at or before the time of a partial payment or other estimate shall not be construed to be an acceptance of any defective work.

## CONTRACT

### 35. USES OF PREMISES AND REMOVAL OF DEBRIS

The Contractor expressly undertakes at his own expense:

- A. To take every precaution against injury to persons or damages to property;
- B. To store his apparatus, materials, supplies and equipment in such orderly fashion at the site of the work as will not unduly interfere with the progress of his work or the work of any of his subcontractors, or other contractors;
- C. To place upon any of the completed work only such superimposed loads as are consistent with the safety of that portion of the work;
- D. To frequently clean up all refuse, rubbish, scrap materials and debris caused by the operations to the end that at all times the site of the work shall present a neat and orderly and workmanlike appearance;
- E. Before the Engineer's approval of the Final Payment Request, to remove all surplus material, temporary structures, plants of any description and debris of any and every nature resulting from his operations and to put the site in a neat and orderly condition.

### 36. POWER OF THE CONTRACTOR TO ACT IN AN EMERGENCY

In case of an emergency which threatens loss or injury to property and/or safety to life, the Contractor will be permitted to act as he sees fit without previous instructions from the TOWN DISTRICT. He shall notify the TOWN DISTRICT thereof immediately thereafter and any compensation claimed by the Contractor due to extra work made necessary because of his acts in such emergency shall be submitted to the TOWN DISTRICT for approval and Change Order executed by the TOWN DISTRICT and the Contractor.

Where the Contractor has not taken action but has notified the Engineer of an emergency indicating injury to persons or damage to adjoining property or to the work being accomplished under this Contract, then upon authorization from the Engineer to prevent such threatened injury or damage, he shall act as instructed by the Engineer. The amount of reimbursement claimed by the Contractor on account of any such action shall be determined in the manner provided herein for the payment of extra work and shall be incorporated into a Change Order executed by the TOWN DISTRICT and Contractor.

### 37. SUITS AT LAW

The Contractor shall indemnify and save harmless the TOWN DISTRICT from and against all suits, claims, demands or actions for any injury sustained or alleged to be sustained by any party or parties in connection with the construction of the work or any part thereof, or any commission or omission of the Contractor, his employees or agents or any subcontractors and in case any such action shall be brought against the TOWN DISTRICT, the Contractor shall immediately take care of and defend the same at his own cost and expense.

## CONTRACT

### 38. PROVISIONS REQUIRED BY LAW DEEMED INSERTED

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

### 39. SUBLETTING, SUCCESSOR AND ASSIGNS

The Contractor shall not sublet any part of the work under this Contract, nor assign any money due him hereunder without first obtaining the written consent of the TOWN DISTRICT. This Contract shall inure to the benefit of and shall be binding upon the parties hereunder and upon their respective successors and assigns, but neither party shall assign or transfer his interest herein in whole or in part without consent of the other.



CONTRACT

ACKNOWLEDGMENT OF CONTRACTOR, IF A CORPORATION

STATE OF NEW YORK    )  
  ) ss:  
COUNTY OF                )

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

\_\_\_\_\_  
NOTARY PUBLIC

ACKNOWLEDGMENT OF CONTRACTOR, IF A PARTNERSHIP

STATE OF NEW YORK    )  
  ) ss:  
COUNTY OF                )

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

\_\_\_\_\_  
NOTARY PUBLIC

## PART 1 - GENERAL

## 1.01 BRIEF PURPOSE OF PROJECT / GENERAL

- A. The purpose of the project is to install a wellhead treatment system for the removal of perchlorate at the Riverhead Water District's Plant No. 16.
- B. All work shown and specified in the Contract Documents shall be work of this Construction Contract. The Owner does not anticipate awarding other prime contracts for the project as shown.
- C. This Section provides an abbreviated summary of the work for the Construction Contract.

## 1.02 NOMENCLATURE

- A. Where the terms "Engineer/Architect" or "Architect/Engineer" are used throughout these Contract Documents, they shall mean the firm of H2M architects + engineers as may be abbreviated by H2M.
- B. The terms "Contractor" and/or "Prime Contractor" where used shall refer to the individual or company who has entered into an agreement with the Owner to perform the work contained within these Contract Documents. The lack of word capitalization shall be incidental.
- C. The CONTRACTOR may be referred to as the "General Contractor", "Prime General Contractor", "Contract B Contractor" or similar wording. The lack of word capitalization shall be incidental. The lack of word capitalization shall be incidental.

## 1.03 ABBREVIATED SUMMARY OF WORK

- A. Furnish all labor, equipment, materials, tools, means, methods, and incidentals necessary to complete the Work as required by the Contract Documents for this Construction Contract.
- B. This following abbreviated summary is provided in order to briefly describe the work covered by the Contract Documents for this Construction Contract. It is not all inclusive of the work under the Contract.
- C. The work includes, but is not limited to, the following:
  - 1. Mobilization and demobilization.
  - 2. Construction of new vessel support pad.
  - 3. Construction of new building and foundation.
  - 4. Installation of heating and ventilation system.
  - 5. Clearing, grading and site restoration including asphalt paving and topsoil and seeding.
  - 6. Unloading and installation of new water treatment vessel weighing approximately 21,000 pounds.
  - 7. Installation of site and mechanical large and small piping, fittings and valves.
  - 8. All electric and control work associated with the construction of the new building and implementation of treatment system.
  - 9. Preparation and painting/coating of designated piping and equipment.

10. Installation of new chemical injection assemblies for lime, chlorine and phosphates from the Well No. 16 discharge to the plant discharge (post filter) within the existing well house.
11. Perform testing and inspection for all structural/site materials as specified.
12. Testing and adjusting of mechanical equipment and systems.
13. Perform disinfection and water quality testing as required by SCDH.
14. Coordinate new building security with District and Districts contractor.
15. Starting and adjusting.
16. Project closeout submittals.

D. All other work shown and specified within the Contract Documents.

#### 1.04 PARTIAL LISTING OF SPECIFIC CONTRACT REQUIREMENTS

- A. The Contract Documents detail the work included in the Contract. Related requirements and conditions covered by the Contract Documents include, but is not limited to, the following:
1. Guidelines and requirements of the New York State Department of Environmental Conservation (NYSDEC) and Occupational Safety & Health Administration (OSHA).
  2. Local laws and ordinances of the County of Suffolk, Town of Riverhead and Riverhead Water District.
  3. Requirements of the Suffolk County Department of Health.
  4. National Electric Code.

#### 1.05 PARTIAL LISTING OF OVERALL CONTRACT REQUIREMENTS

- A. The Contract Documents detail the work included in the Contract. Related requirements and conditions covered by the Contract Documents include, but is not limited to, the following:
1. Debris removal and daily and final cleaning up.
  2. Coordination with utility companies necessary to schedule connection of services, and management of the installation.
  3. Site utilization and management so as not to disrupt the Owner's ability to operate the existing facilities in a safe and efficient manner.
  4. Maintain the Owner's ability to operate the facility at all times during the construction period.
  5. Facilities to be used during the contract period that are to be used by the Owner or his representatives and others involved with constructing the project.
  6. Product and equipment storage and handling requirements.
  7. Starting and adjusting of the equipment and systems required under the project.
  8. Site safety in accordance with all applicable federal, state, and local regulations.
  9. Project submittals, meetings, professional photographs, testing services, work plans, schedules, shop drawings, closeout procedures and documents, manuals, as-built drawings, and final commissioning of the work shall be provided as required by the Contract.

#### 1.06 OWNER SUPPLIED PRODUCTS AND UTILITIES

- A. The Owner will be supplying products or materials for the project as follows:
1. Products shown on the Drawings or specified elsewhere.
- B. The Owner will pay for electricity usage. The restrictions on electrical usage shall be as follows:

1. Power tool usage during specified working hours will only be permitted.
  2. Dewatering and trash pumps and portable heaters will not be permitted.
  3. Sump pumps, if less than 1/3 horsepower will be allowed. Only two (2) sump pumps will be permitted to operate at the same time.
  4. Power to the Owner/Engineer/Architect's trailer, if applicable.
  5. Power to help cure concrete or painting systems will not be permitted.
- C. The Owner reserves the right to stop paying for electrical usage at any time if, in the opinion of the Owner/Engineer/Architect, the Contractor causes excessive electrical charges or does not conserve electricity to the maximum extent possible in the opinion of the Engineer/Architect. The Contractors shall conserve electricity during the course of construction.

#### 1.07 EXISTING CONDITIONS

- A. The Drawings show certain information that has been obtained by the Owner regarding various pipelines, utilities, and structures that exist at the location of the project both below and at grade.
- B. The Owner and the Engineer/Architect expressly disclaims all responsibility for the accuracy or completeness of the information given on the Drawings with regard to existing facilities.
- C. In the case where the Contractor discovers an obstruction not indicated on the Drawings or not described via specification reference, then the Contractor shall immediately notify the Engineer/Architect of the obstructions' existence.
- D. The Engineer/Architect will determine if the obstruction is to be relocated or removed.
- E. Compensation for this extra work will be paid for in accordance with the provisions in the Contract for "Extra Work".

#### PART 2 - PRODUCTS

Not Used

#### PART 3 - EXECUTION

Not Used

#### END OF SECTION

## PART 1 - GENERAL

## 1.01 SECTION INCLUDES

- A. Site access and control of areas outside of site.
- B. Contractor use of the premises.
- C. Contractor storage, parking and deliveries.
- D. Work hours, employee conduct and miscellaneous employee requirements.
- E. Contract requirements related to maintaining Owner's current operations and excess inspection required.

## 1.02 SITE ACCESS AND CONTROL

- A. The Contractor shall use the designated entrance to the site as shown on the drawings. If no site entrance is designated, the Contractor shall use an entrance designated by the Owner's Construction Representative.
- B. The Contractor shall maintain the entrance area clear of materials, vehicles and any other obstacle or debris. Failure to do so will result in a minimum back charge of \$750 per occurrence.
- C. The area around the site is a residential neighborhood. The Owner intends to be a good neighbor. The Contractor shall not close any road for any period in time. The Contractor shall take whatever measures are necessary to not cause any inconvenience to the area's residents.
- D. The Contractor is responsible to employ methods to prevent construction materials and/or debris from leaving the site. The Contractor is responsible to routinely monitor the areas surrounding the site during the day as well as at the end of the work-day and to immediately clean up any area to its previous condition.
- E. The Contractor shall employ methods to prevent the transmission of dirt from vehicles driving on exposed areas of the site from reaching the surrounding roadways. The Contractor will be responsible to immediately clean the roadway, should the measures being taken by the Contractor not satisfactorily control the transmission of any dirt to the roadway.
- F. Any damages to areas outside the site, spills of soil, liquid, or any other material shall immediately be repaired, cleaned and restored to its previous condition.
- G. The Contractor shall comply with all state and local requirements for allowable weight limits of vehicles on all roads.
- H. The Owner reserves the right to back charge the Contractor for all costs associated with maintaining the grounds as well as maintaining areas outside the site, which may be disturbed by the Contractor should the Contractor fail to maintain or repair the aforementioned in a condition acceptable to the Owner.

## 1.03 CONTRACTOR USE OF THE PREMISES

- A. Premises, for the purpose of this Contract, shall mean the site, buildings and other structures located within the property line or in any temporary or permanent construction easements identified on the plans.
- B. The Contractor shall use and manage the premises and the associated construction activities as follows:
  - 1. To not hinder the Owner's ability to operate their facilities,
  - 2. To allow for stockpiling of construction material and debris without any significant hardship, as defined by the Owner's Construction Representative, on the Owner,
  - 3. To allow for the stockpiling of excavated soil and imported fill, when called for, without any significant hardship, as defined by the Owner's Construction Representative, on the Owner or other contractors,
  - 4. To allow utility companies to install their work,
  - 5. To allow for the delivery of equipment and materials by independent trucking companies by leaving enough space for backing in and out of areas,
  - 6. To allow for the safe, unimpeded travel way of the Owners vehicles, Owner's Construction Representative's vehicles, Architect's and Engineer's vehicles, construction vehicles and heavy construction equipment about the entire site.
- C. The Contractor shall maintain the premises in a safe condition throughout the construction period. Compliance with OSHA regulations and site safety shall be the responsibility of the Contractor as it relates to work of the Contract. The posting of all applicable OSHA safety signs shall be the responsibility of the Contractor.
- D. Contractor shall be responsible for protecting Owners property. All existing buildings, structures, shrubs, trees, lawn fixtures, sculptures and misc. equipment shall be protected at all times. Any removals or relocation of said objects, if allowed shall be as directed by Owner's Construction Representative.
- E. Contractor shall protect all of the physical structures, property and improvements upon the site from damage by their Work and shall immediately repair or replace damage caused by construction operations, employees or equipment employed by the Contractor. All labor, materials and equipment and outside contractors that are employed by the Owner to repair damage caused by the Contractor shall be billed to the Contractor directly or withheld from money due the Contractor for work already completed.
- F. Immediately remove excess excavated material or relocate to areas on the site requiring placement of fill. Do not stockpile excess material on the site.
- G. The construction site space is limited and it shall be the Contractor's responsibility to manage the site during the entire construction period with input from all concerned parties.
- H. The Contractor is responsible for cleaning up their own materials and debris. Failure to maintain a clean work site daily, will result in other performing the work and contractor(s) being back charged for the cleaning cost plus construction administration fees.
- I. Use of the existing building facilities during construction is prohibited including but not limited to: toilet rooms, telephone and water fountains. Contractor(s) shall be fined \$250 per occurrence if their employee (or subcontractor's employee) is observed disregarding these rules.

- J. Should it become necessary to access the existing building during construction hours for measurements or other non-disruptive work, the contractor shall be escorted by an Owner's Construction Representative.
- K. Do not discard or dispose of any waste on-site.
- L. Open fires will not be permitted on the site.
- M. The Contractor shall employ erosion control measures to protect wetlands located adjacent to the work where shown on the Drawings and as required by regulatory agencies.
- N. Install erosion control measures as indicated in the Contract. The Contractor shall confine stormwater runoff to the site.
- O. The Contractor shall be responsible for managing dust as specified in Section 015719.

#### 1.04 CONTRACTOR STORAGE, PARKING AND DELIVERIES

- A. Contractor must provide exterior storage containers when required. Final location of storage container shall be determined by the Owner.
- B. Do not unreasonably encumber the premises with materials and equipment. Do not store material in existing buildings. Store all equipment and materials to allow the Owner's employees to operate and conduct their business safely.
- C. Confine premise storage areas to locations designated by the Owner. Immediately repair or replace damaged facilities to the satisfaction of the Owner and to a condition that existed before the damage occurred as determined by preconstruction photographs, or if photographs are unavailable, to that deemed by the Owner.
- D. No storage materials will be permitted within the buildings at any time during construction.
- E. Storage of chemicals and painting shall be outside the existing or new structures and shall follow manufacturer's guidelines.
- F. Contractor shall provide minimum of 48 hours advance written notice to the Owners Construction Representative for deliveries of materials, site visits by inspectors, manufacturers representatives or any other occasion that impacts the use of the site. Contractor shall be responsible for any costs that are incurred by the owner, for failure to meet previously agreed upon appointments or work schedules.
- G. Deliveries sent to the Owner will not be signed for or unloaded by the Owner. They will be directed to the construction site and if no employee is on site, the delivery will be rejected, at the contractor's expense.
- H. Night deliveries of equipment (past the designated quitting time) will not be permitted. Do not schedule trucking companies to deliver equipment or wait for the job site to open. Delivery trucks shall not obstruct the site entrance, shall not sit within the neighborhood causing an obstruction or perceived nuisance, nor be left idling on or off the site for any period of time.
- I. Parking shall be in the designated areas of the site only. All automotive type vehicles are to be locked when parked or unattended to prevent unauthorized use. Do not leave vehicles or

equipment unattended with the motor running or the ignition key in place. Any vehicles or trucks in non-designated areas may be towed at contractor's expense.

1.05 WORK HOURS, EMPLOYEE CONDUCT AND MISCELLANEOUS EMPLOYEE REQUIREMENTS

- A. The Contractor will be permitted to schedule working days and hours as specified in the General Terms and Conditions, if no times are specified therein then the work hours shall be **Monday – Friday 8:00 am -4:30 pm** unless otherwise noted on the contract plans or applicable permits.
- B. Employees are to act in a professional manner. Any employee using inappropriate language or who is disruptive to the work environment will be banned from the site.
- C. Proper work attire is required. Shirts are to be worn at all times and no short pants are permitted.
- D. Any employee found under the influence of any drug or alcohol will be banned from the site.
- E. Work restrictions may be noted throughout the suggested sequence provided below. The Contractor shall comply with all noted work restrictions that appear.

PART 2 - PRODUCTS

Not Used

PART 3 - PART 3 - EXECUTION

Not Used

**END OF SECTION**

## PART 1 - GENERAL

## 1.01 SECTION INCLUDES

- A. Allowance pricing for the following items:
  - 1. General testing Allowance.
- B. This Section covers the requirements for use of the cash allowances listed above contained in the proposal (Bid Forms, Price Schedule) and included in the Contract Price bid by the Contractor and defines and stipulates the charges that will be paid for out of the stipulated allowances.
- C. The Contractor shall include the cash allowances stipulated in this Section in the amount bid.
- D. Eligible costs described in this Section, and Sections referenced herein, will be the only costs paid for out of the stipulated allowances.
- E. All other costs associated with the project as specified and/or shown, including but not limited to the delivery, installation and all Contractor overhead and/or collateral expenses are to be distributed among the other portions of the work and shall be included in the lump sum base bid.

## 1.02 SUBMITTALS

- A. Make all submissions under the provisions of **Section 013300**.
- B. For each type of product/material specified to be furnished under allowance pricing provide documentation of the unit pricing on manufacturer's letterhead certifying pricing of the product/material.
- C. Submit additional backup information to substantiate the invoiced amount(s) as the Engineer/Architect may require for review and approval, prior to order or payment of item.
- D. Provide written breakdowns for extra work as the Owner may require.

## 1.03 CHANGES TO STIPULATED (CASH) ALLOWANCE

- A. If the actual cost of services differs from the cash allowance, then the Contract Price will be adjusted accordingly.

## 1.04 PAYMENTS TO BE MADE OUT OF GENERAL ALLOWANCE

- A. Include the cash allowance of **\$15,000.00 (FIFTEEN-THOUSAND DOLLARS AND ZERO CENTS)** in the amount bid for independent testing laboratory services specified in **Section 014500**, security system analysis, coordination with District suppliers and manufacturers and unforeseen conditions.

- B. The actual invoiced charges of the testing laboratory, including toning companies where called for, incurred for field and laboratory tests, as specified only in **Section 014500 - Quality Control**, shall be paid for out of the cash allowance.
1. Any other requirement specified herein throughout these specifications for providing the services of an independent testing laboratory, underground utility location company, or similar outside independent service are to be borne by the Contractor.
  2. All costs for quality control services are to be included as part of the Contract Price (as-bid).
- C. The contractor shall employ the District's security contractor to install the District required alarms and accessories and provide integration into existing security system. All costs to secure the outside contractor shall be paid for under the Allowance item.
1. The cost for installing a ¾-inch electrical conduit with drag wire to each door shall be included in the bid.
- D. One (1) week prior to each partial payment, submit a certified invoice from each company listing and detailing the total costs incurred since the last invoice.
1. The invoice shall be on company letterhead signed by an authorized representative of the company and shall include man-hours, tests conducted, date of tests and associated costs and fees.
  2. Payment for costs will not be made unless the information is provided and certified. Payment for costs will not be made unless the typed test data reports have been received by the Engineer.
  3. In the case of pipe toning, flags must be set to delineate the route of underground pipes and utilities prior to submission of partial payment request.
- E. If in the event test results (provided by the independent testing laboratory) show non-compliance with these specifications, then at the option of the Contractor and only with the approval of the Owner, he may re-test samples to verify the original test results at his/her own expense.
- F. Costs for re-testing failed components of the work, when ordered by the Engineer/Architect, will not be paid for out of the cash allowance and will be directly borne by the Contractor.
- G. Any additional costs incurred by the contractor for unforeseen conditions not shown on the plans shall be reimbursed under the allowance item with prior District approval.
- H. Funds remaining at project closeout shall be credited to the Owner.

**PART 2 - PRODUCTS**

Not Used

**PART 3 - EXECUTION**

Not Used

**END OF SECTION**

## PART 1 - GENERAL

## 1.01 SECTION INCLUDES

- A. This Section includes the requirements for substitution of specified products during construction.
- B. The Engineer/Architect will consider requests for substitutions only within **thirty (30)** days from the date of the Notice to Proceed.
- C. Only products not specifically named in the bid are eligible for substitution in accordance with the requirements contained herein these specifications.
- D. Products named by the Bidder, at the time of bid, shall be furnished and installed and substitutions will not be considered by the Owner/Engineer/Architect for those products named in the bid.

## 1.02 CONTRACTOR'S OPTIONS

- A. For products specified only by reference standard, select any product meeting that standard.
- B. For products specified by naming several products or manufacturers, select any one of the products or manufacturers named which complies with the Specifications.
- C. Where products are not named, then submit products that meet the specifications.

## PART 2 - PRODUCTS

## 2.01 SUBSTITUTIONS

- A. Name - The Drawings and Specifications list acceptable manufacturers, commercial names, trademarks, brands and other product, material and equipment designations. Such names are provided to establish the required type, quality and other salient requirements of procurement.
- B. Equals - An item equal to that named or described on the Drawings or in the Specifications may be provided by Contractor if accepted by the Engineer/Architect.
- C. A request for product substitution constitutes a representation that the Contractor:
  - 1. Has investigated proposed Product and determined that it meets or exceeds the quality level of the specified Product.
  - 2. Shall provide the same warranty for the Substitution as for the specified Product.
  - 3. Shall coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
  - 4. Waives claims for additional costs or time extension that may subsequently become apparent.
  - 5. Shall reimburse the Owner and the Engineer/Architect for review or redesign services associated with re-approval by authorities.
  - 6. Shall reimburse the Owner for all additional engineering and/or architectural services claimed by the Engineer/Architect for extra services associated with the review of the

Contractor's substituted item since it could not have been originally included in the Engineer/Architect's professional services agreement. Reimbursement shall be based on the man-hours expended, at current billing rates.

- D. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
- E. Substitution Submittal Procedure:
  - 1. The Contractor shall submit three (3) copies of the Request for SUBSTITUTION FORM for consideration including all required information.
  - 2. The Contractor shall use the form included within this Section.
  - 3. All forms shall be type written.
  - 4. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence.
- F. The burden to prove product equivalence rests on the Contractor.
- G. The Engineer/Architect will notify Contractor in writing of decision to accept or reject request and at that time the Contractor can make a formal submittal in accordance with the requirements contained in Section 013300.
- H. Substitutions may be considered when a product becomes unavailable through no fault of the Contractor.

PART 3 - EXECUTION  
Not Used

This space left intentionally blank.

**REQUEST FOR SUBSTITUTION FORM**

Project: \_\_\_\_\_ Substitution Request Number: \_\_\_\_\_

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

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

To: \_\_\_\_\_

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

H2M Project Number: \_\_\_\_\_ Owner: \_\_\_\_\_

Contract Name: \_\_\_\_\_ Contract No. \_\_\_\_\_

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

Section: \_\_\_\_\_ Page: \_\_\_\_\_ Article/Paragraph: \_\_\_\_\_

Drawing No(s): \_\_\_\_\_

Proposed Substitution: \_\_\_\_\_

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

Trade Name: \_\_\_\_\_ Phone #: ( ) \_\_\_\_\_

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

Phone #: ( ) \_\_\_\_\_

History:  New product  2-5 years old  5-10 years old  More than 10 years old

Differences between proposed substitution and specified product:

\_\_\_\_\_

 Point-by-point comparative data attached

Reason for not providing specified item (Attach separate sheet if necessary):

\_\_\_\_\_

**Typical Similar Installation:**

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

Engineer / Architect: \_\_\_\_\_

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

Owner: \_\_\_\_\_

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

Submit complete installation list on separate sheets.

Proposed substitution affects other parts of Work:  No  Yes

Explain:

\_\_\_\_\_

Gross Savings to Owner for accepting substitution: \$ \_\_\_\_\_

Proposed substitution changes Contract Time:  No  Yes

Add / deduct (circle): \_\_\_\_\_ Days

Supporting data attached for evaluation of the proposed substitution:

- Product Data       Photos       Drawings       Tests       Reports       Samples  
 Other (explain): \_\_\_\_\_

Attached data includes description, specifications, drawings, photographs, performance and test data adequate for evaluation of request; applicable portions of data are clearly identified.

Attached data also includes a description of changes to Contract Documents that proposed substitution will require for its proper installation.

The undersigned certifies that the following paragraphs, unless modified by attachments, are correct:

1. Proposed Substitution has been fully checked and coordinated with Contract Documents.
2. Proposed Substitution does not affect dimensions shown on Drawings.
3. Proposed Substitution does not require revisions to any other Prime Contractor's work.
4. The undersigned will pay for changes to building design, including Architectural and Engineering design, detailing, and construction costs caused by requested Substitution.
5. Proposed Substitution will have no adverse affect on other trades, construction schedule, or specified warranty requirements.
6. Maintenance and service parts will be locally available for proposed substitution.
7. The undersigned further states that the function, appearance, and quality of proposed Substitution are equivalent or superior to specified item.

This request for product substitution also constitutes a representation that I, as the Contractor:

1. Has investigated proposed Product and determined that it meets or exceeds the quality level of the specified Product.
2. Shall provide the same warranty for the Substitution as for the specified Product.
3. Shall coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner, including extra charges by other Prime Contractors, material suppliers, and vendors.
4. Waives claims for additional costs or time extension that may subsequently become apparent.
5. Shall reimburse the Owner and the Engineer for review or redesign services associated with re-approval by authorities.
6. Shall reimburse the Owner for all additional engineering services claimed by the Engineer for extra services associated with the review of the Contractor's substituted item since it could not have been originally included in the Engineer's professional engineering services agreement. Reimbursement shall be based on the man-hours expended, at current billing rates.

Contractor's Authorized Representative (Typewritten): \_\_\_\_\_

Authorized Signature: \_\_\_\_\_

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



**END OF SECTION**

PART 1 – GENERAL

1.01 – DESCRIPTION

- A. Work under this Section specifies the procedures used to process partial payments.

1.02 - APPLICATIONS FOR PAYMENT

- A. The form of application for payment shall be AIA Document G702, application and certificate for payment supported by AIA Document G703, Continuation Sheet.
- B. Submit one (1) copy of each payment application, completed, signed and notarized.
- C. Submit certified payroll receipts for all works and subcontractors. Payroll receipts shall be submitted with every application for payment. All payroll receipts shall be certified correct and notarized by a Notary in the State of New York. Application for Payment will not be processed unless all payroll receipts are received.
- D. The District will not pay for any stored materials and equipment that is not installed.
- E. Contractor shall pay all workers and have all subcontractors pay all workers the prevailing New York State Dept. of Labor wage rates.
- F. The District may conduct on-site interviews with all workers to verify payment of prevailing wage rates is enforced.
- G. Work or services specified in Division No. 1 or for providing miscellaneous temporary or accessory works or services, Contractor's field office, sanitary requirements, testing, safety devices, approval and record drawings, water supplies, power, maintaining traffic, removal or waste, watchmen, bonds, insurance and all other items not directly incorporated into the work shall included in the bid price for Item 1.
- H. Payment will not be made unless all appropriate OSHA 10-hour certifications have been provided to the District.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used



**END OF SECTION**

## PART 1 - GENERAL

## 1.01 SECTION INCLUDES

- A. Work of this Section includes:
  - 1. Requests for Interpretation or for information
  - 2. Administration of subcontracts
  - 3. Coordination of work with utility companies, Owner and the Engineer/Architect
  - 4. Communication and coordination requirements
- B. Site staffing requirements for the Contractor's superintendent are also specified herein, the costs for which shall be included in the Contract price.

## 1.02 REQUEST FOR INTERPRETATION OR INFORMATION

- A. The Contractor shall use the Request for Interpretation/Information Form included within this Section when the Contractor feels that additional information is needed to perform the work of the Contract.
- B. The Engineer/Architect may not respond to any requests unless the form is used.
- C. The Engineer/Architect's verbal response(s) to the Contractor's formal requests, if provided, shall not constitute an official response and if acted upon by the Contractor are done so at the Contractor's own risk and liability and shall not be subject to claims for additional compensation.
- D. A signed facsimile of the form will be accepted. The original of the form must be signed and provided to the Engineer/Architect's project manager.
- E. The Engineer/Architect will respond in writing to the request as soon as possible.

## 1.03 SUBCONTRACTOR ADMINISTRATION AND COORDINATION

- A. Terms and conditions of the Contract shall be binding upon each subcontractor.
- B. Furnish each subcontractor and major equipment vendor at least one (1) copy of the Plans and Technical Specifications.
- C. Provide at least one (1) copy of each approved shop drawing to each subcontractor whose work may depend upon the contents of the shop drawing submittal. The Owner reserves the right to stop all work, without claims for delay, until such time as appropriate subcontractors are furnished with appropriate shop drawings.
- D. The Contractor shall sequence and schedule the work of subcontractors. Coordinate construction and administration activities of subcontractors. The Engineer/Architect and Owner will not accept telephone calls, facsimiles or office visits from any subcontractors on the project. Subcontractor and vendor questions and clarifications shall be directed to the Engineer/Architect by the Contractor.

- E. The Contractor's on-site project superintendent shall inspect all the work of all of his/her subcontractors, as it is being constructed. The Contractor's subcontractor shall not be permitted to do any work on the site without the Contractor's job site superintendent also being there to inspect the work as it is being performed.

#### 1.04 UTILITY COORDINATION

- A. Comply with the requirements of 16 NYCRR Part 753 – Protection of Underground Facilities. Submit a letter stating the case number.
- B. Comply with the utility coordination requirements contained in the General Conditions.

#### 1.05 PUBLIC/PRIVATE UTILITIES

- A. Notify all public and private utilities in accordance with Article 20, Section 322-a of the New York State General Business Law for location and markout of existing utilities in the vicinity of the work.
- B. Repair all utilities damaged during the Work to the standards and approval of the respective utility at no cost to the Owner.

#### 1.06 SPECIFIC COORDINATION REQUIREMENTS

- A. Sequence and schedule work so as not to interfere with the work by others. Coordinate the work of this Contract with the work by others. In case of conflicts due to improper coordination by the Contractor, the Owner/Engineer/Architect's resolution will be final. No compensation will be awarded for extra work required to resolve conflicts.
- B. Coordinate space requirements, supports, and installation of mechanical, electrical and plumbing work which may be indicated diagrammatically on the Drawings. Follow routing shown for pipes, ducts, and conduit as closely as practicable. Place runs parallel with building lines. Utilize spaces efficiently to maximize accessibility for other installations, maintenance, and to facilitate repairs.
- C. In finished areas, except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of all fixtures and outlets with finish elements and work by all other trades.
- D. Coordinate the work by complying with the following:
  - 1. Construction Schedule: Provide a construction schedule as specified in Section 013216 - Construction Schedules.
  - 2. Weekly Schedule: By 3:00 PM of each Friday during the construction period, fax or email a typed memo addressed to the Engineer/Architect's/Owner's resident field engineer/inspector and designated office project manager summarizing the work for the following week. The memo shall also be faxed or emailed to the Owner. The memo shall briefly itemize the planned activities for the coming week. The memo shall also include a summary of expected material/equipment deliveries, concrete pours, utility tie-ins, excavated material removals and other heavy construction traffic that may impact the work activities for the coming week.
  - 3. Email Account: Maintain an email account that shall be used to improve communication. An email shall not constitute a formal advisement regarding the terms and conditions of

the contract. Email shall only be considered an informal way of notifying relevant parties of project related activities.

4. Email List: Within five (5) calendar days from the Notice To Proceed, provide a list of email addresses for each major equipment supplier and local representative, if such exists. A contact person shall be provided for each email address.
5. Work Plan: Within five (5) calendar days from the date of the Notice to Proceed, submit to the Engineer/Architect a type written work plan in bullet format of the sequence of construction activities from start to finish of construction. A facsimile will not be accepted. All work plans shall include a description of the different major phases of construction as pertaining to the individual construction contract. As a minimum the work plan shall include the tasks and subtasks specified in Section 013216 for the project schedule.
6. Equipment and Startup Schedule: Submit a preliminary equipment delivery schedule and a preliminary startup schedule for all equipment and systems being furnished under the Contract. This schedule shall be submitted within 30 calendar days from the date of the Notice To Proceed.
  - a. Include an early and late date for each item.
  - b. Indicate the time necessary to physically install and ready each item.
  - c. The Engineer/Architect may waive this schedule if the Contractor has adequately shown the information on the construction schedule, in the opinion of the Engineer/Architect.

- E. Project Coordination Meetings: Participate in and attend the Project Coordination Meetings as specified below:
1. Up to two (2) project coordination meetings will be held at the Engineer/Architect's or Owner's office as specified herein and in Section 013216.
  2. The meetings will be held when so called for by the Engineer/Architect.
  3. Each meeting may last up to eight (8) hours with one hour for lunch.
  4. The time associated with attendance at the meetings shall be included in the lump sum bid and be subject to a credit of \$150 per hour for each unused hour that the Contractor does not attend.

#### 1.07 CONTRACTOR'S JOB SITE SUPERINTENDENT

- A. Employ an on-site superintendent as specified herein below. He/She shall be a full-time employee of the Contractor.
- B. Name the job site superintendent within five (5) days of the Notice To Proceed. A letter to the Engineer/Architect shall be provided that names the superintendent.
- C. He/She shall have the authority to sequence and schedule the work, and to staff the project, so as not to interfere with the work by others and to complete the work daily within the time so required.
- D. Each Superintendent shall have a minimum of five (5) years of experience as a job site superintendent for projects of equal size and complexity.
- E. The superintendent shall not be a foreman or crew supervisor and shall be qualified and experienced person who shall act to schedule and sequence the work on a daily basis.
- F. The superintendent shall be qualified to perform the duties so required to successfully complete the work in accordance with the Contract Documents.

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REQUEST FOR INTERPRETATION/INFORMATION (RFI)

OWNER'S NAME  
PROJECT NAME & Contract Designation  
CONSTRUCTION CONTRACT NO.

|   |  |  |  |
|---|--|--|--|
| Product, Item, or System:   |  |  |  |
| Request Date:   |  | RFI No.:   |  |
| Specification Section:  |  | Paragraph Reference:   |  |
| Contract Drawing Reference(s):  |  |  |  |
| Describe Request:   |  |  |  |
|   |  |  |  |
|   |  |  |  |
|   |  |  |  |
| Signed:   | <input type="checkbox"/> See Contractor's Attachments for Additional Description for Information |  |  |
| Owner/Engineer Response:  |  |  |  |
|   |  |  |  |
|   |  |  |  |
|   |  |  |  |
| Engineer (Printed):   | <input type="checkbox"/> See Engineer/Architect's Attachments for Additional Information         |  |  |
| <i>Engineer's Signature &amp; Date</i>  |  | <i>Response Accepted By Contractor Contractor's Signature &amp; Date</i> |  |
| The Work shall be carried out in accordance with these supplemental instructions without change in Contract amount or Contract time for completion. Prior to proceeding with these instructions, indicate your acceptance of these instructions by signing where indicated and returning this form to the Engineer. |  |  |  |

PART 2 - PRODUCTS  
Not Used

PART 3 - EXECUTION  
Not Used

**END OF SECTION**

## PART 1 - GENERAL

## 1.01 SECTION INCLUDES

- A. Work of this Section includes the requirements for progress meetings.

## 1.02 PRE-CONSTRUCTION CONFERENCE

- A. The Contractor is required to attend the pre-construction conference at a location, date, and time selected by the Owner.
- B. The owner, a partner, or a corporate officer representing the Contractor shall attend the conference. The job site superintendent and office project manager for the Contractor shall also attend.
- C. The Engineer/Architect will prepare an agenda for the conference.

## 1.03 PROGRESS MEETINGS

- A. Progress meetings will be held approximately once every two (2) weeks during the project. The Owner may elect to hold meetings more or less frequently.
- B. At least seven (7) calendar days advance notice will be given by the Engineer/Architect or the date for the upcoming meeting will be set during the progress meeting.
- C. *Attendance at progress meetings shall be mandatory. An amount of \$500 shall be deducted from the Contract Amount for each announced meeting not attended by the Contractor.*
- D. The job site superintendent and office project manager for the Contractor shall also attend.
- E. Subcontractors shall attend when requested by the Owner or Engineer/Architect at no cost to the Owner.
- F. Meetings will be conducted by Engineer/Architect at a location selected by the Owner, normally at or adjacent to the project site.
- G. The minimum agenda will cover:
  - 1. Review minutes of previous meetings.
  - 2. Identify present problems and resolve them.
  - 3. Plan work progress during next work period.
  - 4. Review the status of off-site fabrication and delivery schedule.
  - 5. Review shop drawings and submittal schedules.
  - 6. Review change order status.
  - 7. Review status of construction progress schedule.
  - 8. Coordinate access requirements.
  - 9. Other business related to the work.

## 1.04 OTHER MEETINGS

- A. Attend special meetings which may be required or called for by Federal, State or Local authorities, utility companies, Owner, Engineer/Architect or any other firm, person or organization related to the project.

## 1.05 CONDUCTING MEETINGS

- A. General - This paragraph covers Owner and/or Engineer/Architect meetings with Contractor and/or his subcontractors. Neither Owner nor Engineer/Architect wishes to meet solely with a subcontractor and requests for such meetings will be discouraged. If a meeting is deemed necessary, every effort will be made to have Contractor attend. If, for some reason, circumstances do not allow such, the meeting may be held, minutes of the meeting will be sent to contractor and decisions on any major questions will be reserved until contractor has been consulted. Subcontractors may accompany contractor to meetings provided contractor notifies Engineer/Architect in advance.
- B. Chairman - When Engineer/Architect/Owner attend meetings, Engineer/Architect, or his duly authorized representative, will act as chairman. Should Owner-Contractor meetings be necessary, Owner will chair such meetings.
- C. Notices - Engineer/Architect or Owner will issue notices of meetings to all parties concerned and will note, thereof, who must attend and who may attend if they so desire. When Contractor desires a formal meeting, make a request through Engineer/Architect. Except when Engineer/Architect determines that a prompt meeting is essential, all notices will be issued at least one week in advance of the meeting date.
- D. Agenda - All parties shall inform Engineer/Architect of items desired to be discussed and Engineer/Architect will notify all parties of all items to be considered. This is to allow each party to fully prepare for the meeting. This shall not be construed to mean that other items cannot be brought up at the meetings.
- E. Time Limits - It is the intent to hold productive and efficient meetings and to keep them as short as is reasonably possible. The Chairman will be the sole judge as to whether or not further discussion on any matter is warranted and all discussions shall cease when he so orders.
- F. Minutes - Minutes of meetings will be kept, written and distributed by the Chairman or his duly authorized representative. Minutes of all meetings will be available upon request to the Chairman.
- G. Conduct - It is the intent to conduct all meetings in an orderly manner, to reasonably discuss all items and to hear and observe the rights and opinions of all parties. The Chairman will allow each party to speak, however, he reserves the right to order any individual to leave the meeting at any time for any reason.

## PART 2 - PRODUCTS

Not Used

## PART 3 - EXECUTION

Not Used

**END OF SECTION**

## PART 1 - GENERAL

## 1.01 SECTION INCLUDES

- A. This Section specifies the requirements for preparing construction schedules and for keeping them up to date.
- B. Prepare a Gantt Chart type schedule and keep it up to date as specified hereinafter.
- C. All schedules shall be submitted in accordance with the requirements contained herein in Section 013300.
- D. Refer to Section 013100 regarding the requirements for attendance at Project Coordination Meetings and additional requirements concerning the submission of other project coordination and sequencing information.

## 1.02 CONSTRUCTION SCHEDULE

- A. Coordinate the work and maintain the construction schedule. In the event actual progress begins to lag the schedule, promptly employ additional means and methods of construction to make up the lost time.
- B. Keep the construction schedule current and revise and resubmit as often as necessary to accurately reflect the conditions of the work, past progress and anticipated future progress.
- C. The construction schedule shall be completed, submitted, and deemed received by the Engineer/Architect prior to the first payment application.
- D. The schedule, when approved by the Engineer/Architect and the Owner, shall establish the dates for starting and completing work for the various portions of the Contract. It shall be the duty of the Contractor to conform to his/her own schedule and to perform the work within the time limits indicated. Failure to adhere to the approved schedule shall expose the Contractor to disputes, claims and additional costs incurred by others.
- E. Coordinate letting of subcontracts, material purchases, shop drawing submissions, delivery of materials, and sequence of operations, to conform to the schedule.
- F. Coordinate the construction schedule with the proposed schedules of the equipment suppliers and subcontractors.
- G. The schedule shall use the following convention:
  - 1. Tasks for the Contractor in blue ink.
  - 2. Task links/task dependency in blue ink.
  - 3. Work by others in green ink.
  - 4. Milestone dates (zero duration) by a red diamond.
  - 5. The end date for each task and subtask at the end of a bar.
  - 6. The description of all major tasks within the bar. The bar shall be red.

- H. The schedule shall show the critical sequence items where new units must come on-line before existing facilities go off-line, if applicable to the project. The schedule shall also show, in detail, the proposed sequence of the work and the estimated date of starting and completing each stage of the work in order to complete the project within the contract time.
- I. Prepare the schedule in a manner so that the actual progress of the work can be recorded and compared with the expected progress.
- J. Coordinate the construction schedule with the proposed schedules of the equipment suppliers and subcontractors.
- K. The schedule shall be plotted out in color and shall be 36-inch by 40-inch. It shall contain as many sheets as are necessary to show all rolled down tasks. Partially printed schedules will not be accepted. The schedule shall show the following:
  - 1. Task links/task dependency in blue ink.
  - 2. Work under the Contract in green ink.
  - 3. Work by others in blue ink.
  - 4. Milestone dates (zero duration) by a red diamond.
  - 5. The end date for each task and subtask at the end of a bar.
  - 6. The description of all major tasks within the bar. The bar shall be red.
  - 7. Critical path.

#### 1.03 REVISION OF PROJECT PROGRESS SCHEDULE

- A. Evaluate and provide updated construction schedules monthly in accordance with job requirements. Each update shall be submitted to the Engineer/Architect for information purposes and be provided by the last Friday of every month.
- B. Modify the construction schedule to accommodate coordination of the construction contracts by the Owner/Engineer/Architect without claims for additional compensation or delay.
- C. From time to time, and at stages deemed appropriate by the Engineer/Architect, the Engineer/Architect may issue updated schedules to reflect the project's status. The percent complete for each task may be shown, as determined by the Engineer/Architect.

#### PART 2 - PRODUCTS

Not Used

#### PART 3 - EXECUTION

Not Used

#### END OF SECTION

## PART 1 - GENERAL

## 1.01 SECTION INCLUDES

- A. This Section specifies the requirements for making submissions for the project. Electronic submissions will be required unless expressly noted otherwise.
- B. Refer to Section 013216 - Construction Schedule for the requirements concerning the submission of construction schedules and for making updates thereto.

## 1.02 IDENTIFICATION OF SUBMITTALS

- A. Each and every submission shall be provided by the Contractor and shall be accompanied by a SUBMISSION TRANSMITTAL FORM. The Contractor shall use the specimen form made a part of this Section. *Submittals not containing the form will be returned to the Contractor un-reviewed.* The Engineer/Architect will not review project submissions until such time as the form is completed in its entirety. Identify each submittal and resubmittal using the form.
- B. Each individual submittal shall be identified with a 'submission log number' as specified here in this example: 03300.01-1
  1. The Section number for which the submittal applies, followed by a period, shall be indicated, "03300."
  2. The submittal within the Section shall be indicated by the next grouping "01". For instance and in this example, the concrete design mix may be submission "01", the waterstop catalog cut may be "02", and so on. Submittals shall be sequentially numbered within the Specification Section, i.e. 01, 02, etc.
  3. The number of times the submission was made shall be preceded by a dash and a numerical suffix as follows: "-1". In this example, the concrete design mix is being submitted for the first time. Use the number "1" for the first time it is being submitted.
  4. Subsequent submissions of the concrete design mix shall utilize the original number and a sequential numeric suffix, i.e. "2" for a resubmission, "3" for the second resubmission, and so on. Substitute the new number for the original "1".
- C. Where a layout drawing, containing different elements of the project, is being submitted and there is a question as to what the log number might be, then the Contractor shall contact the Engineer/Architect so that an agreed upon log number can be assigned.
- D. It is incumbent on the Contractor to initially assign the submission log number designation to each submission. Submissions not containing a log number, as specified above, will be returned to the Contractor un-reviewed by the Engineer/Architect.
- E. Every submittal shall also be accompanied by a Transmittal Letter (or "Speed Form") addressed to the Engineer/Architect's Project Manager as hereinafter defined.

## 1.03 COORDINATION OF SUBMITTALS

- A. Prior to submitting to the Engineer/Architect, fully coordinate all interrelated work. As a minimum, do the following:

1. Determine and verify all field dimensions and conditions by field measuring existing conditions and the installed work of this Contract and work by others.
  2. Coordinate with all trades, subcontractors, vendors, system and equipment suppliers and manufacturers, public agencies, and utility companies and secure all necessary approvals, in writing.
- B. Make submittals in groups containing all associated items that in some way depend upon each other.
1. This also applies to color charts, as one color may not be able to be selected without the selection of other colors so as to form a color-coordinated group.
  2. The Engineer/Architect may elect not to review partial or incomplete submissions, whereupon he will notify the Contractor of the additional submissions that are required before a review can be made.

#### 1.04 TIMING OF SUBMITTALS

- A. Make submittals far enough in advance of scheduled dates of installation to provide time for reviews, for securing necessary approvals, for possible revisions and re-submittals, and for placing orders and securing delivery. The Engineer/Architect will review submittals in a manner as expedient as possible, and will generally send a written response to the Contractor within seven (7) calendar days of receipt of submittals.
- B. Submissions may be returned reviewed, unreviewed, rejected, returned conditioned upon submission of related items, or for other reasons set forth in the Contract Documents.
- C. Make submissions well in advance as the returning, rejecting or disapproval of submissions or other similar circumstances are possible and are deemed "avoidable delays". Costs for these delays or those attributed to Contractor's tardiness in making submittals shall be borne by the Contractor.
- D. All submittals requiring Engineer/Architect's review (except operations manuals) as required under the technical specifications of these documents shall be submitted within **FIFTEEN (15)** consecutive calendar days after the date of the Notice to Proceed. An amount of **\$250** per calendar day shall be deducted from payment due the Contractor for each day that an outstanding submittal exists, said amount being the cost associated with the Engineer/Architect's review.
- E. Operation and maintenance manuals shall be submitted at least **FORTY-FIVE (45)** consecutive calendar days prior to scheduled startup of the unit or system.
- F. If material or equipment is installed before it has been deemed to be in general compliance with the Contract Documents, as determined by the Engineer/Architect, the Contractor shall be liable for its removal and replacement at no extra charge and without an increase in contract time.

#### 1.05 DESTINATION OF SUBMITTALS

- A. Each submission of documents shall be accompanied by a transmittal form containing the name of the project, the contract name, the Engineer/Architect's project manager, a submittal ID number, and a description of content for the submitted items.
- B. A copy of the TRANSMITTAL FORM shall also be provided to the Engineer/Architect's resident engineer/inspector at the job site.

- C. Electronic submittals shall be transmitted through the Newforma® Project Center website or by email, pending instruction by the Engineer. H2M architects + engineers is using a project information application called Newforma® Project Center. One of its components is Newforma Info Exchange, a web application that facilitates sending and sharing transmittals, and file sharing.
- D. As an external team member on this project the Contractor will be required to access the H2M architects + engineers/Newforma Info Exchange website for information related to the project, including file transfers, RFI, Submittals, Action Items, and project Calendar information. The Contractor will have access to this website using any internet-capable computer running Internet Explorer or Firefox. All data transmitted through the H2M architects + engineers/Newforma Info Exchange website is encrypted and logged. Further instructions will be provided to the Contractor after the contract is awarded.
- E. Other submissions, such as material samples or other items as instructed by the Engineer, shall be sent to the Engineer/Architect's office as follows:
  - H2M architects + engineers
  - 538 Broad Hollow Road – 4<sup>th</sup> Floor East
  - Melville, New York 11747
  - Attention: H2M Project Manager (Named at Pre-Construction Conference or in the Notice to Proceed)

#### 1.06 CLARITY OF SUBMITTALS

- A. All printed materials shall be neat, clean, professionally drafted by hand or by computer, clear, legible, and of such quality that they can be easily reproduced by normal photocopying or blueprinting machines.
- B. All electronic submittals shall be produced with a minimum resolution of 300 dpi.
- C. Binders of information shall be separated into groups, subsystems, or similar equipment/function. Copies not conforming to this paragraph will be returned to the Contractor without the Engineer/Architect's review.

#### 1.07 CONTRACTOR'S REPRESENTATION

- A. By making a submission, the Contractor represents that he has determined and verified all field measurements and dimensions, field construction criteria, site and building constraints in terms of limitations in moving equipment into an enclosed space, materials, catalog and model numbers and similar data and that he has checked and coordinated each submission with other work at or adjacent to the project site in accordance with the requirements contained in Section 013100 - Project Management and Coordination and the Contract Documents.
- B. Every SUBMISSION TRANSMITTAL FORM shall contain the Contractor's approval stamp and date showing that the submittal has been approved by the Contractor. The Engineer/Architect will not review submittals that have not yet been reviewed and approved by the Contractor.

#### 1.08 ENGINEER/ARCHITECT'S REVIEW

- A. Engineer/Architect will review and comment on each submission conforming to the requirements of this Section.

1. Engineer/Architect's review will be for conformance with the design concept of the project and will be confined to general arrangement and compliance with the Contract Documents only, and will not be for the purpose of checking dimensions, weights, clearances, fittings, laying lengths, tolerances, interference's, for coordinating the work by others or subcontractors.
  2. The Engineer/Architect's review of a separate item, or portion of a system, does not represent a review of an assembly or system in which the item functions.
- B. The Engineer/Architect will mark submittals as follows:
1. NO EXCEPTION TAKEN (A) - No corrections, no marks. The content of this submittal has been reviewed by the Engineer/Architect and been found to be in general compliance with the Contract Documents. No further submission of this submittal is required and the information contained in the submittal may be built into the work in accordance with the Contract Documents.
  2. MAKE CORRECTIONS NOTED (B) - Minor amount of corrections. The content of this submittal has been reviewed by the Engineer/Architect and has been found in general to be in compliance with the Contract Documents. The notations made on the submittal by the Engineer/Architect shall be incorporated into the work in accordance with the terms and conditions of the Contract Documents. No further submission of this submittal is required.
  3. AMEND AND RESUBMIT (C) - The content of this submittal has been reviewed by the Engineer/Architect and this review has determined that additional data and/or modification to the submitted data or other changes are required to bring the work represented in this submittal into compliance with the Contract Documents. This submittal shall be reviewed and revised in accordance with the Engineer/Architect's comments and resubmitted to the Engineer/Architect for review. The information contained on the resubmittal shall not be incorporated into the work until the submittal is returned to the Contractor marked "NO EXCEPTION TAKEN" or "MAKE CORRECTIONS NOTED".
  4. REJECTED (D) - The content of this submittal has been reviewed by the Engineer/Architect and has been determined not to be in accordance with the requirements contained in the Contract Document and requires too many corrections or other justifiable reason. The submittal shall be corrected and resubmitted or a submittal of an alternate shall be provided. No items are to be fabricated under this mark.
  5. SUBMIT SPECIFIED ITEM (E) - The content of this submittal has been reviewed by the Engineer/Architect and this review has indicated that the work displayed in the submittal is not in compliance with the Contract Documents. The Contractor shall submit another submittal for this portion of the work, which complies with the Contract Documents.
  6. RECEIVED (R) - This submittal is accepted on the project and filed for record purposes only, in accordance with the terms and conditions of the Contract Documents. Documents marked "RECEIVED" will not be returned.
- C. No payment will be made on any item for which a submission is required if such submission:
1. has not been made,
  2. has been made but was not stamped "No Exceptions Taken" by Engineer/Architect,
  3. has been made and stamped "Make Corrections Noted", but contractor has not complied with Engineer/Architect's notes marked on the submittal,
  4. has been made and stamped "No Exceptions Taken", but item provided does not conform to the shop drawing nor to the Contract Documents.
- D. Submittals not required by these specifications will not be recognized or processed.
- E. Provide an 8-inch by 10-inch space for the Engineer/Architect's review stamp.

## 1.09 RESUBMISSIONS

- A. Prepare new and additional submissions, make required corrections, and resubmit corrected copies until found in compliance with the Contract Documents.
- B. On, or with, re-submittals, clearly describe revisions and changes made, other than the corrections requested by Engineer/Architect, which did not appear on the previous submissions.

## 1.10 CONTRACTOR'S RESPONSIBILITIES

- A. Engineer/Architect's review of submittals shall not relieve the Contractor of his/her responsibility for any deviation from the requirements of the Contract Documents nor relieve the Contractor from responsibility for errors or omissions in the submittals.
- B. No portion of the work requiring a submission shall be commenced until the Engineer/Architect has found the submission in general compliance with the Contract Documents.
- C. The Contractor shall provide written notification of any specification or drawing deviation.

## 1.11 EXCESS COSTS FOR ENGINEERING/ARCHITECTURAL SERVICES

- A. The Owner will charge to the Contractor, and will deduct from the partial and final payments due the Contractor, all excess engineering and architectural expenses incurred by the Owner for extra services (work) conducted or undertaken by the Engineer/Architect as stipulated below:
  - 1. Services and other similar charges because of the Contractor's errors, omissions, or failures to conform to the requirements of the Contract Documents as related to administrative charges associated with non-compliance with the requirements for making project submissions.
  - 2. Services and other similar charges required to examine and evaluate any changes or alternates proposed by the Contractor and which may vary from the Contract Documents.
  - 3. Services and other similar charges as a result of the Contractor's proposed substitution of materials, equipment or products which require a redesign of any portion of the project, as contained in the Contract Documents at the time of bid.
  - 4. Services and other similar charges as a result of the Contractor's proposed substitution of products which require an engineering and/or architectural evaluation, beyond the time stipulated in Section 012500, to determine if the substituted product is equal to that specified.
  - 5. Services and other similar charges as a result of changes by the Contractor to dimensions, weights, sizes, voltages, phase, horsepower, materials of construction, and similar physical or operating characteristics of the product furnished which require redesign of the project in any way.
  - 6. Services and other similar charges for the review of resubmissions of shop drawings that have been marked as "No Exceptions Taken" or "Make Corrections Noted".
  - 7. Services and other similar charges for the review of shop drawings submitted more than two (2) times for the same product or portion of the work.

## 1.12 MISCELLANEOUS SUBMITTALS

- A. Provide a Submittal Schedule within seven (7) calendar days from the date of the Notice to Proceed. The Submittal Schedule shall list all submittals for the project referenced by draft log

number. Provide the estimated date that the submittal will be transmitted to the Engineer/Architect for review.

- B. Within seven (7) calendar days from the date of the Pre-Construction Meeting, submit a Proposed Products List. This list shall be a complete listing of all products proposed for use, with name of manufacturer, service headquarters, trade name and model number of each product. Partial listings will not be accepted.
- C. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

#### 1.13 SUBCONTRACTOR LIST

- A. The Contractor shall submit, on AIA Form G805, within seven (7) calendar days after the date of the Notice to Proceed, a list of all subcontractors, including the names of the major subcontractors that were submitted at the time of the bid.

#### 1.14 MATERIAL SAFETY DATA SHEETS (MSDS)

- A. Comply with "Right to Know" requirements of Chapter 551 of Laws of New York, 1980, concerning notification of the use of toxic substances.
- B. Any product or substance used by the Contractor or its subcontractors which is listed in Subpart Z of OSHA Part 1910 Title 29 of the Code of Federal Regulations entitled "Toxic and Hazardous Substances" shall be identified to the Owner/Engineer/Architect by the Contractor's submission of a standard Material Safety Data Sheet (MSDS) in accordance with "Right To Know" requirements.
- C. Products will not be permitted to be kept on site without a MSDS.

#### 1.15 SHOP DRAWINGS

- A. Submit shop drawings for all fabricated work, for all manufactured items and for items specifically required by the specifications.
- B. Submit each shop and layout drawing to Engineer/Architect in the form of one (1) quality reproducible transparency and two (2) prints.
  - 1. After the submittal has been reviewed by the Engineer/Architect, the transparency will be annotated, prints will be made for Engineer/Architect's and Owner's use, records, and distribution.
  - 2. Engineer/Architect will return the transparency to the Contractor.
- C. Submit one (1) electronic copy of each standard drawing, catalog cut, or other material. All shop drawings or submittals that are not in the standard 8-1/2" x 11" format shall be submitted both electronically and in paper. Samples shall be delivered directly to the office of the Engineer/Architect. The Engineer/Architect will return an electronic copy of each submittal once reviewed.

- D. Subcontractors shall submit shop drawings directly to the Contractor for checking. Thoroughly check subcontractors' shop drawings for measurements, sizes of members, details, materials, and conformance with the Contract Documents.
  - 1. Return submittals which are found to be inaccurate or in error.
  - 2. Do not submit to the Engineer/Architect until all corrections have been made.
- E. Clearly show the relationship of the various parts of the project and where the information provided on the submission depends upon field measurements and existing conditions.
- F. The Contractor shall make all measurements, confirm existing conditions, and include them on the shop drawings before making a submission to the Engineer/Architect.
- G. Submissions for a single item, or group of related items shall be complete.
- H. When submitting manufacturers' catalogs, pamphlets or other data sheets, in lieu of prepared shop drawings, clearly mark the items being submitted for review.
- I. If the shop drawings contain any departures from the contract requirements, specifically describe them in the letter of transmittal.
  - 1. Where such departures require revisions to layouts, structural, architectural, electrical, HVAC or any other changes to the work as shown, Contractor shall, at his own expense, prepare and submit revised drawings accordingly.
  - 2. Make drawings the same size as the Contract Drawings and to the same scale.

#### 1.16 SAMPLES

- A. Where required, or where requested by the Engineer/Architect, submit sample or test specimens of materials to be used or offered for use.
  - 1. Samples shall be representative, in all respects, of the material offered or intended, shall be supplied in such quantities and sizes as may be required for proper examination and tests, and shall be delivered to Engineer/Architect, prepaid, along with identification as to their sources and types of grades.
  - 2. Submit samples well in advance of anticipated use to permit the making of tests or examinations.
- B. Samples will be checked for conformance with the design and for compliance with the Contract Documents.
- C. Work shall be in accordance with the approved sample. The use of materials or equipment for which samples are requested or required to be submitted is not permitted until such time that the Engineer/Architect has completed his review.

#### 1.17 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to Engineer/Architect.
- B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation. Provide manufacturer's instructions with shop drawings.

## 1.18 CERTIFICATIONS

- A. Submit certifications of compliance indicated in the Contract Documents.
- B. Certifications shall be complete and exact, they shall be properly authenticated by the written signature, in ink, of an owner, officer or duly authorized representative of the person, firm or organization issuing such certification and they shall guarantee that the materials or equipment are in complete conformance with the requirements of these specifications.

## 1.19 COLORS AND PATTERNS

- A. Unless the precise color and pattern are specified, whenever a choice of color or pattern is available in a specified product, submit accurate color and pattern charts for Engineer/Architect's and Owner's review and selection.

## 1.20 MANUFACTURER'S SERVICE CENTER

- A. The product of a manufacturer who does not maintain an adequate nearby service center and a sufficient stock of spare parts are subject to rejection by Engineer/Architect solely on that basis.
- B. With each submission, submit information on manufacturer's facilities and give complete details of his service policies and capabilities, and a general idea of the stock of spare parts available. Submit this information in the form of a certification. Also include names, addresses and telephone numbers of at least three of the service center's present customers who are in the area of the project.

## 1.21 TEST RESULTS AND INSTALLATION

- A. Whenever field startup services are specified, the Contractor shall obtain from the manufacturer and submit to the Engineer/Architect Manufacturer Startup Reports (MSR's). The report shall detail the results of the field visit and all special conditions resulting from the startup.
- B. Whenever field or factory tests are required on materials, equipment and systems, such tests shall be performed and the test results submitted to Engineer/Architect in the form of a MSR.
- C. Do not deliver to the project or incorporate into the work any materials or equipment for which Engineer/Architect has not completed his review and found same to be in general conformance with the Contract Documents.
- D. Submit MSR's within thirty (30) calendar days after the date of the startup or factory test.

## 1.22 SPARE PARTS LIST

- A. Prepare a list of all spare parts specified to be provided in other Sections. Compile the total list for the purposes of reviewing actual spare parts delivered versus spare parts specified to be provided. The list shall reference the Section, model number, and quantity to be provided.

1.23 WAIVER OF CERTAIN SUBMITTAL REQUIREMENTS

- A. Unless otherwise specified, the requirement to submit data and samples for products specified for approval will be waived for products specified by brand name if the specifically named products are furnished for the work. In such cases, the Contractor shall submit two (2) copies of required Product Data directly to the Engineer/Architect's field representative for information and verification during its incorporation into the work. The SUBMISSION TRANSMITTAL FORM shall always be used.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

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CONTRACTOR'S COMPANY NAME  
ADDRESS  
**SUBMISSION TRANSMITTAL FORM**  
RIVERHEAD WATER DISTRICT  
WELLHEAD TREATMENT FOR PERCHLORATE – PLANT NO. 16  
H2M PROJECT NO.: 14-06

|  |   |                      |                              |
|--|---|----------------------|------------------------------|
| Product, Item, or System Submitted:                          |   |                      |                              |
| Submission Date:   |   | Submission Log No.:  |                              |
| Specification Section:                                       |   | Paragraph Reference: |                              |
| Contract Drawing Reference(s):                               |   |                      |                              |
| Manufacturer's Name:   |   |                      |                              |
| Manufacturer's Mailing Address:                              |   |                      |                              |
| Manufacturer's Contact Information:                          |   | ( )                  |                              |
|  | <i>Name</i>   | <i>Tel. no.</i>      | <i>Email</i>                 |
| Supplier's Name:   |   |                      |                              |
| Supplier's Mailing Address:                                  |   |                      |                              |
| Supplier's Contact Information:                              |   | ( )                  |                              |
|  | <i>Name</i>   | <i>Tel. no.</i>      | <i>Email</i>                 |
| This item is a substitution of the specified item:           | <input type="checkbox"/> No   |                      | <input type="checkbox"/> Yes |
| <i>Contractor's Approval Stamp with Signature &amp; Date</i> | <u>Contractor's Brief Comments or Remarks</u><br>(attach separate letter as needed):  |                      |                              |
|  | By making this submission, we represent that we have determined and verified all field measurements and dimensions, field construction criteria, site and building constraints in terms of limitations in moving the item into the enclosed space, materials, catalog and model numbers and similar data and that we have checked and coordinated this submission with other work at or adjacent to the installed location in accordance with the requirements contained in the Contract Documents. |                      |                              |

END OF SECTION

## PART 1 - GENERAL

## 1.01 SECTION INCLUDES

- A. Codes
- B. Governing agencies
- C. Permits

## 1.02 CODES

- A. Comply with the requirements of the various codes referred to in these Specifications. Such codes shall be the date of the latest revision in effect at the time of receiving bids.
- B. If there is a conflict between local, state, and/or Federal regulatory requirements, seek a consultation with the State Department of Labor. Resolve conflicts to the satisfaction of the
- C. Electrical Work: Conform to the requirements of the National Electrical Code (NEC) unless otherwise shown or specified. Where more stringent requirements exist conform to the requirements of the Electrical Code of the City of New York unless otherwise shown or specified. The Owner will be the sole judge of the interpretation of these rules and requirements.

## 1.03 GOVERNING AGENCIES

- A. All work shall conform to and be performed in strict accordance with all governing agencies such as, but not limited to:
  - 1. Occupational Safety and Health Act - OSHA
  - 2. State Department of Environmental Conservation
  - 3. State Building Code
  - 4. State Fire Code
  - 5. National Fire Protection Association - NFPA
  - 6. National Electrical Code
  - 7. State Plumbing Code
  - 8. State Energy Code
  - 9. County Department of Health
  - 10. Town of Riverhead Codes, Rules, Laws and Ordinances
  - 11. Sewer District Sewer Use Code
  - 12. Riverhead Water District Codes, Rules, Laws and Ordinances
  - 13. Electric utility
  - 14. Gas Utility

## 1.04 PERMITS AND INSPECTIONS

- A. Representatives of the Owner shall have access to the work for inspection purposes. The Contractor shall provide facilities suitable to the Owner to facilitate inspections of the installed work.

- B. Obtain and pay for all permits, fees, licenses, certificates, inspections and other use charges required in connection with the work.

1.05 FIRE RESISTANT CONSTRUCTION MATERIALS AND ASSEMBLIES

- A. Conform to the fire rating classifications based upon the test methods and acceptance criteria in the Standard, Fire Tests of Building Construction and Materials for which Underwriters' Laboratories, Inc. (UL) provides listings.
- B. Materials and assemblies shall comply with the acceptance criteria, detailed description of the assembly, its performance in the fire test and other pertinent details such as specification of materials, Classification coverage, and alternate assembly details.
- C. Alternatively, fire resistance rating classifications by other issuing organizations listed in the Fire and Building Codes are acceptable.

1.06 COORDINATION WITH WATER UTILITY

- A. Comply with the water utility requirements for water and fire service connections. Obtain and pay for all necessary permits from the water utility. Obtain authority to connect to the existing water mains.
  - 1. Make necessary connections to existing public water mains under supervision of the water utility representative.

PART 2 - PRODUCTS  
Not Used

PART 3 - EXECUTION  
Not Used

**END OF SECTION**

## PART 1 - GENERAL

## 1.01 SECTION INCLUDES

- A. Requirements for monitoring the quality of the constructed project.
- B. Work of this Section also includes services of an independent testing laboratory for quality assurance testing.
- C. The services of the testing laboratory will be paid for out of the cash allowance included by the Contractor in the price as bid in accordance with the requirements contained herein and in Section 012100 – Allowances.

## 1.02 REFERENCES

- A. ASTM C1077 - Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation.
- B. ASTM D3740 - Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
- C. ASTM D4561 - Practice for Quality Control Systems for an Inspection and Testing Agency for Bituminous Paving Materials.
- D. ASTM E699 - Practice for Criteria for Evaluation of Agencies Involved in Testing, Quality Assurance, and Evaluating Building Components in Accordance with Test Methods Promulgated by ASTM Committee E6.

## 1.03 QUALITY ASSURANCE - CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.
- B. Comply with specified standards as a minimum quality for the work except when more stringent tolerances, codes, or specified requirements indicate higher standards or workmanship that is more precise.
- C. Perform work by persons qualified to produce workmanship of specified quality.
- D. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.
- E. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

## 1.04 MOCK-UP

- A. Tests will be performed under provisions identified in this Section and identified in the respective product specification sections.
- B. Assemble and erect specified items with specified attachment and anchorage devices, flashing, seals, and finishes.
- C. Accepted mock-ups shall be a comparison standard for the remaining work.
- D. Where a mock-up has been accepted by the Engineer/Architect and is specified to be removed, then the Contractor shall remove the mock-up and the clear area when directed to do so by the Engineer/Architect.

## 1.05 QUALITY ASSURANCE - TESTING LABORATORY

- A. In order to establish compliance with the Contract Documents, materials shall be tested, examined and evaluated before they are incorporated into the work. During and after installations, additional tests, examinations, and evaluations shall be made to determine continued compliance throughout the course of the work.
- B. Testing laboratory shall be a reputable, experienced firm that is capable of performing all of the required testing and authorized to operate in the state in which the project is located.
- C. Perform all sampling and testing in accordance with specified procedures and use the materials, instruments, apparatus, and equipment required by the codes, regulations and standards. Where specific testing requirements or procedures are not described, perform the testing in accordance with all pertinent codes and regulations and with recognized standards for testing.
- D. In the event that samples and test specimens are not properly taken, handled, stored or delivered or if other requirements of this Section are not complied with, Engineer/Architect reserves the right to delegate any or all of this work to others, or to take whatever action deemed necessary to ensure that sampling and testing are properly accomplished, for which all costs shall be borne by Contractor.
- E. Engineer/Architect reserves the right to disapprove the use of a specific testing laboratory, even after prior approval, if the laboratory fails to meet or comply with the requirements of this Section. If this should occur, immediately discharge the testing laboratory and retain the services of a different laboratory acceptable to Engineer/Architect.
- F. The testing laboratory shall meet the following criteria:
  - 1. Be capable of performing all of the required tests.
  - 2. Be regularly engaged in performing the types of services required.
  - 3. Have adequate facilities, materials, equipment, and personnel to perform the services.
  - 4. Have an adequately trained, experienced and qualified staff.
  - 5. Have at least one registered professional engineer licensed in the state in which the project is located who shall be capable of performing field tests, supervising laboratory testing and interpreting test results. The professional engineer shall be thoroughly knowledgeable in materials, soils, asphalt paving and concrete.
  - 6. Shall be able to be on the Project site within two hours after being notified.
  - 7. Comply with the requirements of ASTM C1077, ASTM D3740, ASTM D4561, ASTM E548 and ASTM E699.

8. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to either National Bureau of Standards or accepted values of natural physical constants.

#### 1.06 REFERENCE standards

- A. Conform to reference standards by date that the project was last bid.
- B. Obtain copies of standards when required by Contract Documents.
- C. Should specified reference standards conflict with Contract Documents, request clarification from Engineer/Architect before proceeding.
- D. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

#### 1.07 SUBMITTALS

- A. Within five (5) calendar days from the date of the Notice to Proceed, submit documentation from three (3) testing laboratories that clearly indicates experience, location, qualifications of staff, and descriptions of any limitations or restrictions of the firm.
  1. Include a price schedule for standard tests and a billing rate schedule for technician classifications.
  2. Based upon this information, the Engineer/Architect will select one firm to be the primary testing laboratory and one firm to act as a standby.
- B. Certified copies of each test report shall be mailed directly to the Engineer/Architect. The Contractor shall arrange with the laboratory to secure copies.
- C. Each report shall be in writing and shall include the testing method used, the test results, the specified results, the exact location of where the test specimens were taken, the date taken, Project identification, Contractor's name and other pertinent information required for a complete and meaningful test report.
- D. Each report shall be signed and certified by a responsible officer of the testing laboratory.
- E. Mail reports directly to Engineer/Architect within 24 hours after the sample is taken, except in those instances when tests cannot be immediately performed because of required curing, incubation periods, or lengthy testing procedures.
- F. The laboratory shall verbally communicate test results when requested by the Engineer/Architect. This does not eliminate nor replace the requirements for a written report.

#### 1.08 SCHEDULING - LABORATORY SERVICES

- A. Except where otherwise specified, the Engineer/Architect will determine the number of samples to be taken, the date and time samples will be taken and tests made, the number and type of tests to be performed, who will collect the samples, how they will be handled and stored and when laboratory personnel are required on site.

- B. Engineer/Architect will notify Contractor of his decision to take samples and/or have tests made and provide him with the pertinent information. Contractor is responsible for notifying the testing laboratory and for having the testing performed, on schedule.
- C. In addition to the above, Contractor shall make his own arrangements for the sampling and testing of materials he proposes to incorporate into the work. This shall not be paid for out of the cash allowance.
- D. Notify Engineer/Architect at least 72 hours in advance of the times at which scheduled samples or tests will be conducted.
- E. If samples and/or tests cannot be taken or performed when required, delay the work until such time that they can be accomplished. Where possible, any work that has been installed but has not been sampled or tested as required, shall be tested by other means. Upon Engineer/Architect's request, uncover any work, which has been buried or covered, and perform special tests designated by Engineer/Architect. If the work cannot be tested by other means, Engineer/Architect may declare the work unacceptable. All costs associated with noncompliance and for special testing shall be borne by the Contractor and not be paid for out of the cash allowance.
- F. Should the testing laboratory be scheduled to take or collect samples or to perform tests, and finds that it is unable to do so as a result of delays in construction, inclement weather, or any other reason, reschedule the tasks for a date acceptable to Engineer/Architect. Costs associated with times testing laboratory is unable to perform scheduled services shall be borne by the Contractor and will not be paid for under the allowance.
- G. Plan all work and operations to allow for the taking and collection of samples and allow adequate time for the performance of tests. Delay the progress of questionable work until the receipt of the certified test reports.

#### 1.09 TESTING REQUIREMENTS

- A. Dry Paint Thickness Measurement: Perform dry paint thickness using calibrated SSPC Type 2 fixed probe gages.
- B. Compaction Testing - Soil:
  - 1. Perform compaction testing in accordance with ASTM D2922, Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth) or ASTM D1556 Density and Unit Weight of Soil In Place by the Sand Cone Method.
  - 2. Perform tests and analysis of fill material in accordance with ANSI/ASTM D698 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5 lb. Rammer and 12-inch Drop.
- C. Compaction Testing - Asphaltic Concrete Pavement:
  - 1. Perform asphaltic concrete compaction testing in accordance with ASTM D2950 - Standard Test Method of Density of Bituminous Concrete in Place by Nuclear Methods.
  - 2. Calibrate nuclear density measurement equipment based on theoretical maximum specific gravity of asphaltic concrete pavement material.
  - 3. Perform test to determine theoretical maximum specific gravity in accordance with ASTM D2041 Theoretical Maximum Specific Gravity of Bituminous Pavement Mixtures. Perform test on mix at plant prior to delivery. Collect sample at plant in accordance with ASTM D979 - Sampling Bituminous Paving Mixtures and perform test in approved laboratory if plant does not have necessary equipment.

- D. Concrete Testing:
  - 1. Collect samples in accordance with ASTM C172, Practice for Sampling Freshly Mixed Concrete.
  - 2. Make test cylinders in accordance with ASTM C31, Standard Practice for Making and Curing Concrete Test Specimens in the Field.
  - 3. Test concrete cylinders in accordance with ASTM C39, Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
  - 4. Test slump and air entrainment.
- E. Asphalt Testing:
  - 1. Collect samples at point of delivery in accordance with ASTM D979, Standard Practice for Sampling Bituminous Paving Mixtures.
  - 2. Perform extraction test in accordance with ASTM D2172, Standard Test Methods for Quantitative Extraction of Bitumen from Bituminous Paving Mixtures.
  - 3. Perform gradation test in accordance with ASTM C136, Method for Sieve Analysis of Fine and Coarse Aggregates.

#### 1.10 TESTING SCHEDULE

- A. Dry Paint Thickness Measurement:
  - 1. Make five (5) separate spot measurements spaced evenly over 100 square feet of area.
  - 2. For structures exceeding 1000 square feet of finished surface, three 100 square feet areas shall be randomly selected by the Engineer/Architect plus one 100 square foot area for each additional 1000 square feet of finished surface. This requirement shall be subject to change as required by the Engineer/Architect.
- B. Compaction Testing of Soil:
  - 1. Pipe Installation: As directed by the Engineer/Architect.
  - 2. Concrete flatwork: As directed by the Engineer/Architect.
  - 3. Pavement subgrade: As directed by the Engineer/Architect.
- C. Concrete Testing: Make six (6) concrete test cylinders for each 50 c.y. or fraction thereof.
  - 1. Test two (2) cylinders at 7 days.
  - 2. Test two (2) cylinders at 28 days.
  - 3. The remaining cylinders shall be tested at a time to be determined by the Engineer/Architect. This requirement shall be subject to change as required by the Engineer/Architect.
- D. Asphalt Testing: As directed by the Engineer/Architect.
- E. Compaction Testing of Pavement: As directed by the Engineer/Architect.

#### 1.11 FIELD OBSERVATION OF CONTRACTOR'S WORK

- A. The Engineer/Architect will provide periodic observation of the Contractor's work in accordance with the General Conditions of the Contract.

#### PART 2 - PRODUCTS

Not Used

## PART 3 - EXECUTION

## 3.01 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions. Verify that the existing substrate is capable of structural support or attachment of new Work being applied or attached. Examine and verify specific conditions described in individual specification sections. Verify that utility services are available, of the correct characteristics, and in the correct locations.

## 3.01 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance. Seal cracks or openings of substrate prior to applying next material or substance.
- B. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

## 3.01 FIELD QUALITY CONTROL

- A. Allow representatives of the testing laboratory access to the work at all time. Provide all equipment, labor, materials, and facilities required by the laboratory to properly perform its functions. Cooperate with and assist laboratory personnel during the performance of their work.
- B. Test specimens and samples shall be taken by the person(s) designated in other Sections, or as directed by Engineer/Architect. Conduct field sampling and testing in the presence of Engineer/Architect. Provide all materials, equipment, facilities and labor for securing samples and test specimens and for performing all field-testing.

**END OF SECTION**

## PART 1 - GENERAL

## 1.01 SECTION INCLUDES

- A. Asbestos and lead-based paint certification.
- B. Moisture control.

## 1.02 RELATED SECTIONS

- A. Section 014100 – Regulatory Requirements
- B. Section 015719 – Temporary Environmental Controls

## 1.03 ASBESTOS AND LEAD-BASED PAINT CERTIFICATION

- A. Contractor shall submit the enclosed “Asbestos and Lead-Based Paint Certification” upon completion of all work.

## 1.04 MOISTURE CONTROL

- A. The Contractor shall maintain a strict policy and protocol for the control of water infiltration and moisture build-up during the course of the project. The plans and specifications are not intended to depict each and every condition or detail of construction. As the knowledgeable party in the field, the Contractor is in the best position to verify that all construction is completed in a manner which will provide a watertight structure. The Contractor has the sole responsibility for ensuring the watertight integrity of the structure. The Contractor’s contractual obligations include, but are not limited, to the following:
- B. Water Infiltration: If the Contractor observes water infiltration (unintended) into a completed building or an ongoing construction site, he must immediately report the condition to the Owner and Architect/Engineer, and shall immediately take steps to investigate the source of the water infiltration, identify the responsible party (person who performed work that resulted in water infiltration) and devise a procedure to promptly eliminate water infiltration into the building.
- C. Handling of Water-Damaged Building Materials and Construction:
  - 1. Contractor shall inspect all building materials delivered to the site for pre-existing water damage, as well as existing mold growth.
  - 2. If in-place construction becomes wet, notify the Owner and Architect/Engineer immediately. The Owner and Architect/Engineer will determine whether or not the work shall be removed and replaced, or if the type of material can be permitted to dry.
  - 3. Under no circumstances may new or additional construction be placed over, or otherwise enclose, wet building materials.
- D. Visible Mold/Mildew:
  - 1. If the Contractor observes any substance that appears to be mold or other fungal growth and/or an unidentified substance within a completed building or the ongoing construction

- site, he shall immediately suspend construction operations in the area, and report the condition to the Owner and Architect/Engineer.
- 2. No person shall be allowed back into the affected area without permission of the Owner.

1.05 SUBMITTALS

- A. Contractor shall submit completed and notarized "Certification of Asbestos and Lead-Based Paint" form.

PART 2 - PRODUCTS  
NOT USED

PART 3 - EXECUTION  
NOT USED

Certificate of Asbestos and Lead-Based Paint  
(New Work)

Client's Name: \_\_\_\_\_

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

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

Project Name: \_\_\_\_\_

Project Number: \_\_\_\_\_

Certification:

This Contractor hereby certifies that no asbestos-containing material and lead-based paint, as defined by applicable federal and state regulations, has been furnished or installed at the referenced project:

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

Signature: \_\_\_\_\_

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

\_\_\_\_\_

Telephone: \_\_\_\_\_ Date Executed: \_\_\_\_\_

*THIS FORM SHALL BE NOTARIZED*

**END OF SECTION**

## PART 1 – GENERAL

## 1.01 – SECTION INCLUDES

- A. Control of environmental pollution and damage that the Contractor must consider for air, water, and land resources in preparing a bid and while constructing the project. This Section includes management of site aesthetics, noise, solid and liquid waste and wastewater, and other pollutants that may be generated by the Contractor.
- B. Include all costs associated with environmental protection as specified herein and as specified in other Sections of these specifications in the total price bid.

## 1.02 – DEFINITIONS

- A. Environmental pollution and damage is defined as the presence of chemical, physical, or biological elements or agents which:
  - 1. Adversely effect human health or welfare,
  - 2. Unfavorably alter ecological balances of importance to human life,
  - 3. Impact wetlands,
  - 4. Effect other species of importance to man, or;
  - 5. Degrade the utility of the environment for aesthetic, cultural, and historical purposes.
- B. Definitions of Pollutants:
  - 1. Sediment: Soil and other debris that has been eroded and transported by runoff water.
  - 2. Solid Waste: Rubbish, debris, garbage, and other discarded solid materials resulting from industrial, commercial, and agricultural operations and from community activities.
  - 3. Rubbish: Combustible and noncombustible wastes such as paper, boxes, glass and crockery, metal and lumber scrap, tin cans, and bones.
  - 4. Debris: Combustible and noncombustible wastes, such as leaves, tree trimmings, ashes, and waste materials resulting from construction or maintenance and repair work.

5. Chemical Waste: Petroleum products, bituminous materials, salts, acids, alkalines, herbicides, pesticides, organic chemicals, and inorganic wastes.

C. Sanitary Wastes:

1. Sewage: Domestic sanitary sewage and human and animal waste.
2. Garbage: Refuse and scraps resulting from preparation, cooking, dispensing, and consumption of food.

PART 2 – PRODUCTS

Not Used

PART 3 - EXECUTION

3.01 – PROTECTION OF ENVIRONMENTAL RESOURCES

- A. Protect environmental resources within the project boundaries and those affected outside the limits of permanent work during the entire period of this Contract. Confine activities to areas defined by the Contract Documents.
- B. Protection of Land Resources: Prior to construction, identify all land resources to be preserved within the work area. Do not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, top soil, and land forms without permission from the Engineer/Architect. Do not fasten or attach ropes, cables, or guys to trees for anchorage unless specifically authorized, or where special emergency use is permitted.
- C. Work Area Limits: Prior to any construction, mark the areas that require work to be performed under this Contract. Mark or fence isolated areas within the general work area that are to be saved and protected. Protect monuments, works of art, and markers before construction operations begin. Convey to all personnel the purpose of marking and protecting all necessary objects.
- D. Protection of Landscape: Protect trees, shrubs, vines, grasses, land forms, and other landscape features shown on the drawings to be preserved by marking, fencing, or using any other approved techniques.
  1. Immediately repair all damage to existing trees and shrubs by trimming, cleaning, and painting with antiseptic tree paint.

2. Do not store building materials or perform construction activities closer to existing trees or shrubs than the farthest extension of their limbs.
- E. Reduction of Exposure of Unprotected Erodible Soils: Plan and conduct work to minimize the duration of exposure of unprotected soils. Excavate areas in reasonably sized increments only as needed to use.
1. Manage and control excess material to limit spoil to areas immediately adjacent to excavation and prevent erosion of soil or sediment from entering nearby property, watercourses, drainage facilities or streets.
- F. Protection of Water Resources: Keep construction activities under surveillance, management, and control to avoid pollution of surface and ground waters and sewer systems. Implement management techniques to control water pollution by the listed construction activities that are included in this Contract.
- G. Control movement of materials and equipment during construction to prevent violation of water pollution control standards of the Federal, State, or local government.
- H. Monitor water areas affected by construction.
- I. Protection of Fish and Wildlife Resources:
1. Keep construction activities under surveillance, management, and control to minimize interference with, disturbance of, or damage to fish and wildlife.
- J. Protection of Air Resources: Keep construction activities under surveillance, management, and control to minimize pollution of air resources.
1. Burning is not permitted on the job site. Keep activities, equipment, processes, and work operated or performed, in strict accordance with the State and Federal emission and performance laws and standards.
  2. Maintain ambient air quality standards set by the Environmental Protection Agency and State, for those construction operations and activities specified.
- K. Particulates: Control dust particles, aerosols, and gaseous by-products from all construction activities, processing, and preparation of materials (such as from asphaltic batch plants) at all times, including weekends, holidays, and hours when work is not in progress.

- L. Particulates Control: Maintain all excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, spoil areas, borrow areas, and all other work areas within or outside the project boundaries free from particulates which would cause a hazard or a nuisance. Sprinkle, chemical treatment of an approved type, light bituminous treatment, baghouse, scrubbers, electrostatic precipitators, or other methods are permitted to control particulates in the work area.
- M. Hydrocarbons and Carbon Monoxide: Control monoxide emissions from equipment to Federal and State allowable limits.
- N. Odors: Control odors of construction activities and prevent obnoxious odors from occurring.
- O. Reduction of Noise: Minimize noise using every action possible. Perform noise-producing work in less sensitive hours of the day or week as directed by the Engineer/Architect. Maintain noise-produced work at or below the decibel levels and within the time periods specified in accordance with OSHA and local ordinances, whichever is more restrictive.
  - 1. Perform construction activities involving repetitive, high-level impact noise only between 8:00 a.m. and 4:30 p.m. unless otherwise permitted by local ordinance or by the Engineer/Architect.
  - 2. Reduce repetitive impact noise on the property.
  - 3. Provide sound-deadening devices on equipment and take noise abatement measures that are necessary to comply with the requirements of this Contract, consisting of, but not limited to, the following:
    - a. Use shields or other physical barriers to restrict noise transmission.

**END OF SECTION**

## PART 1 - GENERAL

## 1.01 SECTION INCLUDES

- A. This Section supplements the General Conditions.
- B. The Work of this Section includes temporary facilities, utilities, and controls to be furnished by the Contractor for this project as it is specified herein.

## 1.02 CARE AND PLACEMENT

- A. All temporary and permanent facilities and controls and all other elements on the project site shall meet all standards of the Occupational Safety and Health Act of 1970 and subsequent revisions. Contractor shall comply with all requirements of the Act.
- B. Contractor shall take every precaution and shall provide such equipment and facilities as are necessary or required for the safety of its employees and persons at the site.
- C. In the event of damage to existing and/or temporary facilities then immediately make all repairs and replacements to an equal condition prior to the event.

## 1.03 QUALITY PERFORMANCE

- A. Comply with and perform all work in accordance with the requirements of local authorities and utility companies having jurisdiction, and all applicable codes, regulations and ordinances.
- B. Secure approvals from the appropriate jurisdictions and utility companies on all repairs, relocations, connections, disconnections and the Work.
- C. All barricades, warning signs, lights, temporary signals and other protective devices shall conform with "Manual on Uniform Traffic Control Devices for Streets and Highways", US Government Printing Office.

## 1.04 SUBMITTALS

- A. Contractor shall provide a list of contact numbers as follows:
  - 1. Contractor's superintendent and office project manager (home, beeper, cellular, office, fax, trailer, and email address).
  - 2. All subcontractors.
  - 3. All utility companies.
  - 4. Emergency services such as fire department, police, and ambulance.
- B. Contractor shall also submit the following:
  - 1. Name and qualifications of person or persons who shall be available to render first aid.
  - 2. Names, addresses and telephone numbers of personnel who can be telephoned and act on behalf of Contractor in the event of emergencies or other problems requiring prompt

attention during winter shutdown, holidays, nights and other periods when the Contractor's superintendent may be absent from the project site.

#### 1.05 CONTRACTOR'S RESPONSIBILITY

- A. The Contractor shall be responsible for the installation, performance, maintenance, and repair of all temporary facilities and controls specified herein this Section as originally provided.
- B. The Owner reserves the right to immediately correct a Contractor caused action, if in the opinion of the Owner, the situation may result in the immediate loss of life, property, and degradation of the environment. The costs for actions taken by the Owner shall be deducted from money due or to become due the Contractor. Amounts in excess shall be paid by the Contractor.
- C. If the Contractor caused situation is not deemed immediate, then the Contractor shall, within 24 hours of receipt of written and/or verbal notice, correct the defect or unsatisfactory condition.
- D. The Owner may repair, correct, replace, or install temporary facilities to correct the situation if the Contractor fails to perform within the allowed time. The costs to make the corrections shall be deducted from money due or to become due the Contractor. Amounts in excess shall be paid by the Contractor.

#### PART 2 - PRODUCTS

##### 2.01 GENERAL

- A. The Owner may use temporary power lines, pipes, roadways or other facilities that the Contractor furnishes, installs, and maintains (then removes at the completion of the work), during the period of construction.
- B. The location of all temporary power lines, roadways, and other necessary temporary facilities shall be subject to the approval of the Engineer/Architect, and these shall be located and operated so as not to interfere with the operation of the facilities.

##### 2.02 WATER FOR CONSTRUCTION PURPOSES

- A. Contractor shall obtain water from the nearest potable water source as designated by the Owner.
  - 1. The Owner will pay for water usage for general construction activities such as dust control and for sanitary purposes, like hand washing.
  - 2. Potable water, used for pipe exfiltration testing, process tank testing, storage tank testing, or elevated water storage tank testing, and will not be paid for by the Owner. The Contractor shall include the costs for water for this purpose in the price as-bid.
- B. Contractor shall install his or her own backflow prevention device at the supply point where it is connected to the Owner's system.
  - 1. The water purveyor shall approve the device.
  - 2. The device shall be tested and certified as functioning properly.
  - 3. Post the certification in a location acceptable to the water purveyor.

- C. A water meter shall also be installed on any water service lines used to supply water for exfiltration testing.
- D. Contractor shall exercise measures to conserve water.
- E. Provide insulation and heat tracing to prevent freezing of temporary piping. Drain hoses at the end of each use.
- F. All personnel involved in the project shall be permitted to use water for construction purposes as provided under this paragraph.

#### 2.03 SANITARY FACILITIES

- A. General Contractor shall provide and maintain temporary toilet facilities for use by all Contractors.
- B. These facilities shall be maintained in a strictly sanitary manner and be screened from the general public.
- C. All facilities shall be in accordance with the Occupational Safety and Health Act (OSHA) standards and all other applicable local codes.
- D. The locations of such facilities shall be determined by the Engineer/Architect or the Owner and be shown on the Contractor's Site Utilization Plan.
- E. All applicable codes and regulations regarding the maintenance and method of waste disposal for these facilities will be strictly enforced. These facilities shall be of the portable type.
- F. The Owner's sanitary facilities will be available for use by Contractor. The Contractor shall be required to keep the facilities clean during the period of use.
- G. Comply with the requirements also contained in Section 015719 – Temporary Environmental Controls.

#### 2.04 HEAT

- A. Each Contractor shall provide and pay for heating devices and fuel as required to maintain adequate heat for specific construction operations; i.e. painting, application of coatings, etc., where so specified elsewhere in these specifications.
- B. Maintain minimum ambient temperature of 40 degrees F in areas where construction is in progress, unless indicated otherwise in specifications or as required by proposed working conditions and manufacturer's installation/application instructions.

#### 2.05 VENTILATION

- A. The Contractor shall ventilate enclosed areas to assist in the curing of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors or gases.

## 2.06 BARRIERS AND PROTECTION

- A. The Contractor shall provide railings, barricades, signs, fences and other protective devices to prevent unauthorized entry to construction areas, to allow for the Owner's safe use of the site and to protect existing facilities and adjacent structures from damage from the work.
- B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing buildings.
- C. Provide protection for plant life designated to remain.
- D. Protect vehicular traffic, stored materials, public utilities, site and structures from damage.
- E. Provide warning signs, detour signs and other traffic control devices to insure the safety of plant operators and to adequately direct traffic around the work. Illuminate barricades, obstructions, and warning signs from sunset to sunrise.

## 2.07 TEMPORARY FENCING

- A. The Contractor is responsible for performance compliance with OSHA standards.
- B. The Contractor shall provide temporary safety fence around all open excavations or other dangerous conditions on the construction site.
  - 1. All temporary safety fencing shall be designed and erected in compliance with OSHA standards, but in no case less stringent than these specifications for fencing.
  - 2. Fence is to be bright orange in color, a minimum of 4 feet high, and properly secured using 1" diameter steel pipe at 4'-0" on-center as support posts.
  - 3. Stake each support post to a depth of 18" and tamp securely into place.
  - 4. Each post shall be plumb.
  - 5. Secure fencing to posts using heavy-duty 12" long cable ties or tie wire.
  - 6. The fence and supports shall remain the property of the Contractor and be promptly removed at the appropriate time.

## 2.08 TEMPORARY HANDRAILS AND SCAFFOLDS

- A. All temporary handrailing and scaffolds shall be designed and erected in compliance with OSHA standards. Contractor is responsible for performance compliance with OSHA standards.
- B. Handrails shall be securely installed and maintained in accordance with OSHA regulations until the permanent railing or grating has been permanently installed and approved by the Engineer/Architect.
- C. All scaffolding and platforms shall be erected in a safe and substantial manner complying with OSHA requirements.
- D. All temporary handrails and scaffolds shall be designed by a professional engineer licensed in the state where the project is being constructed.
  - 1. The design drawings and details shall be stamped by the licensed engineer and submitted for record purposes.
  - 2. The Contractor's design engineer shall visit the site to certify that the handrailing and/or scaffolds have been erected pursuant to the stamped design.

## 2.09 EROSION CONTROL

- A. The Contractor shall provide measures to keep the ground surface well drained, but avoid erosion of embankments, excavations, the project site, and adjacent areas.
- B. The Contractor shall comply with all local codes, rules, and regulations concerning soil erosion.
  - 1. Use hay bales or silt fences to control erosion to the satisfaction of the Engineer/Architect and regulatory agencies. Use hay bales or silt fences to stop silt and sediment from reaching surface waters, parking lots and roads.
  - 2. Leave erosion control methods in place until ground cover is established or until date of substantial completion.
- C. The Contractor shall install erosion control measures as shown on the Drawings.
- D. Comply with the requirements also contained in Section 015719 – Temporary Environmental Controls. Submit an Erosion Control Plan as specified therein and comply with the Project's published Stormwater Pollution Prevention Plan.

## 2.10 DUST CONTROL

- A. The Contractor shall provide measures to control dust resulting from the work.
- B. Control dust at locations and in such quantities and frequencies as required to prevent dust from becoming a nuisance to the surrounding area.
- C. In the event the Contractor does not adequately provide for dust control, or should insufficient quantities of dust control agents be placed and Contractor fails to place additional quantities within 4 hours after Engineer/Architect's direction, Owner will perform the required work by whatever means deemed expedient and all expenses incurred by Owner will be charged to and paid by Contractor.
- D. Take care in selecting and applying dust control agents so as not to make roadways or walkways slippery, muddy or hazardous. Dust control agents shall be acceptable to the Engineer/Architect.
- E. The Contractor shall provide all roadways with dust control.

## 2.11 RUBBISH REMOVAL

- A. The Contractor shall be responsible for overall rubbish removal.
- B. Burning of rubbish and trash will not be permitted.
- C. The Contractor shall clean up trash as specified in Section 011400 - Work Restrictions or more often if the trash interferes with the work of others, presents a hazard or if directed by the Engineer/Architect.
- D. Dispose of rubbish and waste materials in accordance with state regulations and local ordinances.
- E. The Contractor shall also place rubbish containers at locations selected by the Engineer/Architect.
  - 1. Furnish adequately sized rubbish containers from the date of initial mobilization to the date of final payment.

2. As a minimum, the Contractor shall furnish [three (3)] 55-gallon general trash containers. Secure the top of each container to the container.
3. Secure the container itself so that it does not get blown about the site.

F. The Contractor shall be responsible for maintaining the site free of trash.

G. The Contractor shall maintain the site free of trash and debris.

1. It shall be the sole responsibility of the Contractor to prevent trash from being blown about the site.

## 2.12 ENCLOSURES

- A. The Contractor shall provide and maintain temporary enclosures, sheds, or fenced-in areas to accommodate protection for products, material and equipment.
- B. Store equipment that cannot be exposed to outdoors in accordance with Section 016500 - Product Delivery, Storage and Handling.

## 2.13 SECURITY

- A. The Contractor shall provide security and facilities to protect work from unauthorized entry, vandalism and theft.
- B. Coordinate with Owner's security program, if applicable.
- C. The Contractor has full responsibility for the working area until final acceptance and payment.
- D. The Contractor shall maintain the perimeter fence that pre-existed prior to the start of construction. A temporary perimeter fence shall be required at all times during the construction and until the new perimeter fence is installed, or until the project is accepted by the Owner.
- E. It shall be the Contractor's responsibility to lock all gates to the site, and on the access road, at the end of each work day.
- F. All on-site employees shall bear, at all times, an identification badge, conspicuously worn, which shall include, at a minimum, a passport or similar size photograph, the name of the employee and the name of the company.

## 2.14 PARKING

- A. The Contractor shall provide an area suitable for parking at least three (3) vehicles by leveling the surface and installing 3 inches of QPS over the level surface.
  1. This area shall be used for the exclusive use of the Owner and Architect/Engineer.
- B. Do not allow heavy construction vehicle parking on existing pavement, if existing pavement is not scheduled for replacement or restoration.
- C. Provide and maintain access to fire hydrants, building entrances, process tanks, doors and the work in general.

- D. The Contractor shall have his or her employees and subcontractors park in areas designated by the Owner/Engineer/Architect.
- E. If designated on the Contract Drawings, then only use those areas for parking.

#### 2.15 DAMAGES

- A. The Contractor, with the prior approval of the Owner/Engineer/Architect, shall promptly repair any damage, directly or indirectly caused by the Contractor's operations.
- B. All repairs shall be to the complete satisfaction of the Owner and equal in quality to that which pre-existed.

#### 2.16 FIRST AID FACILITIES & EMERGENCY TELEPHONE NUMBERS

- A. The Contractor shall provide and maintain adequately equipped first aid facilities in a location or at locations that are readily accessible to workmen, Engineer/Architect and visitors to the site.
- B. Provide at least one on-site employee who is properly trained in first aid and who shall be available to render first aid whenever construction is in progress.
- C. Provide a list of emergency telephone numbers as specified above.
- D. Post the list of emergency telephone numbers as directed by the Engineer/Architect.

#### 2.17 POLLUTION CONTROL

- A. Do not permit pollutants, such as chemicals, fuels, lubricants, calcium chloride, sewage, water containing sediments and other deleterious, poisonous, toxic or oxygen demanding substances to enter or leach into streams, lakes, wetlands, other surface waters, into groundwater, or into the air.
- B. In waters used for public water supply or used for trout, salmon or other game or forage fish spawning or nursery, control measures must be adequate to assure that turbidity in the receiving water will be increased not more than 10 standard turbidity units (s.t.u.) in the absence of other more restrictive locally established limitations, unless otherwise permitted by the State.
- C. In no case shall the classification for the surface water be violated, unless otherwise permitted by the State.
- D. In water used for other purposes, the turbidity shall not exceed State limits.

#### 2.18 REMOVALS

- A. Remove all items provided under this Section except as otherwise specified.

## PART 3 - EXECUTION

## 3.01 PROTECTION OF EXISTING UTILITIES AND PUBLIC WORKS

- A. Maintain and protect existing utilities and public works including, but not limited to, conduits, sewers, water mains, electric and telephone conductors or conduits, and gas mains encountered during the construction.
- B. In the event that it is not possible to cross over, under, around or otherwise avoid the existing utility, the owner of the utility shall be notified that the utility must be altered or moved.
- C. In the event that damage shall result to any service pipe for water or gas, or any private or public sewer or conduit, the Contractor shall immediately, and at its own expense, repair same to the satisfaction of the Engineer/Architect.
- D. Any contents from the pipes, sewers or conduits shall be immediately removed and disposed in accordance with applicable laws.

## 3.02 REMOVAL OF UTILITIES, FACILITIES AND CONTROLS

- A. Remove temporary above grade or buried utilities, equipment, facilities and materials, immediately following substantial completion and prior to release of retainage.
- B. Remove underground installations to a minimum depth of 2 feet.
- C. Regrade site to restore to existing slope and elevation, and restore the surface.
- D. Clean and repair damage caused by installation or use of temporary work.
- E. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.
- F. Remove temporary parking and access roads.
- G. Regrade area to existing slope and elevation and restore the surface to its existing condition.
- H. Final payment will not be processed until all removals have been completed to the satisfaction of the Owner/Engineer/Architect.

## 3.03 PROTECTION OF EXISTING PROPERTY

- A. Protect existing structures and finishes during performance of the work.
- B. Protect existing trees and plants during performance of the work.
- C. Do not deposit excavated materials or store materials around trees or plants or attach guy wires to trees.

**END OF SECTION**

## PART 1 - GENERAL

## 1.01 SECTION INCLUDES

- A. This Section includes the general requirements for products that are to be furnished, installed, or otherwise incorporated into the project.

## 1.02 QUALITY ASSURANCE APPLIES TO ALL PRODUCTS

- A. In addition to the Contractor's warranties and guarantees on materials and equipment required under the General Conditions of the Contract and the Technical Specifications contained hereinafter, the Contractor shall also be responsible for all materials, equipment, and products that have or is planned to be incorporated into the work.
  - 1. The Contractor shall be responsible for the finished work and that it accurately and completely complies with these Contract Documents.
  - 2. The Contractor shall be responsible for work performed by subcontractors, equipment suppliers, and material vendors.
  - 3. The Contractor shall be satisfied as to the product's performance before it is ordered for installation. At the Contractor's option, he/she shall have tested each product to determine compliance with these specifications.
- B. The Engineer/Architect may check all or any portion of the work and the Contractor shall afford all necessary assistance to the Engineer/Architect in carrying out such checks.
  - 1. Such checking by the Engineer/Architect shall not relieve the Contractor of any responsibilities for the accuracy or completeness of the work.
  - 2. Such checking is a courtesy service being provided by the Owner and does not relieve the Contractor of his/her responsibilities under this Construction Contract.
- C. If witnessed shop tests or inspections are required at the point of manufacture, the Contractor shall keep the Engineer/Architect advised as to the progress of the work to allow inspection at the proper time and place. Provide at least two (2) weeks advance notice before scheduled shop tests.
- D. Should a dispute arise as to the quality of workmanship, equipment or material performance, then the final decision regarding acceptability with these Contract Documents shall be that of the Owner.
- E. At the request of the Engineer/Architect, the Contractor shall promptly provide the services of a competent representative of the manufacturer at the project site, fully equipped and prepared to answer questions, perform tests, make adjustments and to prove compliance with the Contract Documents free of all additional charges. Proof of compliance shall be the responsibility of the Contractor, and such special visits to the project site by the manufacturer shall not be eligible under any cash allowances or stipulated man-hours necessary to startup the system and/or train the Owner as may be specified in the Technical Specifications.

## 1.03 QUALITY ASSURANCE - EQUIPMENT

- A. Erect and install products under the supervision of a competent and experienced superintendent. The method of installation, including anchorage, clearances, and tolerances for rotating assemblies, methods of support for equipment and adjacent piping, shall be as recommended by the equipment manufacturer unless detailed on the Drawings or specified.
- B. All material furnished shall be new, and guaranteed free from defects in workmanship, installation, and design.
- C. Design and fabricate equipment in conformance with ANSI, ASTM, ASME, ASHRAE, IEEE, NEC and NEMA Standards.
  - 1. Equipment shall withstand the stresses that may occur during fabrication, testing, transportation, installation and conditions of operation.
  - 2. Pumps shall conform to the requirements of the Hydraulic Institute.
  - 3. Equipment shall comply with the latest OSHA regulations and the ANSI Safety Standards.
- D. Equipment shall be products of manufacturers who produce evidence of their ability to promptly furnish any and all interchangeable replacement parts as may be needed at any time within the expected life of the equipment.
- E. Manufacturers shall also have readily available access to suitable and accurate testing facilities for performing the required shop tests.

## PART 2 - PRODUCTS

## 2.01 MATERIALS AND EQUIPMENT

- A. Equipment shall have been in successful regular operation under comparable conditions for a period of at least five (5) years.
  - 1. This time requirement does not apply when the manufacturer posts an Owner/Engineer/Architect acceptable Performance Bond or Letter of Credit for the duration of the time period that will guarantee replacement of the equipment in the event of failure.
  - 2. The bond shall be in a form that is acceptable to the Owner's legal council.
- B. The Owner reserves the right to reject any material or equipment manufacturer who, although he appears to be qualified and meets the technical requirements, does not provide satisfactory evidence indicating adequate and prompt post-installation repair and maintenance service, as required to suit the operational requirements of the Owner.
- C. Whenever it is required that the Contractor furnish materials or manufactured articles or shall do work for which no detailed specifications are set forth, the materials or manufactured articles shall be of the best grade in quality and workmanship obtainable on the market from firms of established good reputation, or, if not ordinarily carried in stock, shall conform to the usual standards for first-class materials or articles of the kind required.
- D. Perform work in full conformity and harmony with the intent to secure the best standard of construction and equipment of the work as a whole or in part.
- E. Items of any one type of material or equipment shall be the product of a single manufacturer.

1. For ease of the Owner in maintaining and obtaining service for equipment and for obtaining spare parts from as few places as possible, to the maximum extent possible, use equipment of a single manufacturer.
  2. The Engineer/Architect reserves the right to reject any equipment from various manufacturers if suitable equipment can be secured from fewer manufacturers and to require that source of materials be unified to the maximum extent possible.
- F. Substitute equipment shall not be fabricated nor installed until after written decision to accept request is received from the Engineer/Architect.

## 2.02 NAMEPLATES

- A. Each unit of equipment shall have the manufacturer's name or trademark on a stainless steel nameplate securely affixed in a conspicuous place.
- B. The manufacturer's name or trademark may be cast integrally with stamp, or otherwise permanently marked upon the item of equipment.
- C. Such other information as the manufacturer may consider necessary for complete identification shall be shown on the nameplate.

## 2.03 FABRICATIONS

- A. Insofar as possible, shop prefabricate all items complete and ready for installation.
- B. Accurately fabricate all items to the details shown on the Drawings and on the shop drawings found in compliance with the Contract Documents.

## PART 3 - EXECUTION

### 3.01 PREPARATION

- A. Prior to work under any Section, carefully inspect the work of all other prime trades and verify that all such work is in conformance with the Contract Documents and is complete to the point where the work under that Section may properly commence.
- B. Avoid the need to remove and replace work and to avoid unnecessary cutting and patching.
- C. Inspect all surfaces to be sure that they have been properly prepared before applying new work to such surfaces.
- D. Verify that all work can be installed in strict accordance with the drawings and the approved shop drawings. Immediately report discrepancies to Engineer/Architect.
- E. Do not proceed with the work under any Section until these conditions are obtained.

## 3.02 INSTALLATION

- A. Furnish and install materials and equipment in accordance with the instructions of the applicable manufacturer, fabricator or processors, except as otherwise provided in the Contract Documents.
- B. All work shall be done in a workmanlike manner and set to proper lines and grades. The work shall be square, plumb and/or level as the case may be.
- C. Where performance criteria are specified, do all work necessary to attain the required end results.

## 3.03 FIELD QUALITY CONTROL

- A. Neither observations by Engineer/Architect nor inspections, tests or approvals by other persons shall relieve the Contractor from his obligations to perform the work in accordance with the requirements of the Contract Documents.
- B. If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any work to specifically be inspected, tested or approved by some public body, the Contractor shall assume full responsibility therefore, pay all costs in connection therewith, and furnish the Engineer/Architect with the required certificates of inspection, testing or approval.
- C. The Owner reserves the right to independently perform laboratory tests on random samples of material or performance tests on equipment delivered to the site.
  - 1. These tests, if made, will be conducted in accordance with the appropriate referenced standards or specification requirements.
  - 2. The entire shipment represented by a given sample, samples or piece of equipment may be rejected on the basis of the failure of samples or pieces of equipment to meet specified test requirements.
  - 3. All rejected materials or equipment shall be removed from the site, whether stored or installed in the work, and the required replacements shall be made, all at no additional cost to Owner.

## 3.04 ADJUST AND CLEAN

- A. Upon the completion of installations, and as a condition of its acceptance, visually inspect all work, adjust all components for proper alignment and touch-up abrasions and scratches to make them completely invisible.
- B. Thoroughly examine all materials and equipment with protective or decorative finishes for defects and damage prior to being covered.
  - 1. In the case of buried items of work, restore protective surface covers so as to conform to the Contract Documents prior to being backfilled, buried or embedded, as the case may be.
  - 2. In the case of exposed items of work, for which a decorative finish is required, all scratches, discoloration's, unmatched colors, disfigurements and damages shall be repaired and touched-up so as to provide a neat, clean finish, and be uniform in color.

**3.05 UNCOVERING WORK**

- A. Unless otherwise specified or directed by Engineer/Architect, no work shall be covered until it has been observed, tested, photographed, measured, and authorized to be covered by Engineer/Architect.
- B. Tie distances to above ground physical structures as reference points to all underground utilities, conduits, pits, manholes, valves, and pipelines shall be obtained by the Contractor prior to covering the work. Immediately comply with the Engineer/Architect's direction to uncover the work if tie distances were not obtained.
- C. If any work has been covered with Engineer/Architect's consent and Engineer/Architect considers it necessary or advisable that covered work be observed or tested, the Contractor, at Engineer/Architect's request, shall uncover, expose or otherwise make available for observation, or testing as Engineer/Architect may require, that portion of the work in question, furnishing all necessary labor, material and equipment.
  - 1. If it is found that such work is defective, the Contractor shall bear all the expenses of such uncovering, exposure, observation, and testing of satisfactory reconstruction, including compensation for additional engineering and architectural services and an appropriate deductive change order shall be issued.
  - 2. If, however, such work is not found to be defective, the Contractor shall be allowed an increase in the contract price or an extension of the contract time, or both, directly attributable to such uncovering, exposure, observation, testing and reconstruction if he makes a claim therefore as provided in the General Conditions.

**3.06 DEFECTIVE WORK**

- A. The repair, removal, replacement and correction of defective work is a part of this Contract and shall be promptly performed in accordance with the requirements set forth in the General Conditions or other portions of the Contract Documents. All costs in connection with the correction of defective work shall be borne by the Contractor.
- B. Products that fail to maintain the performance or other salient requirements of the Contract Documents, shows undue wear, or other deleterious effects during the maintenance period, shall be considered defective.

**END OF SECTION**

## PART 1 - GENERAL

## 1.01 SECTION INCLUDES

- A. The Section includes the transportation, handling, storage and protection of products that are to be incorporated into the work.
- B. The procedures for turning equipment over to the Owner for installation by others is also included herein.

## 1.02 GENERAL

- A. Items shall be delivered as complete assemblies direct from the manufacturer with all internal wiring, piping, valving, and control devices intact except where partial disassembly is required by transportation regulations, protection of components, or where physical constraints may exist or be created for the setting of the item.
- B. Coordinate the disassembly and reassembly requirements with the manufacturer. Determine the need and extent of reassembly prior to bid.
  - 1. All labor, material and equipment costs associated with the disassembly and reassembly of the product shall be included in the Contract Price.
  - 2. Where reassembly of equipment is necessary, then the manufacturer shall provide reassembly instruction at the project site.
  - 3. A technician shall be present during the entire reassembly procedure and the manufacturer shall certify, in writing, that the unit was reassembled properly in accordance with instructions provided by the manufacturer and that all as-specified warranties remain in effect.
  - 4. The manufacturer's reassembly inspection time shall be in addition to the field service time specified and shall be included in the Contract Price. This time shall not be eligible for payment under any cash allowance item.
- C. In the case where equipment is to be installed by others, then the supplying contractor shall be responsible for it's reassembly. If reassembly is necessary and the unit(s) are to be set inside an enclosure or building, reassemble the equipment inside said enclosure. The equipment once reassembled shall be turned over to the installing contractor as specified below.

## 1.03 PACKING

- A. Transport products in containers, crates, boxes or similar means such that the products are protected against damage that may occur during transportation.
- B. All parts shall be packaged separately or in container where parts of similar systems are grouped.
- C. Part numbers shall be indicated on the individual part. Use indelible ink to mark part numbers.
- D. All equipment shipments shall be included with a parts list showing a description (name) of the part and the manufacturer's part number.

1. The parts list shall be shipped in a plastic zippered envelope with the words "Parts List" lettered on it in indelible ink.
  2. The parts list shall be placed inside the shipping container so that it is on the top of the contents.
- E. Equipment shall be shipped with storage, handling and installation instructions.
1. The Engineer/Architect reserves the right to withhold payment for equipment delivered to the site until such time as the storage, handling and installation instructions are supplied by the manufacturer.
  2. In the case where operation and maintenance manuals have been provided by the manufacturer, which includes the installation instructions, then the installation instructions shall also be included with the equipment shipment.
- F. The Contractor shall require the manufacturer to be responsible for the proper packing of all products.

#### 1.04 SHIPPING AND DELIVERY

- A. Product deliveries shall be accompanied with a bill of lading indicating the place of origination and the Contractor's purchase order number.
- B. Inspect shipments immediately upon delivery, to assure compliance with requirements of the Contract Documents and those products are undamaged.
- C. Promptly remove damaged material and unsuitable items from the job site.
- D. Provide equipment and personnel to handle products by methods to prevent soiling; disfigurement or damage.

#### 1.05 STORAGE

- A. Store sensitive products and all spare parts in weather tight, climate controlled enclosures in an environment favorable to product.
- B. Store and protect products in accordance with the manufacturer's instructions.
- C. All other products that are to be installed underground or products such as pipe, valves, and fittings shall be stored outdoors but shall be blocked off the ground and covered with impervious sheet coverings.
- D. Store fabricated products above the ground on blocking or skids.
- E. Store loose granular materials in well-drained areas on solid surfaces to prevent mixing with foreign matter.
- F. Provide adequate ventilation to avoid condensation.
- G. In accordance with manufacturer's instructions protect bearings, couplings, shafts, rotating components, and assemblies. Protection of said equipment shall be continuous until the time the equipment is placed into permanent service.

- H. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored products to assure that products are maintained under specified conditions, and free from damage or deterioration.
- I. Do not store volatile liquids in any building on site.
- J. Storage of products shall be the responsibility of the supplying contractor. The installing contractor shall take all necessary precautions to protect the equipment being furnished by others.
- K. Store with seals and labels intact and legible.

#### 1.06 EQUIPMENT INSTALLED BY OTHERS

- A. All products, except products noted on the Drawings or specified, shall be furnished and installed under this Contract.
  - 1. Only noted or specified products shall be furnished under this Contract for installation by others.
  - 2. If it is not noted on the Drawings or specified, then the product shall be furnished and installed under the Contract.
- B. The Contractor shall furnish these products to the Owner. These products shall be stored as specified above.
- C. The Owner will then advise the installing contractor that the product(s) are ready for installation.
  - 1. In the case where the product is stored in a proper enclosure, but not stored inside the building to be constructed under this project, then the installing contractor shall move the product into the building to a location adjacent to the final location shown on the Drawings.
  - 2. In all cases, the installing contractor shall be responsible for moving from storage, uncrating, anchoring, mounting and installing the product as required by the Contract Documents.
- D. The Contractor and installing contractor(s) shall be present at the time the equipment is turned over to the Owner. Immediately thereafter, the Owner will turn the product over to the installing contractor for installation.
- E. The Owner, Contractor, Engineer/Architect and the installing contractor shall inspect the condition of the product at this time.
  - 1. Any defects in the product will be noted and the Contractor will be advised to make all repairs immediately.
  - 2. The installing contractor shall still be required to install the product if the damage is deemed cosmetic by the Engineer/Architect.
  - 3. The manufacturer's installation instructions or wiring diagram shall be turned over to the installing contractor at this time by the Contractor.
  - 4. Any damage occurring to the product during moving, setting and mounting the unit(s) shall be the responsibility of the installing contractor.
  - 5. The Contractor is advised to take photographs to document the condition prior to it being turned over to the installing contractor.
  - 6. The installing contractor is advised to take photographs to document the condition prior to its acceptance.
- F. The supplied unit(s) remain the property of the Contractor until final acceptance of the work.

- G. Any damage caused to the unit(s) due to improper installation, workmanship, and non-compliance with the manufacturer's written installation instructions shall be the responsibility of the contractor who caused said damage. The burden of proof shall rest with the supplying Contractor.
- H. In the event the Contractor discovers misuse, abuse or improper installation of the unit(s) by the installing contractor, then he shall immediately notify the Engineer/Architect in writing. The Engineer/Architect will investigate the accusations and make a determination. The Engineer/Architect's determination shall be binding and agreed to by both parties.
- I. If the Engineer/Architect's determination substantiates the accusations of the Contractor, then the Contractor shall install the unit(s), the costs for which will be paid for as extra work. All costs associated with the extra work change order, including engineering/architectural and attorney fees of the Owner and Contractor will be deducted from money due the installing contractor.

#### 1.07 PROTECTION OF WORK

- A. The Contractor shall protect the installed work. All costs for protection shall be borne by the Contractor. Provide coverings as necessary to protect installed products from damage, from traffic and subsequent construction operations. Remove when no longer needed.
- B. Cover and protect equipment from dust, moisture or physical damage. Protect finished floor surfaces prior to allowing equipment or materials to be moved over such surfaces. Maintain finished surfaces clean, unmarred and suitably protected until accepted by the Owner.
- C. Additional time required to secure replacements and to make repairs will not be considered by the Engineer/Architect to justify any extension in the Contract Time of Completion. In the event of the damage, promptly make replacement and repairs to the approval of the Engineer/Architect at no additional costs.

#### PART 2 - PRODUCTS

Not Used

#### PART 3 - EXECUTION

Not Used

#### END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Cleaning during the progress of the work
- B. Cleaning prior to final payment

1.02 SCHEDULING

- A. Sequence, schedule, and coordinate final cleaning work.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Cleaning materials shall be appropriate to the surface and materials being cleaned.
- B. Provide pads to protect finished surfaces from cleaning materials.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Post signs to advise building occupants if wet and/or slippery floor conditions exist during cleaning operations.

3.02 PROGRESS CLEANING

- A. Keep all buildings, enclosures, and confined areas where work is being performed under the Contract free from unattended combustible materials.
- B. Remove rust spots as they develop.

3.03 FINAL CLEANING

- A. Remove dust, dirt, grease, stains, paint drips and runs, plastic, labels, tape, glue, rope, and other foreign materials from visible interior and exterior surfaces.
- B. Do not move dust from spot to spot. Remove directly from the surface on which it lies by the most effective mean such as appropriately treated dusting cloths or vacuum tools. When doing high cleaning, do not allow dust to fall from high areas onto furniture and equipment below.

- C. Dismantle and remove all temporary structures, scaffolding, fencing, and equipment. Remove waste materials, rubbish, lumber, block, tools, machinery, and surplus materials.
- D. Perform the following prior to final payment:
1. Broom clean all exterior concrete surfaces and vacuum clean all interior concrete surfaces.
  2. Dust and spot clean painted and vinyl covered walls.
  3. Clean and polish all unpainted metal on doors such as trim, hardware, kickplates and doorknobs.
  4. Vacuum clean carpets and mats.
  5. Repair, patch, and touch-up marred surfaces to specified finish and to match adjacent surfaces.
  6. Polish bright metal by damp wiping and drying with a suitable cloth. If a polished appearance is not thereby produced, apply appropriate metal polish.
  7. Clean and polish all stainless steel surfaces, including control panels supplied under this Contract.
  8. Clean equipment in accordance with manufacturers instructions.
  9. Clean all paved roads, lots and drives which were paved as work under this Contract and all existing paved surfaces using a mechanical street cleaner.
  10. Remove all rust spots and stains from new and pre-existing concrete, painted surfaces, and all other surfaces.
  11. Wash all existing floors that were in any way impacted by the construction operations.
  12. Rake clean landscaped surfaces. Final mow all areas grassed and sodded during the work.
  13. Inspect interior and exterior surfaces, and all work areas, to verify that the entire work is clean and ready for use by the Owner. The project will not be considered substantially complete until all final cleaning has been performed.
  14. Clean dirt that has accumulated between grating and grating angles/supports.
  15. Pressure wash curbs, walks and concrete platforms on new and existing process tankage.
  16. Fill in all holes in concrete that remain after temporary handrail is removed. Non-shrink grout shall be used.

**END OF SECTION**

## PART 1 - GENERAL

## 1.01 SECTION INCLUDES

- A. Work of this Section includes the following:
  - 1. Starting systems
  - 2. Testing, adjusting, and balancing
  - 3. Updating of manufacturer's operations and maintenance manuals and wiring diagrams

## 1.02 STARTING SYSTEMS

- A. The Contractor shall coordinate, schedule, and sequence the start-up of various equipment and systems.
- B. Where the start-up of a system or piece of equipment is dependent upon the start-up of other system(s) or equipment, then the Contractor shall schedule and sequence the start-ups to coincide.
- C. Notify the Engineer/Architect/Architect at least 14 calendar days prior to the start-up of each item or system so that he can schedule the startup with the Owner, utilities, and other Prime Contractors.
- D. Where applicable, verify that each piece of equipment or system has been checked for proper:
  - 1. lubrication,
  - 2. drive rotation,
  - 3. belt tension,
  - 4. motor starter heater size,
  - 5. fuse size,
  - 6. water pressures,
  - 7. terminal connections,
  - 8. control sequence
  - 9. For conditions which may cause damage or delay the start-up procedure.
- E. Verify that the equipment has been installed in accordance with the manufacturer's requirements.
- F. Complete all pre-startup checklists that may be required by the system vendor.
  - 1. In the event that start-up activities are delayed as a result of the Contractor's failure to properly check the completed installation and a manufacturer's representative is on the job site waiting for corrections to be made, then the Engineer/Architect/Architect may, at his/her sole discretion, postpone start-up until such time as the corrections have been made without any extra costs.
  - 2. The Owner may deduct from money due the Contractor the excess cost of Engineer/Architecting and/or architectural services associated with having the Engineer/Architect/Architect present during the start-up.
  - 3. The deduction shall be equal to the Engineer/Architect/Architect's effective billing rate times the total number of hours delayed during the start-up activities.
- G. Verify that tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.

- H. Verify that wiring and support components for equipment are complete and tested.
- I. Execute start-up under supervision of applicable Contractor's personnel in accordance with manufacturer's instructions.
- J. The Contractor shall have the job site superintendent present during all start-up activities.
- K. Provide manufacturer's authorized technician at the site when specified and in accordance with the requirements contained in Section 014500 - Quality Control.
- L. Submit manufacturer's start-up reports (MSR's) in accordance with Section 013300.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

**END OF SECTION**

## PART 1 - GENERAL

## 1.01 SUMMARY

- A. Testing of piping.
- B. Testing of tanks vented to atmosphere.
- C. Pipe leakage testing shall comply with the conditions noted in the Schedule.

## 1.02 DEFINITIONS

- A. Leakage (or exfiltration) - The quantity of water to be supplied into the newly laid pipe, any valved section thereof, manhole, or other appurtenance, necessary to maintain the specified leakage test pressure after the pipe has been filled with water and the air expelled.
- B. Infiltration - The quantity of water that enters into any pipe, manhole, or other appurtenance when the static groundwater elevation is at the maximum elevation above the pipe or appurtenance as specified hereinafter.

## 1.03 QUALITY ASSURANCE

- A. Prior to Substantial Completion, pressure pipes and non-pressure pipes shall meet specific leakage requirements. These leakage requirements shall be satisfied by the basic materials alone. Where joint fillers and the like have been specified, primarily to protect jointing materials, and secondarily to provide a factor of safety, they shall not be applied until after leakage tests have been completed and have been accepted by Engineer/Architect.
- B. Engineer/Architect will witness tests. Tests not witnessed will be considered as not having been performed.
- C. Do not close or cover up work until it has been observed for proper and satisfactory construction and installation in compliance with the Contract Documents. Should incomplete or unacceptable work be covered, the Contractor shall, at his/her own expense, uncover all work so that it may be properly observed. After such observations, repair and replace the work that was found defective, unsatisfactory, and not in accordance with the Contract Documents. After such repair and replacement, bring all work to completeness and status as it was before it was closed and covered, all at the Contractor's own expense. Submit for review and approval proposed corrective action to correct failed systems.
- D. Successful completion of required tests shall be in no way interpreted as relieving the Contractor of responsibility for defects that become apparent subsequent to the time of testing. It shall be the sole right of the Engineer/Architect to determine whether defects exist. Retest all portions of the work deemed necessary by the Engineer/Architect prior to Substantial Completion.

## 1.04 SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Provide details and specifications on testing apparatus.
- C. Provide certified test results on forms approved by the Engineer/Architect.

## 1.05 SEQUENCING AND SCHEDULING

- A. Notify Engineer/Architect and governing agencies, if necessary, at least 48 hours in advance of a scheduled test so that the test may be witnessed.
- B. Test underground pipe prior to backfilling.
- C. At Engineer/Architect's discretion, additional sections of pipelines may be required to be tested as soon as pipe is laid and prior to backfilling when working conditions or the standard of workmanship have been altered.

## PART 2 - PRODUCTS

## 2.01 TESTING APPARATUS

- A. Provide labor, plugs, measuring equipment, and other apparatus, complete, to perform testing.
- B. Provide clean water, air, nitrogen, and other materials as required to accomplish testing.
- C. Provide plugs and caps capable of withstanding test pressures.
- D. Provide temporary flanges, plugs, bulkheads, thrust blocks, weighing, bracing and other items necessary to prevent joints from separating, and to prevent injuries or damage.

## PART 3 - EXECUTION

## 3.01 PREPARATION

- A. Plug open ends, adequately block bends, tees, ends, and other fittings, and do whatever is necessary to brace piping system so that it will safely withstand the pressures developed under the tests and so that no damage or injury shall occur to the pipeline, people or property.
- B. Before tests are conducted, isolate, or remove any regulator, gauge, trap, or other apparatus or equipment that may be damaged by test pressures.

## 3.02 GENERAL

- A. Trapped Air: Trapped air may cause a false indication of the rate of leakage. Points of concern include ends of lines, stubs, house connections and high points in pipelines. No credit will be

made for this condition and no adjustment will be made to the allowable leakage. When trapped air is suspected of causing a test failure, do whatever is necessary to evacuate the air and repeat tests until the actual leakage is equal to or less than allowable rate of leakage.

- B. Water Absorption: No credit will be given for absorption of water in pipe and manhole walls. If necessary, fill pipes and manholes with water well in advance of testing and allow them to soak in order to eliminate or minimize the effects of absorption.

### 3.03 TESTS FOR NON-PRESSURE PIPING

A. General:

1. Leakage shall be determined by exfiltration testing. The Engineer/Architect reserves the right to also require infiltration testing.
2. Air testing is not permitted.
3. Leakage testing shall include the main non-pressure pipe, house connections, and appurtenances on the section of pipeline being tested.
4. Limit pipeline test sections to runs between adjacent structures. Manholes may be tested simultaneously with pipes.
5. Adequately plug ends of house connections, stubs, and openings from which water may escape.
6. Use clean water for exfiltration tests.
7. Determine groundwater levels by installing piezometers, test holes or test pits at intervals not to exceed 1,000 feet.

B. Pipe Exfiltration Test:

1. The minimum water level required for testing is 4 feet above the crown of the upstream (highest) end of the pipe being tested or 2 feet above the maximum groundwater level along the test section, whichever is greater.
2. Install a watertight plug in the downstream end of the manhole pipe.
3. Fill upstream manhole with water and conduct test for six (6) hours.
4. Upon satisfactorily completing the test, remove the downstream plug in the presence of Engineer/Architect. Do not touch nor remove anything until approved by Engineer/Architect.
5. Maximum allowable exfiltration is one hundred (100) gallons per inch diameter per mile per day.

C. Pipe Infiltration Test:

1. The minimum head of groundwater required for infiltration testing is 2 feet above the crown of the pipe at the upstream end but must in all cases reach its normal level.
2. Infiltration may be measured with an approved graduated container capable of intercepting all inflow, by a pipeline V-notch weir, or by other approved methods. When using instream type measuring devices, do not measure flows until steady state conditions are established.
3. Maximum allowable infiltration is one hundred (100) gallons per inch diameter per day per mile of pipe.
4. Where groundwater level is at least 2 feet above the highest manhole joint, manholes may be included in the test. No visible leakage will be permitted in manholes.

### 3.04 TESTS FOR PRESSURE PIPES

- A. Leakage testing shall include the main exiting pipe, service connections, and other appurtenances on the section of pipeline being tested.

- B. Test pipes prior to applying insulation and before they are concealed or furred-in.
- C. Provide all necessary gauges. Gauges shall be standard pressure type with a minimum 6 inch diameter dial and a pressure range not in excess of 150% of the maximum required test pressure.
- D. Provide and maintain at the site a gauge stand with an approved laboratory calibrated test gauge. Periodically check test gauge used for testing against the test gauge, and whenever requested by Engineer/Architect.
- E. Where it is necessary for testing, tap pipes and insert approved plugs after testing is completed.
- F. Provide a hand or motor driven compressor to maintain the required test pressure constant throughout the duration of the test. If a water pump is used, pump water from a container with a known volume of water. If an air or inert gas pump is used, leakage shall be determined and calculated by the cycling of the pump.
- G. Provide test gauges at each end of the line being tested.
- H. Conduct leakage test in accordance with the requirements contained in the Schedule.

### 3.05 ALLOWABLE LEAKAGE

- A. The maximum allowable leakage for the various piping systems is presented in the schedule.
- B. It is the intent of this Contract to secure piping systems without leakage.
  - 1. Each section of pipe and within each structure shall not exceed the allowable leakage.
  - 2. It is also the intent to secure a piping system free from visible drips, streams and leaks. Therefore, even if a portion of the system meets the requirements for allowable leakage, visible leaks are not permitted and shall be repaired.
- C. Leakage tests will be considered satisfactorily passed when the rate of leakage is equal to or less than the stipulated allowances, there is no evidence of visible leaks, and there is no evidence of other system defects.

### 3.06 RETESTING

- A. Pipes, tanks and manholes not passing the tests shall have all defects corrected with methods approved by the Engineer/Architect to the inspection and satisfaction of Engineer/Architect, and shall be retested and re-corrected as often as is necessary until the test requirements have been met.
- B. It is the intent of this Contract to obtain work meeting test requirements on their own and solely through the use of the normal integral sealing components.
  - 1. Joint leaks shall not be stopped using concrete, caulking, mortar, or other patching materials.
  - 2. Leaking pipe joints shall be re-jointed and leaking manhole joints shall have joints reset, or replaced if necessary.
- C. Methods other than rejoining, resetting or replacing joint seals shall require the written approval of Engineer/Architect.



**END OF SECTION**

## PART 1 - GENERAL

## 1.01 SUBMITTALS

- A. Submit the following documents to the Engineer/Architect before Substantial Completion:
1. Project Record Documents as specified in Section 017839.
  2. Operations and Maintenance Manuals prepared in accordance with Section 017823 and be updated as a result of start-up activities.
  3. Manufacturer's Start-up Reports (MSR's) for all equipment and systems where manufacturer field time is specified.
    - a. Each MSR shall be signed by the field technician(s) who attended the start-up.
    - b. If the manufacturer is taking exception to the installation or if the warranty is voided, he shall provide a statement to that effect and provide reasons and justification to explain the company's position.
  4. One binder containing original counterparts of all warranties, guarantees, bonds, or affidavits as specified in the Technical Specification Sections. These documents shall contain the original signatures and be placed in a plastic sheet protector, one document per protector.
  5. Spare parts checklist itemizing all spare parts furnished under the Contract summarized by Section.
  6. Electrical Underwriter's Certificate where the contract includes electrical construction.
- B. Submit the following items to the Engineer/Architect with the final application for payment:
1. Final Payment approved by the Engineer/Architect for Contractor's execution showing final amount of Contract including change orders.
  2. Maintenance Bond prepared in accordance with the Contract or General Conditions.
  3. Utility company signoffs and inspection approvals, if applicable.
  4. Federal, state, county, town and local signoffs and inspection approvals, where applicable.
- C. All documents shall be complete, signed, dated, and notarized (where applicable) and be subject to the Engineer/Architect's acknowledgment of receipt or approval.

## PART 2 - PRODUCTS

Not Used

## PART 3 - EXECUTION

Not Used

**END OF SECTION**

## PART 1 - GENERAL

## 1.01 SECTION INCLUDES

- A. This Section specifies the requirements for Operations and Maintenance Manuals required to be prepared by system suppliers and equipment manufacturers.
- B. The Contractor shall submit Operations and Maintenance Manuals for all equipment.
- C. Where the technical specifications call for the submission of manuals, said manuals shall be prepared in accordance with the requirements contained herein. It being understood that manuals shall be submitted for all equipment even if it is not specifically called out in the specifications.

## 1.02 MANUAL CONTENTS AND FORMAT

- A. All Operations and Maintenance Manuals shall be as specified hereinafter.
- B. The binder shall be 8 1/2" x 11", metal hinge, vinyl, large capacity by National or Equal. It shall show the name of the manufacturer or supplier and project name on the spine of the binder.
- C. A cover shall be provided showing the names of the Owner, Engineer/Architect, Contractor, and Manufacturer.
  - 1. It shall show the Contractor's order number and manufacturer's project number.
  - 2. The address of the manufacturer, service station telephone number, project title, contract number, and year shall also be shown.
- D. Provide tabbed color dividers for each separate product and system.
  - 1. The name of the product shall be typed on the tab.
  - 2. A separate tab shall also be provided for information such as troubleshooting instructions, spare parts list, etc.
- E. An index shall be provided in the back of the binder, with a separate tab, providing a quick way for the operator to find key and important topics contained in the manual.
- F. A separate listing for all charts, graphs, tables, figures and shop drawings shall be provided directly following the table of contents.
- G. Each manual shall contain one (1) copy of all shop drawings deemed in compliance with the Contract Documents by the Engineer/Architect submitted for the equipment or system for which the manual is prepared.
  - 1. Only these shop drawings shall be included in the manual.
  - 2. All shop drawings larger than 8 1/2" x 11" shall be folded and placed in a heavy duty, top loading plastic sheet protector with the title of the drawing showing; one (1) drawing per protector page.
- H. For systems being furnished with control panels, each manual shall contain a catalog cut for every electrical device installed inside the control panel or motor control center.

- I. Where emergency generator(s) are included as work of this Contract, the manufacturer's standard manual will be allowed if the manual clearly shows the instructions for the particular model of generator. Cross out chapters and paragraphs that do not apply to the Owner's generator.
- J. Where manuals are prepared for treatment systems for water or wastewater, a process chapter, written in plain language for the operators, shall be prepared by the manufacturer providing the following:
  1. A general discussion regarding the theory of the process.
  2. A specific discussion relating the theory to the project as designed and constructed. Provide capacities, sizes, loading rates, application criteria, design values, and design assumptions.
  3. Provide model numbers for equipment comprising the system.
  4. Provide figures, tables, and graphs to assist the operator in understanding the operation of the treatment system.
  5. Where operator interfaces are provided, provide step-by-step instructions for changing a process control variable such as set points.
    - a. The instructions shall be numbered and written such as "press", "hold" "scroll", etc.
    - b. Each operator interface instruction sheet shall be laminated and placed in the binder.
    - c. Another laminated sheet shall be provided and placed inside the control panel.
- K. Each manual shall contain the following as a minimum:
  1. Table of contents
  2. Final version of the warranty statement approved by the Engineer/Architect
  3. Nameplate data of each component, year of installation, contract number and specification number
  4. Name, address and telephone number of the manufacturer and the manufacturer's local representative(s)
  5. Installation instructions
  6. Operation instructions including adjustments, the interrelation of components and the control sequence describing break-in, start-up, operation and shutdown
  7. Emergency operating instructions and capabilities
  8. Maintenance requirements include routine procedures and guide for preventative maintenance and troubleshooting; disassembly, repair and reassembly instructions; and alignment, adjusting, balancing, and checking instructions
  9. Troubleshooting guide and corrective maintenance (repair) procedures for all electrical and mechanical equipment. These guides shall list the most frequent and common problems, together with the symptoms, possible causes of the trouble, and remedies
  10. Drawings (pictures or exploded views) which clearly depict and identify each part, suitable for assembly and disassembly of entire system and each component
  11. Wiring and control diagrams, if applicable
  12. Panelboard circuit directories including electrical service characteristics, if applicable
  13. Part list with current prices; ordering information; and recommended quantities of spare parts to be maintained in storage
  14. Charts of valve tag numbers, with location and function of each valve, keyed to the process and instrumentation diagram prepared as part of the Contract Documents
  15. Name, address, and telephone number of nearest parts supply house and nearest authorized repair service center.
  16. List of recommended spare parts and the recommended number of each per unit and per group of units.
- L. Submit two (2) copies of a preliminary draft manual at least fourteen (14) calendar days prior to the date set for start-up.

1. The Engineer/Architect will review the manual for content and compliance with these specifications.
  2. Written comments will be provided, but the manual will not be returned.
  3. One (1) manual will be used at start-up, to record changes that should be made to the final manual.
  4. This copy of the manual will be retained on the site until such time as the final, updated manual is provided.
- M. Two (2) weeks after the date the unit was placed into service and the Owner has gained beneficial use, submit five (5) copies of the final updated Operations and Maintenance Manual. Refer to Section 017500 - Starting and Adjusting for requirements related to updating the manual(s).
- N. Where installation instructions are not included with the manual, they shall be shipped at least ten (10) days prior to the date the equipment is scheduled for installation.

1.03 RETAINAGE

- A. The Engineer/Architect will retain from payment due the Contractor, for failure to submit manuals as specified, an amount equal to [2%] of the scheduled value for the equipment or system for which the manual applies. This Contract requirement only applies when a manual is specified to be provided in the Technical Specifications for a particular system or piece of equipment.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

**END OF SECTION**

## PART 1 - GENERAL

## 1.01 SECTION INCLUDES

- A. This Section includes:
  - 1. Maintenance of documents
  - 2. Recording of record information
  - 3. Submission of record documents
- B. Work of this section also includes the furnishing of underground pipeline documentation.

## 1.02 PLANS AND SPECIFICATIONS FURNISHED TO THE CONTRACTOR

- A. Two (2) complete sets of Contract Documents (plans, specifications and addenda) will be furnished to the Contractor.
- B. Additional sets will be furnished to the Contractor at \$250 per set.

## 1.03 MAINTENANCE OF DOCUMENTS

- A. The Contractor shall maintain at the site one (1) set of the following: drawings, specifications, addenda, change orders, approved shop drawings, test reports, operations and maintenance manuals, and shop drawing log.
- B. The Contractor shall make these documents available for use by the Owner, Engineer/Architect, regulatory agencies and other parties designated by the Owner.
- C. Provide a drawing rack for storage of plans.
- D. Maintain these documents in a clean, dry, legible condition throughout the entire contract period.

## 1.04 RECORDING OF RECORD INFORMATION

- A. Affix a stamp to each Contract Drawing and Shop Drawing reading as follows: "RECORD DOCUMENT" - "NAME OF PROJECT" - "CONTRACTOR NAME" in 2-inch high printed letters. The stamp shall be specifically prepared for this project.
- B. Keep the record documents current as the work progresses. Record information concurrent with construction progress.
- C. Do not permanently conceal any work until required information has been recorded.
  - 1. Legibly mark the Contract Plans to record actual construction, including, but not limited to the following:
  - 2. All as-built work.
  - 3. All approved field changes and conditions.
  - 4. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.

5. Location of underground conduits, boxes, devices. Wire sizes (AWG) and types installed. Number of active and spare wires in each conduit and conduit size (applicable where work involves electrical construction).
6. Tied-down location of all underground process lines and buried valves.

D. Shop Drawings: Maintain as record documents. Legibly mark-up to show changes made due to field conditions encountered during construction.

#### 1.05 PROJECT RECORD DOCUMENTS

- A. Maintain a complete and accurate log of control and survey work as it progresses.
- B. The General Contractor shall on completion of major site improvements, prepare a certified survey illustrating dimensions, locations, angles, and elevations of construction, site work and underground facilities installed as work of this Contract.
- C. The Contractor's surveyor site drawings shall also show the location of property line perimeter fence. The property line of the site shall be indicated on the plans.

#### 1.06 SUBMITTAL OF RECORD DOCUMENTS

- A. At Substantial Completion, the Contractor shall deliver one (1) preliminary record set of as-built documents to the Engineer/Architect with all changes conspicuously ballooned or otherwise emphasized.
- B. The work will not be considered substantially complete until such time as the preliminary record documents are delivered and acceptable to the Engineer/Architect. Mark this set "Preliminary Record Drawings".
- C. Prior to Final Completion, the Contractor shall conform the preliminary record drawings to the comments made by the Engineer/Architect and then provide the Owner a complete reproducible set of as-built drawings on mylar (or mylar sepia) and one set of blue line prints.
- D. As-built drawings shall be the same size as the Contract Drawings, with 1/2-inch margins space on three sides and a 2-inch margin on the left side for binding.
- E. Each drawing shall bear in the title box the words "FINAL RECORD DRAWINGS" and the name of the Contractor in heavy black lettering 1/2 inch high and be certified as complete and accurate.
- F. As a convenience, Engineer/Architect will make available to the Contractor mylar sepias or electronic media of the Contract Drawings for the sole purpose of the Contractor preparing as-built drawings.
- G. Electronic media made available is without guarantee of compatibility with the Contractor's software or hardware.
  1. If the Contractor wishes to take advantage of this offer, the Contractor will be required to execute an indemnification and hold harmless agreement with the Engineer/Architect and pay the Engineer/Architect \$20.00 per Contract Drawing sheet to cover the cost of providing mylar sepias.
  2. Electronic media will be provided free of charge on disc in a zipped format.

3. Payment shall be by check, payable to H2M architects + engineers, in advance of picking up the requested materials.
4. Electronic media shall be returned to the Engineer/Architect upon acceptance of the as-built drawings by the Owner.

#### 1.07 RELATED DOCUMENTS

- A. Provide certificate of release of liens if requested by the Engineer/Architect.

#### 1.08 UNDERGROUND PIPELINE DOCUMENTATION.

- A. The Contractor shall document the location of all underground pipelines by taking digital photographs of the installed pipelines prior to backfilling. At least 3 digital photographs shall be taken of each pipe section before it has been backfilled.
- B. The Contractor shall provide each pipe installation crew with a digital camera capable of a 3 mega-pixel quality picture using Smart Media, Compact Flash Media, or Memory Stick cards as the media within the camera.
- C. At the end of each day that pipe has been installed, the crew foreman shall hand deliver to the resident engineer the removable media.
  1. The Engineer/Architect will then download the photographs onto the Owner's computer and delete the photographs from the media.
  2. The media will be returned to the crew foreman within two working days from the date it was delivered.
  3. The Contractor shall have at least three (3) 256 MB media cards available for this purpose to be used on a rotating basis.
- D. Installed work will not be eligible for payment until documentation is provided.
- E. In addition, the underground piping shall be marked with construction grade spray paint before the photos have been taken to indicate the pipelines in the pictures.
  1. The Contractor shall assign a separate paint color to each line to be shown in the picture.
  2. The paint color, once selected by the Contractor, shall be used for the entire run of piping.
  3. The marks shall be large and long enough to be visible in the picture. Where practical, spray paint the name of the contents that will be conveyed in the pipe, e.g. "THICK. SLUDGE", "SBR EFFL."
  4. This requirement is necessary so that the pipe lines shown in the pictures can be easily named and referenced at a later date.

#### PART 2 - PRODUCTS

Not Used

#### PART 3 - EXECUTION

Not Used

#### END OF SECTION

## PART 1 - GENERAL

## 1.01 SECTION INCLUDES

- A. The Section includes the requirements for delivering spare parts specified to be furnished under the provisions of the Contract Documents.

## 1.02 QUALITY ASSURANCE

- A. Spare parts shall be delivered as complete assemblies direct from the manufacturer such that the part is fully functional and ready to be installed.

## 1.03 DELIVERY, STORAGE AND HANDLING OF SPARE PARTS

- A. Comply with the requirements of Section 01650 for packing, delivery, storage and handling requirements for all parts delivered to the site of the work.
- B. All spare parts required to be furnished under a Section of the Specifications shall be packaged in one separate box, crate or container with the words "SPARE PARTS" lettered on all sides of the container.
- C. The equipment name or system name for which the spare parts are being provided shall also be lettered on the container.
- D. A separate packing list for the spare parts shall be included in the container.
- E. The Contractor shall store all spare parts indoors immediately upon delivery of the spare parts to the site. Spare parts will not be accepted by the Owner/Engineer/Architect if the spare parts have been stored outdoors for more than 8 hours upon delivery to the site.
- F. The storage location shall be secure.

## 1.04 TURN OVER OF SPARE PARTS

- A. Spare parts shall be turned over to the Owner/Engineer/Architect approximately two (2) weeks prior to the Engineer/Architect's preparation of the Final Punch List.
  - 1. Spare parts will not be accepted until this time.
  - 2. The Certificate of Substantial Completion will not be issued until all spare parts are delivered.
- B. The following procedure shall be followed:
  - 1. The Contractor shall provide a formal letter of transmittal listing the name or description of the part, part number, model number, manufacturer (or supplier), and system component name and the Section where it was specified to be provided.
  - 2. Two (2) counterparts of the letter shall be provided.
  - 3. The Contractor shall turn each part individually over to the Owner/Engineer/Architect.

4. The Owner/Engineer/Architect will initial next to the part description on each counterpart of the transmittal letter.
5. The initials represent that the part was received.
6. One transmittal counterpart will be returned to the Contractor.

PART 2 - PRODUCTS  
Not Used

PART 3 - EXECUTION  
Not Used

**END OF SECTION**

## PART 1 - GENERAL

## 1.01 SECTION INCLUDES

- A. Work of this Section includes the requirements for demonstrating and training of installed systems, equipment, and products.

## 1.02 SUBMITTALS

- A. The Contractor shall prepare a list of all manufacturer specified field time required by the technical specifications. Compile this summary listing and submit it to the Engineer/Architect for review in accordance with the requirements contained in Section 013300.
- B. Manufacturer's Startup Reports

## 1.03 QUALITY CONTROL

- A. The Contractor shall adhere to all instructions provided by the manufacturer's authorized representative.
- B. All verbal instructions necessary to satisfy performance of the equipment or the system shall be immediately provided by the Contractor. The manufacturer shall document all verbal orders in writing at a time suitable to the Contractor.
- C. All written instructions provided in operation, maintenance, and installation guides and manuals, provided by the manufacturer of such equipment and or system, shall be complied with by the Contractor.
- D. The Contractor shall comply with all manufacturer requirements such that written or implied warranties remain in full force during the time period so specified elsewhere in the technical specifications.
- E. Should manufacturer's instructions conflict with Contract Documents, request clarification from Engineer/Architect before proceeding.
- F. Actions and/or non performance by the Contractor that may void manufacturer warranties shall not constitute a release of the specified warranty, and all warranty claims made by the Owner shall be paid for by the Contractor as if the manufacturer's warranty was still in effect.

## 1.04 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of products to Owner's personnel prior to date of Substantial Completion.
- B. Utilize manufacturer's and vendor's Operation and Maintenance Manuals as basis for instruction. Review contents of the manual with the Owner's personnel in detail to explain all aspects of operation and maintenance.

- C. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of the equipment or of the system.
- D. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.
- E. The Contractor shall arrange to have the manufacturer's Operation and Maintenance Manuals updated with information that has been added during start-up activities.
- F. The final manual shall contain the most recent information and reflect all operational and maintenance aspects of the final installed and functioning system or equipment component of the system.
- G. Any changes to control panel wiring diagrams or interconnection wiring schematics shall be made and new prints provided as an update to previously approved manuals.
- H. Manufacturer field time shall be as specified in individual Sections of the Technical Specifications.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

**END OF SECTION**

## PART 1 - GENERAL

## 1.01 REFERENCES

- A. ACI 301 - Specifications of Structural Concrete for Buildings.
- B. ACI 304 - Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete.
- C. ACI 305 - Hot Weather Concreting.
- D. ACI 306 - Cold Weather Concreting.
- E. ACI 308 - Standard Practice for Curing Concrete.
- F. ACI 318 - Building Code Requirements for Reinforced Concrete.
- G. ACI 350 - Concrete Sanitary Engineering Structures.
- H. ANSI/ASTM A185 - Welded Steel Wire Fabric for Concrete Reinforcement.
- I. ASTM A615 - Deformed and Plain Billet-Steel for Concrete Reinforcement.
- J. ASTM C33 - Concrete Aggregates.
- K. ASTM C94 - Ready-Mixed Concrete.
- L. ASTM C150 - Portland Cement.
- M. ASTM C260 - Air Entraining Admixtures for concrete.
- N. ASTM C309 - Liquid Membrane-Forming Compounds for Curing Concrete.
- O. ASTM C494 - Chemical Admixtures for Concrete.
- P. ASTM C618 - Fly Ash and Raw or Calcinated Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete.
- Q. ASTM D1751 - Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction.
- R. ASTM D2103 - Polyethylene Film and Sheeting.
- S. CRSI 63 – Recommended Practice for Placing Reinforcing Bars.

## 1.02 SUBMITTALS

- A. The Contractor shall comply with the requirements contained in Section 013300 - Submittals.
- B. Product data shall be submitted for all products specified herein.

- C. Shop drawings shall be prepared and submitted in accordance with the requirements specified in paragraph 1.07 below.
- D. Provide proposed concrete mix design for each type of concrete, as specified in paragraph 1.11, below to be used on the project at least 30 calendar days prior to the first scheduled concrete pour. The Contractor's testing laboratory shall develop concrete mix designs and test all materials and mixes for conformance with these specifications. The costs associated with development of the design mix and testing of samples shall not be paid for out of the stipulated cash allowance and shall be included in the bid price.
- E. Furnish the Engineer's field representative with the transit-mix delivery slips.

### 1.03 QUALITY CONTROL

- A. Comply with the referenced standards specified in paragraph 1.03 above.
- B. Perform testing under the provisions of Section 014500 - Quality Control.
- C. Laboratory testing costs associated with the work of this Section will be paid for under the contract bid. The Contractor shall arrange to have a qualified technician present at the prescribed time.
- D. Perform all work in accordance with ACI 301.
- E. Fabricate concrete reinforcing in accordance with CRSI 63
- F. Provide field quality control as specified herein this Section.
- G. Procure concrete from a single approved central commercial batching plant. To further insure consistency, coloring, finish and quality, all aggregates, cement, water and other ingredients shall each be secured from the same source for the duration of the project.
- H. The batching plant and raw materials may be subject to inspections and tests performed by the Engineer.
- I. Contractor shall provide an adequately sized, insulated curing box to house concrete test cylinders, at the discretion of the Engineer, for the 24-hour period between concrete pour and sample pick-up by the testing lab. As directed by the Engineer, the Contractor shall cure additional cylinders in the same fashion as the in-place concrete.
- J. Curing box shall be located away from the main construction area and shall be blocked up off the ground.
- K. A log sheet shall be provided in a waterproof sheet protector to log in the placement and removal of the concrete test samples by the testing lab.
- L. Minimum information to be logged for each pour date shall include: date of pour, date of pick-up, weather conditions at time of pour, number of cylinders added, number of cylinders removed, location of pour, testing lab field technician name.

## 1.04 REGULATORY REQUIREMENTS

- A. Conform to ACI 304 and all applicable codes for placement of concrete and related work.

## 1.05 TESTS

- A. Testing and analysis of concrete shall be performed under the requirements contained in Section 014500 – Quality Control.
- B. The testing laboratory shall take cylinders, perform slump, and air entrainment tests in accordance with ACI 301.

## 1.06 SHOP DRAWINGS

- A. Submit shop drawings of reinforcing steel and formwork under the provisions of Section 013300 - Submittals.
- B. Indicate reinforcement sizes, spacing, locations and quantities of reinforcing steel and wire fabric, bending and cutting schedules, splicing and supporting and spacing devices.
- C. Indicate formwork dimensioning, materials, arrangement of joints and ties.

## 1.07 COORDINATION

- A. Coordinate work under provisions of Section 013100 - Project Management and Coordination.
- B. Coordinate work of other Sections in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors, and other inserts.
- C. Notify Engineer a minimum of three (3) working days prior to commencement of concrete pours.

## 1.08 DELIVERY, STORAGE AND HANDLING

- A. Store cement off the ground in a dry, weatherproof, adequately ventilated structure with provisions to prevent absorption of water.
- B. Transport dry concrete batches from the central plant to the site in approved truck mixers conforming to the requirements of the Truck Mixer Manufacturer's Agitating Standards. Each truck shall contain a plate stating the capacity, drum speeds and be provided with a revolution counter.

## 1.09 ENVIRONMENTAL REQUIREMENTS

- A. Do not place concrete when the ambient temperature is below 40 deg. F. or when the concrete temperature exceeds 85 deg. F. Under certain circumstances, the Engineer may approve the placement of concrete under the above conditions, provided that the procedures of ACI 305 and ACI 306 are strictly adhered to.

- B. Do not place concrete when the conditions may adversely affect the placing, curing or finishing of concrete, or its strength.
- C. Comply with the requirements contained in Section 016500 - Product Delivery, Storage and Handling.

#### 1.10 DESIGN MIXES

- A. Submit the following related to design mixes:
  - 1. Name, address, and telephone number of Contractor's laboratory.
  - 2. Mix proportions.
  - 3. Source of cement, type, brand, and certified copies of mill reports, including physical and chemical analysis.
  - 4. Source of fine aggregates and results of tests made in accordance with ASTM C33 and ASTM C40.
  - 5. Source of coarse aggregates and results of tests made in accordance with ASTM C33.
  - 6. Catalogue cuts of all admixtures.
  - 7. Furnish test results of slump, air entrainment and water-cement ratio for each mix design.
  - 8. For each mix proposed, make and cure four (4) standard 6 in. concrete test specimens in the lab in accordance with ASTM C192. Furnish compression test results made in accordance with ASTM C39. Break two (2) cylinders at seven (7) days and two (2) at 28 days.
  - 9. If the concrete is intended to be pumped, design mix accordingly and submit certification that it has been tested for pumping.
- B. If the adopted mix fails to produce concrete meeting the requirements for strength and placeability, the Engineer may order additional cement or adjustments to mix proportions at no extra cost to the Owner.

### PART 2 - PRODUCTS

#### 2.01 MATERIALS

- A. Plywood forms: Douglas Fir species, solid one side grade and sound undamaged sheets. Thickness of wood shall be as required to support weight of concrete with minimal deflection.
- B. Steel forms: Minimum 16 gage (1.5 mm) thick, stiffened to support weight of concrete with minimum deflection.
- C. Tubular column type forms: Round, spirally wound laminated fiber material; inside surface treated with release agent.
- D. Form ties: Snap-off metal, of fixed length, cone type.
- E. Reinforcing: ASTM A615, 60 ksi (414 Mpa) yield grade billet steel deformed bars; uncoated finish, size and dimensions as indicated on plans.
- F. Welded steel wire fabric: Plain type, ANSI/ASTM A185; in flat sheets; uncoated finish; size and dimensions as indicated on plans.

- G. Cement: ASTM C150, Type II, Portland type, gray color.
- H. Fine and coarse aggregates: ASTM C33. (No. 57 or No. 67).
- I. Water: Clean and not detrimental to concrete.

## 2.02 ACCESSORIES

- A. Air entraining admixture: ASTM C260.
- B. Chemical admixture: ASTM C494, Type as required.
- C. Bonding agent: Three (3) component, solvent free, moisture tolerant, epoxy-modified cementitious product. Product Arimatec 110 EpoCem as manufactured by Sika Corp. or specifically approved equal.
- D. Vapor barrier: ASTM D2103, 6 mil (0.15 mm) thick clear polyethylene film.
- E. Non shrink grout: Premixed compound with non-metallic aggregate, cement, water reducing and plasticizing agents; capable of minimum compressive strength of 2400 psi (16.5 Mpa) at 48 hours and 7000 psi (48.3 Mpa) at 28 days. Grout shall be suitable for contact with potable water. For equipment bases and pipe supports use non-shrink grout by Master Builders, Embeco 636, Unisorb V-1, or equal.
- F. Flashing reglets: Galvanized steel; 26 gage (0.45 mm) longest possible lengths; alignment splines for joints; securable to formwork; Type CO, manufactured by FRY REGLET or equal.
- G. Expansion joints: ASTM D1751; 1/2-inch (13 mm) thick asphalt impregnated fiberboard or felt.
- H. Form release agent: Bio-Release EF or equal; colorless, water based, non-toxic, V.O.C. compliant, environmentally safe material which will not stain concrete, absorb moisture or impair natural bonding or color characteristics of coating intended for use on concrete; manufactured by Dayton Superior or equal. Agent shall not be detrimental to the environment.
- I. Sealant: ASTM D1190; hot applied rubber compound manufactured by BURKE COMPANY or equal.
- J. Absorptive mat: Burlap-polyethylene, 8-oz/sq. yd (270-g/sq. m.), bonded to prevent separation during use.
- K. Membrane curing compound: Moisture Retention complying with ASTM C309. Products: Eucocure VOX as manufactured by Euclid or equal.

## 2.03 MIXES

Cast in place concrete:

- A. Mix concrete in accordance with ASTM C94, Alternative No. 2, to achieve the following:
  - 1. Compressive strength (28 day): 4000 psi
  - 2. Maximum water (cement ratio by weight): 0.50
  - 3. Slump: Beams, Slabs, Footings, and Walls –
    - a. Conventional Mix: 3 ± 1 inch.

- b. Pump Mix:  $7 \pm 1$  Inch.
- 4. Air entrainment:  $5\frac{1}{2} \pm 1$  percent
- 5. Large aggregate:  $\frac{3}{4}$ " crushed stone, ASTM C33, No. 67

B. Use admixtures only when approved by the Engineer.

### PART 3 - EXECUTION

#### 3.01 EXAMINATION

- A. Verify lines, levels, and measurement before proceeding with formwork. Ensure that dimensions agree with the plans.
- B. Inspect the formwork and reinforcing that it has been properly set and secured and that all items to be embedded, built-in or pass through concrete are at their proper locations and elevations.
- C. The General Contractor shall verify that all other prime contractors have installed concrete inserts, sleeves and embedded elements of the project, such as conduit, and that their work has been totally completed and inspected by the Engineer.

#### 3.02 FORMWORK ERECTION

- A. Hand trim sides and bottom of earth forms and remove loose soil to the satisfaction of the Engineer.
- B. Remove water from forms and excavations and divert flows of water to avoid washing over, under or through freshly placed concrete.
- C. Align form joints.
- D. Do not apply form release agent where concrete surfaces are to receive special finishes or applied coatings that may be affected by the agent.
- E. Where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack with non-metallic/non-shrink grout.
- F. Prepare previously placed concrete by cleaning with steel brush and apply bonding agent in accordance with manufacturer's instructions.
- G. Coordinate work of other sections in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors, and other inserts.

#### 3.03 INSTALLATION

- A. Place, support, and secure reinforcement against displacement at the locations and to the dimensions as indicated on the plans.
- B. Use reinforcing splices at a minimum of locations and only at locations of minimum stress. Review locations of splices with Engineer.

- C. Rebar splice overlap shall be the minimum length as per ACI 318.
- D. Ensure reinforcement, inserts, embedded parts, formed joint fillers, and joint devices are not disturbed during concrete placement.
- E. Install joint fillers in accordance with manufacturer's instructions.
- F. Install joint devices in accordance with manufacturer's instructions.
- G. Install joint device anchors. Maintain correct position to allow joint cover flush with floor and wall finish.
- H. Install joint covers in one-piece length when adjacent construction activity is complete.
- I. Apply sealants in joint devices in accordance with manufacturer's instructions.
- J. Maintain records of concrete placement. Record date, location, quantity, air temperature and test samples taken.
- K. Place concrete continuously between predetermined expansion, control and construction joints as rapidly as possible by methods that shall prevent the separation of ingredients.
- L. Place concrete with the aid of mechanical vibrators and shall be capable of transmitting to the concrete not less than 3,000 impulses per minute. Maintain at least three (3) vibrators, in good working condition, ready for use when concrete placement starts in any one area.
- M. Do not interrupt successive placement. Do not permit cold joints to occur.

#### 3.04 FIELD QUALITY CONTROL

- A. Inspection and testing of concrete performed by the independent testing laboratory shall be performed under provisions of Section 014500 - Quality Control.

#### 3.05 FINISHES

- A. The Contractor shall finish all concrete by:
  - 1. Filling all localized surface voids ("bugholes"), honeycombing, and pockets exceeding  $\frac{1}{8}$  inch diameter and  $\frac{1}{8}$  inch depth, in the concrete with an application of cement mortar as follows: White cement shall be added to the mortar in an amount sufficient to tint the mortar a shade lighter than the concrete to be repaired. Mortar shall be mixed approximately 45 minutes in advance of use. Care shall be exercised to obtain a good bond with the concrete. After the mortar has thoroughly hardened, the surface shall be rubbed with a carborundum stone in order to obtain the same color in the mortar as in the surrounding concrete. The final appearance shall be acceptable to the Engineer.
  - 2. All fins caused by form joints, and other projections shall be completely removed to the satisfaction of the Engineer.
  - 3. Filling all snap tie voids with mortar as specified above.
- B. All interior walking surfaces of all buildings shall be left with a fine broom finish and be readied for painting as work of another Section.

- C. Housekeeping pads shall be left with a broom finish with a steel troweled rounded edge.
- D. All exterior-walking surfaces shall be left with a fine broom finish with a steel trowel border and rounded edges.
- E. All exposed horizontal and vertical wall and slab corners shall have a  $\frac{3}{4}$ " wide chamfered edge.

3.06 PROTECTION AND REPAIR

- A. Protect concrete from damage and rust staining to the date that the Final Completion Certificate has been issued by the Engineer. Immediately remove all rust spots that have developed during the construction period as soon as directed by the Engineer.

**END OF SECTION**

## PART 1 - GENERAL

## 1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

## 1.02 SUMMARY

- A. Section Includes:

1. Silicone joint sealants.
2. Urethane joint sealants.
3. Latex joint sealants.
4. Preformed joint sealants.

- B. Related Sections:

1. Section 09 90 00: Painting.
2. Section 13 34 00: Fabricated Engineered Structures.

## 1.03 PRECONSTRUCTION TESTING

- A. Preconstruction Compatibility and Adhesion Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.

1. Testing will not be required if joint-sealant manufacturers submit joint preparation data that are based on previous testing, not older than 24 months, of sealant products for adhesion to, and compatibility with, joint substrates and other materials matching those submitted.

## 1.04 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.

- B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

- C. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- wide joints formed between two 6-inch- long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

- D. Joint-Sealant Schedule: Include the following information:

1. Joint-sealant application, joint location, and designation.
2. Joint-sealant manufacturer and product name.
3. Joint-sealant formulation.
4. Joint-sealant color.

- E. Qualification Data: For qualified Installer.

- F. Product Certificates: For each kind of joint sealant and accessory, from manufacturer.
- G. Sealant, Waterproofing, and Restoration Institute (SWRI) Validation Certificate: For each sealant specified to be validated by SWRI's Sealant Validation Program.
- H. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating that sealants comply with requirements.
- I. Preconstruction Compatibility and Adhesion Test Reports: From sealant manufacturer, indicating the following:
  - 1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
- J. Field-Adhesion Test Reports: For each sealant application tested.
- K. Warranties: Sample of special warranties.

#### 1.05 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
- B. Source Limitations: Obtain each kind of joint sealant from single source from single manufacturer.

#### 1.06 PROJECT CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
  - 1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.
  - 2. When joint substrates are wet.
  - 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
  - 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

#### 1.07 WARRANTY

- A. Special Installer's Warranty: Manufacturer's standard form in which Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
  - 1. Warranty Period: Two years from date of Substantial Completion.

## PART 2 - PRODUCTS

## 2.01 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- B. VOC Content of Interior Sealants: Provide sealants and sealant primers for use inside the weatherproofing system that comply with the following limits for VOC content when calculated according to 40 CFR 59, Part 59, Subpart D (EPA Method 24):
  - 1. Architectural Sealants: 250 g/L.
  - 2. Sealant Primers for Nonporous Substrates: 250 g/L.
  - 3. Sealant Primers for Porous Substrates: 775 g/L.
- C. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
  - 1. Suitability for Immersion in Liquids. Where sealants are indicated for Use I for joints that will be continuously immersed in liquids, provide products that have undergone testing according to ASTM C 1247. Liquid used for testing sealants is deionized water, unless otherwise indicated.
- D. Stain-Test-Response Characteristics: Where sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.
- E. Suitability for Contact with Food: Where sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.
- F. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

## 2.02 LATEX JOINT SEALANTS

- A. Latex Joint Sealant: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.

## 2.03 PREFORMED JOINT SEALANTS

- A. Preformed Foam Joint Sealant: Manufacturer's standard preformed, precompressed, open-cell foam sealant manufactured from urethane foam with minimum density of 10 lb/cu. ft. and impregnated with a nondrying, water-repellent agent. Factory produce in precompressed sizes in roll or stick form to fit joint widths indicated; coated on one side with a pressure-sensitive adhesive and covered with protective wrapping.

## 2.04 JOINT SEALANT BACKING

- A. General: Provide sealant backings of material that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

## 2.05 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

## PART 3 - EXECUTION

## 3.01 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

## 3.02 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
  - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
  - 2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
    - a. Concrete.
    - b. Masonry.
    - c. Unglazed surfaces of ceramic tile.
  - 3. Remove laitance and form-release agents from concrete.
  - 4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
    - a. Metal.
    - b. Glass.
    - c. Glazed surfaces of ceramic tile.

- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

### 3.03 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
  - 1. Do not leave gaps between ends of sealant backings.
  - 2. Do not stretch, twist, puncture, or tear sealant backings.
  - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
  - 1. Place sealants so they directly contact and fully wet joint substrates.
  - 2. Completely fill recesses in each joint configuration.
  - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- E. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
  - 1. Remove excess sealant from surfaces adjacent to joints.
  - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
  - 3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
  - 4. Provide flush joint profile where indicated per Figure 8B in ASTM C 1193.
  - 5. Provide recessed joint configuration of recess depth and at locations indicated per Figure 8C in ASTM C 1193.
    - a. Use masking tape to protect surfaces adjacent to recessed tooled joints.
- F. Installation of Preformed Silicone-Sealant System: Comply with the following requirements:
  - 1. Apply masking tape to each side of joint, outside of area to be covered by sealant system.

2. Apply silicone sealant to each side of joint to produce a bead of size complying with preformed silicone-sealant system manufacturer's written instructions and covering a bonding area of not less than 3/8 inch. Hold edge of sealant bead 1/4 inch inside masking tape.
  3. Within 10 minutes of sealant application, press silicone extrusion into sealant to wet extrusion and substrate. Use a roller to apply consistent pressure and ensure uniform contact between sealant and both extrusion and substrate.
  4. Complete installation of sealant system in horizontal joints before installing in vertical joints. Lap vertical joints over horizontal joints. At ends of joints, cut silicone extrusion with a razor knife.
- G. Installation of Preformed Foam Sealants: Install each length of sealant immediately after removing protective wrapping. Do not pull or stretch material. Produce seal continuity at ends, turns, and intersections of joints. For applications at low ambient temperatures, apply heat to sealant in compliance with sealant manufacturer's written instructions.
- H. Acoustical Sealant Installation: At sound-rated assemblies and elsewhere as indicated, seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written recommendations.

#### 3.04 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

#### 3.05 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

**END OF SECTION**

## PART 1 - GENERAL

## 1.01 - SECTION INCLUDES

- A. Exterior metal door frames.
- B. Exterior metal doors.
- C. Accessories and fittings to be included with the doors and frames are anchors, spreaders, floor clips, cutouts for hardware, and reinforcing for hardware.
- D. Grouting of hollow metal door frames with gypsum materials prior to setting frames.
- E. Coordinate with Owner's security system installer for required factory preparations and site installations for doors and frames scheduled to receive security items.

## 1.02 - RELATED SECTIONS

- A. Caulking and Sealants: Section 07 90 00
- B. Finish Hardware: Section 08 71 00
- C. Painting: Section 09 90 00
- D. Fabricated Engineered Structures: Section 13 34 00

## 1.03 - SUBMITTALS

- A. Section 013300: Submittals: Procedure for submittals.
- B. Shop drawings: fully describe and locate all items being furnished and include large scale details of principal construction features and internal reinforcement. Indicate frame elevations, hardware, reinforcement, anchor types and spacings, location of cut-outs for hardware, and finishes.
- C. Product Data: Indicate frame configuration and finishes.

## 1.04 - SITE STORAGE AND PROTECTION OF MATERIALS

- A. Section 016500: Material and Equipment: Transport, handle, store and protect product.
- B. Any scratches or disfigurement caused in shipping or handling are to be promptly cleaned and touched up with a rust-inhibitive primer, and materials are to be properly stored on planks or dunnage, out of water, and covered to be protected from damage due to any cause.
- C. Doors shall have their wrappings or coverings removed upon arrival at the building site and shall be stored in a vertical position, spaced by blocking to permit air circulation between them.
- D. Provide packaging, separators, banding, spreaders and paper wrappings as required to completely protect all frames during transport and storage.

## 1.05 - PROJECT CONDITIONS

- A. Section 013100: Coordination and Meetings

- B. Coordinate the work with frame opening construction, door and hardware installation.

#### 1.06 - PERFORMANCE REQUIREMENTS

- A. Fire Rated: UL listed, Classes of frames and doors A, B, C, also as indicated on Drawing Schedules. All doors and frames in fire rated walls are to match wall ratings as required by applicable codes, whether or not they are indicated in the door schedule.
- B. ANSI A117.1 - Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People.

### PART 2 - PRODUCTS

#### 2.01 - MANUFACTURERS

- A. CURRIES
- B. Or approved equal

#### 2.02 - HOLLOW METAL DOORS

- A. Model: 707-N exterior insulated doors.
  - 1. Materials: Doors shall be made of commercial quality, level, cold-rolled steel conforming to ASTM Specification A366-66T and free of scale, pitting or other surface defects. Face sheets for all doors shall not be less than 16 gauge and shall be zinc-coated.
  - 2. Exterior Door Insulation: Polystyrene core, formed in place.
- B. Design and Construction:
  - 1. All doors shall be custom made, of the types and sizes shown on approved shop drawings, and shall be fully welded seamless construction with no visible seams or joints on their faces or vertical edges. Minimum door thickness shall be 1-3/4 inches.
  - 2. All doors shall be strong, rigid and neat in appearance, free from warpage and buckle. Corner bends shall be true and straight and of minimum radius for the gauge of metal used.
  - 3. Face sheets shall be stiffened by continuous vertical formed steel sections occupying the full thickness of the interior space between door faces. These stiffeners shall not be less than 22 gauge, spaced not more than 6 inches apart and securely attached to both face sheets by spot welds not more than 4 inches on center. Spaces between stiffeners shall be sound-deadened and insulated the full height of the door with an inorganic noncombustible material.
  - 4. Door faces shall be joined at their vertical edges by a continuous weld extending the full height of the door. All such welds shall be ground, filled and dressed smooth to make them invisible and provide a smooth flush surface.
  - 5. Top and bottom edges of all doors shall be closed with a continuous recessed steel channel not less than 16 gauge, extending the full width of the door and spot welded to both faces. Exterior doors shall have an additional flush closing channel at their top edges, and where

required for attachment of weatherstripping, a flush closure also at their bottom edges. Openings shall be provided in the bottom closure of exterior doors to permit the escape of entrapped moisture.

6. Edge profiles shall be provided on both vertical edges of doors as follows:
    - a. Single-Acting Swing Doors - Beveled 1/8 inch in 2 inches.
  7. Hardware Reinforcements:
    - a. Doors shall be mortised, reinforced, drilled and tapped at the factory for fully templated hardware only, in accordance with the approved hardware schedule and templates provided by the hardware contractor. Where surface-mounted hardware is to be applied, doors shall have reinforcing plates only; all drilling and tapping shall be done by others.
    - b. Minimum gauges for hardware reinforcing plates shall be as follows:
      - (1) Hinge and Pivot Reinforcements - 7 gauge.
      - (2) Reinforcements for lock face, flush bolts, holders, concealed or surface mounted closers - 12 gauge.
      - (3) Reinforcements for all other surface-mounted hardware - 16 gauge.
  8. Astragals shall be full height, full welded to face of active leaf.
- C. Finish: After fabrication, all tool marks and surface imperfections shall be dressed, filled and sanded as required to make all faces and vertical edges smooth, level and free of all irregularities. Doors shall then be chemically treated to insure maximum paint adhesion and shall be coated on all exposed surfaces, with a rust-inhibitive primer which is fully cured before shipment.

## 2.03 - HOLLOW METAL FRAMES

### A. Frame Material

1. Frames for exterior openings shall be made of commercial grade cold-rolled steel conforming to ASTM Designation A366-66T, not less than 16 gauge, and shall be zinc-coated.
2. Frames for interior openings shall be either commercial grade cold-rolled steel conforming to ASTM Designation A366-66T or commercial grade hot-rolled and pickled steel conforming to ASTM Designation A569-66T and shall be zinc coated. Metal thickness for frames shall be not less than 16 gauge.
3. Provide labeled frames to match label of all labeled doors.

### B. Design and Construction:

1. All frames shall be custom made welded units with integral trim, of the sizes and shapes shown on approved shop drawings, knocked-down frames will not be accepted.

2. All finished work shall be strong and rigid, neat in appearance, square, true and free of defects, warp or buckle. Molded members shall be clean cut, straight and of uniform profile throughout their lengths.
3. Jamb depths, trim, profile and backbends shall be as scheduled by the Architect/Engineer and detailed on approved shop drawings. The two bottom legs of the door frame shall touch (be in contact with) the concrete slab in all openings. In the case where one leg is longer than the other due to the unevenness of the concrete floor, it is required of the Contractor to cut this leg so as both legs are in contact with the floor surface.
4. Corner joints shall have all contact edges closed tight, and stop mitered. The use of gussets will not be permitted.
5. Minimum depth of stop shall be 5/8 inch.
6. Hardware Reinforcements:
  - a. Frames shall be mortised, reinforced, drilled and tapped at the factory for fully templated hardware only, in accordance with the approved hardware schedule and templates provided by the hardware contractor. Where surface-mounted hardware is to be applied, doors shall have reinforcing plates only; all drilling and tapping shall be done by others.
  - b. Minimum thickness of hardware reinforcing plates shall be as follows:
    - (1) Hinge and Pivot Reinforcements - 3/16 inch, 1-1/4 inches x 10 inches minimum.
    - (2) Strike Reinforcements - 1/8 inch.
    - (3) Closer Reinforcements - 1/8 inch.
    - (4) Flush Bolt Reinforcements - 1/8 inch.
    - (5) Reinforcements for Surface-Mounted Hardware - 1/8 inch.
7. Hardware Cutouts:
  - a. Provide cutouts for frames and doors as required.
  - b. Provide security cutouts in frames scheduled to receive security hardware.
8. Floor Anchors:
  - a. Full width of frame floor anchor clips shall be securely welded inside each jamb, with two holes provided at each jamb for floor anchorage.
  - b. Minimum thickness of floor anchors shall be 16 gauge.
9. Jamb Anchors:
  - a. Frames for installation in masonry walls shall be provided with adjustable jamb T-Strap anchors. Anchors shall be not less than 16 gauge steel. Straps shall be not less than 2 inches x 10 inches in size, corrugated and/or perforated.

- b. Frames for installation in stud partitions shall be provided with steel anchors of suitable design, not less than 18 gauge thickness, securely welded inside each jamb as follows:
    - (1) Frames up to 7'-6" height - 3 anchors.
  - c. The number of anchors provided on each jamb shall be as follows (typical for all wall construction types):
    - (1) Frames up to 7'-6" height - 3 anchors.
    - (2) Frames 7'-6" to 8'-0" height - 4 anchors.
    - (3) Frames over 8'-0" height - 1 anchor for each 2 feet or fraction thereof in height.
  - 10. Frames over 4'-0" wide for installation in masonry walls shall have an angle or channel stiffener, not less than 12 gauge and not longer than the opening width, welded into the head at the factory. Such stiffeners shall not be used as lintels or load-carrying members.
  - 11. Dust cover boxes, or mortar guards, of not thinner than 26 gauge steel shall be provided at all hardware mortises on frames to be set in masonry or gypsum board partitions.
  - 12. All frames shall be provided with a steel spreader temporarily attached to the feet of both jambs to serve as a brace during shipping and handling.
  - 13. Prepare frames for silencers. Provide three single silencers for single doors and mullions of double doors on strike side. Provide two single silencers on frame head at double doors without mullions.
- C. After fabrication, clean frames and treat against corrosion with one coat of rust inhibitive primer baked on. Final field coats of paint are to be applied under Section 09 90 00.
- D. Primer: Zinc chromate type.

#### 2.04 - CLEARANCES

- A. Edge clearances unless otherwise indicated on drawings shall be provided as follows:
- 1. Between Doors and frames, at head and jambs - 1/8 inch.
  - 2. At Door Sills: Where no threshold is used - 3/8 inch. Maximum to finish floor, where threshold is used - 1/4 inch maximum between door and threshold.
  - 3. Between meeting edges of pairs of doors - 1/8 inch.

### PART 3 - EXECUTION

#### 3.01 - EXAMINATION

- A. Section 01 31 00: Coordination and meetings: verification of existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.

- C. Coordinate installation of door, door hardware and frames.

3.02 - INSTALLATION

- A. Install doors and frames in accordance with ANSI/SDI 100 and manufacturer's instructions.
- B. Install all door vision panel openings plumb and level.
- C. Coordinate installation of doors with installation of frames and hardware specified.
- D. Coordinate installation of frames with installation of Owner's security system features and conduit (security system by others, conduit by contractor).
- E. Coordinate with masonry and steel stud wall construction for anchor placement.
- F. Protect materials to prevent scratching, twisting, denting or otherwise damaging.

3.03 - ERECTION TOLERANCES

- A. Maximum Diagonal Distortion: 1/16-inch measured with straight edge, corner to corner.

3.04 - ADJUSTING

- A. Adjust door for smooth and balanced door movement.

3.05 - SCHEDULE

- A. Refer to door and frame schedule on Contract Drawings or hardware schedule as referenced in specifications.

**END OF SECTION**

## PART I - GENERAL

## 1.01 - SECTION INCLUDES

- A. Hardware for all new hinged hollow metal doors.
- B. Door silencers for metal door frames.
- C. Door closers for all doors where indicated on schedule.
- D. Threshold saddles.
- E. Accessories and miscellaneous trim.
- F. Includes Owner's Standard keying for security control.
- G. Coordinate with Owner's security system installer and items to be furnished by Owner's security system installer.

## 1.02 - RELATED SECTIONS

- A. Section 081113 - Hollow Metal Doors and Frames.
- B. Section 133400 – Fabricated Engineered Structures

## 1.03 - GENERAL REQUIREMENTS

- A. Keying:
  - 1. General - Locks must incorporate a security system to ensure that keys are used during construction will not open doors after Owner occupancy. Coordinate locks with Owner's standard keying.
  - 2. Construction keys and inserts - Permanent cylinders with construction inserts are to be assembled into and shipped with all exterior-door locksets. Construction keys are to be shipped with the door locks. Construction insert-extractor keys are to be shipped to the Owner via Registered Mail. Prior to substantial completion, the Contractor shall collect all construction keys and, in the presence of the Owner or Architect, remove the construction inserts from the lock cylinders and give all construction keys and inserts to the Owner or Architect.
  - 3. Permanent keys and cylinders – Permanent keys and cylinders are to be supplied by owner. All locksets shall accept permanent lock cylinders as manufactured by Best Locks.

## 1.04 - SUBMITTALS

- A. Comply with the requirements contained in Section 01 33 00.
- B. Submit detailed door hardware schedule.
- C. Submit catalog cut sheets of all items for approval before ordering. Hardware sets will not be considered for approval without cut sheets.
- D. Submit necessary templates to door manufacturers, and to any other manufacturer as needed.

## 1.05 - DELIVERY, STORAGE, AND PROTECTION

- A. Comply with the requirements contained in Section 016500.

- B. Packing and marking: Package each item of hardware and each lock set separately in individual containers, complete with necessary screws, keys, instructions, and installation template for spotting mortising tools. Mark each container, identifying installation location of each item. Keep knobs suitably covered during construction period.

#### 1.06 - PROJECT CONDITIONS

- A. Coordinate the work with Owner's security system installer, conduit installations by contractor and other directly affected Sections involving manufacture or fabrication of internal reinforcement for door hardware and recessed items.
- B. Coordinate Owner's keying requirements during the course of the Work. Furnish the Owner with five (5) keys per door. Key door cylinders to match Owner's master cylinder.

#### 1.07 - WARRANTY

- A. Provide manufacturer's standard warranty for all hardware.

#### 1.08 - MAINTENANCE PRODUCTS

- A. Provide special wrenches and tools applicable to each different or special hardware component.
- B. Provide maintenance tools and accessories supplied by hardware component manufacturer.

### PART 2 - PRODUCTS

#### 2.01 - MATERIALS (GENERAL)

- A. Bolts, screws and other fastenings required for the application of the finish hardware shall be of size and type to fit requirements and shall be of same material and finish as the exposed parts of the hardware which they fasten.
- B. Door hardware: Hand of lock shall be as required. If door hand is changed by proper bulletin or change order before hardware is delivered, furnish such hardware items at no additional expense to Owner.
- C. Strikes: Furnish curved lip strikes with dust box of sufficient length to protect trim on all locks or latches. Coordinate with door frame supplier and Owner's security system installer and provide electric strikes and templates for designated door frames.
  - 1. All electric strikes shall be approved by Owner's security system installer.
- D. Silencers: Use GJ 64, GJ 65 for doors, three at single doors, four at pairs of doors on metal frames. Install in pre-drilled jamb holes.
- E. All locks, locksets, latchsets, and bolts shall conform to Federal Specification FF-H-106a/ANSI. All locks shall accept interchangeable, removable cores.
  - 1. All locks shall be keyed to Districts key system.
  - 2. Locksets for security doors are not permitted to have an offset latch.

#### 2.02 - DOOR HARDWARE

- A. Exit Device: Rim mounted device manufactured by VonDuprin or approved equal; Series: 98 (various sizes as required to fit door openings); exterior trim model 98-L-F 32D lever design: #17. Provide at inactive leaf of double door 1609 blade type strike to receive rim device on active leaf. All exterior trim to include lock cylinders as manufactured by Schlage.

- B. Hinges: (All hinged doors) Stainless steel 4-1/2" x 4-1/2" heavy weight ball bearing, non-rising stainless steel pin, Model FBB199-32D NRP, manufactured by STANLEY or approved equal, steel machine screws furnished by hinge manufacturer.
- C. Closer: Parallel arm application, extra duty hold open (HEDA), cush-n-stop and spring cush features, adjustable opening to 180 degrees, Series 4041, 689 finish with SRI pretreatment coating, manufactured by LCN or approved equal.
- D. Kick Plate: .050" thick, stainless steel, satin finish, 12" high, full width of door, bevel edges, Model 8400, manufactured by H.B. IVES or approved equal. Stainless steel screws furnished by plate manufacturer.
- E. Exterior Threshold: Aluminum Model 896N as manufactured by NGP or approved equal.
- F. Sweep: Model 198NA as manufactured by NGP or approved equal.
- G. Exterior weather-stripping: All exterior doors, Model 161NA as manufactured by NGP or approved equal.
- H. Provide matching strikes, screws and brackets for all hardware.

### PART 3 - EXECUTION

#### 3.01 - EXAMINATION

- A. Verify that doors and frames are ready to receive work and dimensions are as indicated.

#### 3.02 - INSTALLATION

- A. Install hardware in accordance with manufacturer's instructions.
- B. Use templates provided by hardware item manufacturer.
- C. For installation, removal for purpose of painting, and re-installing.

#### 3.03 - ADJUSTING

- A. Adjust hardware for smooth operation.

#### 3.04 - PROTECTION OF FINISHED WORK

- A. Do not permit adjacent work to damage hardware or finish.

#### 3.05 - HARDWARE SCHEDULE

- A. The Architect will coordinate with the Owner and Contractor to create a hardware schedule after contract signing, so that the finish hardware can be coordinated with the preparation of the hollow metal door frames.

### END OF SECTION

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Provide Louvers and all associated louver accessories and components in accordance with the Contract Documents and as required to provide a complete and first class installation. The work of this section shall include, but not be limited to fixed metal louvers, dampers and frames.

1.02 - RELATED SECTIONS

- A. Mechanical: Division 23

1.03 - REFERENCES

- A. AMCA 500 (Air Movement Control Association) - Test Method for Louvers.
- B. ASTM B221 – Aluminum Alloy Extruded Bars, Rods, Wire, Shapes and Tubes.
- C. SMACNA - Architectural Sheet Metal Manual.

1.04 - PERFORMANCE REQUIREMENTS

- A. Design and fabricate units to withstand wind lateral loads and snow loads.

1.05 - SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Shop Drawings: Indicate louver layout plan and elevations, opening and clearance dimensions, tolerances; head, jamb and sill details; blade configuration, screens and frames.
- C. Product Data: Provide data describing design characteristics, maximum recommended air velocity, design free area, materials and finishes.
- D. Samples: Submit two (2) samples, 2" x 2" in size illustrating finish and color of exterior and interior surfaces.
- E. Submit two samples of manufacturer's full line of powder coating color chips. Color to be selected by Owner.
- F. Products and materials shall comply with sustainability requirements for products having recycled content, document percentages by weight of postconsumer and preconsumer recycled content not less than 25 percent.

- G. Manufacturer's Certificate: Certify that Products meet or exceed specified requirements. Equals will only be accepted if they meet or exceed the performance of specified louvers.

#### 1.06 - QUALITY ASSURANCE

- A. Perform work in accordance with AMCA Certification for louvers and dampers.
- B. Verify that field measurements are as indicated on shop drawings and instructed by the manufacturer.

#### 1.07 - COORDINATION

- A. Coordinate the Work with installation of flashings.
- B. Coordinate the Work with installation of mechanical ductwork.

#### 1.08 - WARRANTY

- A. Provide manufacturer's standard warranty.
- B. Provide 20 year manufacturer's warranty against failure of Kynar 500 finish.

### PART 2 - PRODUCTS

#### 2.01 - EXHAUST AND INTAKE LOUVERS

- A. Louvers shall be fabricated to provide a minimum of (57%), of free area and bear the AMCA certified ratings program seal for air performance and water penetration. The rating shall show a beginning point of water penetration at .01 ounces per square foot of free area at a free area velocity of 886 feet per minute, (8054) cubic feet per minute, with .125 inches of water gauge pressure drop for air intake. Louvers shall have a full width sill with head and blades contained within jambs. Louver shall be approximately 4" deep.
- B. Louvers shall be provided with insect screen.
- C. Material: Extruded Aluminum 6063 – T6.
- D. Louver finish shall be Kynar 5000® PDVF or Hylar 5000®, color as selected by Owner.
- E. Louvers shall be Type EA-400 as manufactured by Arrow United Industries.

## 2.02 - MOTORIZED DAMPERS

- A. Dampers shall be arrow-foil parallel blade type constructed of extruded aluminum. Low leakage damper shall bear the AMCA Certified Ratings Seal for air leakage and air performance. Leakage through a 60"x36" damper at 4" water gauge pressure differential shall be equal to Class I leakage.
- B. Frames and blades to be a minimum 12 ga (.081") extruded aluminum. Blades to be a single unit arrow-foil design, 6" wide with the pin-lock an integral section within the blade core.
- C. Blades shall have extruded silicone rubber seal at blade edge. A blade overlap shall be present when damper is in the closed position. Silicone seals shall fit into ribbed groove insert in blades with a formed stainless steel, spring steel seal at the jamb.
- D. Frames shall be extruded aluminum channel with reinforcing bosses and groove inserts for silicone seals.
- E. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.
- F. Axle shafts to be ½" diameter extruded aluminum, pin-lock design interlocking into blade section. Axle bearings shall be designed so that there is no metal-to-metal or metal-to-bearing riding surfaces.
- G. Linkage shall be contained within the jamb of the damper frame. Damper frame shall have extruded aluminum stops at the top and bottom.
- H. A complete damper assembly shall have blades no wider than 60 inches and no higher than 72 inches. Where required damper width or height exceeds manufacturer's maximum recommended single panel size, the assembly shall be made of a combination of sections. Dampers shall be sized for the scheduled air velocity and pressure classification.
- I. Louvers shall be Arrow-Foil Damper Model AFD-20 as Manufactured by Arrow United Industries.

## 2.03 - MOTORIZED DAMPER ACTUATORS

- A. Fast-acting, two-position actuators shall be of the power open, spring return direct coupled type for on/off damper control.
- B. Damper actuator shall fail normally closed.
- C. Die-cast aluminum housing shall allow for flush mounting to damper.
- D. Timing at rated torque and voltage:

1. Drive Open: 15 seconds
  2. Spring Close: 15 seconds
- E. Motorized damper actuator shall be Model MS4120F1006 as Manufactured by Honeywell.

#### 2.04 - ACCESSORIES

- A. Fasteners and Anchors: Stainless steel type.
- B. Head and Sill Flashings: Roll formed to required shape, single length in one piece per location.  
Flashings: Of same material as louver frame.
- C. Screens: Install screen mesh in shaped frame, reinforce corner construction, shop install to louver with fasteners. Screen shall be easily removed from the building interior. Insect Screen: 18/16 mesh, 0.011" aluminum wire, set in aluminum frame.

#### PART 3 - EXECUTION

##### 3.01 - EXAMINATION

- A. Verify that prepared openings and flashings are ready to receive work and opening dimensions are as indicated on shop drawings and instructed by the manufacturer.

##### 3.02 - INSTALLATION

- A. Install louver assembly in accordance with manufacturer's instructions.
- B. Install louvers level and plumb.
- C. Install flashings and align assembly to ensure moisture shed from flashings and diversion of moisture to exterior.
- D. Secure louvers in opening framing with concealed fasteners.
- E. Install screens and frame to interior of louver where indicated.
- F. Install perimeter sealant and backing rod in accordance with sealant specifications.
- G. Provide and locate louvers per contract drawings.
- H. Provide automatic control dampers with motors at louver locations as called for on contract drawings.

- I. Blank off and seal any sections of louvers not covered by the ductwork.

### 3.03 – ADJUSTING & CLEANING

- A. Adjust work under provisions of Division 01.
- B. Test operable louvers and adjust as needed to produce fully functioning units that comply with requirements.
- C. Clean exposed louver surfaces that are not protected by temporary covering, to remove fingerprints and soil during construction period. Do not let soil accumulate during construction period.
- D. Before final inspection, clean exposed surfaces in accordance with manufacturer's directions.
- E. Restore louvers damaged during installation and construction so no evidence remains of corrective work. If results of restoration are unsuccessful, as determined by Architect/Engineer, remove damaged units and replace with new units.
- F. Touch up minor abrasions in finishes with air-dried coating that matches color and gloss of, and is compatible with, factory-applied finish coating.

**END OF SECTION**

PART I - GENERAL

1.01 - SECTION INCLUDES

- A. Surface preparation.
- B. Painting, staining, sealing and filling.
- C. The work described in this section includes, but is not limited to the following:
  - 1. Hollow Metal Doors & Frames.
  - 2. Miscellaneous walls and surfaces, as indicated on painting schedule, plans and details.
  - 3. All items provided by other specification sections and/or indicated on contract drawings that are not pre finished or that are furnished in prime coats.
- D. All sections or work referencing this section.
- E. Items Not Included
  - 1. Anodized aluminum surfaces.
  - 2. Prefinished surfaces.

1.02 - RELATED SECTIONS

- A. Section 079000: Caulking and Sealants
- B. Section 081113: Hollow Metal Doors and Frames

1.03 - REFERENCES

- A. NYSDEC: VOC Compliance.

1.04 - SUBMITTALS

- A. Section 013300 - Submittals: Procedures for submittals.
- B. Product Data: Provide data on all finishing products to be used.
- C. Samples:
  - 1. Submit two sets of paper chip samples, illustrating range of colors available for each surface finishing product scheduled.
  - 2. Submit one sample of each type of wood finished for approval.
- D. Manufacturer's Instructions: Indicate special surface preparation procedures and substrate conditions requiring special attention.
- E. Provide schedule indicating all surfaces to be painted, type of primer and finish paint, surface preparation and color to Architect prior to application. Provide manufacturers product number and description.

## 1.05 - QUALITY ASSURANCE

- A. The Contractor shall either verify in writing that he intends to apply the proprietary products listed in the Paint Schedule, or shall submit for approval a list of comparable materials of another listed approved manufacturer. This submittal shall include full identifying product names, descriptive literature, catalog numbers, and color samples.
- B. No claim by the Contractor as to the unsuitability or unavailability of any material specified, or his unwillingness to use same, or his inability to produce first class work with same, will be entertained.

## 1.06 - DELIVERY, STORAGE AND PROTECTION

- A. Section 016500 - Material and Equipment: Transport, handle, store, and protect products.
- B. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- C. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- D. Paint Materials: Store at minimum ambient temperature of 45 degree F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.
- F. Vitreous wall surfacing materials shall be mixed according manufacturers instructions and no additional cement or fillers shall be added at the job site.
- F. Do not allow product to freeze.

## 1.07 - ENVIRONMENTAL REQUIREMENTS

- A. Section 01 65 00 - Material and Equipment: Environmental conditions affecting products on site.
- B. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- C. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.
- D. Apply exterior paint only when temperature exceeds 50°F or as otherwise required by manufacturer and drying conditions are good and predicted to remain so for at least 24 hours.
- E. Apply interior paint only when inside space and surface temperatures exceed 60°F or as required by manufacturer and will be maintained above that point until paint has dried. Provide and maintain application temperatures for all finishes.

## 1.08 - PROJECT CONDITIONS

- A. Section 01 31 00 - Coordination and Meetings.
- B. Sequence application to the following:
  - 1. Do not apply finish coats until paintable sealant is applied.
  - 2. Do not apply sealant or primer until surfaces are properly prepared.

1.09 - EXTRA MATERIALS

- A. Section 01 78 00 - Contract Closeout.
- B. Supply 1 gallon of each color, type, and surface texture used; store where directed.
- C. Label each container with color, type, texture, room locations, in addition to the manufacturer's label.

1.10 - PROTECTION OF OTHER WORK

- A. The Contractor shall furnish and lay drop cloths in all areas where painting is being done to protect floors and other work from damage. He shall be responsible for any damage to other work and shall replace any materials which have been damaged to such an extent that they cannot be restored to their original condition.

1.11 - PROTECTION

- A. Protect all finished surfaces by covering or by removing and replacing, in case of small items such as hardware.

1.12 - JOB CONDITIONS

- A. Before painting is started in any area, the area shall be cleaned and excessive dust shall be removed from all areas to be painted. After painting operations begin in a given area, clean only with commercial vacuum cleaning equipment.
- B. Adequate illumination and ventilation shall be provided in all areas where painting operations are in progress.

1.13 - INSPECTION OF SURFACES

- A. Before starting any work, surfaces to receive paint finish shall be examined carefully for defects which cannot be corrected by the procedures specified herein and which might prevent satisfactory painting results. Work shall not proceed until such damages are corrected.
- B. The commencing of work shall be construed as acceptance of the surfaces, and thereafter this Contractor shall be fully responsible for satisfactory work as required herein.

1.14 - COOPERATION WITH OTHER TRADES

- A. This work shall be scheduled and coordinated with other trades and shall not proceed until other work and/or job conditions are as required to achieve satisfactory results.
- B. The Contractor shall examine the specifications for the various other trades and shall thoroughly familiarize himself with all their provisions regarding painting. All surfaces that are left unfinished by the requirements of other sections except "Items not Included" in this Section, shall be painted or finished as part of the work covered by this Section.

PART 2 - PRODUCTS

2.01 - MANUFACTURERS - PAINT

- A. SHERWIN-WILLIAMS, Product: Heavy-duty maintenance coatings.

- B. BENJAMIN MOORE
- C. TOPAZ
- D. FOSROC
- E. Or approved equal.

## 2.02 - PAINT MATERIAL

- A. Miscellaneous Metal (Steel, non-structural):
  - 1. Primer: ProCryl Universal Metal Primer
  - 2. Finish: SteelMaster 9500 Silicone Alkyd Enamel.
- B. Ferrous Metals (non-structural):
  - 1. Touch up Prime Coat.
  - 2. Industrial enamel - VOC complying B54Z Series (2 coats).
- C. Gloss levels for paints required are as follows (ref. National Paint & Coatings Association - NPCA):

| Sheen Level | Test Method     | Gloss Range |
|-------------|-----------------|-------------|
| Flat        | 85 degree meter | Below 15    |
| Eggshell    | 60 degree meter | 5 to 20     |
| Satin       | 60 degree meter | 15 to 35    |
| Semi-Gloss  | 60 degree meter | 30 to 65    |
| Gloss       | 60 degree meter | Over 65     |

## 2.03 - MIXING

- 1. Mixing or tinting shall be done at factory.
- 2. Site mixing will be prohibited.

## 2.04 - APPLICATION EQUIPMENT

- A. Application equipment items are not required to be new, but they shall be adequate and commensurate for the work and workmanship required herein.

## 2.05 - ACCESSORIES MATERIALS

- A. Provide all required ladders, scaffolding, drop cloths, maskings, scrapers, tools, sandpaper, dusters, cleaning solvents, and remove waste as required to perform the work and achieve the results specified herein.

## PART 3 - EXECUTION

## 3.01 - EXAMINATION

- A. Section 013100 - Coordination and Meetings: Verification of existing conditions before starting work.

- B. Verify the surfaces are ready to receive Work as instructed by the product manufacturer.
- C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- D. Test shop applied primer for compatibility with subsequent cover materials.
- E. Do not begin work until surfaces to receive paint are dry, firm, sound, clean and free of defects or blemishes which would adversely affect the quality or appearance of the finished work.
- F. Beginning of work means Contractor accepts existing surface conditions.
- G. Verify items are ready to receive finishes.
- H. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
  - 1. Masonry and Concrete Unit Masonry: 12 percent.

### 3.02 - PREPARATION - GENERAL

- A. Galvanized Surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.
- B. Uncoated Ferrous Surfaces: Remove scale by wire brushing; wash clean with solvent. Apply treatment of phosphoric acid solution. Prime paint after repairs.
- C. Shop Primed and Existing Previously Painted Steel Surfaces: Sand and scrape to remove loose paint and rust, power tool clean, feather edges; clean surfaces with solvent. Prime bare steel surfaces.
- D. Surface Appurtenances: Remove or mask electrical plates, hardware, light fixture trim, escutcheons, fittings, and all other surfaces to be protected from paint prior to preparing surfaces or finishing.
- E. Surfaces: Correct defects and clean surfaces which affect work of this section. Remove or repair existing coatings that exhibit surface defects.
- F. Follow manufacturer's recommendations for preparing surfaces to be primed and painted.
- G. Clean and sand surfaces to be painted.
- H. Mask, cover or remove surfaces to be protected from paint. Protect electrical, plumbing and mechanical equipment and systems not to be painted.
- I. Clean and remove scale, oil or grease from ferrous metal surfaces.

### 3.03 - APPLICATION

- A. It is the intent that the above brand names and types of material will give complete coverage with uniform appearance. If any additional coat is necessary for complete coverage and appearance, it shall be done at no additional cost.
- B. All paints to be new stock, delivered to job unopened. Prepare surfaces properly for receiving paint, protect adjacent surfaces not to be painted.

- C. Use of sprays may be permissible, upon prior approval by Architect and Owner.
- D. All work shall be carefully done by skilled mechanics. Finished surfaces to be uniform in coverage, gloss, finish and color, and free from brush marks. All coats shall be thoroughly dry before applying succeeding coats.
- E. Apply products in accordance with manufacturer's instructions.
- F. Sand surfaces lightly between coats to achieve required finish.
- G. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
- H. Where clear finishes are required, tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.
- I. Prime concealed surfaces of interior and exterior woodwork with primer paint.
- J. Apply materials to obtain:
  - 1. Smooth uniform appearance.
  - 2. Complete coverage.
  - 3. Match with approved color sample.
  - 4. Work free of runs, sags and skips.
  - 5. Sharp, clean edges where finishes or colors change.
  - 6. Surfaces free of defects and damage at time of acceptance.
- K. Fill nail holes and cracks after prime coat. Fill minor imperfections in gypsum board prior to final coats.
- L. Sand metal, wood and drywall between coats.
- M. Backprime all new wood surfaces.

### 3.05 - CLEAN UP

- A. Section 01 78 00 - Contract Closeout: Cleaning installed work.
- B. Collect waste material which may constitute a fire hazard, place in closed metal containers, and remove daily from site.
- C. Install finished items removed by this Section. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.
- D. Remove masking and protective covering.
- E. Leave factory finish surfaces clean and free of paint.

F. Remove tools, rubbish, equipment and unused material.

3.06 - SCHEDULE

- A. Interior Metal (shop primed)
  - 1 coat touch up prime coat
  - 2 coats Finish
- B. Exterior Steel Framing
  - 1 coat primer (shop applied) touch up prime coat (field)
  - 1 coat finish
- C. Ferrous Metals (shop primed)
  - Touch up prime coat
  - 2 coats finish

3.07 - SCHEDULE - COLORS

A. Colors as listed on finish schedule or to be selected upon receipt of color samples.

**END OF SECTION**

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Exterior coating.
- C. Piping, Valves and Fittings.

1.02 RELATED SECTIONS

- A. Section 013300 – Submittal Procedures
- B. Section 016100 – Basic Product Requirements
- C. Section 016500 – Product Delivery, Storage and Handling
- D. Section 221000 – Plumbing Piping
- E. Section 221116 – Facility Piping
- F. Section 402323 – Potable Water Process Piping
- G. Section 402324 – Valves and Valve Accessories

1.03 REFERENCES

- A. ANSI/NSF 61 - Drinking Water System Components - Health Effects
- B. AWWA – C115 – Standard for Flanged Pipe
- C. NACE No. 2/SSPC SP10 - Near-white Blast Cleaning.
- D. NACE No. 3/SSPC SP6 - Commercial Blast Cleaning.
- E. SSPC PA – 1 – Shop, Field, and Maintenance Painting of Steel
- F. SSPC PA 2 – Method for Measuring of Dry Paint Thickness with Magnetic Gages
- G. SSPC VOL 1 - Good Painting Practices – 2002 4<sup>th</sup> Edition latest edition
- H. SSPC VOL 2 – Systems and Specifications – 2005 Edition latest edition
- I. SSPC SP 3 - Power Tool Cleaning
- J. SSPC SP 2 – Hand Tool Cleaning
- K. SSPC VIS 1-89 - Visual Standard for Abrasive Blast Cleaned Steel.

- L. ASTM D4417-03 – Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel
- M. ASTM E1216-99(2005) - Standard Practice for Sampling for Particulate Contamination by Tape Lift
- N. NACE RP0188-99 Discontinuity (Holiday) Testing of New Protective Coatings on Conductive Substrates

#### 1.04 SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Product Data: Provide material data sheets (MDS) and material safety data sheets (MSDS), issued by the manufactures, for all materials and accessories that are to be used.
- C. Samples: Provide a color chart for paint color selection by the Owner and Engineer for approval prior to all aspects of painting.
- D. Manufacturer's instructions: Indicate surface preparation and paint application.
- E. Submit a detailed plan on the method(s) to be employed to protect adjacent equipment and surfaces including, but not limited to, the following:
  - 1. Method of surface preparation.
  - 2. Method of paint application.
  - 3. Quality Control Plan for all phases of construction operations.
- F. Submit detailed daily reports weekly, to include the following:
  - 1. The daily work location, date, start time and finish time, ambient conditions including wet bulb temperature, dry bulb temperature, and steel surface temperature, including hold point inspection observations.
  - 2. All surface preparation operations including location, date, start time and finish time.
  - 3. The date, start time and finish time for all painting operations, including location, wet bulb temperature, dry bulb temperature, and steel surface temperature, of the each coat applied.
  - 4. The name, type, batch numbers, manufacturer's name and amount of coatings used for each application.
- G. The Contractor shall submit to the Engineer letters from manufacturers certifying that the paint being supplied for this project conforms completely to specifications.

#### 1.05 REGULATORY REQUIREMENTS

- A. All coatings shall comply with VOC regulations as promulgated by the Ozone Transport Commission, effective January 2005.

#### 1.06 CERTIFICATES

- A. The Contractor shall submit to the Engineer, immediately upon completion of the job, certification from the manufacturer indicating that the quantity of each coating purchased was sufficient to properly coat all surfaces.

- B. Certification shall make reference to the square footage figures provided to the manufacturer by the Contractor.

#### 1.07 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, protect and handle products to the site under provisions of Sections 016100 and 016500.
- B. All materials furnished by the Contractor shall be brought to the job site in the original sealed and labeled containers of the paint manufacturer and shall be subject to inspection by the Engineer.
- C. Every container of coatings materials shall have the batch number imprinted on the can, as well as the Federal Specification Number. Colors, where not specified, shall be as selected by the Engineer or Owner.
- D. Store all materials as recommended by the manufacturer. Any materials stored improperly shall be removed from the site immediately. Maintain storage location and temperature log at storage site available for inspection.
- E. The Contractor shall supply the Owner four (4), one (1) gallon paint kits of each of the exterior intermediate and finished coats, at least three weeks prior to commencement of any painting operations.

#### 1.08 ENVIRONMENTAL REQUIREMENTS

- A. No coatings, seam sealer, or pit filler shall be applied to any surfaces when moisture (rain, sleet, snow, condensation or equal) is occurring or expected during the period defined by the manufacturers printed literature as cured to touch. Do not apply coating when the temperature and/or relative humidity are below manufacturers printed literature. Deviations from these requirements will cause all coatings applied to be removed at the direction of the engineer and the surfaces shall be re-prepared in accordance with this section.

#### 1.09 WARRANTY

- A. Provide a 1-year labor and manufacturer's materials warranty for the coating systems.
- B. Warranties are to be submitted in writing to the Engineer prior to product delivery.
- C. Any defects, failures, breakdowns, or discrepancies of the paint or coatings that reveal themselves within the 1-year warranty period after acceptance of work shall be promptly repaired at no additional cost to the Owner.
- D. Touch up procedures shall be issued by the engineer for areas of coating defects, breakdowns, or discrepancies to be repaired, only if the accumulative areas are less than five square feet, or if the engineer permits.
- E. Remove the entire coating in the area where failure occurs. Touch-up work will not be permitted. The surface is to be prepared as originally scheduled

## PART 2 - PRODUCTS

## 2.01 COATING REQUIREMENTS

- A. All coating systems submitted for use shall be new for the project described. Two component coating materials shall be mixed in accordance with the manufacturers data sheet. No partial kits shall be permitted to be used.
- B. All coating systems submitted for use shall conform and meet the minimum requirements specified by the Engineer for:
  - 1. Adhesion - ASTM-D-3359 and 4541
    - a. Minimum 900 psi as measured with a Type 2 tester
  - 2. Hardness - ASTM-D-3363, 2583, and 2240
    - a. Exterior Finish Coating - No gouging or scratching with an 8H or less pencil
  - 3. Flexibility – ASTM-D-522 and FED-STD-6221
    - a. Exterior Finish Coating - No less than 34% elongation, average of three tests
    - b. Impact Resistance – ASTM-D-2754
    - c. Exterior Coating - No visible cracking or delamination of film after 34 inch pounds or less direct impact.
  - 4. Abrasion Resistance - ASTM-D 968 and 4060
    - a. No More than 100 mg loss after 1000 cycles

## 2.02 MANUFACTURERS

- A. TNEMEC COMPANY, INC
- B. PPG HIGH PERFORMANCE COATINGS
- C. SHERWIN WILLIAMS
- D. Coating substitutions shall be permitted only after receiving written approval from the Engineer prior to bid.

## 2.03 MATERIALS – DUCTILE IRON &amp; CAST IRON PIPING

- A. TNEMEC Paint System – Two full coats, one stripe coat.
  - 1. Tnemec Series 27WB Typoxy, 4.0 - 6.0 mils DFT
  - 2. Tnemec Series 27WB Typoxy Stripe Coat (Contrasting Color)
  - 3. Tnemec Series 72 Low VOC Acrylic Urethane, 3.0 - 5.0 mils DFT (exterior piping only)
- B. PPG Paint System – Two full coats, one stripe coat
  - 1. PPG Amerlock2 400 Epoxy, 4.0 - 6.0 mils DFT
  - 2. PPG Amerlock2 400 Epoxy Stripe Coat (Contrasting Color)
  - 3. PPG Amercoat 450H, 3.0 - 5.0 mils DFT (exterior piping only)
- C. SHERWIN-WILLIAMS Paint System – Two full coats, one stripe coat
  - 1. Sherwin-Williams Macropoxy 646, 4.0 - 6.0 mils DFT
  - 2. Sherwin-Williams Macropoxy 646 Stripe Coat (Contrasting Color)
  - 3. Sherwin-Williams Acrolon 218HS, 3.0 - 5.0 mils DFT (exterior piping only)

## 2.04 MATERIALS – PVC &amp; COPPER PIPING (Chemical process)

- A. TNEMEC Paint System – Two full coats
  1. Tnemec Series 25 HydroLink, 2.5 - 4.0 mils DFT
  2. Tnemec Series 29 Tufcryl, 1.5 - 2.0
- B. PPG Paint System – Two full coats
  1. PPG Amerlock Sealer, 1.5 mils DFT
  2. PPG Amercoat 220, 2.0 - 5.0 mils DFT
- C. SHERWIN-WILLIAMS Paint System – Two full coats
  1. Sherwin-Williams DTM Primer/Finish, 2.5 - 5.0 mils DFT
  2. Sherwin-Williams DTM Acrylic Semi-Gloss, 1.5 - 2.5 mils DFT

## 2.05 ACCESSORIES

- A. Seam Sealer/Caulk: Shall be as recommended by the coating manufacturer.

## 2.06 TESTING

- A. The Engineer shall have the right to take random samples of paint from the painter's bucket as it is being applied to the steel structure, tank or mechanical piping. These samples will be sent to the paint manufacturer for analysis to determine constituents and type of coating.
- B. No material of any kind shall be used until it has been inspected and accepted by the Engineer. All materials rejected shall be immediately removed from the work and not again offered for inspection.

## 2.07 ACCESSORY MATERIALS

- A. Provide all required ladders, scaffolding, drop cloths, maskings, scrapers, tools, sandpaper, cleaning solvents, and remove waste as required to perform the work to achieve the results specified herein. Materials not specifically indicated but required to achieve the finishes specified shall be of commercial quality and as recommended by the manufacturer.

## PART 3 - EXECUTION

## 3.01 EXAMINATION

- A. Contractor shall verify existing ambient condition and substrate conditions prior to proceeding with any work and submit to Engineer's/representative's prior to requesting Engineer's/representative's verification.
- B. Contractor shall verify substrate is properly prepared, properly cleaned, and or properly coated in accordance with project specifications prior to proceeding with any additional work and prior to requesting Engineer's/representative's verification.
- C. Should the contractor request verification from Engineer's/representative's and work is not in conformance with requirements contractor shall pay \$500 per occurrence to cover the costs to the owner.

## 3.02 PREPARATION - GENERAL

- A. Surface Preparation Schedule:
1. Carbon Steel: Shall be abrasive blast cleaned to SSPC SP-6 (commercial blast cleaning) to achieve an angular surface profile between 1.5 - 3 mils.
  2. Ductile Iron: All damaged primer and or connections shall be cleaned to SSPC SP-3 (Power Tool Cleaning)
  3. Galvanized Steel: Shall be cleaned in accordance with SSPC SP-1 (Solvent Cleaning) and may also require SSPC SP-7 (Brush off Blasting) as deemed necessary by the engineer or owner.
  4. Copper & PVC: Shall be cleaned in accordance with SSPC SP-1 (Solvent Cleaning) and SSPC SP-2 (Hand Tool Cleaning) to achieve a uniformly scarified surface.
- B. Cleaned surfaces, when viewed without magnification, shall be free of all visible paint oil, grease, dirt, mill scale, rust, oxides, corrosion products and other foreign matter as noted in Chapter 2, SSPC Painting Manual Volume 2.
- C. Pit filler shall be applied to all voids that are greater than  $\frac{1}{4}$  of the original steel surface thickness.
- D. The pit filler shall be applied prior to the application of the first coat and in accordance with manufacturer's instructions. If the manufacture's instructions differ from the project specifications, the more stringent will apply.
- E. All areas shall be cleaned prior to any coating application. All surfaces to be painted shall be dry.
- F. Weld projections or irregular portions of welds, or any steel defects that would interfere with the proper coating shall be ground smooth, as directed.

## 3.03 APPLICATION

- A. Apply coating in strict conformance with the manufacturer's instructions and requirements. If the manufacturer's instructions differ from the project specifications, the more stringent will apply.
- B. Before coating is applied to surfaces, steps shall be taken, either by circulation of dry air or by the application of heat, to dry the metal surfaces completely.
- C. No coatings shall be applied when the surface temperature is less than 5 degrees Fahrenheit (3 degrees Celsius) above the dew point.
- D. No coatings shall be applied when the relative humidity is above 85% or as recommended by manufacturer.
- E. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer. Do not apply exterior coatings when unfavorable weather conditions are forecast within 24 hours of application.
- F. No surfaces shall be coated that are not in compliance with SSPC surface preparation standards or any other part of the project specifications.
- G. All coatings shall be applied at the rate specified. Deficiencies in film thickness shall be corrected with the proper surface preparation and application of an additional coating or as directed by the engineer. Coatings in excess of the specified range shall be corrected at the direction of the engineer.

- H. All coating applications shall be inspected and approved by the Engineer prior to the application of any succeeding coats. All coats shall be applied to the dry film thickness specified.
- I. The minimum and maximum total dry film thickness shall be as indicated in this section. The Mil Gauge shall be calibrated in accordance with the National Institute of Standard and Technology. The Contractor shall have available on the job site a satisfactory magnetic type Mil Gauge for measuring film thickness.
- J. A brush applied stripe coat, of different color, shall be applied to all weld seams, edges, seams, or any non conforming surfaces deemed necessary by the engineer. The stripe coat shall be applied after the first coat but prior to the second coat.**
- K. The coating shall be applied as a continuous film of uniform thickness. Any holidays or areas missed in the application shall be recoated within the maximum re-coat time or be corrected with the proper surface preparation and cleaning prior to the application of the subsequent coating.
- L. All coatings that are specified shall only be acceptable in the number of coats specified in the contract documents.
- M. Color Coding of Process Piping shall be in accordance with Ten States Standards.

#### 3.04 CLEANING

- A. All surfaces shall be free of all dirt, oil, debris, or any other foreign matter prior to the application of any coating.
- B. The Contractor shall maintain his work area in a neat, orderly fashion. Accumulation of debris, muck, rust, scale, etc., shall be frequently (not to exceed 1 week) cleaned up and removed from the site. Thinners used to clean equipment shall be held in sealed containers and removed from the site to an approved disposal area by the Contractor. Provide certificates from the disposal site indicating that the material has been properly disposed of.
- C. Upon completion of the work, all excess material, rigging, empty containers, cables, tarps, etc., shall be removed from the site. Buildings and grounds shall be left in as good condition as when work was started.

#### 3.05 FIELD QUALITY CONTROL

- A. The Engineer will inspect the painting as it is being performed.
- B. The Engineer reserves the right to accept each phase of the work before further work may be conducted, to halt all Work deemed to be improper or not in compliance with project specifications, and to require the contractor to promptly correct all improper practices or deficient work. Contractor shall notify the Engineer's/representative's 24 hours minimum prior to the following:
  - 1. Prior to the start of work
  - 2. Immediately following surface preparation
  - 3. Immediately prior to each coating or lining application
  - 4. Following the application of each coat
  - 5. Following the curing of the coating or lining
- C. The Engineer reserves the right to conduct any testing, both destructive and nondestructive, at any time for inspection or evaluation purposes.

- D. Any expenses incurred for corrective measures required as the result of improper practices and/or defective or deficient work shall be borne by the contractor and the extent of these corrective measures shall be at the discretion of the engineer.
- E. The contractor shall provide safe access to all areas, including but not limited to, equipment, containers and spaces for inspection at any time as deemed necessary by the engineer or his representative
- F. Sufficient lighting shall be provided to ensure proper safety conditions and permit inspection.
- G. All manholes and other tank openings shall remain open as necessary during cleaning, painting and curing operations.

**END OF SECTION**

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Fire extinguishers.
- B. Cabinets.
- C. Locate as shown on contract drawings.

1.02 - RELATED SECTIONS

- A. Fabricated Engineered Structures - Section 133400.

1.03 - REFERENCES

- A. ANSI/NFPA 10 - Portable Fire Extinguishers.
- B. UL 299 - Dry Chemical Fire Extinguishers.

1.04 - SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Submit equipment cuts showing dimensions and installation requirements.

1.05 - OPERATION AND MAINTENANCE DATA

- A. Submit under provisions of Section 017823.
- B. Maintenance Data: Include test, refill or recharge schedules and re-certification requirements.

1.06 - REGULATORY REQUIREMENTS

- A. Conform to applicable code.

1.07 - ENVIRONMENTAL REQUIREMENTS

- A. Do not install extinguishers when ambient temperature may cause freezing of extinguisher ingredients.

PART 2 - PRODUCTS

2.01 - MANUFACTURERS

- A. POTTER - ROEMER
- B. Or approved equal.

2.02 - EXTINGUISHERS

- A. Provide two (2), #10 Class A, B, C fire extinguishers. All extinguishers to be surface mounted.

2.03 – WALL BRACKETS

- A. Provide surface mounted wall bracket mounting clips and all required accessories and fasteners for two (2) fire extinguishers, if the installation of semi-recessed cabinets is not possible.

2.04 – ACCESSORIES

- A. Identifications: Decal complying with authorities having jurisdiction for style, size, spacing and location.

PART 3 - EXECUTION

3.01 - EXAMINATION

- A. Verify wall openings under provisions of Section 013100.
- B. Verify rough openings for cabinet are correctly sized and located.

3.02 - INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install cabinets plumb and level in wall openings, 14-inches from finished floor to inside bottom of cabinet. Install surface mounted fire extinguishers where instructed in field.
- C. Secure rigidly in place.
- D. Place extinguishers in cabinets and/or on clips.

**END OF SECTION**

## PART 1 GENERAL

## 1.01 SECTION INCLUDES

- A. Metal Building System:
  - 1. Structural steel framing system.
  - 2. Insulated metal roof system.
  - 3. Metal wall system.
  - 4. Metal trim.

## 1.02 RELATED REQUIREMENTS

- A. Section 033000 - Concrete.
- B. Section 079000 - Caulking and Sealants.
- C. Section 081113 - Hollow Metal Doors and Frames.

## 1.03 REFERENCE STANDARDS

- A. American Institute of Steel Construction (AISC):
  - 1. AISC Specification for Structural Steel Buildings.
- B. American Iron and Steel Institute (AISI):
  - 1. AISI North American Specification for the Design of Cold-Formed Steel Structural Members.
- C. American Welding Society (AWS):
  - 1. AWS D1.1 / D1.1M – Structural Welding Code – Steel.
  - 2. AWS D1.3 / D1.3M – Structural Welding Code – Sheet Steel.
- D. Association for Iron & Steel Technology (AISE):
  - 1. AISE 13 – Specifications for Design and Construction of Mill Buildings.
- E. ASTM International (ASTM):
  - 1. ASTM A 325 – Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength.
  - 2. ASTM A 653 / A 653M – Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
  - 3. ASTM A 792 / A 792M – Standard Specification for Steel Sheet, 55 % Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
  - 4. ASTM B 117 – Standard Practice for Operating Salt Spray (Fog) Apparatus.
  - 5. ASTM C 518 – Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
  - 6. ASTM C 1363 – Standard Test Method for Thermal Performance of Building Materials and Envelope Assemblies by Means of a Hot Box Apparatus.
  - 7. ASTM D 522 – Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings.

8. ASTM D 523 – Standard Test Method for Specular Gloss.
  9. ASTM D 968 – Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive.
  10. ASTM D 1308 – Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes.
  11. ASTM D 2244 – Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates.
  12. ASTM D 2247 – Standard Practice for Testing Water Resistance of Coatings in 100% Relative Humidity.
  13. ASTM D 2794 – Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).
  14. ASTM D 3361 – Standard Practice for Unfiltered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings.
  15. ASTM D 4214 – Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films.
  16. ASTM E 84 – Standard Test Method for Surface Burning Characteristics of Building Materials.
  17. ASTM E 96 / E 96M – Standard Test Methods for Water Vapor Transmission of Materials.
  18. ASTM E 1592 – Standard Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference.
  19. ASTM G 87 – Standard Practice for Conducting Moist SO<sub>2</sub> Tests.
- F. FM Global:
1. FMRC Standard 4471 – Approval Standard for Class 1 Roofs for Hail Damage Resistance, Combustibility, and Wind Uplift Resistance. Roof systems shall be installed to meet the requirements of the assembly tested.
- G. Metal Building Manufacturers Association (MBMA):
1. MBMA Metal Building Systems Manual.
- H. Underwriters Laboratories (UL):
1. UL 580 – Standard for Tests for Uplift Resistance of Roof Assemblies.
  2. UL 723 – Standard for Test for Surface Burning Characteristics of Building Materials.
- 1.04 PREINSTALLATION MEETINGS
- A. Convene pre-installation meeting 2 weeks before start of installation of metal building system.
  - B. Require attendance of parties directly affecting work of this section, including Contractor, Architect, Engineer, installer, and metal building system manufacturer's representative.
  - C. Review materials, installation, protection, and coordination with other work.
- 1.05 SUBMITTALS
- A. Comply with Section 01 33 00 – Submittals.
  - B. Product Data: Submit metal building system manufacturer's product information, specifications, and installation instructions for building components and accessories.
  - C. Erection Drawings: Submit metal building system manufacturer's erection drawings, including plans, elevations, sections, and details, indicating roof framing, transverse cross-sections, covering and trim details, and accessory installation details to clearly indicate proper assembly of building components.

- D. Certification: Submit written letter of certification prepared and signed by a Professional Engineer, registered to practice in New York verifying that the metal building system design and metal roof system design (including panels, clips, and support system components) meet indicated loading requirements and codes of authorities having jurisdiction.
1. Certification shall reference specific dead loads, live loads, snow loads, wind loads/speeds, tributary area load reductions (if applicable), concentrated loads, collateral loads, seismic loads, end-use categories, governing code bodies, including year, and load applications.
  2. Submit certification 1 week before bid date on the metal building system manufacturer's letterhead.
- E. Submit certification verifying that the metal roof system has been tested and approved by Underwriter's Laboratory as Class 90.
- F. Submit certification verifying that the metal standing seam roof system has been tested in accordance with ASTM E 1592 test protocols.
- G. Dealer Certification: Submit certification 1 week before bid date that the metal building system supplier or metal roof system supplier is a manufacturer's authorized and franchised dealer of the system to be furnished.
1. Certification shall state date on which authorization was granted.
- H. Installer Certification: Submit certification 1 week before bid date that the metal building system or roof system installer has been regularly engaged in the installation of building systems of the same or equal construction to the system specified.
- I. Warranty Documentation: Submit manufacturer's standard warranty.

#### 1.06 QUALITY ASSURANCE

- A. Manufacturer's Qualifications:
1. Manufacturer regularly engaged, for past 10 years, in manufacture of metal building systems of similar type to that specified.
  2. Accredited based on IAS Accreditation Criteria AC472 and requirements in International Building Code (IBC), Chapter 17.
- B. Installer's Qualifications:
1. Installer regularly engaged, for past 5 years, in installation of metal building systems of similar type to that specified.
  2. Employ persons trained for installation of metal building systems.
- C. Letter of Certification:
1. Metal building system manufacturer shall submit written certification prepared and signed by a Professional Engineer, registered to practice in New York verifying that building system design and metal roof system design (including panels, clips, and support system components) meet indicated loading requirements and codes of authorities having jurisdiction.
  2. Certification shall reference specific dead loads, live loads, snow loads, wind loads/speeds, tributary area load reductions (if applicable), concentrated loads, collateral loads, seismic loads, end-use categories, governing code bodies, including year, and load applications.
  3. Letter of certification shall be on metal building system manufacturer's letterhead.
  4. Refer to Submittals article of this specification section.
- D. Material Testing:

1. In addition to material certifications of structural steel, metal building system manufacturer shall provide, upon request at time of order, evidence of compliance with specifications through testing.
2. This quality assurance testing shall include testing of structural bolts, nuts, screw fasteners, mastics, and metal coatings (primers, metallic coated products, and painted coil products).

#### 1.07 DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Acceptance Requirements: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage and Handling Requirements:
  1. Store and handle materials in accordance with manufacturer's instructions.
  2. Keep materials in manufacturer's original, unopened containers and packaging until installation.
  3. Do not store materials directly on ground.
  4. Store materials on flat, level surface, raised above ground, with adequate support to prevent sagging.
  5. Protect materials and finish during storage, handling, and installation to prevent damage.

#### 1.08 WARRANTY

- A. Metal building system manufacturer shall provide a written weather tightness warranty for a maximum of 25 years against leaks in roof panels, arising out of or caused by ordinary wear and tear under normal weather and atmospheric conditions.
  1. Warranty shall be signed by both the metal roof system manufacturer and the metal roof system installer.
  2. Maximum liability of warranty shall be no less than \$0.70 per square foot of roof area.
- B. Metal building system manufacturer shall provide a written warranty for 25 years against perforation of metal roof panels due to corrosion under normal weather and atmospheric conditions.
  1. Warranty shall be signed by metal roof system manufacturer.
- C. Metal building system manufacturer shall provide a paint film written warranty for 25 years against cracking, peeling, chalking, and fading of exterior coating on painted roof and wall panels.
  1. Warranty shall be signed by metal building system or roof system manufacturer and state that the coating contains 70 percent "Kynar 500" or "Hylar 5000" resin.
  2. Metal building system manufacturer shall warrant that the coating shall not peel, crack, or chip for 25 years.
  3. For a period of 25 years, chalking shall not exceed ASTM D 4214, #8 rating and shall not fade more than 5 color difference units in accordance with ASTM D 2244.
- D. Metal Building System Manufacturer's Certification: Metal building system manufacturer shall submit a signed written Certification 1 week before bid date, stating that the metal roof system manufacturer or approved representative will provide warranties and Inspection and Report Service specified in this specification section.
  1. Warranty terms shall be submitted with bid.

#### PART 2 PRODUCTS

## 2.01 MANUFACTURER

- A. BUTLER
- B. MBMI
- C. NUCOR
- D. The information contained in this specification has been based on a Butler building system. Alternate manufacturers, including manufacturers named above, will be considered based upon submission to prove equal or better quality by the contractor.

## 2.02 BUILDING DESCRIPTION

- A. Building Dimensions: Indicated on the Drawings.
  - 1. Horizontal Dimensions: Measure to inside face of wall sheets.
  - 2. Eave Height: Measure from top of finished floor to intersection of insides of roof and sidewall sheets.
  - 3. Clear Height Between Finished Floor and Bottom of Roof Steel: Indicated on the Drawings.
- B. Primary Structural Members:
  - 1. Primary Framing System: Butler Manufacturing framing system as specified in this specification section. Custom Structural members: Provide straight columns, as indicated on contract drawings. Coordinate structural requirements with all doors, windows, overhead doors, and building hoist arm.
  - 2. Frames: Welded-up plate section columns and roof beams, complete with necessary splice plates for bolted field assembly as specified in this specification section.
  - 3. Bolts for Field Assembly of Primary Steel: High-strength bolts as indicated on erection drawings of metal building system manufacturer.
  - 4. Beam and Post Endwall Frames: Endwall corner posts, endwall roof beams, and endwall posts as required by design criteria.
  - 5. Exterior Columns: Welded-up "H" sections or cold-formed "C" sections.
  - 6. Interior Columns: "H" sections or tube columns.
  - 7. Connection of Primary Structural Members: ASTM A 325 bolts through factory-punched holes.
  - 8. Primary Structural Members: Paint with metal building system manufacturer's standard primer with surface preparation as specified in Section 099000 – Painting.
- C. Secondary Structural Members:
  - 1. Secondary Framing System: Butler Manufacturing framing system as specified in this specification section.
  - 2. C/Z Purlins and Girts: Acrylic-coated G30 galvanized finish.
- D. Metal Roof System: Butler Manufacturing metal roof system as specified in this specification section.
- E. Metal Wall System: Butler Manufacturing metal wall system as specified in this specification section.
- F. Where metal panels are required to be painted, use coating system as specified in this specification section.

## 2.03 DESIGN LOADS

- A. Governing Design Code:
1. Structural design for the building structural system shall be provided by the metal building system manufacturer for the following design criteria:
    - a. Governing Building Code: BCNYS.
    - b. Year/Version: 2010.
    - c. Occupancy Category: IV
- B. Roof Live Load:
1. Roof live loads are loads produced during the life of the structure by moveable objects.
  2. Wind, snow, seismic, or dead loads are not live loads.
  3. Roof live loads are applied based on the Tributary Area as follows:
    - a. 0 to 200 Square Feet: 20psf.
    - b. 201 to 600 Square Feet: Interpolation between 200 sq ft and 600 sq ft numbers.
    - c. 601 Square Feet or Greater: 20 psf.
- C. Roof Snow Load:
1. Roof snow load used for designing the structure shall not be reduced and shall be the product of the following criteria:
    - a. Snow Load Coefficient ( $C_e$ ): 1.0.
    - b. Thermal Factor ( $C_t$ ): 1.0.
    - c. Snow Importance Factor ( $I$ ): 1.2.
    - d. Ground Snow Load ( $P_g$ ): 20psf.
    - e. Roof Snow Load ( $P_f$ ): 25 psf.
  2. Design snow load shall include the effects of minimum flat roof load limits, rain on snow, drifting snow, and unbalanced snow load as defined in the governing building code specified above.
- D. Wind Load:
1. Wind load used for designing the structure shall be the product of the following criteria:
    - a. Wind Exposure Category: B.
    - b. Wind Velocity Pressure Exposure Coefficient ( $K_z$ ): 0.7.
    - c. Wind Topographic Factor ( $K_{zt}$ ): 1.0.
    - d. Wind Directionality Factor ( $K_d$ ): .85.
    - e. Wind Velocity ( $V$ ), miles per hour: 117mph.
    - f. Wind Importance Factor ( $I_w$ ): 1.15.
    - g. Building Wind Load ( $q_z$ ): 24 psf.
  2. Wind Pressure Coefficients and the design pressures shall be applied in accordance with the governing code.
- E. Seismic Load:
1. Seismic load used for designing the structure shall be based on the following criteria:
    - a. Spectral response acceleration for short periods ( $S_s$ ): 0.26 % g.
    - b. Spectral response acceleration for 1-sec. period ( $S_1$ ): 0.07 % g.
    - c. Site Class: D.
    - d. Seismic Importance Factor ( $I$ ): 1.50.
  2. Seismic loads shall be applied in accordance with the governing code.
- F. Dead Load: Dead load shall consist of the weight of building system construction, such as roof, framing, and covering members.
- G. Collateral Load:

1. Collateral load of 10 pounds per square foot shall be applied to the entire structure to account for the weight of additional permanent materials other than the building system, such as sprinklers, mechanical systems, electrical systems, hung partitions, and ceilings.
  2. This allowance does not include the weight of hung equipment weighing 50 pounds or more.
  3. Equipment loads of 50 pounds or more shall be indicated on the Drawings and the structure shall be strengthened as required.
  4. Architect will provide the metal building system manufacturer with the magnitude and approximate location of concentrated loads greater than 50 pounds before design of the building starts.
- H. Auxiliary Loads: Auxiliary loads shall include dynamic loads, such as cranes and material handling systems, and will be defined in the Contract Documents.
- I. Crane Loads:
1. Crane loads shall be a function of the Service Class as defined by the governing code and Crane Manufacturers Association of America (CMAA) and the rated tonnage (A- Standby or Infrequent service, B- Light service, C- Moderate service, D- Heavy Service, E- Severe Service, F- Continuous Severe Service).
  2. Cranes in Service Class E or F shall be in accordance with AISE 13.
  3. Crane loads will be obtained from the crane manufacturer and supplied by the Architect to the metal building system manufacturer at the time of bid.
  4. Building structure shall be designed for the crane loads in accordance with the governing code.
  5. Multiple cranes in the same bay or aisle shall be designed in accordance with the governing code.
  6. If the governing code does not address multiple crane design practices, MBMA Metal Building Systems Manual shall be used.
- J. Load Combinations: Load combinations used to design primary and secondary structural members shall be in accordance with the governing code.

## 2.04 DEFLECTIONS

- A. Structural Members:
1. Maximum deflection of main framing members shall not exceed 1/180 of their respective spans.
  2. Maximum deflection due to snow load in roof panels and purlins shall not exceed 1/180 of their respective spans.
  3. Maximum deflection due to wind load in wall panels and girts shall not exceed 1/240 of their respective spans.
- B. Lateral deflections, or drift, at the roof level of the structure in relation to the floor or slab on grade, caused by deflection of horizontal force resisting elements, shall not exceed H/120.
- C. Calculations for deflections shall be done using only the bare frame method.
1. Reductions based on engineering judgment using the assumed composite stiffness of the building envelope shall not be allowed.
  2. Drift shall be in accordance with AISC Serviceability Design Considerations for Low-Rise Buildings.
  3. Use of composite stiffness for deflection calculations is permitted only when actual calculations for the stiffness are included with the design for the specific project.
  4. When maximum deflections are specified, calculations shall be included in the design data.

## 2.05 STRUCTURAL STEEL FRAMING SYSTEM

## A. General:

1. Design of Structural System: Clear or multi-span rigid frame with tapered or straight columns and roof beams, with gable or single-slope roof.
2. Actual Building Length:
  - a. Structural line to structural line.
  - b. Same as nominal; i.e., number of bays times length of bays.
  - c. Structural Line: Defined as inside face of wall sheets.
3. Actual Building Width:
  - a. Structural line to structural line.
  - b. Nominal building width.
4. Roof Slope: 2 inch in 12 inches.
5. Components and Parts of Structural System:
  - a. Indicated on the Drawings or the Specifications.
  - b. Clearly marked.
  - c. Erection Drawings: Supply for identification and assembly of parts.
  - d. Drawings: Carry stamp of a registered professional engineer.
6. Foundations:
  - a. Foundations, Including Anchor Bolt Embedment Length: Refer to construction drawings.
  - b. Reactions for Proper Design of Foundations: Supplied by metal building system manufacturer.
  - c. Anchor Bolts:
    - 1) Anchor Bolt Diameter: Indicated on anchor bolt layout drawings furnished by metal building system manufacturer.
    - 2) Anchor Bolts: Supplied by Contractor, not metal building system manufacturer.
    - 3) Anchor Bolts on Moment-Resisting Column Bases: Nuts above and below base plates.

## B. Structural Steel Design:

1. Structural Mill Sections or Welded-up Plate Sections: Design in accordance with AISC Specification for Structural Steel Buildings.
2. Cold-Formed Steel Structural Members: Design in accordance with AISI North American Specification for the Design of Cold-Formed Steel Structural Members.
3. Structural System: Design in accordance with specified building code (Refer to Design Loads and Building Codes).

## C. Primary Framing:

1. Rigid Frames:
  - a. Frames: Welded-up plate section columns and roof beams, complete with necessary splice plates for bolted field assembly.
    - 1) Base Plates, Cap Plates, Compression Splice Plates, and Stiffener Plates: Factory welded into place and connection holes factory fabricated.
    - 2) Columns and Roof Beams: Fabricated complete with holes in webs and flanges for attachment of secondary structural members and bracing, except for fieldwork as noted on erection drawings furnished by metal building system manufacturer.
  - b. Bolts for Field Assembly of Frame Members: ASTM A 325 high-strength bolts as indicated on erection drawings furnished by metal building system manufacturer.
2. Endwall Structural Members: Cold-formed channel members designed in accordance with AISI North American Specification for the Design of Cold-Formed Steel Structural Members or welded-up plate sections designed in accordance with AISC Specification for Structural Steel Buildings.
  - a. Endwall Frames: Endwall corner posts, endwall roof beams, and endwall posts as required by design criteria.

- 1) Splice Plates and Base Clips: Shop fabricated complete with bolt connection holes.
  - 2) Base Plates, Cap Plates, Compression Splice Plates, and Stiffener Plates: Factory welded into place and connection holes shop fabricated.
  - 3) Beams and Posts: Factory fabricated complete with holes for attachment of secondary structural members, except for field work as noted on erection drawings furnished by metal building system manufacturer.
  - b. Intermediate Frames: Substituted for end-wall roof beams, when specified.
    - 1) Factory fabricate necessary endwall posts and holes for connection to intermediate frame used in endwall.
- D. Secondary Structural Members:
1. Purlins:
    - a. Purlins:
      - 1) "Z"-shaped, precision-roll-formed, acrylic-coated G30 galvanized steel in different gauges to meet specified loading conditions.
      - 2) 7-inch, 8-1/2-inch, 10-inch, or 11-1/2-inch-deep "Z" sections.
    - b. Outer Flange of Purlins: Factory-punched holes for panel connections.
    - c. Attach purlins to main frames and endwalls by 1/2-inch-diameter bolts through end seat of truss purlin.
    - d. Brace purlins on top and bottom chords spaced at intervals indicated on erection drawings furnished by metal building system manufacturer.
    - e. Concentrated Loads: Hung at purlin panel points.
  2. Eave Members:
    - a. Eave Struts: Factory punched 7-inch, 8-1/2-inch, 10-inch, or 11-1/2-inch-deep "C" sections, precision-roll-formed, acrylic-coated G30 galvanized steel in different gauges to meet specified loading conditions.
  3. Girts:
    - a. "Z" or "C"-shaped, precision-roll-formed, acrylic-coated G30 galvanized steel in different gauges to meet specified loading conditions.
    - b. 7-inch, 8-1/2-inch, 10-inch, or 11-1/2-inch-deep "Z" or "C" sections.
    - c. Outer Flange of Girts: Factory-punched holes for panel connections.
  4. Bracing:
    - a. Locate bracing as indicated on the Drawings.
    - b. Diagonal Bracing:
      - 1) Hot-rolled rods of sizes indicated on the Drawings.
      - 2) Attach to columns and roof beams as indicated on the Drawings.
    - c. Optional fixed-base wind posts or pinned-base portal frames may be substituted for wall rod bracing on buildings as required.
    - d. Flange Braces and Purlin Braces: Cold formed and installed as indicated on the Drawings.
- E. Welding:
1. Welding Procedures, Operator Qualifications, and Welding Quality Standards: AWS D1.1 - Structural Welding Code – Steel and AWS D1.3 - Structural Welding Code – Sheet Steel.
  2. Welding inspection, other than visual inspection as defined by AWS D1.1, paragraph 6.9, shall be identified and negotiated before bidding.
  3. Certification of Welder Qualification: Supply when requested.
- F. Painting of Structural Steel Framing System:
1. General:
    - a. Structural Steel: Prime paint as temporary protection against ordinary atmospheric conditions.
    - b. Perform subsequent finish painting, if required, in field as specified in Section 099713 – Structural Steel Coating System.

- c. Before painting, clean steel of loose rust, loose mill scale, dirt, and other foreign materials.
- d. Steel Fabricator: Not required to sand blast, flame clean, or pickle steel before painting, unless otherwise specified.
2. Primary Frames:
  - a. Clean steel in accordance with SSPC-SP2.
  - b. Factory cover steel with 1 coat of gray water-reducible alkyd primer paint formulated to equal or exceed performance requirements SSPC-Paint 25.
  - c. Minimum Coating Thickness: 1.0 mil.
3. Secondary Structural Members – Roll-Formed:
  - a. Hot-dipped zinc coating, ASTM A 653, G30; followed by 1 coat of clear acrylic finish.
  - b. Acrylic-Coated G30 Galvanized Steel: Equal or exceed performance requirements of SSPC Paint-25.
4. Truss Purlins:
  - a. Clean steel in accordance with SSPC-SP2.
  - b. Factory cover steel with 1 coat of gray primer by spray, dip, or electrodeposition method.
  - c. Minimum Coating Thickness: 1.0 mil.

## 2.06 METAL ROOF SYSTEM

- A. Metal Roof System: Butler Manufacturing “CMR-24<sup>®</sup>” roof system.
- B. Roof System Design:
  1. Design roof panels and liner panels in accordance with AISI North American Specification for the Design of Cold-Formed Steel Structural Members.
  2. Design roof paneling system to support design live, snow, and wind loads.
  3. Endwall Trim and Roof Transition Flashings: Allow roof panels to move relative to wall panels and/or parapets as roof expands and contracts with temperature changes.
- C. Roof System Performance Testing:
  1. UL Wind Uplift Classification Rating, UL 580: Class 90.
  2. Structural Performance Under Uniform Static Air Pressure Difference: Test roof system in accordance with ASTM E 1592.
  3. Roof system has been tested in accordance with U.S. Army Corps of Engineers Unified Facilities Guide Specification Section 07 61 13.
  4. FM Global (Factory Mutual):
    - a. Roof system has been tested in accordance with FMRC Standard 4471 and approved as a Class 1 Panel Roof.
    - b. Metal Building System Manufacturer: Provide specific assemblies to meet required wind rating in accordance with FM Global.
    - c. Installation modifications or substitutions can invalidate FM Global approval.
- D. Roof Panels:
  1. Factory roll-formed, 24 inches wide, with 2 major corrugations, 2 inches high (2-3/4 inches including seam), 24 inches on center.
  2. Flat of the Panel: Cross flutes 6 inches on center, perpendicular to major corrugations in entire length of panel to reduce wind noise.
  3. Variable Width Panels:
    - a. For roof lengths not evenly divisible by the 2'-0" panel width, factory-manufactured variable-width (9-inch, 12-inch, 15-inch, 18-inch, and 21-inch-wide) panels shall be used to ensure modular, weathertight roof installation.
    - b. Minimum Length: 15 feet.
    - c. Supply maximum possible panel lengths.
  4. Panel Material and Finish:

- a. 24-gauge galvanized steel, G90 coating; ASTM A 653, G90.
  - b. Paint with exterior colors of “Butler-Cote™” finish system, full-strength, 70 percent “Kynar 500” coating.
  - c. PVDF Coating Warranty: Metal building system manufacturer shall warrant coating for 25 years for the following.
    - 1) Not to peel, crack, or chip.
    - 2) Chalking: Not to exceed ASTM D 4214, #8 rating.
    - 3) Fading: Not more than 5 color-difference units, ASTM D 2244.
  5. Panel Material and Finish: Special materials, gauges, or colors as applicable for custom designs.
  6. Use panels of maximum possible lengths to minimize end laps.
  7. Extend eave panels beyond structural line of sidewalls.
  8. Factory punch panels at panel end to match factory-punched holes in eave structural member.
  9. Panel End Splices: Factory punched and factory notched.
  10. Panel End Laps: Locate directly over, but not fastened to, a supporting secondary roof structural member and be staggered, to avoid 4-panel lap-splice condition.
  11. End Laps: Floating. Allows roof panels to expand and contract with roof panel temperature changes.
  12. Self-Drilling Fasteners: Not permitted in weathering membrane of roof system.
  13. Ridge Assembly:
    - a. Design ridge assembly to allow roof panels to move lengthwise with expansion and contraction as roof panel temperature changes.
    - b. Factory punch parts for correct field assembly.
    - c. Install panel closures and interior reinforcing straps to seal panel ends at ridge.
    - d. Do not expose attachment fasteners on weather side.
    - e. Use lock seam plug to seal lock seam portion of panel.
    - f. High-Tensile Steel Ridge Cover: Span from panel closure to panel closure and flex as roof system expands and contracts.
- E. Insulation Board:
1. Rigid “Thermax” Metal Building Board glass-fiber-reinforced, polyisocyanurate foam plastic core.
  2. Width: 4 feet.
  3. Maintain Class A fire rating.
  4. Approved for use without thermal barrier.
  5. Maximum Thickness: 4 inches.
  6. Covered with embossed aluminum facing - Metal Building Board.
- F. Vapor Retarder:
1. PSK Light Duty (WMP-VR) 0.0015-inch minimum thickness, UV-stabilized, white polypropylene, laminated to 11-pound Kraft paper / metalized polyester and reinforced with glass fiber and polyester scrim.
  2. Perm Rating: 0.09.
- G. Interior Liner Panels:
1. Form panels from 0.015-inch minimum thickness coated steel with minimum yield strength of 80,000 psi.
  2. Painted Panel Finish:
    - a. Exposed Side: 0.1-mil primer and 0.4-mil minimum interior white polyester paint.
    - b. Unexposed Side: 0.3-mil minimum non-color-controlled wash coat.
  3. Panel Dimensions: Nominal 36 inches wide with corrugations 9/16 inches high, 2-9/16 inches on center.
  4. Factory cut panels to lengths required.
- H. Provision for Expansion and Contraction:

1. Provision for Thermal Expansion Movement of Roof Panels: Clips with movable tab.
    - a. Stainless Steel Tabs: Factory centered on roof clip to ensure full movement in either direction.
    - b. Maximum Force of 8 Pounds: Required to initiate tab movement.
    - c. Each Clip: Accommodates a minimum of 1.25-inch movement in either direction.
  2. Roof: Provide for thermal expansion and contraction without detrimental effects on roof panels, with plus or minus 100-degree F temperature difference between interior structural framework of building and of roof panels.
- I. Fasteners:
1. Make connections of roof panels to structural members, except at eaves, with clips with movable stainless steel tabs, seamed into standing seam side lap.
  2. Fasten insulation board, bearing plates, and panel clips to structural members with “Scrubolt™” fasteners in accordance with erection drawings furnished by metal building system manufacturer, using factory-punched or field-drilled holes in structural members.
    - a. Fasteners: Metal-backed rubber washer to serve as torque indicator.
  3. Fasteners penetrating metal membrane at the following locations do not exceed the frequency listed:
    - a. Basic Panel System: 0 per square foot.
    - b. High Eave Trim, No Parapet: 2 per linear foot.
    - c. Exterior Eave Gutter: 2 per linear foot.
    - d. Panel Splices: 2 per linear foot.
    - e. Gable Trim: 0 per linear foot.
    - f. High Eave with Parapet: 0 per linear foot.
    - g. Ridge: 0 per linear foot.
    - h. Low Eave Structural: 1.5 per linear foot.
- J. Accessories:
1. Accessories (i.e., ventilators, skylights, gutters, fascia): Standard with metal building system manufacturer, unless otherwise noted and furnished as specified.
  2. Metal Coating on Gutters, Downspouts, Gable Trim, and Eave Trim: “Butler-Cote™” finish system, full-strength, 70 percent “Kynar 500” or “Hylar 5000” fluoropolymer (PVDF) coating.
  3. Snow Guards: “Snow Defender 4500” powder coated snow guards as manufactured by “Snow Defender”, or equal. Color to match roof system.
  4. Location of Standard Accessories: Indicated on erection drawings furnished by metal building system manufacturer.
  5. Material used in flashing and transition parts and furnished as standard by metal building system manufacturer may or may not match roof panel material.
    - a. Parts: Compatible and not cause corrosive condition.
    - b. Copper and Lead Materials: Do not use with Galvalume or optional aluminum-coated panels.
- K. Thermal Performance:
1. Determine thermal performance in accordance with ASTM C 1363 and test U-factors for composite roof section.
  2. “Thermax” Insulation Thicknesses: Maximum 4 inches.
- L. Physical Properties:
1. WMP-50 Vapor Retarder:
    - a. For conditions of high interior humidity, UV-stabilized, white polypropylene film.
    - b. Water Vapor Permeance (perm) Rating, ASTM E 96: 0.02.
    - c. Minimum Workability Temperature: 20 degrees F.
  2. Vapor Retarder UL Fire Hazard Classification Ratings, UL 723:
    - a. WMP-50 Vapor Retarder:
      - 1) Flame Spread: 5.

- 2) Smoke Development: 30.
3. Insulation Board Facing:
  - a. Water Vapor Permeance (perm) Rating, ASTM E 96: 0.03.
4. “Thermax” Metal Building Board Insulation:
  - a. Class I Factory Mutual Approval and UL Fire Hazard Classification Ratings, UL 723:
    - 1) Flame Spread: 25 or less.

## 2.07 METAL WALL SYSTEM

- A. Exterior Metal Wall System: Butler Manufacturing™ “Butlerib® II” wall system.
- B. Interior Metal Wall System: Butler Manufacturing™ “Butlerib® II” wall system.
- C. Wall System Design: Design wall panels in accordance with AISI North American Specification for the Design of Cold-Formed Steel Structural Members.
- D. Wall Panels:
  1. Roll-formed panels, 3 feet wide with 4 major corrugations, 1-1/2 inches high, 12 inches on center, with 2 minor corrugations between each of the major corrugations entire length of panel.
  2. One piece from base to building eave.
  3. Upper End of Panels: Fabricate with mitered cut to match corrugations of “Butlerib® II” roof panels of 1/2 inch to 12 inches and square cut for all other roof panels and slopes.
  4. Factory punch or field drill wall panels at panel ends and match factory-punched or field-drilled holes in structural members for proper alignment.
  5. Panel Material and Finish:
    - a. 26-gauge or 24-gauge painted Galvalume aluminum-zinc alloy (approximately 55 percent aluminum, 45 percent zinc), ASTM A 792.
    - b. Paint with exterior colors of “Butler-Cote™” finish system, full-strength, 70 percent “Kynar 500” or “Hylar 5000” fluoropolymer (PVDF) coating.
    - c. PVDF Coating Warranty: Metal building system manufacturer shall warrant coating for 25 years for the following.
      - 1) Not to peel, crack, or chip.
      - 2) Chalking: Not to exceed ASTM D 4214, #8 rating.
      - 3) Fading: Not more than 5 color-difference units, ASTM D 2244.
- E. Fasteners:
  1. Wall Panel-to-Structural Connections: Torx-head “Scrubolt™” fasteners.
  2. Wall Panel-to-Panel Connections: Torx-head self-drilling screws.
  3. Fastener Locations: Indicated on erection drawings furnished by metal building system manufacturer.
  4. Exposed Fasteners: Factory painted to match wall color.
- F. Accessories:
  1. Accessories (i.e., doors, windows, louvers): Standard with metal building system manufacturer, unless otherwise noted and furnished as specified.
  2. Location of Standard Accessories: Indicated on erection drawings furnished by metal building system manufacturer.

## 2.08 INSULATION

- A. Laminated Fiberglass: Owens-Corning Fiberglas, NAIMA 202, “Certified R” metal building insulation.

1. TIMA Insignia and Insulation Thickness: Ink-jet printed on fiberglass.
  - B. Back-Fill Insulation: Owens-Corning Fiberglas unfaced “Pink Metal Building Insulation Plus”.
  - C. Roof Insulation:
    1. See Roofing System information above.
  - D. Wall Insulation:
    1. Nominal Thickness: 6 inches.
    2. Certified R-Value: 20.
  - E. Wall Insulation Facing: PSK Heavy Duty (WMP-30).
    1. 0.0005-inch-thick, UV-stabilized, white metalized polypropylene laminated to 30-pound Kraft paper, reinforced with glass-fiber scrim.
    2. Adhere facing to Owens-Corning Fiberglas “Certified R”, NAIMA 202, fiberglass blanket.
    3. Assembly of Insulation Blanket and Facing:
      - a. Flame Spread Rating: Less than 25.
      - b. UL Label: Submit as specified in Submittals article of this section.
      - c. Perm Rating: 0.02.
- 2.09 METAL COATING SYSTEM
- A. Metal Coating System: Butler Manufacturing™ “Butler-Cote™” finish system a factory-applied, exterior metal coating system
  - B. Substrate Preparation:
    1. G90 Hot-Dipped Galvanized Steel or AZ50 Galvalume: Factory-controlled chemical-conversion treatment.
  - C. Coating:
    1. Material: “Fluropon”. Full-strength, 70 percent, “Kynar 500” or “Hylar 5000” fluoropolymer (PVDF) color coating.
    2. After steel preparation, coat exterior exposed surface with primer and “Fluropon”.
      - a. Nominal Total Dry Film Thickness: 1.0 mil.
    3. Interior Exposed Surfaces: Coat with polyester color coat.
    4. Apply coatings to entire material dimensions of steel sheets before forming of panels.
  - D. Physical Characteristics of Exterior Coating:
    1. Resistance to failure through cracking, checking, peeling, and loss of adhesion.
    2. Measure by the following laboratory weather-simulating tests to obtain test results justifying metal building system manufacturer's 25-year warranty:
      - a. Humidity resistance at 100 degrees F and 100 percent relative humidity, ASTM D 2247.
      - b. Salt-spray resistance at 5 percent salt fog, ASTM B 117.
      - c. Reverse impact resistance, ASTM D 2794.
      - d. Resistance to accelerated weathering, Atlas Model XW-R Dew Cycle Weather-O-Meter, ASTM D 3361.
      - e. Resistance to dry heat.
      - f. Abrasion resistance, ASTM D 968.
      - g. Chemical/acid/pollution resistance, ASTM D 1308 and G 87.
      - h. Maintain gloss of finish evenly over entire surface, ASTM D 523
- 2.10 EXAMINATION
- A. Examine area to receive metal building system.

- B. Notify Architect of conditions that would adversely affect installation or subsequent use.
- C. Do not begin installation until unacceptable conditions are corrected.

#### 2.11 ERECTION – STRUCTURAL STEEL FRAMING SYSTEM

- A. Erect structural steel framing system in accordance with the Drawings and metal building system manufacturer's erection drawings.
- B. Field Modifications:
  - 1. Require approval of metal building system manufacturer.
  - 2. Responsibility of building erector.
  - 3. Field Modifications to Truss Purlins: Not allowed, unless indicated on erection drawings furnished by metal building system manufacturer.
- C. Fixed Column Bases: Grout flush with floor line after structural steel erection is complete.

#### 2.12 INSTALLATION – METAL ROOF SYSTEM

- A. Metal Roof System Installation: Butler Manufacturing™ “CMR-24®” roof system.
  - 1. Install roof system in accordance with metal building system manufacturer's instructions at locations indicated on the Drawings.
  - 2. Install roof system weathertight.
  - 3. Position and align liner panels and insulation board by installing starting panels against endwall trim clips and sidewall eave structural.
  - 4. Place liner panels with edges up and corrugations perpendicular to secondary structural members and with end laps over secondary structural members.
  - 5. Attach liner panels to roof secondary structural members with self-drilling screws in accordance with erection drawings furnished by metal building system manufacturer.
  - 6. Install vapor retarder over liner panels with 6-inch minimum side laps and end laps.
  - 7. Position panel clips and bearing plates by matching hole in clip with factory-punched or field-drilled holes in secondary structural members.
  - 8. Position and properly align panels by matching factory-punched holes in panel end with factory-punched holes in eave structural member and by aligning panel with panel clip.
  - 9. Field seam panel side laps by self-propelled and portable electrical lock-seaming machine.
    - a. Machine field forms the final 180 degrees of a 360-degree Pittsburgh double-lock standing seam.
    - b. Factory apply side lap sealant.
  - 10. Panel End Laps: Minimum of 6 inches, sealed with “Butler Panlastic” sealant, and fastened together by clamping plates.
    - a. Sealants: Contain hard nylon beads, which prevent mastic from flowing out due to clamping actions.
    - b. Join panel laps by 2-piece clamped connection consisting of a bottom reinforcing plate and a top panel strap.
    - c. Locate panel end laps directly over, but not fastened to, supporting secondary roof structural member and stagger, to avoid 4-panel lap-splice condition.

#### 2.13 INSTALLATION – METAL WALL SYSTEM

- A. Metal Wall System Installation: Butler Manufacturing™ “Butlerib® II” wall system.
  - 1. Install wall system in accordance with metal building system manufacturer's instructions at locations indicated on the Drawings.
  - 2. Install wall system weathertight.
  - 3. Verify structural system is plumb before wall panels are attached.

4. Align and attach wall panels in accordance with erection drawings furnished by metal building system manufacturer.
  5. Install side laps with minimum of 1 full corrugation.
  6. Seal wall panels at base with metal trim and rubber closures.
  7. Exterior Trim: Apply same finish as exterior color of wall panels, except the following:
    - a. Gutters, Downspouts, Eave Trim, Gable Trim, Door-Side Flashings, and Header Flashings: Paint with exterior colors of "Butler-Cote™" finish system, full-strength, 70 percent "Kynar 500" or "Hylar 5000" fluoropolymer (PVDF) coating in standard color of metal building system manufacturer.
    - b. Windows: Factory paint aluminum extrusions (thermally broken).
  8. Flashings, Trim, Closures, and Similar Items: Install as indicated on erection drawings furnished by metal building system manufacturer.
- B. Insulation Installation: Install insulation in accordance with metal building system manufacturer's instructions at locations indicated on the Drawings.
- C. Contractor shall install metal panels on both interior and exterior as indicated on drawings.

#### 2.14 INSTALLATION – INSULATION SUPPORT SYSTEM

1. Install insulation support system in accordance with metal building system manufacturer's instructions at locations indicated on the Drawings.
2. Verify roof structural system is in place before installation of insulation support system.
3. Keep insulation support system in place after metal roof system is installed.

#### 2.15 PROTECTION

- A. Protect installed metal building system to ensure that, except for normal weathering, metal building system will be without damage or deterioration at time of Substantial Completion.

### PART 3 - EXECUTION

#### 3.01 PERFORMANCE TESTING

- A. Underwriters Laboratories -The roof system shall carry a U.L. wind uplift resistance classification of 90 to ensure structural integrity and possible reduction of insurance rates (Construction No's Construction No. 62, 62A & 178).
- B. U.S. Army Corps of Engineers Guide Specification 07416. The roof system has been tested and certified in accordance with the Army Corps of Engineers Guide Specification 07416 (Test Method for Structural Performance of Standing Seam Metal Roof Systems by Uniform Static Air Pressure Difference).
- C. Air Infiltration shall not exceed .050 cfm per square foot of roof area when tested in reference to ASTM E 1680, latest edition at a static pressure differential of 12.0 psf.
- D. There shall be no uncontrolled water penetration through the panel seams when tested in reference to ASTM E 1646, latest edition at a static pressure differential of 12.0 psf.
- E. FM Global - The roof system shall qualify for Approval as Class 1 Panel Roof (FMRC Standard

4471) and be listed in Factory Mutual Approval Guide -latest edition.

- F. National Fire Protection Association - The roof system shall be considered acceptable where Class A roof coverings are required for exterior fire exposure.
- G. U.B.C. - The roof system shall be considered acceptable where Class A roof coverings are required for exterior fire exposure.
- H. S.B.C. - The roof system shall be considered acceptable where Class B roof coverings are required for exterior fire exposure.
- I. B.O.C.A. -The roof system shall be considered acceptable where Class B roof coverings are required for exterior fire exposure.

### 3.02 PROVISION FOR EXPANSION/CONTRACTION

- A. Provision for thermal expansion movement of the roof system panel shall be accomplished by the use of clips with a movable tab. The stainless steel tab shall be factory centered on the roof clip when installed to assure full movement in either direction. A force of no more than 8 pounds will be required to initiate tab movement. Each clip shall accommodate a minimum of 1.25" in either direction.
- B. The roof shall provide for thermal expansion/contraction without detrimental effect to the roof panel when there is a  $\pm 100^{\circ}\text{F}$ . temperature difference between the inside structural framework of the building and the temperature of the roof panels.

### 3.03 ENERGY CONSERVATION

- A. Purlins shall be insulated so as to eliminate "thermal short circuit" between purlin and roof panel. The heat loss (thermal short circuit) caused by compression of the blanket insulation between structural and panel is minimized by the use of a spacer block at each purlin location.

### 3.04 BUILDING ERECTION

- A. The erection of the building system shall be in accordance with applicable erection drawings, and other erection information furnished by the manufacturer.
- B. Erection shall be performed by a qualified erector using proper tools and equipment. It shall be the responsibility of the erector to comply with all applicable legal and safety requirements. It shall further be the responsibility of the erector to determine and provide any and all temporary bracing, bridging, blocking, shoring, and/or securing of components, etc. as required for stability during the entire erection process.
- C. Erector shall not make any field modifications to any structural member except as authorized and specified the manufacturer.
- D. Contractor shall survey steel frame upon erection to confirm construction is plumb and square prior to installation of any other building systems. Building shall meet building manufacturers requirements, contractor shall be responsible for any adjustments required.

**END OF SECTION**

## PART 1 - GENERAL

## 1.01 SECTION INCLUDES

- A. Pipe hangers for various installed pipe systems.

## 1.02 SUBMITTALS

- A. Submit under provisions of Section 013300

## 1.03 REFERENCES

- A. Underwriters Laboratories - UL Listing.
- B. ASTM B633 - Specification for Electrodeposited Coatings of Zinc on Iron and Steel
- C. ASTM A123 - Specification for Zinc (Hot-Galvanized) Coatings on Products Fabricated from Rolled, Pressed, and Forged Steel Shapes, Plates, Bars, and Strip
- D. ASTM A653 - Specification for Steel Sheet, Zinc-Coated by the Hot-Dip Process
- E. ASTM A1011 - Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability (Formerly ASTM A570)
- F. MSS SP58 - Manufacturers Standardization Society: Pipe Hangers and Supports- Materials, Design, and Manufacture
- G. MSS SP69 - Manufacturers Standardization Society: Pipe Hangers and Supports- Selection and Application
- H. MSS SP89 - Pipe Hangers and Supports - Fabrication and Installation Practices

## 1.04 QUALITY ASSURANCE

- A. Hangers and supports used in fire protection piping systems shall be listed and labeled by Underwriters Laboratories.
- B. Steel pipe hangers and supports shall have the manufacturers name, part number, and applicable size stamped in the part itself for identification.
- C. Hangers and supports shall be designed and manufactured in conformance with MSS SP 58.

## PART 2 - PRODUCTS

## 2.01 MANUFACTURERS

- A. Anvil International (Grinnell)
- B. Cooper B-Line, Inc.
- C. Carpenter and Patterson
- D. Fee and Mason
- E. Hilti
- F. Elcen
- G. PTP.
- H. Or Approved Equal

## 2.02 MATERIALS

- A. Pipe Hangars & Supports:
  - 1. All pipe hangars and supports for stainless steel piping systems shall be of stainless steel construction.
  - 2. All pipe hangars and supports for copper tubing piping systems shall be of stainless steel construction. Provide dielectric/isolation wrapping or pipe insulation where dissimilar metals meet.
  - 3. All pipe hangars and supports for black iron piping systems shall be of stainless steel construction. Provide dielectric/isolation wrapping where dissimilar metals meet.
  - 4. All pipe hangars and supports for PVC piping systems shall be of galvanized steel construction, except where piping is used for chemical treatment.
  - 5. All pipe hangars and supports for chemical lines including sodium hypochlorite and caustic soda shall be of stainless steel construction.
  - 6. All pipe hangars and supports for chemical lines including brine solution and regenerate piping shall be of stainless steel construction.
  - 7. All pipe hangars and supports for Rigid galvanized piping systems shall be of galvanized steel construction.
- B. Trapeze Hangars: Where three or more non-chemical lines of pipe run parallel, support them with galvanized trapeze hangars, Grinnell Figure 46. Trapeze to be supported by a minimum of two galvanized rods with Figure 60 washer plates. For top loading only.
- C. Concrete Inserts: Anvil International Figure 282, MSS SP-58 (Type 18), galvanized, universal concrete inserts, adequately sized and correctly positioned to support full load operating systems.

- D. C-Clamps: Anvil International Figure 86, MSS SP-58 (Type 23) galvanized with set screw and lock nut. Use these for attaching hangers to steel beams. Welding hanger rods to steel members is not permitted. Provide retaining clip for C-Clamps.
- E. Malleable Beam Clamps: Anvil International Figure 218, MSS SP-58 (Type 30), galvanized. Use these for attaching hangers to bar joists. Provide retaining clip for all beam clamps.
- F. Clevis Hanger (4" diameter Piping or Less): Anvil International Figure 67, MSS SP-58 (Type 5), galvanized. Use these for attaching hangers to bar joists, column or wall.
- G. Clevis Hanger (4" diameter or Greater D.I. Piping): Anvil International Figure 590, MSS SP-58 (Type 1), galvanized.
- H. Pipe saddle support: Pipe saddle with U-bolt and threaded pipe adjuster. Cooper B-Line Figure 318A, MSS SP-69 (Type 37), stainless steel. Pipe stand: Cooper B-Line Figure 316T, stainless steel.
- I. All hangers and supports shall be UL Listed. Cooper B-Line Figure 318A & 316T,
- J. Provide threaded rod in accordance with manufacturer instruction.

### 2.03 FINISHES

- A. Indoor Finishes
  - 1. Hangers and clamps for support of bare copper piping shall be coated with copper colored epoxy paint, B-Line Dura-Copper®. Additional PVC coating of the epoxy painted hanger shall be used where necessary.
  - 2. Hangers for other than bare copper pipe shall be zinc plated in accordance with ASTM B633 OR shall have an electro-deposited epoxy finish.
  - 3. Strut channels shall be pre-galvanized in accordance with ASTM A653 SS Grade 33 G90 OR have an electro-deposited green epoxy finish.

## PART 3 - EXECUTION

### 3.01 SCHEDULES - HANGER SPACING

- A. Copper Pipe
  - 1. Not more than 10'-0" o.c.
- B. Black Iron and Galvanized:
  - 1. 1/4 to 1-1/4 inches - 5'-0" o.c.
  - 2 to 2-1/2 inches - 8'-0" o.c.
  - 3-inches and above - 10'-0" o.c.
- C. PVC Pipe:
  - 1. 1/2 to 1-inch - 4'-0" o.c.

1 1/4 to 8-inches - 5'-0" o.c.

### 3.02 INSTALLATION

- A. Support pipes on specified hangers so that equipment, pumps, and fittings do not bear weight of pipe.
- B. Do not use perforated metal, strap iron, or band iron.
- C. Do not make offsets in hangers.
- D. Maximum allowable spacing of pipe hangers for horizontal piping is listed above. Space hangers and brackets at close intervals where necessary to maintain levels, slopes, and drainage, or to prevent sagging.
- E. Place hangers within 12 inches of each horizontal elbow.
- F. Use hangers with 1-1/2 inch minimum vertical adjustment.
- G. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.
- H. Allow for forces imposed by expansion joints, satisfy structural requirements and maintain proper clearances with respect to adjacent piping, equipment and structures. Hangers for insulated pipes shall be sized to accommodate insulation thickness.
- I. Support cast iron pipe under each section and at each hub.
- J. Keep the different types of hangers to a minimum and provide hangers that are neat, without complicated bolting and with the number of parts of each hanger and its anchor kept to a minimum.
- K. Make accurate weight balance calculations to determine the required supporting forces at each hanger or support location and the pipe weight load at each equipment connection.
- L. Pipe hangers shall be capable of supporting the pipe in all conditions of operation. They shall allow free expansion and contraction of the piping, and prevent excessive stress resulting from transferred weight being induced into the pipe or connected equipment.
- M. All hangers and supports that are not galvanized shall be painted or shop primed.
- N. Provide means of preventing dissimilar metal contact such as plastic coated hangers, copper colored epoxy paint, or non adhesive isolation tape- B-Line Iso-pipe. Galvanized felt isolators sized for copper tubing may also be used, B-Line B3195CT.
- O. Support horizontal cast iron pipe adjacent to each hub.
- P. Install hangers to provide a minimum of 1/2 inch space between finished covering and adjacent work.
- Q. Place a hanger within 12 inches of each horizontal elbow.
- R. Support Provide neoprene protection where dissimilar metals come into contact.

- S. Maximum allowable spacing of pipe supports for vertical piping independently of connected horizontal piping. Support vertical pipes at every floor. Wherever possible, locate riser clamps directly below pipe couplings or shear lugs.
- T. Where several pipes can be installed in parallel and at the same elevation, provide trapeze hangers as specified. Trapeze hangers shall be spaced according to the smallest pipe size, or install intermediate supports according to schedule in section 3.01B.
- U. Do not support piping from other pipes, ductwork or other equipment that is not building structure.
  - 1. Where horizontal piping movements are greater than 1/2 inch, or where the hanger rod angularity from the vertical is greater than four degrees from the cold to hot position of the pipe, the hanger pie and structural attachments shall be offset in such a manner that the rod is vertical in the hot position.
- V. In the part of the building which is steel-framed, attach hangers to the building structural steel beams. Where hangers do not correspond with the building structural steel beams, provide supplemental steel members continuously welded or bolted to the building structural steel beams.
- W. In the parts of the building which is a concrete structure, attach hangers to the concrete structure by installing anchors into the concrete.

**END OF SECTION**

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Cast iron piping
- B. Copper piping, valves and accessories
- C. PVC piping, valves and accessories
- D. Reinforced flexible tubing and accessories
- E. Stainless steel piping, valves and accessories
- F. Corporation stops
- G. Solenoid valves

1.02 RELATED SECTIONS

- A. Section 220529 - Hangers and Supports for Piping
- B. Section 220553 - Identification for Mechanical Piping and Equipment
- C. Section 221119 - Plumbing Specialties
- D. Section 331110 - Disinfection of Water Facilities

1.03 REFERENCES

- A. ASME B16.22 - Wrought Copper and Bronze Solder-Joint Pressure Fittings.
- B. ASME B16.29 - Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings - DWV.
- C. ASME B31.3 - Process Piping.
- D. ASTM A269 - Seamless and Welded Austenitic Stainless Steel Tubing for General Service
- E. ASTM A403 - Wrought Austenitic Stainless Steel Fittings
- F. ASTM B42 - Seamless Copper Pipe
- G. ASTM B88 - Seamless Copper Tube
- H. ASTM B584 - Standard Specification for Copper Alloy Sand Castings for General Applications
- I. ASTM D1784 - Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly( Vinyl Chloride) (CPVC) Compounds

- J. ASTM D1785 - Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80 and 120.
  - K. ASTM D2466 - Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40.
  - L. ASTM D2467 - Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80.
  - M. ASTM D2241 - Poly (Vinyl Chloride) (PVC) Plastic Pipe (SDR-PR).
  - N. ASTM D2564 - Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings.
  - O. ASTM D2737 - Standard Specification for Polyethylene (PE) Plastic Tubing.
  - P. ASTM D2855 - Making Solvent-Cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings.
- 1.04 SUBMITTALS
- A. Submit product data under provisions of Section 013300.
  - B. Product Data: Provide data on pipe materials, pipe fittings, valves, hydrants and accessories.
  - C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- 1.05 QUALITY ASSURANCE
- A. Perform work in accordance with the local water utility company requirements.
  - B. Valves: Manufacturer's name and pressure rating marked on valve body.
- 1.06 DELIVERY, STORAGE AND HANDLING
- A. Deliver, store, protect and handle products to site under provisions of Section 016500.
  - B. Deliver and store items in shipping containers with labeling in place.
- 1.07 PROJECT RECORD DOCUMENTS
- A. Submit under provisions of Section 017839.
  - B. Accurately record actual locations of piping mains, valves, connections and invert elevations.
  - C. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.
  - D. Provide manufacturer's standard warranty for all applicable items under provisions of Section 017800.

## PART 2 - PRODUCTS

## 2.01 CAST IRON PIPING

- A. Cast Iron Pipe: ASTM A74, extra heavy weight.
  - 1. Fittings: Cast iron.
  - 2. Joints: Hub-and-spigot, CISPI HSN compression type with ASTM C564 neoprene gaskets.

## 2.02 COPPER PIPING, VALVES AND ACCESSORIES

- A. All exposed small copper piping shall be Type "K" hard drawn copper tubing. All underground piping shall be soft annealed Type "K" copper tubing with compression fittings.
- B. All brass valves and fittings installed on potable water supply piping shall be made of "low-lead" materials (UNS Copper Alloy C89833 or C89520) and have a maximum lead content of 0.25 percent by weight. All low lead brass fittings shall be stamped or embossed with a mark indicating that the product is manufactured from low-lead alloys.
- C. Check valves shall be swing check renewable BUNA-N disc, all bronze, STOCKHAM Figure B-319Y (threaded end) or Figure B-309Y (solder end) - 250 to 300 psi non-shock water.
- D. Ball valves for copper piping/tubing and galvanized piping shall be renewable reinforced Teflon seats, adjustable packing gland, non-blowout stem with run port opening. Ball valves shall be STOCKHAM Figure T or S-285 (threaded or soldered ends).

## 2.03 PVC PIPING, VALVES AND ACCESSORIES

- A. PVC piping for all interior and exterior applications shall be polyvinyl chloride, Class 1245-B, Schedule 80, and shall conform to ASTM Specifications D2267, D2241, D1784 and D1785. All PVC piping shall conform to NSF-61 and be approved for potable water applications. Pipe shall be as manufactured by A.M. BEYERS or CHARLOTTE PIPE COMPANY or approved equal. Fittings for PVC piping shall conform to ASTM D2467 and be slip type and shall be of the same schedule approved for use by the pipe manufacturer. Pipe shall bear the trademark of the manufacturer.
- B. Transitions from PVC to poly-tubing shall be made with barbed fittings and stainless clamps, or approved equal.
- C. Ball valves shall be double union/double block with PVC body, ball, insert and stainless steel rod and stem with Teflon seats, Tru-Bloc by NIBCO CHEMTROL, SPEARS or approved equal.
- D. Check valves shall be of the true union ball check type with a PVC body construction. The valves shall be rated at 150 psi. The valves shall be manufactured by HAYWARD CO., SPEARS or approved equal.
- E. Strainers shall be Y type, of size indicated, PVC body with 40 mesh cylindrical stainless steel screen and shall be as manufactured by HAYWARD CO. or approved equal.
- F. Pressure relief/backpressure valves shall be molded in-line valves with PVC body construction. Valves shall have a setting range from 5 to 100 psi and be compatible with chemicals in application. Valves shall be as manufactured by PLAST-O-MATIC VALVES, INC., WALLACE & TIERNAN, WALCHEM, or approved equal.

- G. Globe valves shall be of thermoplastic construction rated to 150 psi with EPDM seals and flanged connections. Valves shall be as manufactured by ASAHI-AMERICA, NIBCO or approved equal.
- H. Unions shall be UL listed, Oring unions with Teflon gaskets by HAYWARD CO. or approved equal.
- I. Threads and dimensions: ANSI B1.1 and B18.2.
- J. All wetted parts of PVC piping, valves and accessories shall be compatible with treatment chemicals.
- K. Threads and dimensions: ANSI B1.1 and B18.2
- L. Thread lubricant: Crane "Formula 425", or equal. (NOTE: Approved Teflon tape may be used).
- M. Gaskets: Full face, 1/8-inch thick neoprene rubber.
- N. Solvent welded joints for chemical piping shall be made using solvent cement that meets or exceeds ASTM F493, compatible with PVC pipe and fittings. Solvent cement shall be Low V.O.C., Heavy Duty Gray Industrial solvent cement by Oatey; Model EP42 or specifically approved equal.
- O. Pressure connections to pressure switches, recorders, and indicating gauges shall be equipped with a snubber.

#### 2.04 REINFORCED FLEXIBLE TUBING

- A. PVC tubing with nylon inner braided reinforcing made from FDA approved materials, 65 Durometer, 175 psi working pressure for 1/2 to 1-1/2 inches ID. Install high pressure fittings with double stainless steel clamps for all connections to tubing.
- B. HDPE translucent tubing, compatible with chemical transported, minimum 190 psi working pressure at 70F for 1/2" to 3/4" O.D. Install high pressure PVC compression fittings all connections to tubing.

#### 2.05 STAINLESS STEEL PIPING AND ACCESSORIES

- A. Standard weight, Schedule 40, two-ferrule type tube fitting connections, conforming to ASTM A269. All tubing, fittings, and valves shall be 316 stainless steel.

#### 2.06 CORPORATION STOPS

- A. Manufacturers:  
  - MUELLER COMPANY, Model No. H-15000.
  - 1. FORD METER BOX COMPANY, Model No. FB600
- B. Ball valve type, water service bronze body with AWWA standard thread inlet and copper AWWA outlet, complete with straight coupling nuts.
- C. All connections greater than 1" shall utilize a threaded saddle with stainless steel bands.

## 2.07 SOLENOID VALVES

## A. Manufacturer:

Red Hat II, Series 8210.

1. Approved equal.

## B. Provide normally closed valves, 120 volt AC, 304 stainless steel body. The construction material of all wetted parts shall be compatible with the product contained.

## PART 3 - EXECUTION

## 3.01 INSTALLATION

- A. Clean inside of piping and tubing before installation. Keep installed piping clean and protect ends from foreign matter by capping or plugging.
- B. Install piping and tubing so that it does not interfere with opening of doors or apparatus, access to equipment or any portion of electrical equipment.
- C. Run piping and tubing in straight lines and square with building. Install rise plumb. Make offsets only where indicated and where necessary.
- D. Install pipes so that expansion and contraction will not cause undue stress or strain to pipes or equipment. Provide offsets and expansion joints as shown on drawings.
- E. Provide flanges and unions throughout the piping systems to make installation and removal of piping and equipment convenient. Make provisions for servicing and removal of equipment without dismantling piping.
- F. Support pipe in accordance with provisions of Section 220529.
- G. Install non-conducting dielectric connections wherever joining dissimilar metals.
- H. Install valves with stems upright or horizontal.
- I. Install water service lines in accordance with water utility standards.
- J. All copper piping shall be cut square, burrs removed and reamed after cutting. Fitting sockets and tube ends shall be thoroughly cleaned to a bright finish. All solder joints shall be fluxed and soldered using 95-5 tin and antimony solder and water soluble flux.
- K. All copper tubing connections shall be compression type.
- L. Joints between PVC and Black Iron/Galvanized Pipe (wherever necessary), shall be made with screwed fittings or screwed companion flanges.
- M. PVC piping and fittings connections to treatment equipment and at ends of runs shall have screw type joints. In all other locations, solvent welded slip type joints shall be used.
- N. Solvent welded joints shall be made using solvent cement that meets or exceeds ASTM F493, compatible with PVC pipe and fittings. Solvent cement shall be Heavy Duty Industrial orange solvent cement by Oatey, or specifically approved equal.

- O. Install PVC pipe in such a manner that it is not forced out of line by pipe supports, hangers or other supporting members. Pipe hangers shall be clevis or strap type.
- P. Threaded joints where specified shall be made using standard hand or machine pipe threading tools. Dies must be sharp and in good condition to assure a clean and smooth threading operation from start to finish. Threads shall be full cut and perfect. Protective pads of leather, rubber or felt shall be employed to prevent damage to pipe walls by chuck and/or vise jaws. A slightly tapered wood plug shall be tapped snugly into the pipe for the length of thread to prevent distortion of the pipe wall by the die.
- Q. Threaded pipe joints shall be made up using Teflon base compounds placed on the pipe threads. Do not place compound on threads of fittings. NO WICKING WILL BE PERMITTED.
- R. All fittings, except couplings, shall be supported and valves shall be braced to resist torque during valve manipulation.
- S. All piping shall be free of traps and graded to permit complete drainage.
- T. Connect reinforced flexible tubing to transition couplings with stainless steel clamps and/or compression fittings in accordance with tubing manufacturer's installation instructions.

### 3.02 FIELD QUALITY CONTROL

- A. Flush piping prior to conducting pressure testing.
- B. Piping shall be pressure tested with air before piping is concealed. All joints shall be checked for leakage while under air pressure by swabbing, utilizing a soap and water solution, and leaks found shall be repaired and rechecked. Pressure of air during testing shall be at least 50 percent higher than normal working pressure. Piping shall be tested for pressure and leakage in accordance with Section 017550.
- C. Before piping and valves are concealed, recheck it for leaks.
- D. Rework or replace defective and leaking joints, and joints which are otherwise unsatisfactory. Peening, caulking and doping are not permitted.
- E. The Contractor shall furnish all labor, materials and equipment necessary to accomplish all testing and repairs.

### 3.03 VALVE ACCESS

- A. Locate shutoff and control valves for easy access and operation. Where valves are located in enclosed spaces provide and install access doors.

### 3.04 TESTING

- A. All small piping shall be tested for pressure and leakage, in accordance with AWWA Specification C600.

**END OF SECTION**

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Floor drains
- B. Pressure gauges
- C. Injection Quills
- D. Backwater valve

1.02 REFERENCES

- A. ASME A112.21.1 - Floor Drains
- B. NSF 61 - Drinking Water System Components

1.03 SUBMITTALS FOR REVIEW

- A. Submit in accordance with Section 013300.
- B. Product Data: Provide component dimensions, weights, sizes, rough-in requirements, service sizes, and finishes.
- C. Manufacturer's Instructions: Indicate Manufacturer's Installation Instructions including assembly and support requirements.

1.04 DELIVERY, STORAGE, AND PROTECTION

- A. Transport, handle, store, and protect products in accordance with Section 016500.
- B. Accept specialties on site in original factory packaging. Inspect for damage.

1.05 WARRANTY

- A. Provide manufacturer's standard warranty for all applicable items under provisions of Section 017800.

PART 2 - PRODUCTS

2.01 FLOOR DRAINS

- A. Manufacturer: Zurn Model Z-415 EA-E-C.
- B. Other acceptable manufacturers offering equivalent products.

1. JOSAM.
2. J. R. SMITH.

- C. Assembly: ANSI A112.21.2.
- D. Body: Lacquered cast iron with sump.
- E. Strainer: Hinged Removable polished bronze top.
- F. Accessories: Coordinate with type.
1. Adjustable deck clamp.
- G. Accessories:
1. Funnel (as required).
  2. Backwater valve.
  3. Leveling frame.

#### 2.02 BACKWATER VALVE

- A. Manufacturers:
1. Zurn Model Z-1090
  2. Approved Equal
- B. Assembly: ANSI A112.21.2
- C. Body: Dura-coated cast iron, gasketed bolted cover, flapper type backwater valve with O-ring
- D. No hub connections

#### 2.03 INJECTION QUILLS

- A. Injection quill assembly to be manufactured by SAF-T-FLO, complete with retractable solution tube, corporation stop, adapters, safety chain, restrain hook, and bushings. Must be rated to 150 psi. Solution tube sizing to match line sizing.
1. Sequestering, Lime Slurry and Calcium Hypochlorite Injection: Brass corporation stops (S.S. where called for) and compression nuts, integral check valve with Viton seals, PVC solution tube with 45 degree bevel injection end. Solution tube length to be ½ diameter of pipe.

#### 2.04 PRESSURE GAUGES

- A. Pressure gauges shall be manufactured by ASHCROFT or approved equal, case type 1379, 4-1/2" diameter dial size, glycerin-filled, 316SS bourden tube and socket, with snubber and shut-off petcock valve. Pressure range as indicated on Plans.

### PART 3 - EXECUTION

#### 3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions.

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- B. Make all installations even and level. Caulk and/or seal all wall and floor penetrations. Use manufacturer provided/recommended mounting hardware.
- C. Extend cleanouts to finished floor or wall surface, or exterior grade.. Lubricate threaded cleanout plugs with mixture of graphite and linseed oil. Ensure clearance at cleanout for rodding of drainage system.
- D. Install interior floor cleanouts at elevation to accommodate finished floor.
- E. Install exterior floor cleanouts in poured concrete pad at elevation to accommodate surrounding grade.

**END OF SECTION**

## PART 1 - GENERAL

## 1.01 DESCRIPTION OF WORK

- A. Provide exhaust fans, as specified herein, of sizes and capacities scheduled and in locations shown on drawings.

## 1.02 REFERENCE CODES AND STANDARDS

- A. AMCA 99 – Standards Handbook
- B. AMCA 210 – Laboratory Methods of testing Fans for Rating
- C. AMCA 300 – Reverberant Room Method for Sound Testing of Fans
- D. ASHRAE Handbook, HVAC Applications Volume “Sound and Vibration Control”
- E. UL listed and labeled.

## 1.03 SUBMITTALS

- A. Shop Drawings – Show fan layout, housing, materials, gauges, dimensions, weights and installation details
- B. Product data – Manufacturer’s fan performance (data includes cfm, rpm, bhp, motor nameplate data, tip speed, outlet velocity and static pressure) and sound performance (data includes sound power level ratings by octave bands) as tested in accordance with AMCA Standards 210 and 300.
- C. Fan performance curves – Submit curves for all fans with system performance shown, and for plus or minus 10 percent and plus or minus 20 percent change in fan rpm. Curves shall include plotted rpm, horsepower, cfm, static pressure, and fan surge line and operating point.
- D. Certified AMCA Ratings – Submit ratings for air and sound performance.
- E. UL Listing – Submit listing if specified.

## 1.04 QUALITY ASSURANCE

- A. Factory balance each fan statically and dynamically, test run before shipment, and key fan wheel to fan shaft. Fans shall operate quietly and without pulsation or vibration. Conduct sound power level tests for each type fan at the factory in accordance with AMCA 300.
- B. Fans shall operate in the stable range of their performance curves.
- C. The fan external static pressures shown in the schedules are those required by the ductwork and apparatus, and do not include the internal and intake fan losses, inlet vanes or integral outlet dampers, inlet screens, outlet velocity heads or drive losses.

- D. Factory performance test each fan assembled in or as part of apparatus specified to be performance tested. Test shall display scheduled performance characteristics, using certified, calibrated testing instruments provided by the manufacturer of the apparatus.
- E. All fan performance ratings shall be based up on factory tests performed in accordance with AMCA 210. One fan of each type specified shall have actual factory performance tests performed prior to shipment. All fans shall be certified by AMCA and carry its seal.

## PART 2 - PRODUCTS

### 2.01 ACCEPTABLE MANUFACTURERS

- A. Greenheck

### 2.02 CENTRIFUGAL DIRECT DRIVE IN-LINE FANS

- A. Duct mounted supply, exhaust or return fans shall be of centrifugal, direct driven in-line type.
- B. The fan housing shall be of the square design, constructed of aluminum and shall include square duct mounting collars.
- C. Fan construction shall include two removable access panels located perpendicular to the motor mounting panel. The access panels must be sufficient size to permit easy access to all interior components.
- D. The fan wheel shall be centrifugal backward inclined, constructed of aluminum and shall include a wheel cone carefully matched to the inlet cone for precise running tolerances. Wheels shall be statically and dynamically balanced.
- E. Motors shall be permanently lubricated and carefully matched to the fan loads. Motors shall be readily accessible for maintenance.
- F. A NEMA 1 disconnect switch shall be provided as standard. Factory wiring shall be provided from motor to the handy box.
- G. All fans shall bear the AMCA Certified Ratings Seal for both sound and air performance.
- H. Each fan shall bear a permanently affixed manufacturer's nameplate containing the model number and individual serial number for future identification.
- I. Fans shall be Model SE as manufactured by Greenheck.
- J. Provide stainless steel bird screen and weather hood.

## PART 3 - EXECUTION

### 3.01 GENERAL

- A. Install fans, including all necessary structural supports and bracings as scheduled and located on the contract drawings in accordance with manufacturer's instructions and approved

submittals.

- B. Connect duct to fans to allow for straight and smooth air flow.
- C. Provide flexible connections (minimum of 4") between fan and duct.
- D. Install fan level: +/- 5 degrees vertical. Final installation shall be free of all leaks from both fan and associated ductwork.

3.02 START-UP, TESTING, DEMONSTRATION

- A. Start-up fans after checkout to insure proper alignment and phased electrical connections.
- B. Test fans individually and as part of system.
- C. Insure fans are properly interlocked with supply fans and with control system.
- D. Demonstrate operation to Owner and instruct maintenance personnel in operation of equipment.

**END OF SECTION**

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Electric Ceiling Heaters.

1.02 REFERENCES

- A. Electric unit heaters shall meet the requirements of the National Electric Code (NEC) and shall be UL listed.

1.03 SUBMITTALS

- A. Submit under provisions of Division 1.
- B. Submit manufacturer's product data and installation instructions to Engineer.
- C. Submittal data shall include capacity and size of each heater and wiring instructions.

PART 2 - PRODUCTS

2.01 ELECTRIC WALL MOUNTED HEATERS

- A. Manufacturers:
  - 1. Model HVH by Chromalox
  - 2. Model MUH by QMARK
  - 3. Approved equal.
- B. The heaters shall be UL listed and be designed for side-wall mounting.
- C. Heating Element: Automatic reset linear thermal cut-out, capillary type, provides protection over entire length of element areas.
- D. Control Center: The controls are completely factory prewired and tested and enclosed.
- E. Fan and Motor Assembly: The fan and motor assembly shall include a totally enclosed, permanently lubricated, ball bearing motor.
- F. Over-temperature Protection: Built in over temperature protection shall be provided by an epoxy sealed automatic reset thermal cutout and a manual reset thermal cutout.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Install unit in accordance with manufacturer's published installation instructions.

SECTION 238239 - ELECTRIC HEATERS

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- B. Do not install horizontal unit heaters closer than 12 inches to combustible materials in any direction.
- C. Do not install vertical unit heaters closer than 18 inches from ceiling and 24 inches horizontally from combustible materials in any direction. The bottom of the unit must be a minimum of 8 feet above the floor.

**END OF SECTION**

## PART 1 - GENERAL

## 1.01 SECTION INCLUDES

- A. Lighting, including lamps.
- B. Wiring devices.
- C. Electrical control systems and interlock wiring.
- D. Wiring for built-in equipment.
- E. Instrumentation and Controls.

## 1.02 RELATED WORK

- A. Foundations and pads required for equipment furnished under this division of specifications.
- B. Field painting, except such painting as is required to maintain shop coat painting and factory finish painting.
- C. Flashing and sealing of conduits through outside walls.
- D. Cutting and patching for electrical work, except for errors and omissions under this Division.

## 1.03 QUALITY ASSURANCE

- A. It is understood that the rights and benefits given the Owner by the guarantees found in the technical specifications are in addition to and not in derogation of any rights or benefits found in the special and general provisions of the contract.
- B. Electrical equipment provided under this Division shall be turned over in operating condition. Instruction on further operation and maintenance shall be included in the operating and maintenance instructions.

## 1.04 REFERENCES

- A. Perform work in accordance with standards listed below. Where these specifications are more stringent, they take precedence. In case of conflict, obtain a decision from the Engineer.
  - 1. NFPA-70: National Electrical Code
  - 2. NFPA-101: Life Safety Code
  - 3. New York State Energy Code
  - 4. New York State Building Code
  - 5. Applicable New York State Administrative Code
  - 6. Applicable Town Ordinances.
  - 7. Electric utility rules and regulations.
  - 8. Telephone utility rules and regulations.

## PART 2 - PRODUCTS

## 2.01 MATERIALS AND EQUIPMENT

- A. All materials and equipment used in carrying out these specifications shall have UL listing and label. Specifications and drawings indicate name, type, or catalog numbers of materials and equipment to be used as standards. Proposals shall be based on these standards. Contractor may use materials and equipment equivalent to those specified, subject to Engineer's approval.

## PART 3 - EXECUTION

## 3.01 COORDINATION

- A. Carefully examine specifications, drawings and project site to be thoroughly familiar with items which require electrical connections and coordination. Electrical drawings are diagrammatic and shall not be scaled for exact sizes.
- B. Notify other Contractors of any deviations or special conditions necessary for the installation of work. Interferences between work of various contractors to be resolved prior to installation. Work installed not in compliance with specifications and drawings and without properly checking and coordinating as specified above shall, if necessary, be removed and properly reinstalled without additional cost to the Owner. Engineer to be mediating authority in all disputes arising on project.
- C. Equipment shall be installed in accordance with manufacturer's recommendation. Where conflicts occur between contract documents and these recommendations, a clarification shall be requested of the Engineer for decision before preceding with such work.
- D. Insofar as it is possible to determine in advance, advise masonry tradesmen to leave proper chases and openings. Place all outlets, anchors, sleeves, and supports prior to pouring concrete or installation of masonry work. Should the Contractor neglect doing this, any cutting and/or patching required to be done is at this Contractor's expense.

## 3.02 CUTTING AND PATCHING

- A. Repair or replace routine damage caused by cutting in performance of work under this Division.
- B. Correct unnecessary damage caused due to installation of electrical work, brought about through carelessness or lack of coordination.
- C. Holes cut through floor slabs to be core drilled with drill designed for this purpose. All openings, sleeves, and holes in slabs to be properly sealed, fire proofed and waterproofed.
- D. Repairs to be performed with materials which match existing materials and to be installed in accordance with appropriate sections of these specifications.

## 3.03 TESTS

- A. On completion of work, installation shall be completely operational and entirely free from ground, short circuits, and open circuits. Perform a thorough operational test in presence of the Engineer. Balance all circuits so that feeders to panels are not more than 10% out of balance between

phases with all available load energized and operating. Furnish all labor, materials and instruments for above tests.

- B. Furnish Engineer with a copy of such tests including identification of each circuit and readings recorded, also the main service ground resistance test as described in Section 260526 of these specifications. Test information to include ampere readings of all panels and major circuit breakers, isolation resistance reading of motors and transformers.

### 3.04 IDENTIFICATION OF EQUIPMENT

- A. Properly identify the following:
  - 1. Distribution panels.
  - 2. Disconnect switches.
  - 3. Transfer switches.
  - 4. Individually mounted circuit breakers.
  - 5. Relays.
  - 6. Pilot lights and control switches.
- B. Use permanently attached black phenolic plates with 1/4-inch white engraved lettering on the face of each, attached with two sheet metal screws.
- C. Panelboard identification plates shall indicate panel by name.

### 3.05 INSTALLATION

- A. The Contractor shall carefully move and replace existing equipment, appliances and all related items, as required to conduct proposed work.
- B. Install and conduct all work per applicable NEC, State and local codes.

### END OF SECTION

## PART 1 - GENERAL

## 1.01 - SECTION INCLUDES

- A. Wires and cables.
- B. In general, the wires and cables included under this Section shall include, but not be limited to, the following:
  - 1. 600V power and control cable
- C. All conductors to be continuous from origin to panel or equipment termination without splices.

## 1.02 - RELATED SECTIONS

- A. Section 017839 – Project Record Documents
- B. Section 260533 – Raceways and Boxes for Electrical Systems
- C. Section 260553 – Identification for Electrical Systems

## 1.03 - REFERENCES

- A. ANSI/NFPA 70 - National Electric Code.
- B. NECA Standard of Installations.

## 1.04 - SUBMITTALS

- A. Submit product data under provisions of Section 013300.

## 1.05 – QUALITY ASSURANCE

- A. Products used in the work of this Section shall be produced by manufacturers regularly engaged in the manufacturing, installing and servicing of similar items with a history of successful production acceptable to the Engineer as specified herein and in accordance with the General Conditions.
- B. Contractor shall submit the following information pertaining to the manufacturer(s):
  - 1. Complete literature, performance, and technical data describing the proposed equipment and listing of items made by the manufacturer.
  - 2. Location of closest service office from which this equipment shall be serviced.

3. Location of closest parts inventory for item installation.

#### 1.06 - COORDINATION

##### A. Coordination:

1. Coordinate wire and cable required with the equipment being furnished by others for the satisfactory operation of the equipment or system.
2. Review installation procedures under other sections and contracts and coordinate them with the work specified herein.
3. Notify other prime contractors in advance of the installation of the work included to provide them with sufficient time for installation and coordination of interrelated items that are included in their contracts and that must be installed in conjunction with the work included in this Section.

#### 1.07 - PROJECT CONDITIONS

- A. Verify that embedded conduit, in masonry and concrete, is installed as shown on the Drawings prior to the work being enclosed by others.
- B. The Contractor shall be present at all concrete pours made by the General Contractor.
- C. Conductor sizes are based on copper at 75°C.
- D. Wire and cable routing shown on Drawings is approximate unless dimensioned or specifically called for such as where conduit is to be embedded in concrete or masonry. Route wire and cable as required to meet project conditions and shall be routed above ceilings, directly under joists, in pipe trenches, where available, and in masonry. Where exposed conduit is permitted, it shall be run to maximize wall space.
- E. Field verify destination location to determine cable routing.
- F. Where wire and cable routing is not shown for proposed destination, determine exact routing and lengths required. Routing shall be reviewed with the Engineer.

#### PART 2 - PRODUCTS

##### 2.01 - CONDUCTORS

- A. Install products in accordance with manufacturer's recommendations.

- B. Single copper conductors with 600-volt insulation.
- C. Minimum size of feeder conductors and grounds shall be No. 12 AWG.
- D. Insulation: No. 12 AWG and No. 10 AWG, provide ANSI/NFPA 70, Type THWN-2.
- E. Use solid conductor for feeder and branch circuits, 10 AWG and smaller.
- F. All conductors shall include complete set of manufacturer's markings for insulation and conductor size.
- G. Manufacturers shall be ANACONDA, TRIANGLE, ROME, or approved equal.
- H. Provide white colored neutral conductors; provide black, color coded phase conductors; provide green colored ground conductors.

#### 2.02 - MECHANICAL CONNECTORS

- A. Conductor tapping connectors shall be BURNDY Servit split bolt, Series KS and KS3, or approved equal.
- B. Split bolt connectors shall use BURNDY Type SC Servit cover on indoor applications.
- C. Terminal lugs shall be BURNDY Universal Terminal Series. Terminal lugs shall be sized for proper ampacity and proper number of conductor holes. Each conductor shall occupy only one hole on a terminal lug.
- D. Conductor tapping connectors for multiple conductors shall be BURNDY Series V-Tap with V-Tap covers, and V-Blok mounting platforms.

### PART 3 - EXECUTION

#### 3.01 - INSTALLATION

- A. General:
  - 1. Make terminations in accordance with cable manufacturers instructions for the particular type of wire and cable.
  - 2. Splices are not allowed in the underground duct and manhole systems. If splices are required, the Contractor shall obtain approval in writing from the Engineer prior to splicing.

3. All splices shall be in made in terminal boxes.
- B. **Wire and Cable Sizes:** The sizes of wire and cable shall be as shown on the Contract Drawings, or if not shown, as approved by the Engineer. Minimum size wire shall be No. 12 AWG for all power, lighting and receptacle circuits. Wires for control circuits shall be No. 14 AWG minimum. If due to field routing the voltage drop exceeds 2.5%, the size of conductors shall be increased such that 2.5% is the maximum voltage drop incurred.
  - C. **Number of Wires:** The number of wires indicated on the Contract Drawings for the various control, indications, and metering circuits were determined for general schemes of control and for particular indication and metering systems. Coordinate wiring schemes with equipment schematics.
  - D. **Wiring Identification:** All wiring shall have a unique wire number and be labeled at both ends. Wire numbers shall correspond with the equipment terminal wire numbers. Where no wire numbers are indicated, the Contractor shall assign wire numbers. Wire numbers shall not be duplicated.
  - E. **Cable Identification Tags:** The Contractor shall furnish all labor and materials and affix in a permanent way to each cable in manholes, cable compartments and vaults, junction boxes, pull boxes and points of termination, a laminated plastic tag, bearing clearly printed, the cable number indicated on the Contract Drawings or some other approved identification number or symbol. All cables shall be temporarily tagged with its full ID number immediately after it has been pulled.
  - F. **Wiring Supplies:** Only electrical wiring supplies manufactured under high standards of production and meeting the approval of the Engineer shall be used. Rubber insulating tape shall be in accordance with ASTM D119 Friction tape shall be in accordance with ASTM D69.
  - G. **Training of Cable:** Furnish all labor and material required to train cables around cable vaults within buildings and in manholes in any outdoor underground duct system. Sufficient length of cable shall be provided in each manhole and vault so that the cable can be trained and racked in an approved manner. In training or racking, the radius of bend of any cable shall be not less than the manufacturer's recommendation. All manhole cables shall be arc and fireproofed.
  - H. **Connections at Control Panels, Limit Switches and Similar Devices:**
    1. Where stranded wires are terminated at panels, and/or devices connections shall be made by solderless lug, crimp type ferrule or solder dipped.
    2. Where enclosure sizes and sizes of terminals at limit switches, solenoid valves, float switches, pressure switches, temperature switches, and other devices make 7-strand,

No. 12 AWG, wire terminations impractical, the Contractor shall terminate external circuits in an adjacent junction box of proper size and shall install No. 14 AWG stranded wires to the junction box in a conduit.

- I. Pulling Temperature: Cable shall not be flexed or pulled when the temperature of the insulation or of the jacket is such that damage will occur due to low temperature embrittlement. When cable will be pulled with an ambient temperature within a three day period prior to pulling of 40°F or lower, cable reels shall be stored during the three day period prior to pulling in a protected storage with an ambient temperature not lower than 55EF and pulling shall be completed during the work day for which the cable is removed from the protected storage.
- J. Color Coding:
1. Conductor jacket shall be color coded as follows:

| <b>AC POWER</b>          |                          |                         |
|--------------------------|--------------------------|-------------------------|
| <b>480V/277 Volt, 3φ</b> | <b>208Y/120 Volt, 3φ</b> | <b>240/120 Volt, 3φ</b> |
| Phase A - Brown          | Phase A - Blue           | Phase A - Blue          |
| Phase B - Orange         | Phase B - Black          | Phase B - Black         |
| Phase C - Yellow         | Phase C - Red            | Phase C - Orange        |
| Neutral - White          | Neutral – White          | Neutral – White         |
| Ground – Green           | Ground – Green           | Ground – Green          |

2. Control (Per ICEA Method 1, K-2):

| WIRE NUMBER | COLOR             |
|-------------|-------------------|
| 1           | Black             |
| 2           | Red               |
| 3           | Blue              |
| 4           | Orange            |
| 5           | Yellow            |
| 6           | Brown             |
| 7           | Red With Black    |
| 8           | Blue With Black   |
| 9           | Orange With Black |
| 10          | Yellow With Black |
| 11          | Brown With Black  |
| 12          | Black With Red    |
| 13          | Blue With Red     |
| 14          | Orange With Red   |
| 15          | Yellow With Red   |
| 16          | Brown With Red    |
| 17          | Black With Blue   |
| 18          | Red With Blue     |
| 19          | Orange With Blue  |

3. DC Power
- a. Positive Lead - RED
  - b. Negative Lead - BLACK
4. Equipment Ground - GREEN

### 3.02 - IDENTIFICATION

- A. Identify wire and cable under provisions of Section 260553.
- B. Identify each conductor with its circuit number.

### 3.03 - FIELD QUALITY CONTROL

- A. Perform field inspection and testing under provisions of Section 014500.
- B. Inspect wire and cable for physical damage and proper connection.
- C. Measure tightness of bolted connections and compare torque measurements with manufacturer's recommended values.

D. Field Testing:

1. Wires and cables shall be tested before being connected to motors, devices or terminal blocks.
2. If tests reveal defects or deficiencies, the Contractor shall make the necessary repairs or shall replace the cable as directed by the Engineer, without additional cost to the Owner.
3. All tests shall be made by and at the expense of the Contractor who shall supply all testing equipment.

E. Continuity Tests: All cables, wires and shields shall be tested for continuity. Testing for continuity shall be by test light or buzzer.

F. Insulation-Resistance Tests:

1. 600V power and control cables and wires shall be tested for their insulation-resistance values. Test shall utilize a megohmmeter with applied voltage to be 1000VDC for one (1) minute. Insulation-resistance test shall be performed on each conductor with all other conductors grounded. The resistance value shall be 20 megohms or greater.

**END OF SECTION**

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Grounding electrodes and conductors.
- B. Equipment grounding conductors.
- C. Bonding.

1.02 REFERENCES

- A. ANSI/NFPA 70 - National Electric Code.

1.03 REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc.

PART 2 - PRODUCTS

2.01 COMPONENTS

- A. Ground clamps: OZ ELECTRICAL MANUFACTURING COMPANY, Type "CG", or equal by STEEL CITY or APPLETON.
- B. Raceways, conductors, outlet boxes, pull and junction boxes to be furnished in accordance with applicable sections of these specifications.
- C. Rod Electrode: Copper, 3/4-inch diameter, 10 feet long.
- D. Wire: Copper, sized to meet NFPA 70 requirements.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. General:
  - 1. Clean all conductive surfaces on equipment to be grounded, to assure good electrical continuity.
  - 2. Effectively bond all grounding conductors to grounding rod electrodes, equipment enclosures and ground busses.
  - 3. Locate all grounding attachments away from areas subject to physical damage. Provide protective covering as required.
  - 4. Install service entrance building ground as per NEC and LIPA requirements.

5. Service entrance shall be bonded to street side of first flange or coupling of incoming main water line with heavy duty ground clamp. Bonding conductor to be sized in accordance with NFPA 70.
6. Building steel shall be bonded to ground bus on main service with a conductor the same size as in B.1 below.
7. Install new service grounds and grounding systems for new service as per LIPA and NEC requirements.
8. Generators shall have a dedicated grounding system for a separately derived system for switching neutrals.

B. Feeder/Branch Circuits:

1. All circuits shall have a separate green grounding conductor in conduit sized in accordance with NFPA 70. Minimum size of conductor shall be No. 12 AWG.
2. Flexible conduit will not be approved as achieving continuity of ground. All flexible conduit to have a jumper wire sized to ampacity of branch breaker and to be connected to conduit system on both ends; this applies to fixtures, motors, controls, etc.

C. Transformers:

1. Transformers shall be grounded and grounding conductors and conduits sized in accordance with NFPA 70.

3.02 TEST

- A. Test ground on main service. Ground system resistance shall be no greater than 10 ohms using test equipment similar to a "Biddle" test. Test data to be submitted to the Engineer for approval and such approved test data to become a part of the Record Documents.

**END OF SECTION**

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. System of supporting devices and hangers for support or bracing for conduit, electrical equipment, safety switches, fixtures, panelboards, outlet boxes, junction boxes and cabinets.

1.02 - RELATED SECTIONS

- A. Section 260533 – Raceways and Boxes for Electrical Systems.
- B. Section 262400 – Switch Boards and Panel Boards.

1.03 - REFERENCES

- A. ANSI/NFPA 70 - National Electric Code.

1.04 - REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc.

PART 2 - PRODUCTS

2.01 - EQUIPMENT REQUIREMENTS

- A. Provide appropriate corrosion-resistant supporting devices and hangers for electrical equipment, as manufactured by ERICO PRODUCTS, INC., CADDY FASTENERS, STEEL CITY, MINERALLAC or equivalent.
  - 1. "Z" purlin clips.
  - 2. Conduit clips.
  - 3. Beam clamps (universal and vertical flange).
  - 4. Beam clamps (set screw type).
  - 5. Combination push-in conduit clips.
  - 6. Combination conduit hanger clamps.
  - 7. Flexible conduit clips.

8. Special combination conduit clips.
  9. One hole steel straps.
  10. Conduit hangers.
- B. Provide materials, sizes and types of anchors, fasteners and supports to carry the loads of equipment, wire in conduit and conduit.

#### 2.02 - CHANNEL SUPPORT SYSTEM

- A. Channel systems and supports shall be manufactured by KINDORF/THOMAS & BETTS, or approved equal.
- B. Channels shall be 1-1/2" x 1-1/2".
- C. Channels and all associated accessories and bolts shall be hot dipped galvanized.
- D. Channels shall have 9/16" bolt holes on 1-1/2" centers.

#### PART 3 - EXECUTION

##### 3.01 - INSTALLATION

- A. Secure conduits to within 3 feet of each outlet box, junction box, cabinet, fitting, etc., and at intervals not to exceed 10 feet in accordance with currently effective edition of the National Electric Code.
- B. In seismic zones, support conduits 1 inch and smaller at 6 foot intervals.
- C. Install clamps secured to structure for feeder and other conduits routed against structure. Use drop rods and hangers to support conduits run apart from the structure.
- D. Provide and install suitable angle iron, channel iron or steel metal framing with accessories to support or brace electrical equipment including safety switches, fixtures, panelboards, etc.
- E. Paint all supporting metal not otherwise protected, with rust inhibiting primer and then with a finish coat if appropriate to match the surrounding metal surfaces. Prepainted or galvanized support material is not required to be painted or repainted.
- F. Do not use chains, perforated iron, baling wire or tie wire for supporting conduit runs. Use of clips to support conduit to top of t-bar ceiling grid will not be permitted.

- G. Obtain permission from Engineer before drilling or cutting structural members.
- H. Install surface mounted cabinets and panelboards with a minimum of four anchors.
- I. Do not fasten supports to pipes, ducts, mechanical equipment and conduit.
- J. Install products in accordance with manufacturer's instructions.

**END OF SECTION**

## PART 1 - GENERAL

## 1.01 SECTION INCLUDES

- A. Conduit system with associated couplings, connectors and fittings. Conduits to be mechanically and electrically continuous from outlet to outlet and from outlets to cabinets, pull or junction boxes.
  - 1. Conduit Use - Rigid Galvanized Conduit:
    - a. All interior and exterior circuits.
  - 2. Conduit Use - Flexible Liquid-tight Metal Conduit:
    - a. Connecting motors, generators and other equipment subject to vibration, maximum length - 3 feet.
    - b. Passing through building expansion joints.
- B. Device Boxes: Provide each fixture switch, receptacle and other wiring device with a box of appropriate size and depth for its particular location use unless indicated otherwise.
- C. Junction boxes.

## 1.02 RELATED SECTIONS

- A. Section 017840 – Project Record Documents.
- B. Section 260519 – Low-Voltage Electrical Power Conductors and Cables.
- C. Section 260526 – Grounding and Bonding for Electrical Systems.
- D. Section 260529 – Hangers and Supports for Electrical Systems.
- E. Section 260553 – Identification for Electrical Systems.

## 1.03 REFERENCES

- A. ANSI C80.1 - Rigid Steel Conduit, Zinc Coated.
- B. ANSI/NFPA 70 - National Electric Code.
- C. NECA Standard of Installation.
- D. ANSI/NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies.
- E. ANSI/NEMA OS1 – Sheet-steel outlet boxes, device boxes, covers and box supports.
- F. NEMA 250 – Enclosures for electrical equipment (1000 volts maximum).

## 1.04 SUBMITTALS

- A. Submit product data under provisions of Section 013300.

## 1.05 REGULATORY REQUIREMENTS

- A. Furnish products listed and classified by Underwriters Laboratories, Inc.
- B. Conform to requirements of ANSI/NFPA 70.

## 1.06 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Section 017839.
- B. Accurately record actual routing of all conduits.

## 1.07 FIELD SAMPLES

- A. Provide under provisions of Section 014500.
- B. Provide field sample of conduit two each at 2 feet in length.
- C. Provide field sample of expansion/deflection fitting, two each.

## 1.08 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, protect, and handle products in accordance with manufacturers' recommendations.
- B. Accept conduit on site. Inspect for damage.
- C. Protect conduit from corrosion and entrance of debris by storing abovegrade. Provide appropriate covering.

## 1.09 PROJECT CONDITIONS

- A. Verify all conduit routings by field measurements.
- B. Verify routing and termination locations of conduit prior to rough-in.
- C. Conduit routing is shown on Drawings in approximate locations unless dimensioned. Route as required to complete wiring system. Provide all required sweeps, boxes and fittings.

## PART 2 - PRODUCTS

## 2.01 RIGID GALVANIZED CONDUIT

- A. Rigid conduit shall be hot dipped, galvanized, or electro-galvanized steel by WHEATLAND, TRIANGLE, REPUBLIC or approved equal.
- B. Associated couplings, connectors and fittings shall be as manufactured by THOMAS & BETTS CORP., O.Z. GEDNEY CO., EFCOR or approved equal. Catalog numbers used below are

those of THOMAS & BETTS CORP. based on 3/4-inch size and are considered standards by which equivalents are to be judged.

- C. ERICKSON couplings, Series 676 or approved equal, shall be used where neither length of conduit can be rotated.
- D. Conduit connectors shall be threaded type. Set screw and compression type connections ARE NOT acceptable.
- E. Sealing fitting locknuts shall be Series 142SL.
- F. Steel or malleable iron insulated bullet hub, Series 370-379, complete with sealing "O" ring. DO NOT use "die cast" material.
- G. Entrance ells shall be Series 1491 or approved equal.
- H. Combination coupling shall be Series 531 for connecting rigid galvanized conduit to electrical metallic tubing.

#### 2.02 FLEXIBLE LIQUID-TIGHT METAL CONDUITS AND FITTINGS

- A. Liquid-tight flexible metal conduit shall be ANACONDA or approved equal.
- B. Description: Interlocked steel construction with PVC jacket.
- C. Provide flexible liquid-tight conduits and fittings as manufactured by THOMAS & BETTS CORP., O.Z. GEDNEY CO. or approved equal. Catalog numbers used below are those of the THOMAS & BETTS CORP., based on 3/4" size and are to be considered as standards by which equivalents are to be judged. All conduit shall be liquid-tight flexible type, UL type UA, or suitable for exposure to continuous or intermittent moisture.
- D. Flexible liquid-tight connectors shall be Series 5333 or approved equal.

#### 2.03 OUTLET AND DEVICE BOXES

- A. Acceptable Manufacturers: Raco, General Electric or approved equal.
- B. Sheet Metal Outlet Boxes - All concealed boxes shall be NEMA OSI, galvanized steel:
  - 1. Luminare and Equipment Supporting Boxes: Rated for weight of equipment supported. Provide 1/2" male fixture stubs where required.
- C. Concrete Ceiling Boxes: Concrete type.
- D. Cast Boxes: All exposed surface mounted boxes shall be NEMA FB1, Type FD, cast fer alloy. Provide gasketed cover by box manufacturer.

#### 2.04 JUNCTION BOXES

- A. Acceptable Manufacturers: RACO, GENERAL ELECTRIC or approved equal.
- B. Sheet metal boxes: NEMA OS1, galvanized steel.

- C. Covers: Galvanized steel.

## 2.05 ELECTRICALLY CONDUCTIVE CORROSION-RESISTANT THREAD COMPOUND

- A. KOPR-SHIELD or approved equal.

## PART 3 - EXECUTION

### 3.01 INSTALLATION OF CONDUITS

- A. Minimum size of conduits shall be 3/4-inch.
- B. Minimum conduit depth shall be 18" below grade, measured to the top of the conduit on exterior underground installations.
- C. Conduit joints shall be cut square, threaded, reamed smooth, and drawn up tight so conduit ends will butt in couplings, connectors and fittings.
- D. All threaded conduits and fittings shall have KOPR-SHIELD compound applied to all threads prior to assembly.
- E. Make bends or offsets with standard ells or field bends with an approved bender.
- F. Run concealed conduits in direct line with long sweep bends or offsets. Run exposed conduits parallel to and at right angles to building lines. Group multiple conduit runs in banks.
- G. Secure conduits to all boxes and cabinets with double locknuts and bushings so system will be electrically continuous from service to all outlets.
- H. Install conduit in accordance with NECA Standard of Installation.
- I. Cap ends of conduits to prevent entrance of water and other foreign material during construction.
- J. Complete all conduit systems before pulling conductors.
- K. Support conduits under provisions of Section 260529.
- L. Provide approved expansion joints or fittings and bonding jumpers where conduits in concrete pass through building expansion joints.
- M. Provide cable supports in conduits rising vertically in accordance with the National Electric Code, Article 300-19.
- N. Provide No. 12 AWG copper pull wires or nylon cord in all empty conduits. Steel wire not acceptable as pull wire.
- O. Install conduit to preserve fire resistance rating of partitions and other elements.
- P. Ground and bond conduit under provisions of Section 260526.
- Q. Where neither length of conduit can be rotated, ERICKSON couplings Series 676 shall be used.

- R. In areas where enclosed and gasketed fixtures and weatherproof devices are specified, where rigid conduit enters a sheet metal enclosure, junction box and outlet box, and not terminated in a threaded hub, a steel, or malleable iron nylon insulated bullet hub, complete with recessed sealing "O" ring, shall be used, Series 370-379 . DO NOT use die cast material.
- S. In concrete slabs block up conduit from forms and securely fasten in place. All conduits in slabs shall be installed below concrete slab.
- T. Where conduits running overhead pass through building expansion joints, install flexible liquid tight conduit of same size with sufficient slack to allow conduits on either side of expansion joint to move a minimum of 3-inches in any direction. Provide supports as required on each side of expansion joint, all in accordance with seismic requirements of specific area.
- U. Failure to route conduit through building without interfering with other equipment and construction shall not constitute a reason for an extra charge. Equipment, conduit and fixtures shall fit into available spaces in building and shall not be introduced into building at such times and manner as to cause damage to structure. Equipment requiring servicing shall be readily accessible.
- V. Arrange supports to prevent misalignment during wiring installation.
- W. Support conduit using coated steel or malleable iron straps, lay-in adjustable hangers, clevis hangers, and split hangers.
- X. Group related conduits; support using conduit rack. Construct rack using steel channel; provide space on each for 25 percent additional conduits.
- Y. Do not support conduit with wire or perforated pipe straps. Remove wire used for temporary supports.
- Z. Do not attach conduit to ceiling support wires.
- AA. Arrange conduit to maintain headroom and present neat appearance.
- BB. Route exposed conduit parallel and perpendicular to walls.
- CC. Route conduit installed above accessible ceilings parallel and perpendicular to walls.
- DD. Route conduit in and under slab from point-to-point.
- EE. Do not cross conduits in slab.
- FF. Maintain adequate clearance between conduit and piping.
- GG. Maintain 12-inch clearance between conduit and surfaces with temperatures exceeding 104°F (40°C).
- HH. Bring conduit to shoulder of fittings; fasten securely.
- II. Use conduit hubs with sealing locknuts to fasten conduit in damp and wet locations.
- JJ. Install no more than equivalent of three 90-degree bends on interior locations between boxes. Use conduit bodies to make sharp changes in direction, as around beams. Use factory elbows for bends in metal conduit larger than 2-inch size.
- KK. Avoid moisture traps; provide junction box with drain fitting at low points in conduit system.

- LL. Do not use dissimilar strap or clamp supports. Provide dielectric tape, fittings, straps, and bushings where dissimilar metals are used.
- MM. Where fittings for liquid-tight flexible conduit are brought into an enclosure with a knockout, a gasket assembly, consisting of one piece "O" ring, with a Buna-R sealing material, Series 5200, shall be installed on outside of box. Fittings shall be made of either steel or malleable iron only, and shall have insulated throats or insulated bushings.
- NN. A copper ground wire sized in accordance with NEC shall be installed on the inside of the conduit as a jumper around flexible conduit to assure a continuity of ground.
- OO. Install a copper jumper across all flexible conduit including lighting fixtures, controls and other utilization equipment.
- PP. Install liquid-tight flexible conduit in such a manner as to prevent liquids from running on surface toward fittings.
- QQ. Allow sufficient slack conduit to reduce the effect of vibration.
- RR. Complete all conduit systems before pulling the conductors.
- SS. Support in accordance with requirements of National Electric Code.

### 3.02 INSTALLATION OF BOXES

- A. Install boxes concealed in finished walls.
- B. Locate boxes to prevent moisture from entering or accumulating within them.
- C. Support boxes independently of conduit, as required by the National Electric Code.
- D. Provide 4" x 1-1/2" octagonal, 4" x 1-1/2" square or 4" x 2-1/8" square ceiling outlet boxes.
- E. Where required to hang a specific fixture, provide a fixture stud of the no-bolt, self-locking type on ceiling outlets.
- F. Provide 2-1/2" x 3-3/4" one gang masonry boxes for switches and receptacles installed concealed in concrete block walls. For increased cubic capacity, provide 3-1/2" x 3-3/4" one gang masonry boxes. Where more than two conduits enter the box from one direction, provide 4" square boxes with square cut device covers not less than 1" deep specifically designed for this purpose. Use round edge plaster rings only if the block walls are to be plastered. Use sectional or gang-type outlet boxes only in drywall construction.
- G. Provide 4-11/16" square outlet boxes with square cut device corners for block walls or round edge plaster rings for plastered walls for telephone outlets. Single gang device boxes are not acceptable.
- H. Provide fittings with threaded hubs for screw connections and with the proper type covers for switches and receptacles served by exposed conduit. Use pressed steel outlet only for ceiling fixture outlets.
- I. Provide condulets with threaded hubs and covers and with proper configurations for all changes of direction of exposed conduits. Standard conduit ells may be used if they do not interfere or damage or mar the appearance of the installation.

- J. Use boxes of sufficient cubic capacity to accommodate the number of conductors to be installed, in accordance with the National Electric Code.
- K. Effectively close unused openings in boxes with metal plugs or plates.
- L. Set boxes so that front edges are flush with finished surfaces.
- M. Support boxes from structural members with approved braces.
- N. Install blank device plates on outlet boxes left for future use.
- O. Provide bushings in holes through which cords or conductors pass.
- P. Install boxes so that the covers will be accessible at all times.
- Q. Electrical boxes may be installed in vertical fire resistive assemblies classified as fire/smoke and smoke partitions without affecting the fire classification, provided such openings occur on one side only in each framing space and that openings do not exceed 16 square inches. All clearance between such boxes and the gypsum board shall be completely filled with joint compound or approved fire-resistive compound. The wall shall be built around outlet boxes larger than 16 square inches so as not to interfere with the wall rating.

### 3.03 INSTALLATION OF JUNCTION BOXES

- A. Provide junction boxes as shown on Drawings and otherwise where required, sized according to number of conductors in box or type of service to be provided. Minimum junction box size 4-inch square and 2-1/8-inches deep. Provide screw covers for junction boxes.
- B. Install boxes in conduit runs wherever necessary to avoid long runs or too many bends. Do not exceed 100-foot runs without junction boxes.
- C. Rigidly secure boxes to walls or ceilings. Conduit runs will not be considered adequate support.
- D. Install boxes with covers in accessible locations. Size boxes in accordance with the National Electric Code.
- E. Do not install junction boxes for joint use of line voltage and signal or low voltage controls unless all conductors are insulated for the highest voltage being used in the same box.

### 3.04 CONDUIT LOCATIONS

- A. Route all conduit concealed in walls or above finished ceilings. Provide boxes and conduits concealed in walls for all power and controls.
- B. Surface mounted conduits will not be permitted.
- C. Contractor shall not route conduits over pump motors, roof hatches and trolley beams which would prevent removal of pump motors.

**END OF SECTION**

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Nameplates and labels.
- B. Wire and cable markers.
- C. Conduit markers.

1.02 - REFERENCES

- A. ANSI/NFPA 70 - National Electrical Code.

1.03 - SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Product Data: Provide catalog data for nameplates, labels and markers.
- C. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by Underwriters Laboratories, Inc. Include instructions for storage, handling, protection, examination, preparation and installation of product.

1.04 - REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

PART 2 - PRODUCTS

2.01 - NAMEPLATES AND LABELS

- A. Nameplates: Engraved three-layer laminated plastic, white letters on black background.
- B. Locations:
  - 1. Motor Control Centers.
  - 2. Distribution panelboards.
  - 3. All control switches and pilot light devices.

4. Transfer Switches.
  5. Generator Enclosure.
- C. Letter Size:
1. Use 1/4 inch (6 mm) letters for identifying all control pilot lights.
- D. Labels: Embossed adhesive tape, with 3/16" (5mm) white letters on black background. Use for identifying existing equipment, distribution panels, switchboards, disconnect switches, and individual electrical devices.

## 2.02 - WIRE MARKERS

- A. Manufacturers:
1. 3M ELECTRICAL SPECIALTY DIV., Product Scotch Code.
  2. THOMAS & BETTS CORP., Product E-Z Code.
  3. Substitutions shall be permitted only after receiving written approval from the Engineer.
- B. Description: Epoxy film tape type wire markers.
- C. Locations: Each conductor at panelboards, auxiliary gutters, pull boxes, outlet and junction boxes, circuit breakers and each load connection.
- D. Legend:
1. Power and Lighting Circuits: Branch circuit or feeder number indicated on drawings.
  2. Control Circuits: Control wire number indicated on interconnection diagrams on drawings.

## 2.03 - CONDUIT MARKERS

- A. Manufacturers:
1. THOMAS & BETTS CORP.
  2. Substitutions shall be permitted only after receiving written approval from the Engineer.
- B. Description: Self-sticking vinyl; black letters on orange background.

- C. Location: Furnish markers for each conduit longer than 6 feet (1.8 m).
- D. Spacing: 20 feet (6 m) on center.

#### 2.04 - UNDERGROUND WARNING TAPE

- A. Manufacturers:
  - 1. THOMAS & BETTS CORP., Model NA-0708.
  - 2. Substitutions shall be permitted only after receiving written approval from the Engineer.
- B. Description: 6 inch (150 mm) wide plastic tape, detectable type, colored yellow with suitable warning legend describing buried electrical lines.

### PART 3 - EXECUTION

#### 3.01 - PREPARATION

- A. Degrease and clean surfaces to receive nameplates and labels.

#### 3.02 - APPLICATION

- A. Install nameplate and label parallel to equipment lines.
- B. Secure nameplate to equipment front using screws, rivets or adhesive.
- C. Secure nameplate to inside surface of door on panelboard that is recessed in finished locations.
- D. Apply conduit markers at 20 foot (6 m) intervals.
- E. Identify underground conduits using underground warning tape. Install one tape per trench at 3 inches (75 mm) below finished grade.

#### 3.03 - ELECTRICAL EQUIPMENT IDENTIFICATION

- A. The Contractor shall identify all existing circuits in existing distribution panels, switchboards and disconnect switches to remain.
- B. Label all circuits identifying the load served including all individual circuit breakers.
- C. Label all new circuit breakers and switches used for new feeder and branch circuits.



**END OF SECTION**

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Dry type transformers.

1.02 - RELATED SECTIONS

- A. Section 260533 – Raceways and Boxes for Electrical Systems.
- B. Section 260519 – Low-Voltage Electrical Power Conductors and Cables.
- C. Section 260526 – Grounding and Bonding for Electrical Systems.

1.03 - REFERENCES

- A. ANSI/NFPA 70 - National Electric Code.
- B. NEMA ST20 - Dry Type Transformers for General Applications.

1.04 - SUBMITTALS

- A. Submit product data under provisions of Section 013300.
- B. Provide outline and support point dimensions of enclosures and accessories, unit weight, voltage, KVA and impedance ratings and characteristics, tap configurations, insulation system type and rated temperature rise.

1.05 - REGULATORY REQUIREMENTS

- A. Conform to requirements of NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc.

PART 2 - PRODUCTS

2.01 - MANUFACTURERS

- A. Dry type transformers shall be manufactured by General Electric Type QL.
- B. Approved equal.

2.02 - EQUIPMENT REQUIREMENTS

- A. Three-phase and Single-phase general purpose dry type transformers be self-cooled, with ratings (KVA) as indicated on the drawings.
- B. Copper windings.
- C. Sound levels not to exceed the following:
  - 1. 10-50 KVA: 45 db.
- D. Three-phase transformers rated above 15 KVA to be insulated with UL listed Class 220 rated materials; and have a maximum average full load temperature rise of 115 degrees C.
- E. Transformers to have voltage ratios as indicated on drawings. Transformers between 15 KVA and 300 KVA to be provided with six 2-1/2% full capacity taps, two above and four below primary rated voltage.
- F. Nameplate: Include transformer connection data.

PART 3 - EXECUTION

3.01 - INSTALLATION

- A. Install transformers in accordance with manufacturer's recommendations.
- B. Provide both primary and secondary protection as shown on drawings.
- C. Set transformer plumb and level.
- D. Provide grounding and bonding in accordance with provisions of Section 260526.

3.02 - FIELD QUALITY CONTROL

- A. Check for damage and tight connections prior to energizing transformer.
- B. Measure primary and secondary voltage and make appropriate tap adjustments.

**END OF SECTION**

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Distribution panel boards.

1.02 - RELATED SECTIONS

- A. Section 260526 – Grounding and Bonding for Electrical Systems.
- B. Section 260529 – Hangers and Supports for Electrical Systems.
- C. Section 260553 - Identification for Electrical Systems.

1.03 - REFERENCES

- A. ANSI/NFPA 70 - National Electric Code.
- B. NECA Standard of Installation.
- C. NEMA AB1 - Molded Case Circuit Breakers.
- D. NEMA PB1 - Panel Boards.
- E. NEMA PB1.1 - Instructions for Safe Installation, Operation and Maintenance of Panel Boards Rated 600 Volts or Less.
- F. NEMA ICS2 - Industrial Control Devices, Controllers and Assemblies.
- G. NEMA KS1 - Enclosed Switches.

1.04 - SUBMITTALS

- A. Submit product data under provisions of Section 013300.
- B. Indicate outline and support point dimensions, voltage, main bus ampacity, integrated short circuit ampere rating, and circuit breaker arrangement and sizes.

PART 2 - PRODUCTS

2.01 - MANUFACTURERS

- A. Panel Boards shall be manufactured by Siemens.

- B. Approved equal.

## 2.02 - PANELBOARD REQUIREMENTS

- A. Provide panel boards of circuit breaker, dead-front safety type, UL labeled, and meeting all applicable requirements of the National Electrical Manufacturers Association.
- B. Provide panel boards with lugs (both main lugs and branch circuit lugs) suitable and UL approved for both aluminum and copper conductors.
- C. Provide electrically isolated neutral bars.
- D. Provide separate ground bars complete with lugs or connectors on bar.
- E. Provide key operated door lock.
- F. Provide panel boards with sequence phased bus bars or distributed phase bussing for voltage and phase as indicated on drawings.
- G. Refer to drawings for numbers of branch circuits, their ratings, number of poles, arrangements, etc.
- H. Provide typed circuit directory cards.
- I. Provide front filler plates for unused breaker knockouts.
- J. Refer to drawings for Ratings and Features.
- K. All bus bars, including ground bars shall be tin-plated copper.

## PART 3 - EXECUTION

### 3.01 - INSTALLATION

- A. Ground separate ground bars to panel boxes and to the main service entrance ground bus with a code-sized grounding conductor installed in the same conduit as the phase and neutral conductors under provisions of Section 260526.
- B. Install all circuits using a common neutral bus bay in accordance with the National Electric Code. Balance all circuits to achieve not greater than 10% unbalanced neutral current in panel feeders.
- C. Provide six circuit breaker handle lock-on devices for each lighting and miscellaneous power panel board for installation by the contractor on circuits as directed by the Engineer to prevent

unauthorized personnel from turning off circuits to controls, unit heaters, autodial alarm system, etc. Provide spare lock-on devices over to the Engineer.

- D. Install panel boards in accordance with NEMA PB 1.1.
- E. Install panel boards plumb.
- F. Height: 6 feet (2 m) to top of panel board.
- G. Provide typed circuit directory for each branch circuit panel board. **HANDWRITTEN CIRCUIT DIRECTORY CARDS WILL NOT BE ACCEPTED.** Revise directory to reflect circuiting changes required to balance phase loads.
- H. Provide engraved plastic nameplates under the provisions of Section 260553.

### 3.02 - FIELD QUALITY CONTROL

- A. Maintain proper phasing for multi-wire branch circuits.
- B. Visual and Mechanical Inspection: Inspect for physical damage, proper alignment, anchorage, and grounding. Check proper installation and tightness of connections for circuit breakers, fusible switches, and fuses.

**END OF SECTION**

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Switches, receptacles, thermostats, device plates and other wiring devices as indicated on Drawings.

1.02 RELATED SECTIONS

- A. Section 260533 – Raceways and Boxes for Electrical Systems.

1.03 REFERENCES

- A. ANSI/NFPA 70 - National Electric Code.
- B. NEMA WD1 - General Purpose Wiring Devices.

1.04 SUBMITTALS

- A. Submit product data under provisions of Section 013300.
- B. Provide manufacturer's catalog information showing dimensions, colors and configuration.

1.05 REGULATORY REQUIREMENTS

- A. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

PART 2 - PRODUCTS

2.01 SWITCHES

- A. Manufacturers: HUBBELL, BRYANT, GENERAL ELECTRIC.
- B. Single pole, 20 amp, 120/277 VAC, NEMA WD-1, heavy duty, UL20.
- C. Device Plate: Stainless steel.

2.02 RECEPTACLES

- A. Manufacturers: HUBBELL, BRYANT, GENERAL ELECTRIC.
- B. 20 amp, 125 VAC, NEMA WD-1, heavy duty.
- C. 20 amp, 125 VAC, NEMA WD-1, heavy duty, ground fault circuit interrupter.

- D. Duplex type.
- E. Device Plate: Stainless steel.

### 2.03 LINE VOLTAGE THERMOSTAT

- A. Acceptable Manufacturers: HONEYWELL, Model No. T651A3018, or approved equal.
- B. Heating/Cooling Rated
- C. Ratings: 120 volts, 22 amps resistive SPDT switch.
- D. Temperature Range: +44° to + 86° F.

### 2.04 MANUAL MOTOR RATED THERMAL SWITCH

- A. Acceptable Manufacturers: SQUARE D, Class 2510, Type KG1A, Type KG2C (3-pole, 600V) or approved equal.
- B. Contractor shall coordinate voltage, phase and current rating with equipment.

## PART 3 - EXECUTION

### 3.01 INSTALLATION

- A. Mounting:
  - 1. Mount all switches 46-inches above finished floor to center line of switch unless noted otherwise.
  - 2. Mount all receptacles 18-inches above finished floor to center line of receptacle unless noted otherwise.
  - 3. Install switches with OFF position down.
- B. Polarity: Properly wire all receptacles so that the hot wire, the neutral wire and the ground wire connect to the proper terminal on all receptacles.
- C. Grounding: Install all devices in boxes specified under Section 260533 and install a No. 12 green ground wire from device grounding terminal to the outlet box in accordance with the National Electric Code.
- D. Install device plates on switch, receptacle and blank outlets in full contact with wall surface.

### 3.02 FIELD QUALITY CONTROL

- A. Inspect each wiring device for defects.
- B. Operate each wall switch with circuit energized and verify proper operation.
- C. Verify that each receptacle device is energized.
- D. Test each receptacle device for proper polarity.

SECTION 262726 - WIRING DEVICES



- E. Test each GFCI receptacle device for proper operation.

**END OF SECTION**

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Interior and exterior luminaires and accessories.
- B. Emergency lighting and units.

1.02 RELATED SECTIONS

- A. Section 260533 – Raceways and Boxes for Electrical Systems.
- B. Section 260519 – Low-Voltage Electrical Power Conductors and Cables.

1.03 REFERENCES

- A. ANSI C78.379 - Electric Lamps - Incandescent and High-Intensity Discharge Reflector Lamps - Classification of Beam Patterns.
- B. ANSI C82.1 - Ballasts for Fluorescent Lamps - Specifications.
- C. ANSI C82.4 - Ballasts for High-Intensity Discharge and Low Pressure Sodium Lamps (Multiple Supply Type).
- D. NEMA WD 6 - Wiring Devices - Dimensional Requirements.
- E. NFPA 70 - National Electric Code.
- F. NFPA 101 - Life Safety Code.

1.04 SUBMITTALS

- A. Submit product data under provisions of Section 013300.
- B. Shop Drawings: Indicate dimensions and components for each luminaire that is not a standard product of the manufacturer.
- C. Product Data: Provide dimensions, ratings, performance data and installation instructions.
- D. Submit manufacturer's installation instructions. Indicate application conditions and limitations of use stipulated by Product testing agency specified under Regulatory Requirements. Include instructions for storage, handling, protection, examination, preparation and installation of Product.

1.05 REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.

## SECTION 265000 - LIGHTING



- B. Furnish products listed and classified by Underwriters Laboratories, Inc.

### 1.06 EXTRA PRODUCTS

- A. Section 017800 – Closeout Submittals.
- B. Furnish four (4) replacement lamps for each lamp type.

## PART 2 - PRODUCTS

### 2.01 LIGHTING UNITS

- A. Refer to scheduling on drawings.
- B. Provide electronic energy saving ballasts.

## PART 3 - EXECUTION

### 3.01 INSTALLATION

- A. Install fixtures in accordance with manufacturer's instructions.
- B. Mount fixtures in locations as shown on drawings and as called for in schedule on electrical drawings. Determine type of ceiling to be installed in each space from drawings and schedules and furnish fixtures suitable for the exact type.
- C. Joints in fixture wiring shall be made using wire nuts, pre-insulated Scotch locks, or other approved mechanical means of connection.
- D. Adjustable type fixtures shall be adjusted by the Contractor to illuminate intended area to satisfaction of the Engineer.
- E. Surface fixtures in or on plastered or drywall ceilings shall be supported from pieces of support channel spanning across main support channels and shall not depend on ceilings for support.
- F. Coordinate fixture locations to clear diffusers, ductwork, piping, etc.
- G. Maintain integrity of enclosures on all enclosed and gasketed fixtures. Minimize number of enclosure penetrations and make such penetrations water and dust tight with appropriate gasketing and fittings.
- H. Relamp luminaries that have failed at completion of project.

## END OF SECTION

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Programmable logic controllers.
- B. Input/output hardware.
- C. Programmer/programming requirements.

1.02 - REFERENCES

- A. NEMA ICS 1 - General Standards for Industrial Control and Systems.
- B. NEMA ICS 2 - Standards for Industrial Control Devices, Controllers and Assemblies.
- C. NEMA ICS 3 - Industrial Systems.
- D. NEMA ICS 6 - Enclosures for Industrial Controls and Systems.

1.03 - SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Submit wiring and schematics diagrams for the new and existing I/O.

1.04 - QUALIFICATIONS

- A. Manufacturer: Company with minimum five (5) years documented PLC experience, which maintains service facilities within 50 miles of project.

PART 2 – PRODUCTS

2.01 - MANUFACTURERS

- A. Existing PLC is ALLEN BRADLEY Model CompactLogix 1769-L32E.

2.02 - INPUT/OUTPUT MODULES

- A. Utilize existing spare I/O module.

## 2.03 – PLC SOFTWARE CHARACTERISTICS

- A. Provide revised copy of final accepted source code to District for each CPU furnished as part of this project.
- B. Inputs/Outputs:

| PERCHLORATE BUILDING – DIGITAL INPUTS                  |                      |
|--|----------------------|
| DESCRIPTION  | DIGITAL INPUTS       |
| Chem Safety – Perchlorate Vessel Effluent Limit Switch | Relay or Dry Contact |
| 4" PRV Valve Limit Switch                              | Relay or Dry Contact |

## PART 3 – EXECUTION

## 3.01 - INSTALLATION

- A. Utilize existing spare I/O module. Interface with existing I/O module in accordance with manufacturer's instructions on PLC.

## 3.02 - PROGRAMMING

- A. The Contractor shall be responsible to develop, document, program and debug the control sequence and logic necessary to assure system operation as stipulated in the specifications and on the contract drawings. The ladder logic shall be directly programmed in the PLC's. This Contractor shall be responsible for complete programming and verification of performance to be consistent with the intended control operation.

**END OF SECTION**

**PART 1 - GENERAL**

**1.01 - SECTION INCLUDES**

- A. Operator Terminals.

**1.02 - REFERENCES**

- A. NEMA ICS 1 - General Standards for Industrial Control and Systems.
- B. NEMA ICS 2 - Standards for Industrial Control Devices, Controllers and Assemblies.
- C. NEMA ICS 3 - Industrial Systems.
- D. NEMA ICS 6 - Enclosures for Industrial Controls and Systems.

**1.03 - SUBMITTALS**

- A. Submit product data under provisions of Section 013300.
- B. Submit scaled drawings of new graphic screen generations consisting of perchlorate system overview, including but not limited to effluent limit switch status and pressure relief valve status for approval by Engineer prior to development.

**1.04 - RELATED SECTIONS**

- A. Section 265010 - Programmable Logic Controllers

**PART 2 - PRODUCTS**

**2.01 - MANUFACTURER**

- A. Existing Operator Terminal is ALLEN BRADLEY Panelview Plus, Model 1000. (2711P-T10C4A1)

**PART 3 - EXECUTION**

**3.01 - INSTALLATION**

- A. GUI Terminal
  - 1. Develop new GUI screen(s) for the graphics, alarms, controls and settings functions at the new Plant No. 16 perchlorate building including but not limited to effluent limit switch status and pressure relief valve status.

2. GUI shall be modified to display the additional treatment systems and associated modifications to the process. Included but not limited to the Perchlorate Vessel, pressure relief valve, limit switches, etc.
3. New GUI screen shall be part of the SCADA System.

**END OF SECTION**

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Remove and dispose of surface debris as required.
- B. Remove and dispose of paving, sidewalk, curbs, etc.
- C. Clear site or designated areas of the site of plant life and grass as required, and dispose of as required.
- D. Remove and dispose of trees and shrubs as required.
- E. Remove and dispose of stumps and root system of trees and shrubs as required.
- F. Removal and storage of topsoil.

1.02 RELATED SECTIONS

- A. Section 312213 - Rough Grading.
- B. Section 329119.13 - Topsoil Placement and Grading: Placement of stored topsoil.

1.03 REGULATORY REQUIREMENTS

Conform to applicable local code(s) for disposal of debris.

- A. Burning of materials on site is prohibited.
- B. Coordinate clearing work with utility companies.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.01 PREPARATION

- A. Verify existing conditions.
- B. Identify existing plant life designated to be removed. Verify with Owner and Engineer prior to removal.
- C. Verify limits of clearing.

3.02 PROTECTION

- A. Locate, identify and protect utilities that are to remain from damage.
- B. Protect trees, plant growth and features designated to remain as final landscaping.
- C. Protect benchmarks and existing structures from damage or displacement. Any damage to existing structures is to be promptly repaired at no additional cost to the Owner.

3.03 APPLICATION

- A. Clear areas required for access to site and execution of work.
- B. Remove paving, curbs, debris and sidewalks as required.
- C. Remove trees and shrubs designated to be removed. Remove stumps, main root ball, surface rock and perishable debris.
- D. Clear undergrowth and dead wood without disturbing subsoil.
- E. Remove paving, debris, rock and extracted plant life from site and dispose of in accordance with State and local ordinances.
- F. Excavate topsoil from areas to be further excavated, re-landscaped or regraded. Do not excavate wet topsoil.
- G. Stockpile topsoil in area designated on site to a height not exceeding 8 feet. Protect from erosion. Remove excess topsoil not being reused from site. Do not remove any topsoil from the site prior to obtaining the approval of the Engineer.

**END OF SECTION**

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Removal and storage of subsoil.
- B. Cutting, grading, filling and rough contouring the site prior to placement of topsoil or pavement base for final grading.

1.02 RELATED SECTIONS

- A. Section 311100 – Site Clearing.
- B. Section 312316 – Excavation – Removal of Unsuitable Soils.
- C. Section 312323.13 – Backfilling – Replacement of Unsuitable Soils.

1.03 REFERENCES

- A. ANSI/ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb. Rammer and 18 inch Drop.

1.04 SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Sieve Analysis: Submit a sieve analysis of all types of fill material to be used.

1.05 PROJECT RECORD DOCUMENTS

- A. Accurately record actual locations of utilities remaining, by horizontal dimensions, elevations or inverts, and slope gradients.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Subsoil: Reused excavated material, graded, free of lumps, rocks and gravel larger than 3 inches in size, debris and contaminants.

## PART 3 - EXECUTION

## 3.01 EXAMINATION

- A. Verify site conditions.
- B. Verify that survey benchmark and intended elevations for the work are as indicated.

## 3.02 PREPARATION

- A. Identify required lines, levels, contours and datum.
- B. Identify known underground, aboveground and aerial utilities. Stake and flag locations.
- C. Coordinate the removal or relocation of utilities with the necessary utility companies.
- D. Protect above and below-grade utilities that are to remain.
- E. Protect plant life, lawns, rock outcropping and other features remaining as a portion of final landscaping.
- F. Protect benchmarks, existing structures, fences, sidewalks, paving and curbs from excavation equipment and vehicular traffic.

## 3.03 APPLICATION

- A. Excavate subsoil from areas to be further excavated or regraded. Do not excavate wet subsoil.
- B. Stockpile in area designated on site. Remove excess subsoil not being reused from site.
- C. Stockpile subsoil to a height not exceeding 8 feet. Cover to protect from erosion.
- D. When excavation through roots is necessary, perform work by hand and cut roots with sharp axe.
- E. Fill areas to contours and elevations with unfrozen subsoil material with allowances made for topsoil, aggregate base course or paving.
- F. Place and compact subsoil fill material in 12 inch lifts (compacted thickness). Compact to 92 percent maximum dry density in accordance with ANSI/ASTM D1557.
- G. Maintain optimum moisture content of fill materials to attain required compaction density.
- H. Make grade changes gradual. Blend slope into level areas.
- I. Remove surplus fill materials from site.

## 3.04 TOLERANCES

- A. Maximum Variation From Top Surface of Subgrade: 1 inch.

SECTION 312213 - ROUGH GRADING



3.05 FIELD QUALITY CONTROL

- A. Perform field inspection and testing under provisions of Section 014500.
- B. Perform tests and analysis of fill material in accordance with ANSI/ASTM D1557.
- C. Perform compaction tests at a rate of one for every 10 cubic yards of material placed.

**END OF SECTION**

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Excavation for site structures.
- B. Site excavation.

1.02 RELATED SECTIONS

- A. Section 312213 – Rough Grading.
- B. Section 312323.13 - Backfill: Backfilling excavated material.

1.03 QUALITY ASSURANCE

- A. Do not excavate wet or frozen materials without written approval from the Engineer.
- B. Provide safety barricades around open excavations.

1.04 FIELD MEASUREMENTS

- A. Verify that survey benchmark and intended elevations for the work are as indicated.

1.05 COORDINATION

- A. Coordinate work under provisions of Section 013100.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Identify required lines, levels, contours and datum.
- B. Identify known underground, above ground and aerial utilities. Stake and flag locations.
- C. Notify utility company to remove or relocate utilities, if required.
- D. Protect above and below grade utilities which are to remain.
- E. Protect plant life, lawns and other features remaining as a portion of final landscaping.

- F. Protect bench marks, existing structures, fences, sidewalks, paving and curbs from excavation equipment and vehicular traffic.
- G. Notify the Engineer prior to commencement of excavation.

3.02 EXCAVATION

- A. Underpin adjacent structures that may be damaged by excavation work, including utilities and pipe chases.
- B. Excavate subsoil required to accommodate landscaping and construction operations to the limits as indicated on the plans.
- C. Machine slope banks to angle of repose or less, until shored.
- D. Grade top perimeter of excavation to prevent surface water from draining into excavation.
- E. Hand trim excavation. Remove loose matter.
- F. Remove lumped subsoil, boulders, and rock.
- G. Notify Engineer of unexpected subsurface conditions and discontinue affected work in area until notified to resume work.
- H. Correct unauthorized excavation at no extra cost to Owner in accordance with Section 312323.13.
- I. Stockpile excavated material in area designated on site and remove excess material not being reused from site.

3.03 FIELD QUALITY CONTROL

- A. Perform field inspection and testing under provisions of Section 014500.
- B. Provide for visual inspection of bearing surfaces.

3.04 PROTECTION

- A. Protect work under provisions of Section 015000.
- B. Protect excavations by methods required to prevent cave-in or loose soil from falling into excavation.
- C. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.

**END OF SECTION**

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Site structure backfilling to sub-grade elevations.
- B. Site filling and backfilling.
- C. Consolidation and compaction.
- D. Fill for over-excavation.

1.02 RELATED SECTIONS

- A. Section 312316 - Excavation.
- B. Section 312213 – Rough Grading.

1.03 REFERENCES

- A. ANSI/ASTM C136 - Method for Sieve Analysis of Fine and Coarse Aggregates.
- B. ANSI/ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb. Rammer and 18-inch Drop.

1.04 SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Test Reports: Submit sieve analysis for each type fill to be used.

PART 2 - PRODUCTS

2.01 FILL MATERIALS

- A. Type B – Pea Gravel: Natural stone; washed, free of clay, shale, organic matter; graded in accordance with ANSI/ASTM C136, to the following:
  - 1. Minimum Size: ¼ inch.
  - 2. Maximum Size: 5/8 inch.
- B. Type C - Sand: Natural river or bank sand; washed, free of silt, clay, loam, friable or soluble materials, or organic matter; graded in accordance with ANSI/ASTM C136, within the following limits:

| <u>Sieve Size</u> | <u>Percent Passing</u> |
|-------------------|------------------------|
| No. 4             | 100                    |
| No. 14            | 10 - 100               |
| No. 50            | 5 - 90                 |
| No. 100           | 4 - 30                 |
| No. 200           | 0 - 1                  |

- C. Type D - Subsoil: Reused, excavated material, graded, free of lumps, rocks and gravel larger than 3 inches in size, debris and contaminants; no more than 15% passing the No. 200 sieve.

### PART 3 - EXECUTION

#### 3.01 EXAMINATION

- A. Verify existing conditions and substrate.
- B. Verify fill materials to be reused are acceptable.
- C. Verify items to be buried during backfilling process have been inspected prior to backfilling.

#### 3.02 PREPARATION

- A. Compact subgrade to 92 percent maximum dry density in accordance with ANSI/ASTM D1557.
- B. Cut out soft areas of subgrade not capable of in situ compaction. Backfill with Type C fill and compact to density equal to or greater than requirements for subsequent backfill material.

#### 3.03 BACKFILLING

- A. Backfill areas to contours and elevations with unfrozen materials.
- B. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen or spongy materials.
- C. Place and compact fill material in 12 inch lifts (compacted thickness). Compact to 92 percent maximum dry density in accordance with ANSI/ASTM D1557.
- D. Employ a placement method that does not disturb or damage structures or other items against which material is backfilled.
- E. Backfill against supported structures. Do not backfill against unsupported structures.
- F. Backfill simultaneously on each side of structure.
- G. Make grade changes gradual. Blend slope into level areas.
- H. Remove surplus backfill materials from site.
- I. Leave fill material stockpile areas completely free of excess fill materials.

3.04 TOLERANCES

- A. Maximum Variation From Top Surface of Backfilling Under Paved Areas: 1/4 inch.
- B. Maximum Variation From Top Surface of General Backfilling: 1 inch.

3.05 FIELD QUALITY CONTROL

- A. Perform field inspection and testing under provisions of Section 014500.
- B. Perform field tests and analysis of fill material in accordance with ANSI/ASTM D1557.
- C. If tests indicate work does not meet specified requirements, remove work, replace and retest at no cost to Owner.
- D. Unless additional testing is required by the Engineer, compaction tests shall be taken at the following rates:
  - 1. Pavement Subgrade: One test per 5,000 square feet of subgrade immediately prior to placing subbase.

**END OF SECTION**

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Excavate trenches for piping and utilities.
- B. Compacted bedding and backfill around and over piping and utilities to subgrade elevations.
- C. Backfilling and compaction.

1.02 RELATED SECTIONS

- A. Section 312213 – Rough Grading: Topsoil removal from site surface.

1.03 REFERENCES

- A. ANSI/ASTM C136 - Method for Sieve Analysis of Fine and Coarse Aggregates.
- B. ANSI/ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb Rammer and 18-inch Drop.

1.04 SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Test Reports: Submit a sieve analysis for backfill to be used.

1.05 QUALITY ASSURANCE

- A. Do not excavate wet or frozen materials without written approval from the Engineer.
- B. Do not backfill over or with wet or frozen materials.
- C. Provide safety barricades around open excavations.

1.06 FIELD MEASUREMENTS

- A. Verify that survey benchmark and intended elevations for the work are as shown on plans.

1.07 COORDINATION

- A. Coordinate work under provisions of Section 013100.
- B. Coordinate trenching with installation of pipe or conduit.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Subsoil: Reused, excavated material, graded, free of lumps, rocks and gravel larger than 3 inches in size, debris and contaminants.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify existing site conditions and substrate.
- B. Verify fill materials to be reused are acceptable.
- C. Verify items to be buried during backfilling process have been inspected prior to backfilling.

3.02 PREPARATION

- A. Identify required lines, levels, contours, and datum.
- B. Maintain and protect existing utilities remaining which pass through work area.
- C. Protect plant life, lawns, rock outcropping and other features remaining as a portion of final landscaping.
- D. Protect benchmarks, existing structures, fences, sidewalks, paving and curbs from excavation equipment and vehicular traffic. Any item damaged by the contractor shall be promptly repaired at the contractor's expense.
- E. Protect above and below grade utilities which are to remain.
- F. Cut out soft areas of subgrade not capable of in situ compaction. Backfill with subsoil fill and compact to density equal to or greater than requirements for subsequent backfill material.

3.03 EXCAVATION

- A. Excavate subsoil required for piping.
- B. Cut trenches to the dimensions shown on the plans.
- C. Excavation shall not interfere with normal 45 degree bearing splay of foundations.
- D. Hand trim excavation. Hand trim for bell and spigot pipe joints. Remove loose matter.
- E. Remove lumped subsoil, boulders, and rock.
- F. For trenches made in solid rock, excavate to a depth of 1 foot below the proposed pipe invert.
- G. Correct unauthorized excavation at no cost to Owner in accordance with Section 312323.13.

- H. Stockpile excavated material in area designated on site and remove excess material not being used from site. Remove excavated material from site.

### 3.04 BACKFILLING

- A. Support pipe and conduit during placement and compaction of fill material.
- B. For trenches made in solid rock, place an additional 1 foot of fill material under pipe or conduit.
- C. Place fill material to the dimensions and limits as shown on the plans.
- D. Place and compact fill material in 12 inch lifts (compacted thickness) for depths greater than 2 feet and 6 inch lifts (compacted thickness) for depths less than 2 feet. Compact to 92 percent maximum dry density in accordance with ANSI/ASTM D1557.
- E. Place fill material simultaneously on both sides of the pipe or conduit. Backfill to the dimensions and limits shown on the plans with reused subsoil.
- F. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen or spongy subgrade surfaces.
- G. Place and compact material in continuous layers not exceeding 6 inches compacted depth.
- H. Employ a placement method that does not disturb or damage conduit or pipe.

### 3.05 TOLERANCES

- A. Maximum Variation From Top Surface of Backfilling Under Paved Areas: 1/4 inch.
- B. Maximum Variation From Top Surface of General Backfilling: 1 inch.

### 3.06 FIELD QUALITY CONTROL

Perform field inspection and testing under provisions of Section 014500.

- A. Perform field tests and analysis of fill material in accordance with ANSI/ASTM D1557.
- B. If tests indicate work does not meet specified requirements, remove work, replace and retest at no cost to Owner.
- C. Unless additional testing is required by the Engineer, compaction tests shall be taken at the springline of the pipe and after each lift at 100 foot intervals along the pipe run.

### 3.07 CLEANING

- A. Remove surplus backfill materials from site.
- B. Leave fill material stockpile areas completely free of excess fill materials.

SECTION 312333 - TRENCHING



3.08 PROTECTION

- A. Protect finished work under provisions of Section 015000.
- B. Recompact fills subjected to vehicular traffic.

**END OF SECTION**

## PART 1 - GENERAL

## 1.01 SECTION INCLUDES

- A. Wood and steel sheeting.
- B. Steel H-section soldier piles.
- C. Lagging.

## 1.02 RELATED SECTIONS

- A. Section 312316 - Excavation.
- B. Section 312323.13 - Backfilling.
- C. Section 312333 - Trenching.

## 1.03 REFERENCES

- A. Occupational Safety and Health Standards - Excavations; Final Rule (29 CFR Part 1926) - OSHA Standards.

## 1.04 SUBMITTALS

- A. Submit under provisions of Section 013300
- B. Shop Drawings: Submit drawings and details of sheeting for information purposes only. These drawings will not be reviewed. Include design and supporting calculations prepared by a professional engineer licensed in the state of New York

## 1.05 QUALITY ASSURANCE

- A. Perform all work of this section in accordance with OSHA Standards and approved shop drawings.
- B. Sheeting shall be installed by persons regularly engaged in sheeting installation and who have a minimum of five years of experience with the type of system being installed.
- C. Sheeting shall be installed under the direct supervision of the professional engineer who designed the sheeting system. This does not require the professional engineer to be present during all phases of its installation, but it does require him to inspect the work as it progresses on a part-time basis, sufficient to adequately certify the system. The engineer shall certify, in writing, that the sheeting was installed in accordance with the supporting calculations and that the installer complied with recognized procedures, methods and techniques.
- D. An amount equal to 15% of the scheduled value of the excavation support and protection will be withheld until the certification has been provided for record purposes only.

1.06 COORDINATION

- A. Coordinate work under provisions of Section 013100.
- B. Coordinate work with all other sections requiring temporary sheeting and bracing.

PART 2 - PART 2 - PRODUCTS

2.01 MATERIALS

- A. Wood Sheeting: Hardwood species of size and dimensions capable of being driven to the required depths and capable of supporting excavation sides and soil pressures when braced; free from wormholes, wind shakes, loose knots, decayed or unsound portions or defects which would impair its strength or tightness; 3 inches thick minimum.
- B. Steel Sheeting: ASTM A328, corrugated "Z" shape cross-section; of size and dimensions capable of being driven to the required depths and capable of supporting excavation sides and soil pressures when braced; structurally sound; special shapes for corner construction and transition points.
- C. Structural Steel: ASTM A36.
- D. Tiebacks: ASTM A722, ASTM A416

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify existing soil substrate site conditions and elevations are as indicated on the plans
- B. Verify proposed locations of excavations are as indicated on the plans.
- C. Monitor excavation support and protection systems daily during excavation progress and for as long as excavation remains open. Promptly correct bulges, breakage or other evidence of movement to ensure that systems are stable.
- D. Promptly repair damages to adjacent facilities caused by installing excavation support and protection systems.

3.02 PREPARATION

- A. Assemble and drive the sheeting in accordance with shop drawings prepared by the contractor's engineer.

3.03 INSTALLATION - SHEETING

- A. Drive sheeting in place to thoroughly support both sides of the excavation using a sheeting hammer. Use a steam or pneumatic hammer for steel sheeting.

- B. Water jetting of sheeting will not be permitted. Do not loosen adjacent ground which might result in collapse.
- C. Install walls and braces or shores tight and in accordance with shop drawings prepared by the contractor's engineer

3.04 REMOVAL OF SHEETING

- A. Remove sheeting only as backfilling progresses.
- B. Carefully remove sheeting such that compacted backfill is not displaced. Add additional backfill to the areas vacated by the sheeting.
- C. All sheeting is to be removed from the site once its use is no longer required.
- D. Removing sheeting in stages to avoid disturbing underlying soils or damaging structures, pavements, facilities and utilities.

**END OF SECTION**

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Recycled concrete aggregate base course.

1.02 RELATED SECTIONS

- A. Section 312213 – Rough Grading: Preparation of site for base course.
- B. Section 312323.13 – Backfilling.
- C. Section 312333 – Trenching.

1.03 REFERENCES

- A. ANSI/ASTM C88 - Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate.
- B. ANSI/ASTM C136 - Sieve Analysis of Fine and Coarse Aggregates.
- C. ANSI/ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb Rammer and 18-inch Drop.
- D. ASTM D4318 - Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

1.04 SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Test Reports: Submit a sieve analysis for the aggregate base course used.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store and handle products to the site under provisions of Section 016500.
- B. Do not handle aggregate in any manner which will cause segregation of large or fine particles.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Aggregate Base Course: Angular, crushed, recycled concrete; free of shale, clay, friable materials and debris; graded in accordance with ANSI/ASTM C136 within the following limits:

| Sieve Size | Percent Passing |
|------------|-----------------|
| 2 inches   | 100             |
| 1 inch     | 80-100          |
| 1/4 inch   | 50-85           |
| No. 10     | 30-70           |
| No. 40     | 15-40           |
| No. 200    | 6-12            |

- B. Material retained on the 1/2 inch sieve is coarse aggregate.
- C. Coarse aggregate shall not have more than 10 percent by weight of flat or elongated pieces. A flat or elongated piece is defined as being three times greater in the largest dimension as compared to its least dimension.
- D. The portion of the aggregate base course which passes the No. 40 screen shall have a plasticity index of one as tested in accordance with ASTM D4318.

### PART 3 - EXECUTION

#### 3.01 EXAMINATION

- A. Verify existing conditions and substrate.
- B. Verify elevations of subgrade are as indicated on the plans.
- C. Verify that subgrade is properly compacted and ready to receive work of this section.
- D. Beginning work of this section means acceptance of existing conditions.

#### 3.02 PREPARATION

- A. Fine grade and compact subgrade to 95 percent maximum dry density in accordance with ANSI/ASTM D1557.

#### 3.03 AGGREGATE PLACEMENT

- A. Spread course aggregate over prepared subgrade to a total compacted thickness as indicated on the plans.
- B. Place aggregate in 3 inch layers and compact by roller.
- C. Level and contour surfaces to elevations and gradients indicated.
- D. Add small quantities of fine aggregate to coarse aggregate as appropriate to assist compaction.
- E. Compact placed aggregate materials to achieve 95% maximum dry density in accordance with ANSI/ASTM D1557. Maintain optimum moisture content to attain required density.

- F. Add water to assist compaction. If excess water is apparent, remove aggregate and aerate to reduce moisture content.
- G. Use mechanical vibrating tamping in areas inaccessible to compaction equipment.
- H. New pavement must be placed on the properly compacted aggregate base course within 24 hours of final compaction. If aggregate base course is left open for more than 24 hours, re-compact and retest in accordance with ANSI/ASTM D1557.

3.04 TOLERANCES

- A. Maximum Variation From Flatness: 1/4 inch measured with 10 foot straight edge.
- B. Maximum Variation From Scheduled Compacted Thickness: 1/4 inch.
- C. Maximum Variation from True Elevation: 1/4 inch.

3.05 FIELD QUALITY CONTROL

- A. Perform field inspection and testing under provisions of Section 014500.
- B. Perform compaction testing in accordance with ANSI/ASTM D1557.
- C. If tests indicate work does not meet specified requirements, remove work, replace and retest at no cost to Owner.
- D. Frequency of Tests: One test per 500 sq ft. immediately prior to paving.

**END OF SECTION**

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Asphalt paving; wearing, binder or base course.

1.02 RELATED SECTIONS

- A. Section 321123 - Aggregate Base Course

1.03 REFERENCES

- A. AI MS-2 - Mix Design Methods for Asphalt Concrete and Other Hot Mix Types.
- B. AI MS-8 - Asphalt Paving Manual.
- C. ASTM D242 - Mineral Filler for Bituminous Paving Mixtures.
- D. ASTM D546 - Test Method for Sieve Analysis of Mineral Filler for Road and Paving Materials.

1.04 SUBMITTALS

- A. Supplier: Submit name of asphalt supplier to be used on the project prior to placement of any asphalt on the project.
- B. Design Data: Submit asphalt mix design for each asphalt type to be used.

1.05 QUALITY ASSURANCE

- A. Obtain materials from the same supplier throughout the duration of the project.
- B. Do not alter from mix design requirements.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver asphalt in sealed, metal containers covered with suitable material to protect the asphalt from the elements
- B. Lightly lubricate the inside surface of the container with a thin oil or soap solution before loading asphalt.
- C. All containers must be cleaned of all foreign materials prior to loading.

1.07 ENVIRONMENTAL REQUIREMENTS

- A. Do not place asphalt when base surface temperature is less than 40 degrees F (4 degrees C),

or if surface is wet or frozen.

- B. Do not place asphalt when precipitation is occurring.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Asphalt Cement: AC-20; homogeneous, and shall not foam when heated to 347 degrees F (175 degrees C).
- B. Fine Aggregate: Material passing the 1/8 inch sieve; natural sand of hard, strong, durable particles which are free from coatings or injurious amounts of clay, loam or other deleterious substances.
- C. Coarse Aggregate: Material retained on the 1/8 inch sieve; crushed stone or gravel; clean, durable, sharp angled fragments of rock of uniform quality.
- D. Mineral Filler: ASTM D242, finely ground particles of limestone, hydrated lime or other mineral dust, free of foreign matter; 100 percent shall pass the No. 30 sieve; a minimum of 85 percent shall pass the No. 80 sieve; and a minimum of 65 percent shall pass the No. 200 sieve as measured in accordance with ASTM D546.

2.02 EQUIPMENT

- A. Rollers: Minimum weight of 10 tons; equipped with lubricating devices for the roller wheels.
- B. Pavers: Equipped with a vibratory device.

2.03 ACCESSORIES

- A. Tack Coat: Homogeneous, medium curing, liquid asphalt.
- B. Wheel Lubricant: Oil-water mixture containing maximum 10 percent lubricating oil.

2.04 MIXES

- A. Use dry material to avoid foaming. Mix uniformly.
- B. Binder Course: NYSDOT Type 3; 4.5 to 6.0 percent of asphalt cement by weight in mixture in accordance with the following gradation:

| <b>Sieve Size</b> | <b>Percent Passing</b> |
|-------------------|------------------------|
| 1-1/2 inches      | 100                    |
| 1 inch            | 90-100                 |
| 1/2 inch          | 70-90                  |
| 1/4 inch          | 48-74                  |
| 1/8 inch          | 32-62                  |
| No. 20            | 15-39                  |
| No. 40            | 8-27                   |
| No. 80            | 4-16                   |
| No. 200           | 2-8                    |

- C. Wearing Course: NYSDOT Type 6; 5.8 to 7.0 percent of asphalt cement by weight in mixture in accordance with the following gradation:

| <b>Sieve Size</b> | <b>Percent Passing</b> |
|-------------------|------------------------|
| 1 inch            | 100                    |
| 1/2 inch          | 95-100                 |
| 1/4 inch          | 65-85                  |
| 1/8 inch          | 36-65                  |
| No. 20            | 15-39                  |
| No. 40            | 8-27                   |
| No. 80            | 4-16                   |
| No. 200           | 3-6                    |

## 2.05 SOURCE QUALITY CONTROL

- A. Obtain asphalt materials from same source throughout the project.
- B. Provide asphalt in accordance with the approved mix design for each type of asphalt.
- C. Test samples in accordance with AI MS-2.

## PART 3 - EXECUTION

### 3.01 EXAMINATION

- A. Verify existing conditions and substrate.
- B. Verify that compacted subbase is dry and ready to receive work of this section.
- C. Verify gradients and elevations of base are correct.
- D. Verify that all castings are properly installed and are at the correct elevations.
- E. Beginning of installation means installer accepts existing conditions.

## 3.02 PREPARATION

- A. Pavement removal shall be kept to a minimum and not to exceed the authorized trench width plus the minimum required cut-backs as outlined in this section and Section 331100. Saw cutting shall be performed to ensure the breakage of pavement along straight lines.
- B. Apply tack coat at uniform rate of 0.03 to 0.07 gal/sq yd (0.14 to 0.32 L/sq m) to contact surfaces of curbs, gutters and any asphalt or concrete material
- C. Do not apply tack coat to wet or frozen surfaces.
- D. Coat surfaces of manhole and catch basin frames with oil to prevent bond with asphalt pavement. Do not tack coat these surfaces.

## 3.03 INSTALLATION

- A. Install work in accordance with AI MS-8.
- B. Maintain asphalt temperature between 250 and 325 degrees F (121 and 163 degrees C) during placement.
- C. Place asphalt within 24 hours of applying tack coat.
- D. Place asphalt to compacted thicknesses as identified on plans. If a multiple course pavement is to be used, place top course within 24 hours of placing bottom course. If more than 24 hours elapse, a tack coat will be required to be placed over the entire surface of the bottom course prior to any additional paving.
- E. Utilize the vibratory device on the paver at all times.
- F. Compact pavement by rolling. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.
- G. Compact pavement to a minimum of 94% maximum density.
- H. Develop rolling with consecutive passes to achieve even and smooth finish, without roller marks.
- I. A minimum cut back of 12-inches is required on all water main trenches. All pavement restoration areas shall be rectangular or square in shape with the edges perpendicular to the centerline of the roadway.
- J. All trenches made in asphalt road areas shall receive temporary asphalt paving at the end of each work day. Temporary asphalt must be maintained in good condition throughout the contract work. No additional payment will be made for multiple (repeat) placements of temporary asphalt on deteriorated and spalling areas of asphalt.

## 3.04 TOLERANCES

- A. Maximum Variation from Flatness: 1/8 inch measured with 10 foot straight edge.
- B. Maximum Variation from Scheduled Compacted Thickness: 1/8 inch
- C. Maximum Variation from True Elevation: 1/4 inch

3.05 FIELD QUALITY CONTROL

- A. Perform field inspection and testing under provisions of general conditions.
- B. Take samples and perform tests in accordance with AI MS-2.
- C. Provide an asphalt thermometer for determining the asphalt temperature during paving operations.

3.06 PROTECTION

- A. Immediately after placement, protect pavement from mechanical injury until project is accepted by the Owner.

**END OF SECTION**

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Finish grade subsoil.
- B. Place, level and compact topsoil.

1.02 RELATED SECTIONS

- A. Section 329219 – Seeding.

1.03 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store and handle products to the site under provisions of Section 016500.
- B. Deliver topsoil to the site in uncontaminated containers.
- C. Do not stockpile topsoil over a height of 8 feet.
- D. Cover stockpiled topsoil to protect from precipitation, erosion and contamination.

1.04 ENVIRONMENTAL REQUIREMENTS

- A. Do not place wet or frozen topsoil.
- B. Do not place topsoil on wet or frozen ground or when precipitation is occurring.

1.05 COORDINATION

- A. Coordinate work under provisions of Section 013100.
- B. Coordinate with all adjacent work and work within areas to receive topsoil.
- C. Coordinate the storage of topsoil under provisions of Section 311100 with the placement of topsoil in this section.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Topsoil: Fertile, agricultural soil, typical for locality, capable of sustaining vigorous plant growth, taken from drained site; friable loam; free of subsoil, clay or impurities, plants, weeds, roots, grass, stone and foreign matter; acidity range (pH) of 5.8 to 6.5; containing a minimum of 2.75 percent and a maximum of 25 percent organic matter. Topsoil may be reused from on-site if it meets these requirements.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify existing substrate and conditions.
- B. Verify site conditions and note irregularities affecting work of this section.
- C. Beginning work of this section means acceptance of existing conditions.

3.02 PREPARATION

- A. Prepare subsoil in accordance with Section 312213.
- B. Eliminate uneven areas and low spots. Remove and dispose of debris, roots, branches and stones in excess of 1/2 inch in size. Remove and dispose of subsoil contaminated with petroleum products.
- C. Scarify subsoil to depth of 3 inches where topsoil is scheduled to be placed. Scarify in areas where equipment used for hauling and spreading topsoil has compacted subsoil.

3.03 INSTALLATION

- A. Place topsoil in areas where seeding, sodding or planting is scheduled or where shown on the plans.
- B. Place topsoil to the depths as indicated on the plans.
- C. Use topsoil in relatively dry state. Place during dry weather.
- D. Fine grade topsoil eliminating rough or low areas. Maintain levels, profiles and contours of subgrade.
- E. Remove and dispose stone, roots, grass, weeds, debris and foreign material while spreading.
- F. Manually spread topsoil around trees, plants and building to prevent damage.
- G. Lightly roll placed topsoil.
- H. Remove surplus subsoil and topsoil from site. Do not remove surplus topsoil from the site prior to obtaining approval of the Engineer.
- I. Leave stockpile area and site clean and raked, ready to receive landscaping.

3.04 TOLERANCES

- A. Maximum Variation from Proposed Elevation: 1/2 inch.

3.05 PROTECTION

- A. Protect finished work under provisions of Section 016500.
- B. Protect landscaping and other features remaining as final work.
- C. Protect existing structures, fences, roads, sidewalks, paving and curbs. Any damage caused by the Contractor to any of these items shall be repaired promptly by the Contractor at no additional cost to the Owner.

**END OF SECTION**

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Seeding.
- B. Mulch, fertilizer and other accessories.
- C. Maintenance.

1.02 RELATED SECTIONS

- A. Section 321413.13 - Interlocking Precast Concrete Unit Paving
- B. Section 329119.13 – Topsoil Placement and Grading.

1.03 REFERENCES

- A. FS O-F-241 - Fertilizers, Mixed, Commercial.

1.04 DEFINITIONS

- A. Weeds: Include Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass, Poison Ivy, Nut Sedge, Nimble Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel and Brome Grass.

1.05 SUBMITTALS

- A. Product Data: Provide data on seed mixtures, fertilizer and lime.
- B. Certificates: Provide certificates indicating that all fertilizer, pesticides and herbicides comply with all applicable regulatory agency requirements.

1.06 OPERATION AND MAINTENANCE DATA

- A. Maintenance Data: Include maintenance instructions, cutting method and maximum grass height; types,application frequency, and recommended coverage of fertilizer.

1.07 QUALITY ASSURANCE

- A. Seed: Provide seed mixture in containers showing percentage of seed mix, year of production, net weight, date of packaging, and location of packaging.

1.08 REGULATORY REQUIREMENTS

- A. Comply with applicable regulatory agencies for fertilizer, pesticide and herbicide composition.
- B. All fertilizer, pesticides and herbicides to be used shall comply with all applicable regulatory agency requirements.

1.09 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect and handle products to site under provisions of Section 016500.
- B. Deliver grass seed mixture in original sealed containers. Seed in damaged packaging is not acceptable.
- C. Deliver fertilizer in waterproof bags showing weight, chemical analysis and name of manufacturer.

1.10 ENVIRONMENTAL REQUIREMENTS

- A. Do not sow immediately following rain, during windy periods or if ground is frozen.
- B. Do not sow when the ambient temperature is expected to drop below 40 degrees F or rise above 90 degrees F during the time in which the seed will establish itself.
- C. Planting Season: April 1st through May 15th or September 1st through October 15th.

1.11 COORDINATION

- A. Coordinate with grading and placement of topsoil.
- B. Coordinate with installation of underground sprinkler system piping and watering heads.

1.12 WARRANTY

- A. Include coverage for one continuous growing season; reseed areas of dead or unhealthy grass at no additional cost to the Owner.

1.13 MAINTENANCE SERVICE

- A. Maintain seeded areas immediately after placement until grass is well established and exhibits a vigorous growing condition, as determined by at least two cuttings, or until the job is accepted by the Owner, whichever occurs last.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Seed: Dry, fresh, re-cleaned seed of the latest crops and of the following proportions:

| Grass Type          | % of Mixture | Minimum % Purity | Minimum % Germination |
|---------------------|--------------|------------------|-----------------------|
| Kentucky Bluegrass  | 45           | 90               | 80                    |
| Creeping Red Fescue | 45           | 97               | 80                    |
| Perennial Rye Grass | 10           | 95               | 95                    |

## 2.02 ACCESSORIES

- A. Mulching Material: Hemlock species wood cellulose fiber, dust form, free of growth or germination inhibiting ingredients.
- B. Fertilizer: FS O-F-241, Type I, Grade A; recommended for grass, with fifty percent of the elements derived from organic sources; of proportion necessary to eliminate any deficiencies of topsoil, to the following proportions: Nitrogen 10 percent, phosphoric acid 6 percent, soluble potash 4 percent.
- C. Limestone: Ground dolomitic limestone containing a minimum of 90 percent calcium and magnesium carbonates. One hundred percent (100%) shall pass a No. 10 mesh screen and a minimum of 50 percent shall pass a No. 100 mesh screen.
- D. Peat Moss: Shredded, loose, sphagnum moss; free of lumps, roots, inorganic material or acidic materials; minimum of 90 percent organic material measured by oven dry weight; pH range of 4 to 5 percent; moisture content of 30 percent; with moisture absorptive capacity of 450 to 500 percent.
- E. Water: Clean, fresh and free of substances or matter which could inhibit vigorous growth of grass.
- F. Stakes: Softwood lumber, chisel pointed.
- G. String: Inorganic fiber.

## PART 3 - EXECUTION

### 3.01 EXAMINATION

- A. Verify existing substrate and site conditions.
- B. Verify that prepared soil base is ready to receive the work of this section.
- C. Beginning of installation means installer accepts existing conditions.

### 3.02 PREPARATION

- A. Rake topsoil smooth.

### 3.03 APPLICATION

- A. Apply fertilizer at a rate of 21 lbs per 1,000 square feet.

- B. Do not apply fertilizer at same time or with same machine as will be used to apply seed.
- C. Mix thoroughly into upper 2 inches of topsoil and water lightly to aid the dissipation of fertilizer.
- D. Apply seed at a rate of 4 lbs per 1000 sq ft evenly in two intersecting directions. Rake in lightly.
- E. Do not seed areas in excess of that which can be mulched on same day.
- F. Roll seeded area with roller not exceeding 100 lbs per foot of width.
- G. Immediately following seeding and compacting, apply mulch at a rate of 92 lbs per 1,000 square feet. Maintain clear of shrubs and trees.
- H. Apply water with a fine spray immediately after each area has been mulched. Saturate to 4 inches of soil. Discontinue watering if washing begins to occur.
- I. Identify seeded areas with stakes and string around area periphery. Set string height to 24 inches. Space stakes at 8 feet on center.
- J. Cover seeded slopes where grade is 30 percent or greater with erosion fabric. Roll fabric onto slopes without stretching or pulling.
- K. Lay fabric smoothly on surface, bury top end of each section in 6 inch deep excavated topsoil trench. Provide 12 inch overlap of adjacent rolls. Backfill trench and rake smooth, level with adjacent soil.
- L. Secure outside edges and overlaps at 36 inch intervals with stakes.
- M. Lightly dress slopes with topsoil to ensure close contact between fabric and soil.
- N. At sides of ditches, lay fabric laps in direction of water flow. Lap ends and edges minimum 12 inches.

### 3.04 MAINTENANCE

- A. Maintain grass until job is accepted by the Owner or until the grass exhibits a vigorous growing condition, as determined by at least 2 cuttings, whichever occurs last.
- B. Mow grass at regular intervals to maintain at a maximum height of 2-1/2 inches. Do not cut more than 1/3 of grass blade at any one mowing.
- C. Neatly trim edges and hand clip where necessary.
- D. Immediately remove clippings after mowing and trimming.
- E. Water to prevent grass and soil from drying out.
- F. Immediately reseed areas which show bare spots.

### 3.05 PROTECTION

- A. Protect seeded areas with warning signs during maintenance period.

SECTION 329219 - SEEDING



**END OF SECTION**

## PART 1 - GENERAL

## 1.01 SECTION INCLUDES

- A. Cement-Lined Ductile Iron Pipe
- B. Special Castings; Mechanical Joint Fittings
- C. Corporation Stops

## 1.02 RELATED SECTIONS

- A. Section 312333 – Trenching.
- B. Section 312323 – Backfilling.
- C. Section 331300 - Disinfection of Water Plant Facility Distribution.

## 1.03 REFERENCES

- A. ANSI/AWWA C104 - Cement-Mortar Lining for Ductile Iron Pipe and Fittings for Water.
- B. ANSI/AWWA C110 - Ductile Iron and Grey Iron Fittings, 3 inch (75 mm) through 48 inch (1220 mm) for Water and Other Liquids.
- C. ANSI/AWWA C111- Rubber Gasket Joints for Ductile Iron and Grey Iron Pressure Pipe and Fittings.
- D. ANSI/AWWA C151 - Ductile-Iron Pipe, Centrifugally Cast in Metal Molds or Sand-Lined Molds, for Water or Other Liquids.
- E. ANSI/AWWA C153 - Ductile -Iron Compact Fittings for Water Service.
- F. ANSI/AWWA C600 - Installation of Ductile Iron Water Mains and Appurtenances.

## 1.04 SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Product Data: Provide data on pipe materials, pipe fitting, valves and accessories.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

## 1.05 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Section 017839.
- B. Accurately record actual locations of piping mains, valves, connections, and invert elevations.

- C. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

#### 1.06 QUALITY ASSURANCE

- A. Perform work in accordance with the local water utility company requirements.
- B. The tone-out, mark-out, locating and verification of existing utilities on private property and within public Right-of-Ways are the responsibility of the contractor. All known utilities and facilities shall be verified by test holes or other means prior to commencing water main installation. No compensation will be paid to the contractor for lost time due to improper or inadequate utility investigation.
- C. Valves: Manufacturer's name and pressure rating marked on valve body.

#### 1.07 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, protect and handle products to site under provisions of Sections 016100 and 016500.
- B. Deliver and store valves in shipping containers with labeling in place.

### PART 2 - PRODUCTS

#### 2.01 MANUFACTURERS - WATER PIPE

- A. U.S. PIPE & FOUNDRY CO.
- B. GRIFFIN PIPE PRODUCTS
- C. ATLANTIC STATES PIPE CO.
- D. Substitutions shall be permitted only after receiving written approval from the Engineer.

#### 2.02 PIPE

- A. Cement-Lined Ductile Iron Pipe: (Special Class 52): ANSI/AWWA C151 and ANSI/AWWA C104, with the following accessories:
  - 1. Fittings: ANSI/AWWA C110, grey iron or ANSI/AWWA C153, ductile iron.
  - 2. Joints: ANSI/AWWA C111, rubber gasket for push-on pipe; mechanical joint with rods and retainer glands for fittings.
  - 3. Lubricant for Joints: Nontoxic; shall not support the growth of bacteria; shall have no deteriorating effects on the gasket or pipe material.

## 2.03 SPECIAL CASTINGS

## A. Material &amp; Manufacturers

1. Fittings: ANSI/AWWA C110 or C153
2. Full bodied ductile iron fittings will be utilized on this project unless indicated otherwise on the Drawings.
3. Ductile iron fittings shall have a pressure rating of 350 psi up to and including 24-inch diameter.
4. All fittings shall be manufactured by U.S. PIPE & FOUNDRY CO., GRIFFIN PIPE PRODUCTS Co., TYLER UNION, SIGMA, ATLANTIC STATES PIPE Co. or specifically approved equal.

## B. Mechanical Joint Mechanical joint fittings shall be used with "push-on" joint pipe with the joint conforming to ANSI Specification A21.11-1990 or latest revision or AWWA Specification C111-90 or latest revision.

1. Rubber gaskets shall be used at each end for joining mechanical joint pipe. Rubber gaskets shall be vulcanized styrene butadiene rubber that is free of porous areas, foreign materials and visible defects. No reclaimed rubber shall be used. The size, mold number, gasket manufacturer's mark, the letters "MJ" and the year of manufacture shall be molded in the rubber.
2. Retainer glands shall be required for all mechanical joints except for non-dead-end crosses and reducers, and shall be as manufactured by STANDARD FIRE PROTECTION EQUIPMENT CO. or U.S. PIPE & FOUNDRY COMPANY, TYLER UNION, SIGMA, EBAA IRON, INC. or specifically approved equal. Wedge type "Megalug" joint restrainers as manufactured by EBAA IRON SALES, INC., may also be utilized.
3. Concrete blocking shall be applied on all pipe lines 4-inch in diameter and larger at all hydrants, tees, plugs, caps, and at bends deflecting 22-1/2 degrees or more. Blocking shall be of concrete of a mix having a compressive strength of not less than 2,000 psi, and blocking shall be placed between solid ground and the fitting to be anchored. The blocking shall be so placed that the pipe and fitting joints will be accessible for repair.
4. Concrete for Thrust Blocks: Normal Portland Cement Concrete; air entrained; 4,000 psi (27.5 MPa) minimum strength at 28 days.
5. The contractor shall install 3/4-inch steel tie rods on mechanical joint fittings. The tie rods should be threaded through the bolt holes in the flange and secured by nuts attached to the rod using spacers. More than one length of pipe on each side of the fitting may require restraint. For all vertical bends, 3/4-inch diameter tie rods and pipe clamps or retainer glands shall be provided in addition to the concrete blocking specified above for bends deflecting 22-1/2 degrees or more, and at such locations along the water main as shown on the Contract Drawings or directed by the Engineer.

## 2.04 CORPORATION STOPS

- A. Manufacturer: MUELLER COMPANY, Ori-Corp. Model No. H-15008 or approved equal.
- B. Ball-type valve, one-piece body construction, with top and bottom sealing o-rings, conforming to

ANSI/AWWA C800. "Low-lead" brass body made from CDA/UNS Brass Alloys C89520 or C89833. Use of low-lead brass shall be as indicated on the body of Mueller valves by "ED-II" or "FD" markings.

- C. Connections shall be AWWA taper thread inlet, and AWWA conductive compression connection for CTS (copper tube size - ASTM B-88) O.D. outlet.
- D. Maximum working pressure 175 psig.
- E. Connections larger than 1" shall utilize a threaded saddle with stainless steel bands.

### PART 3 - EXECUTION

#### 3.01 EXAMINATION

- A. Verify that existing building service connections and municipality water main size, location and invert are as indicated.

#### 3.02 PREPARATION

- A. Remove scale and dirt, on inside and outside, before assembly.
- B. Prepare pipe connections to equipment with flanges or unions.

#### 3.03 BEDDING

- A. Excavate pipe trench in accordance with Section 312333 for work of this section. Hand trim excavation for accurate placement of pipe to elevations indicated.
- B. Place bedding material at trench bottom; level fill materials in one continuous layer not exceeding 6 inches (150 mm) compacted depth; compact to 95 percent maximum dry density.
- C. Backfill around sides and to top of pipe with fill, tamped in place and compacted to 95 percent maximum dry density.
- D. Maintain optimum moisture content of bedding material to attain required compaction density.

#### 3.04 INSTALLATION - PIPE

- A. Maintain a 10 foot (3 m) horizontal separation and an 18 inch (460 mm) vertical separation of water main from sanitary or storm sewer. The Contractor shall install the water main with the minimum cover indicated on the Contract Plans. The Contractor shall verify the depth of any existing service laterals to the structures prior to crossing of same. In the event the minimum cover cannot be maintained with an 18-inches clearance between the top of the lateral and the water main due to the slope of the existing service lateral, the Contractor shall either (a) reduce the cover ONLY at the sewer lateral crossing to an absolute minimum of four feet, or (b) cross under the existing sewer lateral with a minimum clearance of 18-inches.
- B. Pipe trenches shall be of minimum width and allow six (6) inches on each side of the bell with sufficient width to allow straight alignment of pipe and provide sufficient room for jointing as

required and to allow the backfill to be placed as specified.

- C. Pavement removal shall be kept to a minimum and not exceed the preceding authorized widths plus the required cut-back. Sawing, drilling or chipping shall be used to ensure the breakage of pavement along straight lines.
- D. All cut-backs shall be a minimum of 12-inches, full depth on all sides of the trench.
- E. Install pipe to indicated elevation to within tolerance of 1/2 inch (13 mm).
- F. Install and test ductile iron piping and fittings to ANSI/AWWA C600.
- G. Route pipe in straight line where possible. Joint deflections are permitted as outlined in ANSI/AWWA C600. Do not exceed 5 degree joint deflection.
- H. At each joint, two (2) serrated silicon bronze wedges shall be driven into the rubber gasket after the pipe is pushed into place. The wedges shall be installed on opposite sides of the joint on a horizontal plane. Both wedges shall be started in together and driven with a hammer with blows on alternate sides so as not to displace the spigot end to one side of the pipe.
- I. Form and place concrete for thrust blocks at each elbow or change of direction of pipe main.
- J. Establish elevations of buried piping to ensure not less than 4 feet (1.2 m) of cover.
- K. Backfill trench in accordance with Section 312323.13.
- L. After partially backfilling of trench, install marking tape 18" top 24" above crown of pipe. Place as straight as possible. Hold tape in place by adding backfill with shovel before using mechanical equipment to finish backfill.
- M. The Contractor shall have experienced personnel in his employ to perform the cut-ins and connections to the existing water mains and have available equipment necessary for cutting ductile iron, cast iron, asbestos cement and miscellaneous piping in the existing distribution system.

### 3.05 PRESSURE TESTING

- A. Expel all air from piping system, including pipe, valves and appurtenances. All new water mains shall be pressure tested at 150 psi or 1.5 times line pressure, whichever is greater. The pressure test shall be held for a minimum of two hours with no signs of leakage.
- B. Remove and replace any defective pipe, fittings, valves, and appurtenances. Repeat pressure test until satisfactory to Engineer

### 3.06 DISINFECTION OF DOMESTIC WATER PIPING SYSTEM

- A. Flush and disinfect system in accordance with Section 331140300 and AWWA C651.
- B. Two consecutive negative sets of bacteriological samples are required. Following the "COOK" period, the main shall be blown-off or flushed prior to bacteriological testing. The mains shall be flushed again following satisfactory completion of the pressure test(s) and the first sample(s) taken. The second sample(s) shall be taken at least 24 hours after the first, and shall be representative of the water that has been in the pipe for 24 hours.

- C. Costs of sampling shall be borne by the contractor and will not be paid out of any allowance item.

3.07 NOTIFICATIONS

- A. The Engineer and local water utility shall be notified at least 24 hours in advance and immediately prior to any of the following:
  - 1. Commencing work or starting again after more than a 72-hour shutdown.
- B. Admitting water to a new section of water main.

3.08 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed in accordance with owner requirements.
- B. Leakage testing shall be in accordance with ANSI/AWWA C600.
- C. Compaction testing will be performed in accordance with ANSI/ASTM D1557.
- D. If tests indicate work does not meet specified requirements, remove work, replace and retest at no cost to Owner.
- E. Frequency of Tests: One compaction test at the spring line of the pipe and for every 2 vertical feet (610 mm) of backfilling at 100 foot (30m) intervals along pipe length.

**END OF SECTION**

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Disinfection of water treatment units including resin vessels.

1.02 – REFERENCES

- A. ANSI/AWWA B300 - Standard for Hypochlorites.
- B. ANSI/AWWA B301 - Standard for Liquid Chlorine.
- C. ANSI/AWWA C652 - Standard for Disinfection of Water Storage Facilities.
- D. ANSI/AWWA C653 - Standard for Disinfection of Water Treatment Plants.

1.03 – SUBMITTALS

- A. Submit proposed method for introducing disinfectant into the treatment unit. If resin must be disinfected, obtain method for disinfecting from resin supplier.
- B. Test Reports: Indicate results comparative to specified requirements.
- C. Certificate: Certify that cleanliness of filter tanks and air stripping tower meets or exceeds specified requirements.

1.04 - PROJECT RECORD DOCUMENTS

- A. Prepare and submit a disinfection report containing the following:
  - 1. Type and form of disinfectant used.
  - 2. Date and time of disinfectant injection start and time of completion.
  - 3. Test and injection locations.
  - 4. Initial and 24-hour disinfectant residuals (quantity in treated water) in ppm for each outlet tested.
  - 5. Date and time of flushing start and completion.
  - 6. Disinfectant residual after flushing in ppm for each outlet tested.
- B. Prepare and submit complete water analysis results with the following information:

1. Date issued, project name and testing laboratory name, address and telephone number.
2. Time and date of water sample collection.
3. Name of person collecting samples.
4. Test locations.
5. Initial and 24-hour disinfectant residuals in ppm.
6. Coliform bacteria and chemical test results.
7. Certification that water conforms or fails to conform to New York State Drinking Water Standards.
8. Laboratory Director's signature and authority.

#### 1.05 - QUALITY ASSURANCE

- A. Perform work in accordance with ANSI/AWWA C653.
- B. Perform work in accordance with accepted procedures of the resin supplier.

#### 1.06 – QUALIFICATIONS

- A. Water Treatment Firm: Company specializing in disinfecting potable water systems specified in this Section with minimum three (3) years experience.
- B. Testing Firm: Company specializing in testing potable water systems, approved by the New York State Department of Health.

#### 1.07 - REGULATORY REQUIREMENTS

- A. Conform to “Recommended Standards for Water Works” and applicable codes or regulations for performing the work of this Section.
- B. Water quality to conform to New York State Drinking Water Standards after completion of disinfection.
- C. The Suffolk County Department of Health Services will be notified of the date of water quality testing to allow sampling by the Health Department. Provide Engineer three (3) days advanced notification of proposed sampling date.

## PART 2 - MATERIALS

## 2.01 - DISINFECTION CHEMICALS

- A. ANSI/AWWA B300, Hypochlorite.
- B. ANSI/AWWA B301, Liquid Chlorine.

## PART 3 - EXECUTION

## 3.01 – EXAMINATION

- A. Verify that treatment unit has been cleaned and inspected.

## 3.02 – EXECUTION

- A. Provide required equipment to perform the work of this Section. The Owner will provide the water required for the disinfection and filling of the treatment vessels.
- B. Disinfect plant in accordance with Sections 3, 4 and 5 of AWWA C653.
- C. Allow disinfectant 24 hour contact time during which vessel is filled and undisturbed.
- D. Pump to waste to remove disinfectant to a level of less than 0.1 mg/l. Neutralize residual chlorine to less than 1 mg/l with a suitable quantity of sodium bisulfite, sodium sulfide or sodium thiosulfate prior to disposal.
- E. After disinfectant is removed, allow 24 hour contact time to pass before taking samples.
- F. Prior to loading resin, vessel shall be filled with system water and samples collected 24 hours after appropriate contact time has passed from the vessel effluent in accordance with following schedule:
  - 1. Microbiological samples at 0, 2, 5, 10, and 30 minutes.
  - 2. Volatile or principle organic compounds at 2 minutes. Analyze for contaminants listed in Table 9A through 9D, Section 5-1.52, Part 5 of the New York State Sanitary Code and for total trihalomethanes.
  - 3. Inorganic compounds at 30 minutes. Analyze for inorganic chemicals and physical characteristics listed in Table 8B through 8D, Section 5-1.52, Part 5 of the New York State Sanitary Code.

- G. Following the loading of the resin, rinse to waste at a flow rate of 200 gpm to remove fines. The system shall then be run at full flow for a minimum of 10 bed volumes and let sit with system water for 24 hours. Following the 24 hour period, samples shall be collected in accordance with following schedule:
1. Microbiological samples at 0, 2, 5, 10, and 30 minutes raw and treated.
  2. Volatile or principle organic compounds at 2 minutes. Analyze for contaminants listed in Table 9A through 9D, Section 5-1.52, Part 5 of the New York State Sanitary Code and for total trihalomethanes.
  3. Inorganic compounds at 30 minutes. Analyze for inorganic chemicals and physical characteristics listed in Table 8B through 8D, Section 5-1.52, Part 5 of the New York State Sanitary Code.
  4. Perchlorate at 0, 2, 5, 10, and 30 minutes from the vessel influent and effluent.
  5. Disinfection By-Products at 30 minutes including NDEA, NDMA, NDPA, NDBA, NMEA, NMPH, NPIP, and NYPR.
- H. Water quality in the vessel effluent not consistent with that of the influent shall be cause for the contractor to flush the vessel to waste and resample.
- I. Chemical tests shall include bacteriological, inorganic chemicals, volatile halogenated organics, non-volatile organics and heavy metals and any other tests required by the Suffolk County Department of Health Services.
- J. If water quality in treatment vessels does not meet the bacteriological requirements of the Suffolk County Department of Health Services for potable water, the Contractor shall take other steps necessary to provide acceptable water quality. **Carefully follow resin manufacturer's procedures for disinfecting the resin.** Samples shall be collected and analyzed after each attempt. All costs associated with subsequent sampling shall be borne directly by the Contractor and will not be paid out of any allowance item.
- K. Neutralize residual chlorine to less than 1 mg/l with a suitable quantity of sodium bisulfite, sodium sulfide or sodium thiosulfate prior to disposal.

### 3.03 - QUALITY CONTROL

- A. Provide analysis and testing of treated water in treatment vessels.

**END OF SECTION**

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Large interior piping systems

1.02 RELATED SECTIONS

- A. Section 331300 - Disinfection of Water Utility Distribution
- B. Section 402324 - Valves and Valve Accessories

1.03 REFERENCES

- A. ANSI B16.1 - Cast Iron Pipe Flanges and Flanged Fittings.
- B. ANSI/AWWA C104 - Cement-Mortar Lining for Ductile Iron Pipe and Fittings.
- C. ANSI/AWWA C110 - Ductile-Iron and Gray-Iron Fittings, 3 in. through 48 in., for Water and Other Liquids.
- D. ANSI/AWWA - C115/A21.15 - American National Standard for Flanged Ductile Iron Pipe with Threaded Flanges.
- E. ANSI/AWWA C150/A21.50 - American National Standard for Thickness Design of Ductile Iron Pipe.
- F. ANSI/AWWA C600 - Installation of Ductile Iron Water Mains and Appurtenances.
- G. ANSI B18.2.1 - Square and Hex Bolts and Screws Inch Series Including Hex Cap Screws and Lag Screws.
- H. ANSI B18.2.2 - Square and Hex Nuts (Inch Series).
- I. ASTM A307 - Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength.

1.04 SUBMITTALS

- A. Submit product data under provisions of Section 013300.
- B. Product Data: Provide data on pipe material, pipe fittings, and accessories. Provide manufacturer's catalog information.

## PART 2 - PRODUCTS

## 2.01 DUCTILE IRON PIPE AND FITTINGS

- A. ANSI/AWWA C151/A21.51; double thickness cement lining minimum 3/16" in accordance with ANSI/AWWA C104/A21.04, bituminous coating inside; and epoxy primer outside; flanged joint for exposed pipe, thickness Class 52 minimum for all pipe diameters.
  - 1. Fittings: ANSI/AWWA C110, Ductile iron, standard thickness.
  - 2. Flanged Joints: ANSI B16.1, Class 125 with full face, 1/8" thick rubber gaskets.
  - 3. Bolts: ANSI B18.2.1 and ASTM A307 Grade B.
  - 4. Nuts: ANSI B18.2.2 and ASTM A307 Grade B.
  - 5. Lubricant for Joints: Nontoxic; shall not support growth of bacteria; shall have no deteriorating effects on gasket or pipe material.
  - 6. Manufacturer: TYLER UNION, SIGMA, U.S. PIPE & FOUNDRY CO., GRIFFIN PIPE PRODUCTS or specifically approved equal.
- B. Flanged Adapters: Dresser Industries, Inc., Style 127 for plain end steel or cast iron pipe with all bolts, rings, gaskets and accessories.
- C. Couplings: Dresser Industries, Inc., Style 38 for plain end steel or cast iron pipe with all bolts, rings, gaskets and accessories.
- D. Piping extending outside buildings (buried piping) shall be mechanical joint.

## 2.02 PIPE ACCESSORIES

- A. Joint Restrainers: Joint restrainers shall be Superstar tiebolt with Superstar tiebolts for flanged piping as manufactured by STAR NATIONAL PRODUCTS.
- B. Pipe Supports: Pipe supports shall be manufactured by MATERIAL RESOURCES:
  - 1. Pipe Saddle Support: Model 592. Minimum Quantity: Two (2)/10'
  - 2. Pipe Flange Support: Model 589. Minimum Quantity: Two (2)/10'

## PART 3 - EXECUTION

## 3.01 INSTALLATION

- A. Clean inside of pipe before installation. Keep installed piping clean and protect ends from foreign matter by capping or plugging.
- B. Install pipe so that it does not interfere with opening of doors or apparatus, access to equipment or any portion of electrical equipment. Group piping whenever practical at common elevations.
- C. Run pipes in straight lines and square with building. Install rise plumb. Make offsets only where indicated and where necessary.
- D. Install pipes so that expansion and contraction will not cause undue stress or strain to pipes or equipment. Provide loops, offsets and expansion joints as shown on drawings. If, in contractor's opinion, inadequate loops or offsets are shown, contact Engineer for instructions.
- E. Provide flanges and unions throughout the pipe systems to make installation and removal of

pipng and equipment convenient. Make provisions for servicing and removal of equipment without dismantling piping.

- F. Label piping after testing.
- G. Provide non-conducting dielectric connections wherever jointing dissimilar metals.
- H. Install valves with stems upright or horizontal, not inverted.
- I. Core drill through existing walls and floors to provide clearance around pipe to be installed and install link seals.
- J. Install ductile iron piping and fittings to ANSI/AWWA C600.
- K. Install flanged adapters and couplings in accordance with manufacturer's installation instructions. Drawings show minimum required adapters and couplings. Contractor shall install additional coupling and adapters as required for installation and disassembly of the piping systems.
- L. Install pipe saddle supports and pipe flange supports to brace piping systems in locations shown on contract plan or as directed by Engineer. Installation shall be in accordance with manufacturer's installation instructions.

### 3.02 PIPE JOINTING

- A. Preparing pipe ends: Cut pipe ends square with pipe cutters only. Do not use hacksaws or torch. Ream pipe ends, after cutting, to full diameter. Where pipe is to be threaded, die-cut right hand, pipe stand, clean cut full depth, taper threads. Make threaded joints so that they will be leak proof without caulking. Apply a thin coat of approved pipe lubricant to make threads only.
- B. Bracing joints: Provide braces and bridle rods as required to reinforce joints. Where large pipes underground are subject to shock because of sudden changes in liquid flow rate, provide concrete "kicker" blocks at joints, fittings and changes of pipe direction.
- C. Flanged ductile iron pipe joints: Clean face of flange of all sand, grease, grit or other foreign matter. Center gasket before assembling joints. After alignment has been completed insert bolts and hand tighten nuts. Keep gap between flanges approximately uniform while tightening. Tighten bolts to required torque in several steps, alternating from one side to the other.

### 3.03 RECHECKING AND REPAIRING

- A. Before piping is concealed, recheck it for leaks.
- B. Rework or replace defective and leaking joints, and joints which are otherwise unsatisfactory. Peening, caulking and doping are not permitted.

**END OF SECTION**

## PART 1 - GENERAL

## 1.01 SECTION INCLUDES

- A. Butterfly Valves
- B. Check Valves

## 1.02 RELATED SECTIONS

- A. Section 331119 - Disinfection of Water Facilities
- B. Section 402323 - Potable Water Process Piping
- C. Section 099744 - Mechanical Piping Coating Systems
- D. Section 221116 - Facility Piping
- E. Section 331116 - Site Water Utility Distribution Piping

## 1.03 REFERENCES

- A. ASME/ANSI B16.1 - Cast Iron Pipe Flanges and Flanged Fittings
- B. ASME/ANSI B16.34 - 2004 Valves Flanged, Threaded and Welding End
- C. ASTM A126 - Grey Iron Castings for Valves, Flanges and Pipe Fittings
- D. ASTM A536 - Ductile Iron Castings
- E. AWWA C504 - Standard for Rubber Seated Butterfly Valves
- F. AWWA C508 - Swing Check Valves for Waterworks Service, 2 inches (50 mm) through 24 inches (600 mm) NPS
- G. AWWA C509 - Resilient Seated Gate Valves for Water Supply Service
- H. AWWA C540 - Power Actuating Devices for Valves and Slide Gates
- I. AWWA C542 - Electric Motor Actuators for Valves and Slide Gates
- J. AWWA C550 - Protective Epoxy Interior Coatings for Valves and Hydrants
- K. AWWA C800 - Swing - Check Valves for Waterworks Service, 2 inches (50 mm) through 24 inches (600 mm) NPS
- L. ANSI/NSF Standard 61, Drinking Water System Components

## 1.04 SUBMITTALS

- A. Submit product data under provisions of Section 013300.
- B. Product Data: Provide data on materials and accessories.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

## 1.05 PROJECT RECORD DOCUMENTS

- A. Submit product data under provisions of Section 017839.
- B. Accurately record actual locations of valves, connections, and invert elevations.

## 1.06 QUALITY ASSURANCE

- A. Perform work in accordance with the local water utility company requirements.
- B. Valves: Manufacturer's name and pressure rating marked on valve body.
- C. All brass valves and fittings installed on a potable water supply line shall be made of "low-lead" materials and have a maximum lead content of 0.25 percent by weight. All low lead brass fittings shall be stamped or embossed with a mark indicating that the product is manufactured from low-lead alloys.

## 1.07 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, protect and handle products to site under provisions of Sections 016100 and 016500.
- B. Deliver and store valves in shipping containers with labeling in place.

## PART 2 - PRODUCTS

## 2.01 BUTTERFLY VALVES (FLANGED TYPE)

- A. Manufacturers:  
PRATT, Model 2FII
  1. Mueller, Lineseal III
  2. GA Industries, Series 800
  3. Approved equal.
- B. Flanged end butterfly valves shall be of the rubber-seated, tight closing type, with cast body and disc. Valves shall conform to the requirements specified in the governing Standard for Rubber-Seated Butterfly Valves, AWWA C504.
- C. Valve body shall be cast iron per ASTM A-126, Class B, with integrally cast hubs for shaft bearing housing, and 125 class flanged ends faced and drilled in accordance with ANSI B16.1, Standard for Cast Iron Flanges. Rated for 150 psig working pressure.

- D. Valve disc shall be symmetrical about the shaft axis with no external ribs, cast of alloy cast iron per Military Specification MIL 6-858a, Class I. Valve shaft shall be of a solid one-piece design of centerless ground 18-8 stainless steel or high strength steel (70,000 psi) completely isolated from line fluid.
- E. Taper pins, lock washers and nuts shall be 18-8 stainless steel. Valve seat shall be of molded natural rubber, recess mounted, bonded and mechanically secured to the valve body or disc. Sleeve type bearings of self-lubricating material shall be installed in the hubs of the valve body, designed for maximum load of 2,500 psi or one-fifth the compressive strength of the material, whichever is highest.
- F. A shaft seal shall be provided in the valve body hub where the shaft extends through same. The one-piece cast gland follower studs and nuts shall be bronze. Packing shall be self-adjusting split "V" type, or triple "O" ring.
- G. Manual Valve Operators
  - 1. Manual operators shall be of the worm and gear type and shall be self-locking. The gear operators shall be permanently lubricated, totally enclosed, with adjustable stops for the open and closed position, and valve disc position indicator. The operator shall be designed so that a pull of not more than 80 pounds will produce an output torque sufficient to operate the valve under actual line pressures and velocities.
  - 2. Valves shall be equipped with hand wheels and position indicators.
  - 3. Provide manual valve operator wheel.

## 2.02 CHECK VALVES

- A. Horizontal Swing Arm with limit switch
  - 1. Manufacturers:
    - a. GOLDEN ANDERSON, Figure 350
    - b. CLOW, Model 206
  - 2. Quiet closing, outside lever and weight with adjustable air cushion chamber, ASTM A126 C1.B cast iron body and valve disc, stainless steel shaft, bronze seal and gate rings, watertight on closing, horizontal, resilient seat ring. AWWA C508, full flow area not less than the area of a circle with a diameter equal to the nominal pipe size, flanged ends, Class 125, working pressure of 250 psi.
  - 3. Valve shall be provided with a mounted plunger actuated limit switch.
  - 4. SCADA compatible, Nema-4 heavy duty limit switch with DPDT contacts shall be provided.
- B. In-line for gravity fed drainage mains
  - 1. Manufacturer:
    - a. Wastop
  - 2. One-piece vulcanized rubber, ply reinforced throughout body, disc and bill.
  - 3. Valve shall be slip-in style and shall be equipped with stainless steel expansion clamps and retaining ring. Valve shall be anchored to the pipe from the upstream side.

## PART 3 - EXECUTION

### 3.01 INSTALLATION

- A. All valves and valve accessories shall be installed by workers thoroughly experienced in such work and all valve work shall be properly supported and aligned and present a neat and workmanlike appearance. All other required temporary or permanent supports for the valves shall

be included in this contract to the approval of the Engineer.

- B. Secure all floor stands to support members using stainless steel hardware. Field touchup floor stands after installation.
- C. Set valves in a plumb or level position, as applicable.
- D. Install check valves for proper direction of flow. Adjust cushion chamber check valve to prevent water hammer at service conditions.
- E. Assemble flanged joints by sequencing bolt tightening to make initial contact of flanges and gaskets as flat and parallel as possible. Use suitable lubricants on bolt threads. Tighten bolts gradually and uniformly with a torque wrench.
- F. All flanged valves shall be furnished and installed with a style 128-flange adapter by Dresser Industries, Inc. or equal.
- G. Paint all installed valves and piping in accordance with Section 099744.

### 3.02 INSPECTION, HANDLING AND STORAGE

- A. Inspection - All valves and accessories are subject to inspection by the Engineer at the point of delivery for manufacturer, direction of opening, freedom of operation, tightness of pressure-containing bolt, cleanliness of valve ports and especially seating surfaces, handling damage, cracks and any other damage.
- B. Valves found to be either defective or damaged shall be rejected and immediately removed from the job site.
- C. Handling - All valves shall be loaded and unloaded by lifting with hoists or skidding under control with ropes in order to avoid shock or damage. Under no circumstances shall valves and boxes be dropped.
- D. Storage - Valves, joint accessories and other appurtenances, if stored, shall be kept safe from damage. The interior of the valve and the joint accessories shall be kept free from dirt or foreign matter at all times.
- E. Perform operating tests on valves as per the manufacturers recommendations as may to determine they are in satisfactory operating condition and do not leak. All valves upon completion of the work shall be checked to determine they are in an open position, unless otherwise indicated.

**END OF SECTION**

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Pipe penetration seals.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Thunderline Corp., or equal

2.02 MATERIALS

- A. Seals shall be modular mechanical type, consisting of interlocking synthetic rubber links shaped to continuously fill the annular space between the pipe and wall opening. Links shall be loosely assembled with bolts to form a continuous rubber belt around the pipe with a pressure plate under each bolt head and nut.
- B. After the seal assembly is positioned in the sleeve, tightening of the bolts shall cause the rubber sealing elements to expand and provide a watertight seal between the pipe and wall opening under 40 feet of head. Seal shall be suitable for a temperature range of -40°F to 250°F and submergence in groundwater.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Determine the required inside diameter of each individual wall opening or sleeve. The inside diameter of each wall opening shall be sized as recommended by the manufacturer to fit the pipe and pipe penetration seal to assure a watertight joint. Sizing for correct pipe penetration seal model and number of links per seal may be obtained through manufacturer's catalog. If pipe outer diameter is nonstandard due to coating or insulation, consult manufacturer for engineering assistance and recommendation before proceeding with wall opening detail.

3.02 INSTALLATION

- A. Install and tighten seal to provide a watertight pipe penetration in accordance with manufacturer's instructions.

**END OF SECTION**

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Pressure Switches.
- B. Limit Switches.
- C. Differential Pressure Switches.

1.02 RELATED SECTIONS

- A. Section 220529 – Hangers and Supports for Plumbing Piping.
- B. Section 221116 – Facility Piping.

1.03 REFERENCES

- A. NFPA 70 - National Electric Code.

1.04 SYSTEM DESCRIPTION

- A. Flow monitoring, water level monitoring and system control devices for potable water.

1.05 SUBMITTALS

- A. Submit product data under provisions of Section 013300.
- B. Provide catalog cuts indicating materials, ratings and descriptive data and accessories.
- C. Provide installation instructions and calibration data.

1.06 OWNERS INSTRUCTIONS

- A. Provide the services of a manufacturers trained representative on operation and maintenance of equipment.

PART 2 - PRODUCTS

2.01 PRESSURE SWITCHES

- A. Manufacturers:
  - 1. Mercoid DA Series
- B. Bourdon Tube Material: Brass

- C. Stem Mounted
- D. Snubbers
- E. Adjustable Operating Range: 5-150 PSIG – Transfer Pump A  
5-150 PSIG – Transfer Pump B
- F. Snap-action Switch - SPDT, 15A, 120V; one normally closed and one normally open.
- G. Set points shall be adjustable without removing switch cover or shutting down process.
- H. Switch shall have visible on/off indication
- I. Switch shall have calibrated dial and two pointers indicating set and reset points.

## 2.02 CHECK VALVE LIMIT SWITCHES

- A. Manufacturers:
  - 1. Square D, Type C, Class 9007, Model C52KC.
  - 2. Type: Wobble stick coil spring extension, compact box, plug in.
  - 3. Contacts: 1 N.O., 1 N.C.

## 2.03 DIFFERENTIAL PRESSURE SWITCH

- A. Manufacturers:
  - 1. Meriam Instruments Series 1220.
- B. Bellows Material: Beryllium Copper.
- C. Rated Pressure: 500 psig.
- D. Electrical Switch: SPDT, 5A, 120V.
- E. Minimum Dead Band: 10% of full differential.
- F. Set Points: Visible and externally adjustable.
- G. Mounting: H mounting bracket for pipe saddle or wall mounting.
- H. Indicating Dial Size: 6 inches.
- I. Full Scale Displacement: 0 to 30 inches through 0 to 130 inches w.c. range.

## PART 3 - EXECUTION

### 3.01 INSTALLATION

- A. Install equipment in accordance with manufacturers installation instructions.
- B. Calibrate flow, level and pressure transmitters based on flow, level and pressure levels.

- C. Provide all taps, pressure sensing lines, valves and miscellaneous equipment as indicated on drawings.
- D. Mount pressure switches and transmitters in vertical position.
- E. Install copper Type K piping from pressure taps to switches and transmitters.
- F. Provide vent and drain valves in accordance with meter manufacturer's installation instructions.

3.02 FIELD QUALITY CONTROL

- A. Verify tubing installation is leak free.
- B. Demonstrate performance and operation of installed equipment.
- C. Calibrate all transmitters and pressure switches.

**END OF SECTION**

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Pressure Relief – Pressure Relief Control Valve for the perchlorate vessel.

1.02 RELATED SECTIONS

- A. Section 331300 - Disinfection of Water Distribution
- B. Section 402323 - Potable Water Process Piping

1.03 REFERENCES

- A. AWWA C530 - Pilot Operated Control Valves

1.04 QUALITY ASSURANCE

- A. Consideration will only be given to suppliers who can demonstrate that their instrument (valve) complies with these specifications having had successful and documented experience of the size, quality, performance and reliability to that specified, and who can successfully demonstrate this criteria to the Engineer.
- B. Each manufacturer shall have at least ten (10) years of experience in the design and manufacture of the specified instrument.
- C. Valves: Manufacturer's name and pressure rating marked on valve body.
- D. All bronze fittings and valves installed on the pilot system of the control valve shall meet EPA standards for low-lead with a maximum lead content of 0.25 percent by weight. All fittings and valves shall be stamped or embossed with a mark indicating this compliance.

1.05 WARRANTY

- A. Provide a Warranty Certificate typed on company letterhead and signed by an authorized officer of the manufacturer.
- B. The instrument manufacturer shall guarantee all components to be furnished under this section to be free from defects in design, materials and workmanship for a period of twenty-four (24) months commencing on the date the instrument was placed in permanent and consistent operation.
- C. During the guarantee period, if any part or equipment component is defective or fails to perform when operating at design conditions and if the equipment has been installed and is being operated and maintained in accordance with the written instructions provided by the manufacturer; the manufacturer shall repair or exchange at the discretion of the Owner such defective part(s) free of any and all charges. The cost of labor and all other expenses resulting from the repair or replacement of the defective part(s) and from installation of part(s) furnished

by this Warranty shall be borne solely by the manufacturer.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Comply with the requirements in Section 016500 - Product Delivery, Storage and Handling.

1.07 FIELD SERVICES

- A. Supply and credit to the Owner field services as specified in Section 014500 - Quality Control.
- B. Provide the following field services:
1. One (1) day totaling eight (8) hours for the pressure relief - pressure sustaining valve manufacturer. During these visits, the representative shall check the installation, make all necessary adjustments, and otherwise place the specified valve into permanent operation as specified in Section 017500 - Starting and Adjusting. As part of startup activities, the representative shall check the terminal connections and the specific work of the Contractor. Before substantial completion, provide operation and maintenance instruction to the Owner. A complete review of the Operations and Maintenance Manual for the pressure relief - pressure sustaining valve shall be presented at this time.

1.08 SUBMITTALS

- A. Comply with the requirements in Section 013300 - Submittals.
- B. Submit the following:
1. Technical descriptive data for the pressure relief - pressure sustaining valves showing model number, size, capacity, weight and other similar information. Catalog cuts are acceptable if they contain the necessary information.
  2. Storage, handling and installation instructions for the valves.
  3. Warranty Certificate prepared in accordance with paragraph 1.03 herein.
- C. Operations and Maintenance Manuals prepared in accordance with the requirements contained in Section 017823 - Operating and Maintenance Data shall be provided.

1.09 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, protect and handle products to site under provisions of Sections 016100 and 016500.
- B. Deliver and store valves in shipping containers with labeling in place.

1.10 SERVICE CONDITIONS

- A. All components of the control instruments shall be designed for continuous duty.
- B. Provisions shall be made for adjustments or replacements of all parts.

## PART 2 - PRODUCTS

## 2.01 BACKPRESSURE CONTROL/CHECK VALVE

- A. Backpressure control/check valves shall be Anti-Cavitation Pressure Relief Valves by CLA-VAL; Model 50-01 KO, hydraulically operated, pilot actuated automatic control valve, or approved equal. The control valve size shall be as indicated on the drawings.
- B. The valves shall be designed to maintain upstream pressure up to a predetermined maximum and provide pressure relief should the upstream pressure exceed this set point. Valves shall open fast to maintain steady line pressure but close gradually to prevent surges should the upstream pressure decrease below the set point.
- C. Main valve shall consist of three (3) components: ATSM A536 ductile iron body with seat; ATSM A536 ductile iron cover and bearings; and nylon reinforced Buna-N diaphragm and assembly including stainless steel stem, nut, and spring.
- D. Valves shall fail in the **open** position.
- E. Pilot and Accessories  
  
Pilot tubes shall be copper with bronze fittings.
  - 1. Pilot valve shall be ASTM B62 bronze.
  - 2. Pressure adjustment range 20 to 200 psi.
- F. Each valve shall have the following attributes and accessories:
  - 1. Stainless Steel trim
  - 2. Globe style
  - 3. 150 lb. flanged connections
  - 4. Epoxy coating
  - 5. Check valve feature.
  - 6. Isolation ball valves
  - 7. Pressure gauges upstream and downstream: 4 1/2" glycerin-filled, 316SS bourden tube, Ashcroft, type 1379 or equal, two (2) req. per valve.
  - 8. Rising stem with limit switch, NEMA-4, DPDT contacts.
  - 9. Flow clean strainer

## PART 3 - EXECUTION

## 3.01 GENERAL

- A. Install control valves and components in accordance with the written and /or verbal instructions provided by the manufacturer.
- B. All components shall be fully tested and verified for service by the manufacturer. Each manufacturer shall provide a MSR as specified in Section 017500 - Starting and Adjusting.

## 3.02 INSTALLATION OF PRESSURE RELIEF VALVES

- A. All valves and valve accessories shall be installed by workers thoroughly experienced in such work and all valve work shall be properly supported and aligned and present a neat and

workmanlike appearance. All other required temporary or permanent supports for the valves shall be included in this contract to the approval of the Engineer.

- B. Inspection - All valves and accessories are subject to inspection by the Engineer at the point of delivery for manufacturer, direction of opening, freedom of operation, tightness of pressure-containing bolt, cleanliness of valve ports and especially seating surfaces, handling damage, cracks and any other damage.
- C. Valves found to be either defective or damaged shall be rejected and immediately removed from the job site.
- D. Handling - All valves and boxes shall be loaded and unloaded by lifting with hoists or skidding under control with ropes in order to avoid shock or damage. Under no circumstances shall valves and boxes be dropped.
- E. Storage - Valves, joint accessories and valve boxes, if stored, shall be kept safe from damage. The interior of the valve and the joint accessories shall be kept free from dirt or foreign matter at all times.
- F. Installation:
  - 1. Before each valve is installed, pipe lines should be flushed of all chips, scale, and foreign matter.
  - 2. All valves shall be set in a plumb position.
  - 3. Properly use dielectric fittings and gaskets with dissimilar metals to insure that galvanic and/or electrolytic action does not take place.
  - 4. Coordinate wiring of solenoid valves and transmitters.
- G. Perform operating tests on valves as per the manufacturer's recommendations as required to determine they are in satisfactory operating condition and do not leak. All valves upon completion of the work shall be checked to determine they are in an open position, unless otherwise indicated.

**END OF SECTION**

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Bag Filter
- B. Basket Strainer

1.02 - RELATED WORK

- A. Section 332121 – Disinfection of Water Treatment Plants

1.03 - REFERENCES

- A. NSF 61 Standard Drinking Water System Components

1.04 - SUBMITTALS

- A. Submit product data under provisions of Section 013300.
- B. Product Data: Provide data on materials and accessories.

1.05 – EXTRA MATERIALS

- A. Furnish the following in accordance with the requirements in Section 016500:
  - 1. Two (2) additional complete set of 14 micron filter bags.
  - 2. One (1) dozen gaskets for filter

PART 2 - PRODUCTS

2.01 – BAG FILTER HOUSING

- A. Manufacturer: The vessel shall be manufactured by Fil-Trek Corporation, or specifically approved equal.
- B. The filter shall be constructed to the dimensions of Style A.
- C. The filter housing and hardware shall be constructed of 304 stainless steel.

- D. The filter housing shall have 10-inch inlet and outlet, 150# flanged connections, and a minimum design flow rate of 1,750 gpm.
- E. The Filter Housing shall be provided with one (1) 2" MNPT drain connection located at the lowest point.
- F. The Filter Housing shall be provided with one (1) ½" MNPT air release connection located at the highest point
- G. The Filter Housing shall be provided two (2) ½" FNPT connections. One connection shall be located on the upstream side of the filter and one connection shall be located on the downstream side of the filter.
- H. The housing shall be provided with one (1) Differential Pressure Indicating Switch assembly across the filter to signal a high differential pressure. The scale of the switches shall be 0 to 10 psi. The switches shall be furnished with a brass case. Two (2) ½" brass ball valves shall be provided for isolation of the switches.
- I. Filter bags shall be capable of retaining particles greater than 10 micron.
- J. One (1) standard nameplate shall be affixed on the side of the filter shell containing identification and ASME Code Stamp.

#### 2.02 – BASKET STRAINER

- A. Influent strainer shall be provided by vessel manufacturer and installed by the Contractor.

#### PART 3 - EXECUTION

- A. Install equipment in accordance with manufacturer's installation instructions.
- B. Provide all taps, pressure sensing lines, valves and miscellaneous equipment as indicated on drawings.
- C. Install stainless steel piping from taps to switches.
- D. Provide vent and drain valves in accordance with manufacturer's installation instructions.

#### 3.02 - FIELD QUALITY CONTROL

- A. Verify tubing installation is leak free.

B. Demonstrate performance and operation of installed equipment.

C. Calibrate all pressure switches.

**END OF SECTION**