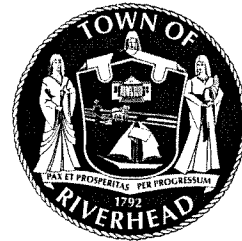


architects + engineers

CONTRACT AND SPECIFICATIONS

TOWN OF RIVERHEAD
CALVERTON SEWER DISTRICT
SUFFOLK COUNTY, NEW YORK



SANITARY PUMP STATION UPGRADES – BALL FIELD PUMP STATION

CONTRACT G - GENERAL CONSTRUCTION

H2M Project No.: CASD 14-02

Sean M. Walter
Supervisor

Town Board
John Dunleavy
George Gabrielsen
Jodi Giglio
James Wooten

Superintendent
Michael P. Reichel

Assistant Superintendent
Timothy Allen



FEBRUARY 2015

H2M architects + engineers
538 Broad Hollow Road, 4th Floor East, Melville, NY 11747
tel 631.756.8000 fax 631.694.4122

www.h2m.com

TOWN OF RIVERHEAD / CALVERTON SEWER DISTRICT

SANITARY PUMP STATION UPGRADES

BALL FIELD PUMP STATION

CONTRACT NO. CASD 14-02

INDEX	I - 4 PAGES
NOTICE TO BIDDERS	NB - 1 PAGE
INSTRUCTIONS FOR BIDDERS	IB - 19 PAGES
PROPOSAL	P-A TO P-D
QUALIFICATIONS OF BIDDERS	QB - 3 PAGES
UNIFORM CONTRACTING QUESTIONNAIRE	10 PAGES
LIST OF SUBCONTRACTORS	SCL - 3 PAGES
CONDITIONS OF CONTRACT	CC - 17 PAGES
GENERAL CONDITIONS	GC - 15 PAGES
INDEMNITY, LIMITATION OF LIABILITY	ILL - 1 PAGE
FORM OF CONTRACT	FC- 4 PAGES

TECHNICAL SPECIFICATIONS**DIVISION 1 - GENERAL REQUIREMENTS**

01110	SUMMARY OF WORK
01140	WORK RESTRICTIONS
01210	ALLOWANCES
01295	SCHEDULE OF VALUES
01310	PROJECT MANAGEMENT AND COORDINATION
01315	PROGRESS MEETINGS
01322	CONSTRUCTION SCHEDULE
01325	CONSTRUCTION PHOTOGRAPHS
01330	SUBMITTALS
01410	REGULATORY REQUIREMENTS
01422	SPECIFICATION FORMAT
01450	QUALITY CONTROL
01500	TEMPORARY FACILITIES AND CONTROLS
01510	TEMPORARY ELECTRICITY
01512	TEMPORARY SANITARY WASTEWATER CONVEYANCE SYSTEM
01610	BASIC PRODUCT REQUIREMENTS
01630	PRODUCT SUBSTITUTION PROCEDURES
01650	PRODUCT DELIVERY, STORAGE AND HANDLING
01740	CLEANING
01750	STARTING AND ADJUSTING
01755	PROCESS PIPE AND TANK TESTING
01780	CLOSEOUT SUBMITTALS
01782	OPERATING AND MAINTENANCE DATA
01785	PROJECT RECORD DOCUMENTS
01786	SPARE PARTS
01820	DEMONSTRATION AND TRAINING

DIVISION 2 - SITE WORK

02230	SITE CLEARING
02312	ROUGH GRADING
02315	EXCAVATION
02316	BACKFILLING
02317	TRENCHING
02740	ASPHALTIC CONCRETE PAVING
02915	LANDSCAPE GRADING & TOPSOIL
02920	SEEDING
02952	RESTORATION OF SURFACES

DIVISION 3 - CONCRETE

03300	CONCRETE
03411	PRECAST CONCRETE STRUCTURES

DIVISION 4 - MASONRY

(NO ITEMS IN THIS DIVISION)

DIVISION 5 - METALS

05140 STRUCTURAL ALUMINUM
05500 METAL FABRICATIONS
05520 HANDRAILING

DIVISION 6 - WOOD AND PLASTICS

(NO ITEMS IN THIS DIVISION)

DIVISION 7 - THERMAL & MOISTURE PROTECTION

(NO ITEMS IN THIS DIVISION)

DIVISION 8 - DOORS AND WINDOWS

08315 ACCESS DOORS

DIVISION 9 - FINISHES

09910 PAINTS

DIVISION 10 - SPECIALTIES

(NO ITEMS IN THIS DIVISION)

DIVISION 11 - EQUIPMENT

11295 VALVES AND VALVE ACCESSORIES

DIVISION 12 - FURNISHINGS

(NO ITEMS IN THIS DIVISION)

DIVISION 13 - SPECIAL CONSTRUCTION

(NO ITEMS IN THIS DIVISION)

DIVISION 14 - CONVEYING SYSTEMS

(NO ITEMS IN THIS DIVISION)

DIVISION 15 - MECHANICAL

15060 PIPE HANGERS
15140 SMALL PIPING, VALVES, AND MISCELLANEOUS EQUIPMENT
15145 LARGE PIPING AND FITTINGS
15435 PIPE PENETRATION SEALS
15832 CENTRIFUGAL EXHAUST FANS

DIVISION 16 - ELECTRICAL

16010 GENERAL ELECTRICAL REQUIREMENTS
16020 ELECTRICAL DEMOLITION
16060 GROUNDING AND BONDING
16065 TEMPORARY ELECTRIC SERVICE AND CONTROLS
16070 SUPPORTING DEVICES
16075 ELECTRICAL IDENTIFICATION

16121	LOW VOLTAGE CABLE
16132	BOXES AND TROUGHS
16134	CONDUIT
16136	FLEXIBLE LIQUID-TIGHT METAL CONDUIT
16140	WIRING DEVICES
16403	ELECTRICAL SERVICE UPGRADES
16440	DISCONNECT SWITCHES
16470	PANELBOARDS
16510	LIGHTING AND LAMPS
16530	MANHOLES AND HANDHOLES
16680	SURGE PROTECTION

END OF INDEX

The Town Board of Riverhead will receive bids for the following contract:

SANITARY PUMP STATION UPGRADES
BALL FIELD PUMP STATION
CONTRACT NO. CASD 14-02

for the Calverton Sewer District at the Town Clerk's office, Town Hall, 200 Howell Avenue, Riverhead, New York 11901, at 11:00 AM prevailing time, on **Thursday, March 5, 2015**, at which time and place the bids will be publicly opened and read.

Plans and specifications may be examined on or after **Thursday, February 12, 2015** at the Office of the Town Clerk between the hours of 8:30 A.M. and 4:30 P.M. weekdays, except holidays or by visiting the Town of Riverhead website: 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 informalities, 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 SEWER DISTRICT

DIANE WILHELM, TOWN CLERK

INDEX

1. RECEIPT AND OPENING OF BIDS
2. PLAN DEPOSITS
3. PLANS AND SPECIFICATIONS
4. VERBAL ANSWERS
5. EXAMINATION OF SITE
6. FORM, PREPARATION AND PRESENTATION OF PROPOSAL
7. BID SECURITY
8. QUALIFICATIONS OF BIDDERS
9. REJECTION OF BIDS
10. WITHDRAWAL OF BID
11. BIDDER'S RESPONSIBILITY
12. SIGNATURE OF CONTRACTOR
13. CONSTRUCTION TERMS AND CONDITIONS
14. SECURITY FOR FAITHFUL PERFORMANCE AND MAINTENANCE
15. FOREIGN CONTRACTORS
16. LIEN LAW
17. SUBCONTRACTORS AND SUPPLIERS
18. PENAL LAW
19. REFUSAL TO WAIVE IMMUNITY
20. ADDENDA AND INTERPRETATIONS
21. LIQUIDATED DAMAGES
22. EXEMPTION FROM SALES AND USE TAXES
23. METHOD OF AWARD
24. TIME FOR COMMENCEMENT OF WORK
25. PAYMENT
26. NYS LABOR LAW
27. NYS WAGE RATES
28. FEDERAL LABOR LAW
29. FEDERAL WAGE RATES
30. INSURANCE REQUIRED BY THE TOWN OF RIVERHEAD
31. TERM OF CONTRACT
32. CERTIFIED PAYROLLS
33. NO LIEN AFFIDAVIT FORM 220 AND TOWN OF RIVERHEAD WAGE DISCLAIMER

1. RECEIPT AND OPENING OF BIDS

Pursuant to Town Board Resolution, the Town of Riverhead invites bids on the forms herein provided for the SANITARY PUMP STATION UPGRADES HANGAR PUMP STATION, CONTRACT CASD 05-04 HPS, 200 Howell Avenue, Riverhead, NY, time, date and place indicated in the Notice to Bidders.

2. PLAN DEPOSITS

(a) Deposits for Plans and Specifications will be completely refunded to Bidders who return same in good condition within ten (10) days after receipt of bids. Bidders will receive one-half of the deposit amount for Plans and Specifications returned after ten (10) days and before thirty (30) days following the bid date. No deposit for Plans and Specifications will be refunded after thirty (30) days following the bid date.

(b) Deposits for Plans and Specifications will be completely refunded to non-bidders who return same in good condition within 48 hours of receipt of said Plans and Specifications. Non-bidders will receive one-half the deposit amount for Plans and Specifications returned in good condition within ten (10) days following the bid date. No deposit for Plans and Specifications will be refunded to non-bidders after ten (10) days following the bid date.

3. PLANS AND SPECIFICATIONS

Complete sets of Plans and Specifications for the inspection of prospective bidders will be found on file with the Town Clerk, Town of Riverhead, Town Hall, 200 Howell Avenue, Riverhead, New York, and at the office of Holzmacher, McLendon & Murrell, P.C., Consulting Engineers, 175 Pinelawn Road, Melville, New York.

All contractors must leave their names, telephone numbers, fax numbers, and correct mailing addresses upon receipt of the Plans and Specifications.

4. 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.

5. 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 and character of excavation and extent of dewatering to be made or the nature of the work to be done.

6. FORM, PREPARATION AND PRESENTATION OF PROPOSAL

In submitting the bid, the bid sheets furnished are to be filled in but not detached from the Contract Form. In no case is the Contract Form to be filled in or signed by the bidder. 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, "**TOWN OF RIVERHEAD / CALVERTON SEWER DISTRICT HANGAR PUMP STATION, CONTRACT NO. CASD 05-04 HPS**", but otherwise unmarked. All blank spaces for bid prices must be filled in, in ink, in both words and figures, with the total or gross sum for which the bid is made. Bids that contain any omission, erasure, alteration, addition or items not called for in the itemized bid form

or that contract irregularities of any kind may be rejected. In case of discrepancy between the unit price and total amount bid for any item, the unit price, as expressed in words, shall govern.

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 prices bid for the various unit price items, with due consideration being given to the lump sum prices bid and stipulated amounts 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 may not be considered valid which does not include bids for all items in the Proposal.

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.

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.

7. BID SECURITY

- (A) The bid must be accompanied by a certified check on the solvent bank or trust company with its principal place of business in New York State, or an acceptable bid bond, in an amount equal to not less than five percent (5%) of the total bid, made payable to the town of Riverhead (herein identified as the Town), as assurance that the bid is made in good faith. The certified checks or bid bonds will be returned after execution of the contract between the Town and the successful bidder; the certified check or bid bond of the successful bidder will be retained until filing and approval of the Performance Bond and until the completion of ten percent (10%) of the work under the contract.
- (B) The successful bidder, upon his failure or refusal to execute and deliver the contract insurance and bonds required within fourteen (14) days after the date of notice of the acceptance of his bid, shall forfeit to the Town, as liquidated damages for such failure or refusal, the security deposited with his bid.
- (C) Each proposal must also be accompanied by a Letter of Intent from a surety company acceptable to the Town, which letter shall assure the Town that the bidder, if awarded the Contract, will be able to secure from the surety the required bonds in the required amounts.

8. QUALIFICATIONS OF BIDDERS

- (A) Forms or qualifications of bidders, giving evidence of sufficient facilities, equipment, experience and financial ability to insure completion of the work will be provided, and the three lowest bidders shall be prepared to file at the option of the Town said form, properly filled in and sworn to in the Office of the Town Clerk within seven (7) days after the opening of bids.
- (B) Information contained in any statement of financial ability shall be not more than thirty (30) days old at the time of submission. If a financial statement is already on file with the Town Clerk, a new one need not be submitted provided the information contained therein is not more than thirty (30) days old at the time of the opening of bids and provided the contractor has not materially changed since submission of said statement.

9. REJECTION OF BIDS

- (A) The Town Board reserves the right to waive any informalities in, or reject any bid if the evidence submitted in the qualifications statement or an investigation of such bidder fails to satisfy the Town Board that such bidder is reputable, reliable and responsible, and that they possess the necessary qualifications (financial, labor, equipment and otherwise properly qualified to carry out the obligations of the contract and to complete the work contemplated therein. The Board reserves the right to reject any and all bids which do not conform to the Proposal. Conditional bids will not be accepted.
- (B) 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.
- (C) The Town Board reserves the right to reject any and all bids, in whole or in part, to waive any information in any or all bids, and to accept the bid or part thereof which it deems most favorable to the Town after all bids have been examined and/or checked. No bid shall be withdrawn for a period of forty-five (45) days after being publicly opened and read.
- (D) The Town Board reserves the right to reject any bids, in whole by a low bidder in which the owner of the low bidder has violated Prevailing Wage and Supplemental Payment Requirements of the Labor Law, and any other labor provisions, including but not limited to child labor violations, failure to pay wages, or unemployment insurance tax delinquencies within the past five (5) years. An owner is defined in this paragraph as an individual who owns more than 50% of a past or present company.

10. WITHDRAWAL OF BID

- A. Any bid may be withdrawn prior to the Bid Opening Date and Time specified above or authorized postponement.
- B. Bids may not be withdrawn before forty five (45) days after the Bid Opening Date and Time, unless a clerical mistake or error is claimed by the Bidder.
- C. If a Bidder claims to have made a clerical mistake or error in his Bid, he shall notify the Owner within the time limitations set forth in General Municipal Law Section 103 (11) (a) together with all documentary evidence in support of the Bidder's claim of a bid mistake or error.

11. BIDDER'S RESPONSIBILITY

- (A) The Bidder shall include the complete cost of furnishing all materials, labor and equipment necessary to complete the work in accordance with the plans and specifications, including all other expenses incidental thereto.
- (B) Bidders must examine the plans and specifications and exercise their own judgment as to the nature and amount of the whole of the work to be done, and for the bid prices, must assume all risks of variance by whomever made in computation or statement of amounts or quantities necessary to fully complete the work in strict compliance with the contract documents.
- (C) The contractor shall assume all risks and responsibility and shall complete the work in whatever material and under whatever conditions he may encounter or create, without extra cost to the Town.
- (D) 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.
- (E) No plea of ignorance or misunderstanding of conditions that exist or that may hereafter exist, or of conditions or difficulties that may be encountered in the execution of the work under this contract, as a result of failure to make the necessary examinations and investigations, will be to fulfill in every detail all of the requirements of the contract documents, or will be accepted as a basis for any claims whatsoever for extra compensation or for extension of time.

12. SIGNATURE OF CONTRACTOR

The bidder to whom a contract may be awarded shall appear at the office of the Town Board, with the surety documents 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.

13. CONSTRUCTION TERMS AND CONDITIONS

The successful bidder is warned that the work specified in the Conditions of Contract, together with the Information to Bidders, Form of Bid, Plans and Specifications and Instruction of the Town Engineer, or his duly authorized representative, will be strictly enforced.

14. SECURITY FOR FAITHFUL PERFORMANCE AND MAINTENANCE

The successful bidder shall be required to furnish at the execution of the contract an executed bond of a surety company authorized to do business in the State of New York and approved by the Town Board, in an amount equal to 100% of the total amount of the contract, guaranteeing to the Board the faithful performance of the contract and payment of all claims for materials, labor and wages in connection therewith. Prior to the release of the Performance Bond, the Contractor shall deliver to the Town a Maintenance Bond equal to 100% of the total contract price, including all extras which shall remain in

effect for a period of one (1) year from the date of the Engineer's approval of the final payment request as a Guarantee Bond.

15. FOREIGN CONTRACTORS

Foreign contractors must comply with the provisions of Articles 9A and 16 of the Tax Law, as amended, prior to submission of a bid for the performance of this work. The certificate of the New York State Tax Commission to the effect that all taxes have been paid by the foreign contractor shall be conclusive proof of the payment of taxes. The term "foreign contractor" as used in this subdivision means in the case of an individual, a person who is a legal resident of another state or foreign country; and in the case of a foreign corporation, one organized under the laws of a state other than the State of New York.

16. LIEN LAW

Attention of all persons submitting bids is specifically called to the provisions of Section 25, Subdivision 5, Section 25A and 25B of the Lien Law, as amended, in relation to funds being received by a contractor for a public improvement declared to constitute trust funds in the hands of such contractor to be applied first to the payment of certain claims. Pursuant to Section 220-a of the Labor Law all contractors and subcontractors and subcontractors to subcontractors shall file an affidavit attesting to the payment to employees.

17. SUBCONTRACTORS AND SUPPLIERS

Within five days after receipt from the Town Engineer, or his representative, of notice to begin work, the contractor will furnish written notice of names of all subcontractors to be employed on the project and the general items of work to be done by them. Simultaneously, the contractor shall furnish written notice of the names and suppliers of materials to be used on the project. The town may disapprove, for good cause, any subcontractor or material supplier selected by the contractor by giving written notice of its disapproval within five (5) days after receiving the names of subcontractors and material suppliers, to the contractor who shall thereupon promptly notify the town of the names of the subcontractor or material supplier selected in replacement which shall again be subject to approval by the town.

18. PENAL LAW

Attention is called to Section 1918 of the Penal Law as follows:

Construction or blasting near pipe conveying combustible gas

No person shall discharge explosives in the ground, nor shall any person other than a state or county employee regularly engaged in the maintenance and repair thereof excavate in any then existing street, highway, or public place, unless notice thereof in writing shall have been given at least seventy-two (72) hours in advance to the person, corporation or municipality engaged in the distribution of gas in such territory. The person having direction or control of such work shall give such notice, and further he shall ascertain whether there is within one hundred (100) feet in such street, highway or public place, or in the case of a proposed discharge of explosives within a radius of two hundred (200) feet of such discharge, any pipe of any other person, corporation or municipality conveying combustible gas, and if thereby any such pipe, he shall also give such notice to any other such person, corporation or municipality. Provided, however, that in any emergency involving danger to life, health, or property it shall be lawful to excavate without using explosives if the notices prescribed herein are given as soon as reasonably possible, and to discharge explosives to protect a person or persons from an immediate and substantial danger of death or serious personal injury if such notices are given before any such discharge is undertaken. Any such work shall be performed in such manner as to avoid danger to any pipe conveying combustible gas. Any violation of the provisions of this section shall be a misdemeanor.

19. REFUSAL TO WAIVE IMMUNITY

Pursuant to the provisions of Section 103-A of the General Municipal Law, in the event that the bidder or any members, partner, director or officer of the bidder, should refuse when called before a grand jury to testify concerning any transaction or contract had with the State, any political subdivision thereof, a public authority or with any public department, agency or official of the State, of any political subdivision thereof or of an authority, to sign a waiver of immunity against subsequent criminal prosecution or to answer any relevant questions concerning such transaction or contract, such person, and any firm, partnership or corporation of which he is a member, partner, firm director or officer shall be disqualified from thereafter selling to or submitting bids to or receiving awards from or entering into any contracts with any municipal corporation or any public department, agency, or official thereof, for goods, work or services, for a period of five (5) years after such refusal, and any and all contracts made with any municipal corporation or any public department, agency or official thereof on or after the first day of July, 1959, by, such person and any firm, partnership or corporation of which he is a member, partner, director or officer may be canceled or terminated by the municipal corporation without incurring any penalty or damages on account of such cancellation of termination, but any monies owing by the municipal corporation for goods delivered or work done prior to the cancellation or termination shall be paid.

20. ADDENDA AND INTERPRETATIONS

Every request for information or interpretation of the Contract Documents or Drawings must be addressed in writing to Christopher Weiss, P.E., Senior Wastewater Engineer, Holzmacher, McLendon & Murrell, P.C., Consulting Engineers, 175 Pinelawn Road, Melville, New York, 11747 and to be given any consideration, must be received at least five (5) days prior to the date fixed for the opening of bids. Any such interpretations or supplemental instructions will be in the form of written addenda, and will be mailed to all prospective bidders. The failure of any bidder to receive any such addenda will not relieve the bidders of any obligations under his bid as submitted. Any addenda so issued shall become part of the Contract Documents.

21. LIQUIDATED DAMAGES

Liquidated damages in the amount of One Thousand Dollars and 00 Cents (\$1,000.00) will be assessed for each consecutive calendar day of delay not excusable as provided in the Contract Documents.

22. EXEMPTION FROM SALES AND USE TAXES

In accordance with Chapter 513 of the laws of 1974 adopted by the New York State Legislature, amending Section 1115(a) of the tax law, specifically paragraphs 15 and 16, political subdivisions, as described in subdivision (a) paragraph (L) of Section 1116 of the tax laws, of the State of New York are exempt from the payment of sales and use taxes imposed on tangible personal property within the limitations specified in tax law 115 (a) (15) and (16).

- (15) Tangible personal property sold to a contractor, subcontractor or repairman for use in erecting structure or building of an organization described in subdivision (a) of Section 116, or adding to, altering or improving real property, property or land of such an organization, as the terms real property, property and land are defined in the real property tax law; provided, however, no exemption shall exist under this paragraph unless such tangible personal property is to become an integral component part of such structure, building or real property.
- (16) Tangible personal property sold to a contractor or repairman for use in maintaining, servicing or repairing real property, or land of an organization described in subdivision (a) of Section 116, as the terms real property, property or land are defined in the real property tax law; provided, however, no

exemption shall exist under this paragraph unless such tangible personal property is to become an integral component part of such structure, building or real property.

Contractors entering into contract with the Town of Riverhead shall be exempt from payment of sales and use tax described above. Procedures and forms are available to the contractor direct from the Instructions and Interpretations Unit, State of New York, Department of Taxation and Finance, State Campus, Albany, New York 12227.

23. METHOD OF AWARD

All bids will be compared based on the lowest bid price(s) submitted for the work to be done in addition to the qualifications of the bidder. Bidder may be requested to submit additional information such as references.

24. TIME FOR COMMENCEMENT OF WORK

The bidder, when submitting his bid, must be prepared to commence work not later than Twenty Eight (28) days after receiving a Notice to Proceed.

Work shall commence as stipulated in the construction schedule provided by the Town of Riverhead or alternate schedule provided by the Contractor which alternate schedule is acceptable to the Town and shall meet the stipulations of this contract. The entire work must be satisfactorily completed and the project improvements available for use within the completion time stipulated. For additional information see Conditions of Contract, Section 5, Time of Completion.

25. PAYMENT

Upon completion of the work under this contract, the contractor shall notify the Town Engineer of his completion. The Town Engineer will then make a final inspection and submit to the contractor a "punch list" if required. Upon final acceptance of the work by the Town Engineer, the contractor shall be paid one lump sum payment equal to the amount bid herein minus previous payments and plus or minus other contract approved charge orders. Contractor shall submit a Receipt on company letterhead in the amount billed, a signed Town of Riverhead Voucher, Certified Payroll Records, Wage Disclaimer and the No Lien Affidavit attesting to the payment of employees. Payment shall not be processed until all necessary paperwork is received.

26. NYS LABOR LAW

The contractor and each and every subcontractor performing work at the site of the project to which this contract relates shall comply with the applicable provisions of the Labor Law, as amended, of the State of New York.

27. NYS WAGE RATES

The rates of wages determined by the New York State Industrial Commissioner pursuant to the Labor Law, which are to be paid on this project, are set forth herein immediately following:

**PREVAILING WAGE RATES
ENCLOSED ON THE FOLLOWING PAGES**



Andrew M. Cuomo, Governor

Peter M. Rivera, Commissioner

Town of Riverhead

Nicholas Bono, Sr. Project Engineer
H2M Group
538 Broad Hollow Road
Melville NY 11747

Schedule Year 2014 through 2015
Date Requested 12/23/2014
PRC# 2014011699

Location Calverton
Project ID# G - General
Project Type Ball Field Pump Station rehabilitation in the Calverton Sewer District in Calverton, NY.

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. 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.

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.

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.

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 NYSDOL website on the first business day of each month. Contractors are responsible for paying these updated rates as well, retroactive to July 1st.

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

Withholding of Payments

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

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

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

Summary of Notice Posting Requirements

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

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

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

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

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

Apprentices

Employees cannot be paid apprentice rates unless they are individually registered in a program registered with the NYS Commissioner of Labor. The allowable ratio of apprentices to journeyworkers in any craft classification can be no greater than the statewide building trade ratios promulgated by the Department of Labor and included with the Prevailing Rate Schedule. An employee listed on a payroll as an apprentice who is not registered as above or is performing work outside the classification of work for which the apprentice is indentured, must be paid the prevailing journeyworker's wage rate for the classification of work the employee is actually performing.

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

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

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

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

Interest and Penalties

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

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

Debarment

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

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

Criminal Sanctions

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

Discrimination

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

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

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

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

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

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

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

Workers' Compensation

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

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

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

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

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

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

Unemployment Insurance

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



Andrew M. Cuomo, Governor

Peter M. Rivera, Commissioner

Town of Riverhead

Nicholas Bono, Sr. Project Engineer
H2M Group
538 Broad Hollow Road
Melville NY 11747

Schedule Year 2014 through 2015
Date Requested 12/23/2014
PRC# 2014011699

Location Calverton
Project ID# G - General
Project Type Ball Field Pump Station rehabilitation in the Calverton Sewer District in Calverton, NY.

Notice of Contract Award

New York State Labor Law, Article 8, Section 220.3a requires that certain information regarding the awarding of public work contracts, be furnished to the Commissioner of Labor. One "Notice of Contract Award" (PW 16, which may be photocopied), **MUST** be completed for **EACH** prime contractor on the above referenced project.

Upon notifying the successful bidder(s) of this contract, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

Contractor Information

All information must be supplied

Federal Employer Identification Number: _____		
Name: _____		
Address: _____ _____		
City: _____	State: _____	Zip: _____
Amount of Contract: \$ _____	Contract Type:	
Approximate Starting Date: ____/____/____	☐ (01) General Construction	
Approximate Completion Date: ____/____/____	☐ (02) Heating/Ventilation	
	☐ (03) Electrical	
	☐ (04) Plumbing	
	☐ (05) Other : _____	

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

IMPORTANT NOTICE

FOR

CONTRACTORS & CONTRACTING AGENCIES

Social Security Numbers on Certified Payrolls

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

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

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

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

Budget Policy & Reporting Manual

B-610

Public Work Enforcement Fund

effective date December 7, 2005

1. Purpose and Scope:

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

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

2. Background and Statutory References:

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

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

3. Procedures and Agency Responsibilities:

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

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

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

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

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

Reports should contain the following information:

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

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

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

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

Construction Industry Fair Play Act

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

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

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

The posting is included as part of this wage schedule. Additional copies may be obtained from the NYS DOL website, www.labor.ny.gov.

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



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

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

The law says that you are an employee unless:

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

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

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

Employee rights. If you are an employee:

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

Independent Contractors: If you are an independent contractor:

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

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

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

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

Employer Name:

WORKER NOTIFICATION

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

Effective February 24, 2008

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

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



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

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 – click on Bureau of Labor Law.

Contractor Name: _____

Project Location: _____

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

Effective July 18, 2008

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

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

Where to find OSHA 10-hour Construction Course

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

www.labor.state.ny.us/workerprotection/safetyhealth/DOSH_ONSITE_CONSULTATION.shtm

2. OSHA Training Institute Education Centers:

Rochester Institute of Technology OSHA Education Center

Rochester, NY

Donna Winter

Fax (585) 475-6292

e-mail: dlwtpo@rit.edu

(866) 385-7470 Ext. 2919

www.rit.edu/~outreach/course.php3?CourseID=54

Atlantic OSHA Training Center

UMDNJ – School of Public Health

Piscataway, NJ

Janet Crooks

Fax (732) 235-9460

e-mail: crooksje@umdnj.edu

(732) 235-9455

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

Atlantic OSHA Training Center

University at Buffalo

Buffalo, New York

Joe Syracuse

Fax (716) 829-2806

e-mail: mailto:japs@buffalo.edu

(716) 829-2125

http://www.smbs.buffalo.edu/CENTERS/trc/schedule_OSHA.php

Keene State College

Manchester, NH

Leslie Singleton

e-mail: lsingletin@keene.edu

(800) 449-6742

www.keene.edu/courses/print/courses_oshacfm

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

www.OutreachTrainers.org

Requirements for OSHA 10 Compliance

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

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

The Bureau will enforce the statute as follows:

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

Proof of completion may include but is not limited to:

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

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

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

WICKS Reform 2008

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

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

IMPORTANT INFORMATION

Regarding Use of Form 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***

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

Job Classification Checklist

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

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

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

Job Classification Checklist

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

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

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

Job Classification Checklist

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

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

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

Introduction to the Prevailing Rate Schedule

Information About Prevailing Rate Schedule

This information is provided to assist you in the interpretation of particular requirements for each classification of worker contained in the attached Schedule of Prevailing Rates.

Classification

It is the duty of the Commissioner of Labor to make the proper classification of workers taking into account whether the work is heavy and highway, building, sewer and water, tunnel work, or residential, and to make a determination of wages and supplements to be paid or provided. It is the responsibility of the public work contractor to use the proper rate. If there is a question on the proper classification to be used, please call the district office located nearest the project. District office locations and phone numbers are listed below.

Prevailing Wage Schedules are issued separately for "General Construction Projects" and "Residential Construction Projects" on a county-by-county basis.

General Construction Rates apply to projects such as: Buildings, Heavy & Highway, and Tunnel and Water & Sewer rates.

Residential Construction Rates generally apply to construction, reconstruction, repair, alteration, or demolition of one family, two family, row housing, or rental type units intended for residential use.

Some rates listed in the Residential Construction Rate Schedule have a very limited applicability listed along with the rate. Rates for occupations or locations not shown on the residential schedule must be obtained from the General Construction Rate Schedule. Please contact the local Bureau of Public Work office before using Residential Rate Schedules, to ensure that the project meets the required criteria.

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) 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

12/01/2014

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 Additional
Asbestos Worker 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 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 Removal & Abatement	\$ 4.70

4-12a - Removal Only

Boilermaker

12/01/2014

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 Wage Paid	32% of hourly 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 32% of Hourly Wage Paid plus amount below	01/01/2015 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

12/01/2014

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**12/01/2014****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**12/01/2014****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

Carpenter**12/01/2014**

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

Carpenter**12/01/2014**

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 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

Carpenter**12/01/2014**

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

Carpenter - Building / Heavy&Highway**12/01/2014**

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

12/01/2014

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	12/01/2014

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 (all categories)	16.0% of Hourly Wage Paid + \$22.14	16.0% of Hourly 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 Prior to 10/02/2010		Apprentices Hired 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	12/01/2014

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

Electrician

12/01/2014

JOB DESCRIPTION Electrician

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Per Hour:	07/01/2014
Tree Trimmer/ 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/ 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

Electrician

12/01/2014

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 addons.

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

12/01/2014

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 + Wage Paid +
\$ 10.56 \$ 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 30.75% of Hourly
Wage Paid + Wage Paid +
\$ 10.56 \$ 11.36

Natural Gasline Construction:
07/01/2014 06/01/2015

Natural Gas Mechanic: \$ 20.51 \$ 21.75

4-1049 Line/Gas

Elevator Constructor	12/01/2014

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	12/01/2014

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

12/01/2014

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

12/01/2014

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 BENIFITS

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

12/01/2014

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

12/01/2014

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

12/01/2014

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

12/01/2014

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 36.00 Additional \$ 0.50*
(Re-Roofing Removal see Roofer)

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

Benefits per hour

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

4-66

Laborer - Heavy&Highway

12/01/2014

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 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

12/01/2014

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	12/01/2014

JOB DESCRIPTION Mason - Building

DISTRICT 9

ENTIRE COUNTIES

Nassau, Rockland, Suffolk, Westchester

WAGES

Per hour:	07/01/2014	12/01/2014 An additional	06/01/2015 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-	751-	1501-	2251-	3001-	3751-	4501-	5251	6001-	6750-
	750	1500	2250	3000	3750	4500	5250	6000	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	12/01/2014

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

12/01/2014

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

07/01/2014	\$ 27.27	\$ 31.17	\$35.06	\$ 38.96
01/01/2015	An additional \$0.47*	An additional \$0.54*	An additional \$0.60*	An additional \$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	12/01/2014

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 \$ 0.96*
Mosaic & Terrazzo Finisher	\$ 47.28	\$ 0.96*

*May be allocated between wages and benefits

SUPPLEMENTAL BENEFITS

Journeyworker:
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	12/01/2014

JOB DESCRIPTION Mason - Building **DISTRICT 9**

ENTIRE COUNTIES

Nassau, Rockland, Suffolk, Westchester

WAGES

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

Building:

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	12/01/2014

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**12/01/2014**

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**12/01/2014**

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, ***V) 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

Mason - Building / Heavy&Highway

12/01/2014

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 plus \$1.50*
Stone Tender	\$40.54 plus \$1.50*

*Additional Amounts to be added to Wages and or Benifits.

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

Mason - Heavy&Highway

12/01/2014

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 & \$47.41
Cleaners

SUPPLEMENTAL BENEFITS

Per Hour:

Pointer, Cleaners & \$ 24.60
Caulkers

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

12/01/2014

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, Conveyor, 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

4-138

Operating Engineer - Building / Heavy&Highway

12/01/2014

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

Operating Engineer - Heavy&Highway

12/01/2014

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

12/01/2014

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

12/01/2014

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:

	07/01/2014	10/01/2014
DREDGING OPERATIONS 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, Boat Operator(licensed)	\$ 28.30	\$ 29.01

CLASS C Drag Barge Operator, Steward, Mate, Assistant Fill Placer,	\$ 27.54	\$ 28.22

Welder (please add)\$ 0.06

Boat Operator	\$ 26.55	\$ 27.30

CLASS D Shoreman, Deckhand, Rodman, Scowman, Cook, 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% of straight time wage, Overtime hours add \$ 0.63	\$ 9.99 plus 8% of straight time wage, Overtime hours add \$ 0.63
All Class C	\$ 9.12 plus 8% of straight time wage, Overtime hours add \$ 0.48	\$ 9.69 plus 8% of straight time wage, Overtime hours add \$ 0.48
All Class D	\$ 8.82 plus 8% of straight time wage, Overtime hours add \$ 0.33	\$ 9.39 plus 8% of straight time wage, Overtime hours add \$ 0.33

OVERTIME PAY

See (B, F, R) on OVERTIME PAGE

HOLIDAY

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

4-25a-MarConst

Operating Engineer - Survey Crew - Consulting Engineer	12/01/2014

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: Survey Classifications	07/01/2014	07/01/2015 Additional	07/01/2016 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

Operating Engineer - Trenchless Pipe Rehab

12/01/2014

JOB DESCRIPTION Operating Engineer - Trenchless Pipe Rehab

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

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

Painter

12/01/2014

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

12/01/2014

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 or lead containing paint on 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

Supplemental benefits:

(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

12/01/2014

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	\$ 48.75
	+ 5.38*	+ 5.63*
From Nov. 16th to April 30th -		
	\$ 47.00	\$ 48.75
	+ 5.38*	+ 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

12/01/2014

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

12/01/2014

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, Schuylar, 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

Supplementals benefits:

Per hour paid:

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

8-8A/28A-MP

Plasterer

12/01/2014

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 40%	2nd 6 months 45%
Second year:	1st 6 months 55%	2nd 6 months 60%
Third year:	1st 6 months 70%	2nd 6 months 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	12/01/2014

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	12/01/2014

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	12/01/2014

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	12/01/2014

JOB DESCRIPTION Roofer **DISTRICT 4**

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Per Hour 07/01/2014 10/01/2014

ROOFER/Waterproofeer

Total Wage to be Paid	\$ 43.00	Additional \$1.50 to be Added per Hour***
"Base" Wage	\$ 39.00**	

***NOTE: Additional to be allocated for Wage or Supplement

SUPPLEMENTAL BENEFITS

Per Hour:

ROOFER/Waterproofeer \$ 25.61 \$ 25.61

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	2nd	3rd	4th
40%	50%	70%	80%

Supplemental Benefits per hour:

	07/01/2014	10/01/2014
1st Term	\$ 7.20	\$ 7.20
2nd Term	8.99	8.99
3rd Term	12.58	12.98
4th Term	14.37	14.37

4-154

Sheetmetal Worker

12/01/2014

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 Benifits

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

Sheetmetal Worker	12/01/2014

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	12/01/2014

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

12/01/2014

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

12/01/2014

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

	07/01/2014
Asphalt Delivery	\$ 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

Teamster - Building

12/01/2014

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 \$ 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

Teamster - Delivery of Concrete

12/01/2014

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

07/01/2014

Concrete Delivery

\$ 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

07/01/2014

Concrete Delivery

\$ 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.

4-282ns

Teamster - Heavy&Highway

12/01/2014

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.

4-282

Welder

12/01/2014

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>

NYSDOL Bureau of Public Work Debarment List 12/09/2014

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 225 BROADWAY-SUITE 715NEW YORK NY 10007	02/05/2013	02/05/2018
DOL	NYC		A & T IRON WORKS INC		25 CLIFF STREET NEW ROCHELLE NY 10801	12/21/2009	12/21/2014
DOL	DOL	*****0711	A ULIANO & SON LTD		22 GRIFFEN COURT MILLER PLACE NY 11746	10/26/2010	10/26/2015
DOL	DOL		A ULIANO CONSTRUCTION		22 GRIFFEN COURT MILLER PLACE NY 11746	10/26/2010	10/26/2015
DOL	NYC	*****4486	ABBEY PAINTING CORP		21107 28TH AVENUE BAYSIDE NY 11360	07/02/2012	07/02/2017
DOL	DOL	*****9095	ABDO TILE CO		6179 EAST MOLLOY ROAD EAST SYRACUSE NY 13057	06/25/2010	07/02/2017
DOL	DOL	*****9095	ABDO TILE COMPANY		6179 EAST MOLLOY ROAD EAST SYRACUSE NY 13057	06/25/2010	07/02/2017
DOL	DOL	*****8488	ABELCRAFT OF NEW YORK CORP		640 ASHFORD AVENUE ARDSLEY NY 10502	08/27/2013	08/27/2018
DOL	DOL	*****1219	ABSOLUTE GENERAL CONTRACTING INC		1229 AVENUE U BROOKLYN NY 11229	01/28/2013	01/28/2018
DOL	DOL	*****4539	ACCOMPLISHED WALL SYSTEMS INC		112 OSCAWANA HEIGHTS ROAD PUTNAM VALLEY NY 10542	08/27/2013	08/27/2018
DOL	DOL	*****8018	ACCURATE MECHANICAL LLC		9547 BUSTLETON AVENUE PHILADELPHIA PA 19115	02/05/2014	02/05/2019
DOL	DOL		ACCURATE MECHANICAL OF PHILADELPHIA LLC		9547 BUSTLETON AVENUE PHILADELPHIA PA 19115	02/05/2014	02/05/2019
DOL	DOL		ADAM A CEMERYS		2718 CURRY ROAD SCHENECTADY NY 12303	07/08/2010	07/08/2015
DOL	DOL	*****7584	ADAM'S FLOOR COVERING LLC		2718 CURRY ROAD SCHENECTADY NY 12303	07/08/2010	02/15/2017
DOL	DOL		ADESUWA UWUIGBE		P O BOX 21-1022 BROOKLYN NY 11221	05/16/2012	05/16/2017
DOL	NYC		ADRIANA SELA	C/O COLONIAL ROOFING COMPANY INC	247 48TH STREET BROOKLYN NY 11220	02/05/2014	02/05/2019
DOL	DOL		AFFORDABLE PAINTING PLUS		367 GREEVES ROAD NEW HAMPTON NY 10958	10/01/2010	10/01/2015
DOL	DOL	*****2538	AGG MASONRY INC		160 72ND ST - SUITE 721 BROOKLYN NY 11209	03/19/2013	03/19/2018
DOL	DOL		ALBERT CASEY		43-28 54TH STREET WOODSIDE NY 11377	07/01/2011	07/01/2016
DOL	DOL		ALEJANDRO MATOS		C/O SEVEN STAR ELECTRICAL 23-24 STEINWAY STREETASTORIA NY 11105	06/27/2011	06/27/2016
DOL	DOL		ALISHER KARIMOV		C/O AGG MASONRY INC 7105 3RD AVENUEBROOKLYN NY 11209	03/19/2013	03/19/2018
DOL	DOL	*****8740	ALLSTATE ENVIRONMENTAL CORP		C/O JOSE MONTAS 27 BUTLER PLACEYONKERS NY 10710	03/18/2011	03/15/2017
DOL	DOL	*****8534	ALPHA INTERIORS INC		513 ACORN STREET/ SUITE C DEER PARK NY 11729	05/27/2010	05/27/2015
DOL	DOL	*****4274	AMERICAN STEEL MECHANICAL INC		693 PAINTER STREET MEDIA PA 19063	02/20/2013	02/20/2018
DOL	NYC		ANDERSON LOPEZ		670 SOUTHERN BLVD BRONX NY 10455	06/14/2011	06/14/2016
DOL	DOL		ANDREW DIPAUL		C/O CONSOLIDATED INDUSTRI 2051 ROUTE 44/55MODENA NY 12548	12/11/2012	12/11/2017
DOL	NYC		ANDRZEJ WROBEL		24 CONGRESS LANE SOUTH RIVER NJ 08882	05/01/2013	05/01/2018
DOL	DOL	*****7004	ANNEX CONTRACTING LTD		3005 WYNSUM AVENUE MERRICK NY 11566	08/18/2014	08/18/2019
DOL	DOL	*****7004	ANNEX GENERAL CONTRACTING INC		3005 WYNSUM AVENUE MERRICK NY 11566	08/18/2014	08/18/2019
DOL	DA		ANTHONY CARDINALE		58-48 59TH STREET MASPETH NY 11378	05/16/2012	05/16/2017
DOL	DOL		ANTHONY ULIANO		22 GRIFFEN COURT MILLER PLACE NY 11746	10/26/2010	10/26/2015
DOL	DOL	*****3020	APCO CONTRACTING CORP		24 SOUTH MARYLAND AVENUE PORT WASHINGTON NY 11050	09/24/2012	09/24/2017
DOL	DOL	*****3219	APOLLO CONSTRUCTION SERVICES CORP	APOLLO PAINTING CO	157 TIBBETTS ROAD YONKERS NY 10705	03/12/2014	03/12/2019

NYSDOL Bureau of Public Work Debarment List 12/09/2014

Article 8

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

NYSDOL Bureau of Public Work Debarment List 12/09/2014

Article 8

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

NYSDOL Bureau of Public Work Debarment List 12/09/2014

Article 8

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

NYSDOL Bureau of Public Work Debarment List 12/09/2014

Article 8

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

NYSDOL Bureau of Public Work Debarment List 12/09/2014

Article 8

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

NYS DOL Bureau of Public Work Debarment List 12/09/2014

Article 8

DOL	NYC		JERRY DEWATERS		30 COLUMBUS CIRCLE EASTCHESTER NY 10709	08/21/2012	08/21/2017
DOL	DOL		JOHN CATONE		C/O CATONE CONSTRUCTION 294 ALPINE ROADROCHESTER NY 14612	03/09/2012	03/09/2017
DOL	DOL		JOHN DESCUL		437 SUNRISE HIGHWAYA WEST BABYLON NY 11704	08/12/2013	08/12/2018
DOL	NYC		JOHN DITURI		1107 MCDONALD AVENUE BROOKLYN NY 11230	07/30/2010	07/30/2015
DOL	NYC		JOHN FICARELLI		120-30 28TH AVENUE FLUSHING NY 11354	01/14/2011	01/14/2016
DOL	DOL		JOHN H LEE	JOHN LEE QUALITY PAVING	67 WILER ROAD HILTON NY 14468	01/28/2013	01/28/2018
DOL	DOL		JOHN JIULIANNI		222 GAINSBORG AVENUE E WEST HARRISON NY 10604	05/10/2010	05/10/2015
DOL	DOL	*****1749	JOHN LEE QUALITY PAVING		67 WILER ROAD HILTON NY 14468	01/28/2013	01/28/2018
DOL	DOL	*****2701	JOHN SMYKLA	AFFORDABLE PAINTING PLUS	367 GREEVES ROAD NEW HAMPTON NY 10958	10/01/2010	10/01/2015
DOL	DOL	*****9368	JORGE I DELEON	J TECH CONSTRUCTI ON	PO BOX 64782 ROCHESTER NY 14624	09/24/2012	09/24/2017
DOL	DOL		JORGE OUVINA		344 SOUNDVIEW LANE COLLEGE POINT NY 11356	11/22/2011	11/22/2016
DOL	DOL		JOSE MONTAS		27 BUTLER PLACE YONKERS NY 10710	03/18/2011	03/15/2017
DOL	DOL		JOSEPH CASUCCI		6820 14TH AVENUE BROOKLYN NY 11219	10/27/2011	10/27/2016
DOL	DOL		JOSEPH MARTONE		112 OSCAWANA HEIGHTS ROAD PUTNAM VALLEY NY 10542	08/27/2013	08/27/2018
DOL	DOL		JOSHUA DEBOWSKY		9547 BUSTLETON AVENUE PHILADELPHIA PA 19115	02/05/2014	02/05/2019
DOL	DOL		JOYA MUSCOLINO		10 ST CHARLES STREET THORNWOOD NY 10594	09/03/2013	09/03/2018
DOL	DOL	*****4340	JUBCO SITE DEVELOPMENT LLC		462 LAKEVIEW AVENUE VALHALLA NY 10595	12/16/2013	12/16/2018
DOL	DOL		JULIUS AND GITA BEHREND		5 EMES LANE MONSEY NY 10952	11/20/2002	11/20/3002
DOL	DOL		K NELSON SACKOOR		16 JOY DRIVE NEW HYDE PARK NY 11040	01/05/2010	01/05/2015
DOL	NYC		KAMIL OZTURK		3715 KINGS HWY - STE 1D BROOKLYN NY 11234	06/30/2010	06/30/2015
DOL	DOL		KAREN HARTMAN		C/O GUILLO CONTRACTING P O BOX 229CALVERTON NY 11933	07/08/2013	07/08/2018
DOL	NYC		KATHLEEN SELA	C/O COLONIAL ROOFING COMPANY INC	247 48TH STREET BROOKLYN NY 11220	02/05/2014	02/05/2019
DOL	DOL		KEITH SCHEPIS		C/O KJS HAULING AND HOME 95 MAPLE AVENUE NEW CITY NY 10956	04/15/2013	04/15/2018
DOL	DOL		KEN DEAVER		731 WARWICK TURNPIKE HEWITT NJ 07421	06/25/2012	12/11/2017
DOL	DOL		KEVIN BABCOCK JR		P O BOX 46 THOMPSON RIDGE NY 10985	08/22/2014	08/22/2019
DOL	DOL		KEVIN M BABCOCK		P O BOX 46 THOMPSON RIDGE NY 10985	08/22/2014	08/22/2019
DOL	DOL	*****5941	KINGSVIEW ENTERPRISES INC		7 W FIRST STREET P O BOX 2LAKEWOOD NY 14750	01/14/2011	01/14/2016
DOL	DOL	*****2463	KJS HAULING AND HOME IMPROVEMENT INC		95 MAPLE AVENUE NEW CITY NY 10956	04/15/2013	04/15/2018
DOL	AG		KOSTAS "GUS" ANDRIKOPOULOS		2461 47TH STREET ASTORIA NY 11103	09/26/2013	09/26/2018
DOL	DOL		KRZYSZTOF PRXYBYL		2 TINA LANE HOPEWELL JUNCTION NY 12533	01/06/2012	01/06/2017
DOL	DOL	*****6033	KUSNIR CONSTRUCTION		2677 ANAWALK ROAD KATONAH NY 10536	08/03/2012	08/03/2017
DOL	DOL	*****0526	LAGUARDIA CONSTRUCTION CORP		47-40 48TH STREET WOODSIDE NY 11377	07/01/2011	07/01/2016
DOL	NYC	*****8816	LAKE CONSTRUCTION AND DEVELOPMENT CORPORATION		150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998

NYSDOL Bureau of Public Work Debarment List 12/09/2014

Article 8

DOL	DOL		LARRY DOMINGUEZ		114 PEARL STREET PORT CHESTER NY 10573	08/15/2012	08/15/2017
DOL	DOL		LAURA A. GAUTHIER		C/O IMPERIAL MASONRY REST 141 ARGONNE DRIVEKENMORE NY 14217	10/03/2012	10/03/2017
DOL	DOL		LAURI MARTONE		112 OSCAWANA HEIGHTS ROAD PUTNAM VALLEY NY 10542	08/27/2013	08/27/2018
DOL	DOL		LAVERN GLAVE		C/O RAW POWER ELECTRIC 3 PARK CIRCLEMIDDLETOWN NY 10940	09/15/2014	09/15/2019
DOL	DOL		LAWRENCE J RUGGLES		P O BOX 371 ROUND LAKE NY 12151	05/12/2014	05/12/2019
DOL	DOL	*****0597	LEED INDUSTRIES CORP	HI-TECH CONTRACTIN G CORP	114 PEART STREET PORT CHESTER NY 10573	08/15/2012	08/15/2017
DOL	AG		LEONID FRIDMAN		APT 5 200 BRIGHTON, 15TH STBROOKLYN NY 11235	01/23/2013	01/23/2019
DOL	DOL	*****8453	LINPHILL ELECTRICAL CONTRACTORS INC		523 SOUTH 10TH AVENUE MOUNT VERNON NY 10553	01/07/2011	04/15/2018
DOL	DOL		LINVAL BROWN		523 SOUTH 10TH AVENUE MOUNT VERNON NY 10553	01/07/2011	04/15/2018
DOL	DOL	*****5171	LUVIN CONSTRUCTION CORP		P O BOX 357 CARLE PLACE NY 11514	03/15/2010	03/15/2015
DOL	NYC	*****2850	M A 2 FLAGS CONTRACTING CORP		25-18 100TH STREET EAST ELMHURST NY 11369	08/21/2013	08/21/2018
DOL	NYC	*****3141	MACKEY REED ELECTRIC INC		1ST FLOOR STORE FRONT 88-10 LITTLE NECK PARKWAYFLORAL PARK NY 11001	06/24/2014	06/24/2019
DOL	DOL		MANUEL ESTEVES		55 OLD TURNPIKE ROAD SUITE 612NANUET NY 10954	02/04/2011	02/04/2016
DOL	NYC		MANUEL P TOBIO		150 KINGS STREET BROOKLYN NY 14444	08/19/1998	08/19/2998
DOL	NYC		MANUEL TOBIO		150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998
DOL	DOL		MAR CONTRACTING CORP		620 COMMERCE STREET THORNWOOD NY 10594	09/24/2012	09/24/2017
DOL	DOL		MARGARET FORTH		P O BOX 74 EAST GREENBUSH NY 12061	02/28/2012	10/01/2017
DOL	DOL		MARIA ESTEVES AKA MARIA MARTINS		C/O THREE FRIENDS CONSTR 986 MADISON AVENUEPATERSON NJ 07501	01/03/2013	01/03/2018
DOL	DOL		MARIA MARTINS AKA MARIA ESTEVES		C/O THREE FRIENDS CONSTR 986 MADISON AVENUEPATERSON NJ 07501	01/03/2013	01/03/2018
DOL	DOL		MARIO LUIS		31 DURANT AVENUE BETHEL CT 06801	07/02/2012	07/02/2017
DOL	DOL		MARIO R ECHEVERRIA JR		588 MEACHAM AVE-SUITE 103 ELMONT NY 11003	08/24/2010	08/24/2015
DOL	DOL	*****5533	MARQUISE CONSTRUCTION & DEVELOPMENT CORP		10 ST CHARLES STREET THORNWOOD NY 10594	09/03/2013	09/03/2018
DOL	DOL	*****8810	MARQUISE CONSTRUCTION ASSOCIATES INC		20 BOSWELL ROAD PUTNAM VALLEY NY 10579	09/03/2013	09/03/2018
DOL	DOL	*****1134	MARQUISE CONSTRUCTION CORP		10 ST CHARLES STREET THORNWOOD NY 10594	09/03/2013	09/03/2018
DOL	NYC	*****4314	MASCON RESTORATION INC		129-06 18TH AVENUE COLLEGE POINT NY 11356	02/09/2012	02/09/2017
DOL	NYC	*****4314	MASCON RESTORATION LLC		129-06 18TH AVENUE COLLEGE POINT NY 11356	02/09/2012	02/09/2017
DOL	DOL	*****0845	MASONRY CONSTRUCTION INC		442 ARMONK ROAD MOUNT KISCO NY 10549	12/04/2009	05/04/2017
DOL	DOL	*****3333	MASONRY INDUSTRIES INC		442 ARMONK ROAD MOUNT KISCO NY 10549	12/04/2009	05/04/2017
DOL	DOL	*****4638	MATSOS CONTRACTING CORPORATION		12-14 UTOPIA PARKWAY WHITESTONE NY 11357	02/10/2010	02/10/2015
DOL	DOL	*****9857	MBL CONTRACTING CORPORATION		2620 ST RAYMOND AVENUE BRONX NY 10461	08/30/2011	08/30/2016
DOL	DOL	*****9028	MCINTOSH INTERIORS LLC		8531 AVENUE B BROOKLYN NY 11236	02/05/2013	02/05/2018
DOL	DOL	*****5936	MCSI ADVANCED AV SOLUTIONS LLC		2085 BRIGHTON HENRIETTA TOWN LINE ROADROCHESTER NY 14623	11/04/2010	11/04/2015
DOL	DOL	*****4259	MERCANDO CONTRACTING CO INC		134 MURRAY AVENUE YONKERS NY 10704	12/11/2009	02/03/2019

NYSDOL Bureau of Public Work Debarment List 12/09/2014

Article 8

DOL	DOL	*****0327	MERCANDO INDUSTRIES LLC		134 MURRAY AVENUE YONKERS NY 10704	12/11/2009	02/03/2019
DOL	NYC	*****5330	METRO DUCT SYSTEMS INC		12-19 ASTORIA BOULEVARD LONG ISLAND CITY NY 11102	04/16/2014	06/24/2019
DOL	DOL	*****9198	MICHAEL CZECHOWICZ	OCTAGON CO	37-11 35TH AVENUE-2ND FL LONG ISLAND CITY NY 11101	01/08/2013	01/08/2018
DOL	DOL		MICHAEL F LEARY JR		3813 SNOWDEN HILL ROADNEW HARTFORD NY 13413	06/19/2013	06/19/2018
DOL	DOL		MICHAEL F LEARY JR METAL STUD & DRYWALL		3813 SNOWDEN HILL ROAD NEW HARTFORD NY 13413	06/19/2013	06/19/2018
DOL	DOL		MICHAEL KTISTAKIS		363 88TH STREET BROOKLYN NY 11209	11/18/2013	11/18/2018
DOL	DOL	*****6033	MICHAEL KUSNIR	KUSNIR CONSTRUCTI ON	2677 ANAWALK ROAD KATONAH NY 10536	08/03/2012	08/03/2017
DOL	DOL		MICHAEL MARGOLIN		4 LEGHORN COURT NEW YORK NY 11746	11/28/2012	11/28/2017
DOL	DOL		MICHELLE L BARBER		635 LUZERNE ROAD QUEENSBURY NY 12804	09/16/2013	09/16/2018
DOL	DOL	*****2635	MIDLAND CONSTRUCTION OF CEDAR LAKE INC		13216 CALUMET AVENUE CEDAR LAKE IL 46303	11/10/2011	11/10/2016
DOL	NYC		MIGUEL ACOSTA		25-18 100TH STREET EAST ELMHURST NY 11369	08/21/2013	08/21/2018
DOL	DOL	*****5517	MILLENNIUM PAINTING INC		67 WARD ROAD SALT POINT NY 12578	01/21/2011	01/21/2016
DOL	AG		MOHAMMAD RIAZ		46 RUGBY ROAD WESTBURY NY 11590	11/20/2013	11/20/2018
DOL	NYC		MOHAMMAD SELIM		73-12 35TH AVE - APT F63 JACKSON HEIGHTS NY 11372	03/04/2010	03/04/2015
DOL	DA		MOHAMMED SALEEM		768 LYDIG AVENUE BRONX NY 10462	08/18/2009	05/25/2015
DOL	NYC	*****2690	MONDOL CONSTRUCTION INC		11-27 30TH DRIVE LONG ISLAND CITY NY 11102	05/25/2011	05/25/2016
DOL	DOL		MORTON LEVITIN		3506 BAYFIELD BOULEVARD OCEANSIDE NY 11572	08/30/2011	08/30/2016
DOL	DOL	*****2737	MOUNTAIN'S AIR INC		2471 OCEAN AVENUE- STE 7A BROOKLYN NY 11229	09/24/2012	09/24/2017
DOL	NYC		MUHAMMAD ZULFIQAR		129-06 18TH AVENUE COLLEGE POINT NY 11356	02/09/2012	02/09/2017
DOL	DOL	*****2357	MUNICIPAL MILLING & MIX-IN- PLACE		9091 ERIE ROAD ANGOLA NY 14006	02/03/2011	02/03/2016
DOL	DOL		MURRAY FORTH		P O BOX 74 EAST GREENBUSH NY 12061	02/28/2012	10/01/2017
DOL	DA	*****9642	MUTUAL OF AMERICAL GENERAL CONSTRUCTION & MANAGEMENT CORP		768 LYDIG AVENUE BRONX NY 10462	08/18/2009	05/25/2015
DOL	DOL		MUZAFFAR HUSSAIN		C/O ABSOLUTE GENERAL CONT 1129 AVENUE UBROOKLYN NY 11229	01/28/2013	01/28/2018
DOL	DA	*****6988	NEW YORK INSULATION INC		58-48 59TH STREET MASPETH NY 11378	05/16/2012	05/16/2017
DOL	DOL		NICHOLAS DEGREGORY JR	NJ DEGREGORY & COMPANY	1698 ROUTE 9 GLEN FALLS NY 12801	05/23/2013	05/23/2018
DOL	NYC		NICHOLAS PROVENZANO		147 BROOME AVENUE ATLANTIC BEACH NY 11509	03/03/2014	03/03/2019
DOL	NYC		NICHOLAS PROVENZANO		147 BROOME AVENUE ATLANTIC BEACH NY 11509	03/03/2014	03/03/2019
DOL	DOL		NICOLE SPELLMAN		2081 JACKSON AVENUE COPIAGUE NY 11726	06/03/2010	06/03/2015
DOL	DOL		NIKOLAS PSAREAS		656 N WELLWOOD AVE/STE C LINDENHURST NY 11757	09/01/2011	09/01/2016
DOL	DOL	*****5279	NJ DEGREGORY & COMPANY		1698 ROUTE 9 GLEN FALLS NY 12801	05/23/2013	05/23/2018
DOL	DOL		NJ DEGREGORY & SONS CONSTRUCTION		1698 ROUTE 9 GLEN FALLS NY 12801	05/23/2013	05/23/2018
DOL	DOL	*****9198	OCTAGON CO		37-11 35TH AVENUE-2ND FL LONG ISLAND CITY NY 11101	01/08/2013	01/08/2018
DOL	DOL		OKBY ELSAYED		1541 EAST 56TH STREET BROOKLYN NY 11234	05/04/2012	05/04/2017
DOL	NYC		OLIVER HOLGUIN		95-26 76TH STREET OZONE PARK NY 11416	10/12/2011	10/12/2016
DOL	NYC	*****8337	OPTIMUM CONSTRUCTION INC		23-73 48TH STREET LONG ISLAND CITY NY 11103	04/24/2014	04/24/2019

NYSDOL Bureau of Public Work Debarment List 12/09/2014

Article 8

DOL	NYC		ORSON ARROYO		C/O METRO DUCT SYSTEMS 12-19 ASTORIA BOULEVARDLONG ISLAND CITY NY 11102	04/16/2014	06/24/2019
DOL	DOL	*****4546	PAF PAINTING CORP		161 TIBBETTS ROAD YONKERS NY 10705	03/12/2014	03/12/2019
DOL	DOL	*****5242	PAF PAINTING SERVICES INC	GARDEN STATE PAINTING	157 TIBBETTS ROAD YONKERS NY 10103	03/12/2014	03/12/2019
DOL	DOL		PAF PAINTING SERVICES OF WESTCHESTER INC		C/O SPIEGEL & UTRERA 1 MAIDEN LANE - 5TH FLNEW YORK NY 10038	03/12/2014	03/12/2019
DOL	DOL	*****5226	PASCARELLA & SONS		459 EVERDALE AVENUE WEST ISLIP NY 11759	01/10/2010	01/10/2015
DOL	DOL	*****8802	PAT'S HEATING AND AIR CONDITIONING LTD		P O BOX 371 ROUND LAKE NY 12151	05/12/2014	05/12/2019
DOL	DOL		PATRICIA M RUGGLES		P O BOX 371 ROUND LAKE NY 12151	05/12/2014	05/12/2019
DOL	DOL		PAUL VERNA		C/O AMERICAN STEEL MECHA 693 PAINTER STREETMEDIA PA 19063	02/20/2013	02/20/2018
DOL	DOL		PEDRO RINCON		131 MELROSE STREET BROOKLYN NY 11206	03/02/2010	03/02/2015
DOL	DOL	*****9569	PERFORM CONCRETE INC		31 DURANT AVENUE BETHEL CT 06801	07/02/2012	07/02/2017
DOL	NYC		PETER LUSTIG		30 COLUMBUS CIRCLE EASTCHESTER NY 10709	08/21/2012	08/21/2017
DOL	NYC		PETER TRITARIS		5990 58TH AVENUE MASPETH NY 11378	11/18/2013	11/18/2018
DOL	DOL	*****1136	PHOENIX ELECTRICIANS COMPANY INC		540 BROADWAY P O BOX 2222ALBANY NY 12201	03/09/2010	03/09/2015
DOL	DOL	*****7914	PRECISION SITE DEVELOPMENT INC		89 EDISON AVENUE MOUNT VERNON NY 10550	10/28/2011	10/28/2016
DOL	DOL	*****2989	PROFESSIONAL ESTIMATING & BUSINESS CORP		157 TIBBETTS ROAD YONKERS NY 10705	03/12/2014	03/12/2019
DOL	DOL	*****6895	PROLINE CONCRETE OF WNY INC		3090 SHIRLEY ROAD NORTH COLLINS NY 14111	04/19/2011	12/30/2016
DOL	DOL	*****0015	RAMADA CONSTRUCTION CORP		80 SAVO LOOP STATEN ISLAND NY 10309	01/07/2014	01/07/2019
DOL	DOL		RAMON BONILLA		938 E 232ND STREET #2 BRONX NY 10466	05/25/2010	05/25/2015
DOL	DOL	*****2633	RAW POWER ELECTRIC CORP		3 PARK PLACE MIDDLETOWN NY 10940	09/16/2013	09/15/2019
DOL	NYC		RAYMOND PEARSON		P O BOX 957 PORT JEFFERSON STA NY 11776	03/12/2014	03/12/2019
DOL	DOL		REBECCA THORNE		113 N MAPLE AVENUE GREENSBURG PA 15601	02/21/2013	02/21/2018
DOL	DOL		REGINALD WARREN		C/O RAW POWER ELECTRIC 3 PARK CIRCLEMIDDLETOWN NY 10940	09/15/2014	09/15/2019
DOL	DOL		REVOLUTIONARY FLOORS LLC		P O BOX 268 STILLWATER NY 12170	09/16/2013	03/21/2019
DOL	DOL		RHINO CONCRETE LLC		101 SULLYS TRAIL/SUITE 20 PITTSFORD NY 14534	11/18/2013	01/07/2019
DOL	DOL		RICHARD WILSON		C/O DUFOUR GROUP INC 353 WEST 56TH STREET #7MNEW YORK NY 10019	06/10/2014	06/10/2019
DOL	NYC	*****6978	RISINGTECH INC		243-03 137TH AVENUE ROSEDALE NY 11422	03/25/2010	03/25/2015
DOL	DOL		ROBBYE BISSESAR		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	01/11/2003	01/11/3003
DOL	DOL	*****1855	ROBERT D BISHOP JR	ROBERT D BISHOP JR	P O BOX 112 MORRISONVILLE NY 12962	07/15/2014	07/15/2019
DOL	DOL		ROBERT D BISHOP JR		P O BOX 112 MORRISONVILLE NY 12962	07/15/2014	07/15/2019
DOL	NYC		ROBERT FICARELLI		120-30 28TH AVENUE FLUSHING NY 11354	01/14/2011	01/14/2016
DOL	NYC		ROBERT GUIDO		3256 BRUNER AVENUE BRONX NY 10469	07/29/2014	07/29/2019
DOL	DOL		ROBERT L EVANS		128A NORTH STAMFORD ROAD STAMFORD CT 06903	05/23/2013	05/23/2018

NYSDOL Bureau of Public Work Debarment List 12/09/2014

Article 8

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

NYSDOL Bureau of Public Work Debarment List 12/09/2014

Article 8

DOL	DOL	*****3496	STAR INTERNATIONAL INC		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	08/11/2003	08/11/3003
DOL	DOL		STEFANIE MCKENNA		30 MIDLAND AVENUE WALLINGTON NJ 07057	11/05/2010	11/05/2015
DOL	DOL		STEPHEN BIANCHI		462 LAKEVIEW AVENUE VALHALLA NY 10595	12/16/2013	12/16/2018
DOL	DOL		STEPHEON SHELDON	FANTASTIC PAINTING	493 LANSING ROAD FULTONVILLE NY 12072	11/18/2013	11/18/2018
DOL	DOL		STEVEN CONKLIN		60 COLONIAL ROAD STILLWATER NY 12170	02/15/2011	02/15/2016
DOL	DOL		STEVEN SAGGESE		3005 WYNSUM AVENUE MERRICK NY 11566	08/18/2014	08/18/2019
DOL	DOL		STUART CHAITIN		634 ROUTE 303 BLAUVET NY 10913	07/26/2012	11/19/2018
DOL	DOL	*****3210	SUPER SWEEP	FMS	4 LEGHORN COURT NEW YORK NY 11746	11/28/2012	11/28/2017
DOL	DOL		SUZANNE G GOLD	C/O GOLDS FLOORING INSTALLATION S INC	25 HAMILTON ROAD MONTICELLO NY 12701	10/16/2013	10/16/2018
DOL	DOL	*****9676	T D CONTRACTORS CORP	T D CONTRACTOR S INC	113 N MAPLE AVENUE GREENSBURG PA 15601	02/21/2013	02/21/2018
DOL	DOL		T D CONTRACTORS INC		113 N MAPLE AVENUE GREENSBURG PA 15601	02/21/2013	02/21/2018
DOL	DOL		TAMMY LACITIGNOLA		C/O CATSKILL FENCE INSTAL 5445 ROUTE 32CATSKILL NY 12414	08/22/2014	08/22/2019
DOL	DOL		TECH-MECHANICAL FAB DC INC		5 PARKER AVENUE POUGHKEEPSIE NY 12601	03/25/2014	03/25/2019
DOL	DOL	*****4293	THE J OUVINA GROUP LLC		344 SOUNDVIEW LANE COLLEGE POINT NY 11356	11/22/2011	11/22/2016
DOL	DOL		THE THORNE GROUP INC		113 N MAPLE AVENUE GREENSBURG PA 15601	02/21/2013	02/21/2018
DOL	DOL	*****2070	THE UNIVERSAL GROUP OF NEW YORK INC		212 OXFORD WAY SCHENECTADY NY 12309	12/11/2012	09/16/2018
DOL	DOL	*****9243	THE WELCOME MAT PROPERTY MANAGEMENT LLC		P O BOX 268 STILLWATER NY 12170	09/16/2013	03/21/2019
DOL	DOL		THEONI ATHANASIADIS		C/O SEVEN STAR ELECTRICAL 23-24 STEINWAY STREETASTORIA NY 11105	06/27/2011	06/27/2016
DOL	DOL		THOMAS DESANTIS	DESANTIS ENTERPRISES	161 OSWEGO RIVER ROAD PHOENIX NY 13135	09/24/2013	11/18/2018
DOL	NYC		THOMAS SCARINCI		130-43 92ND AVENUE RICHMOND HILLS NY 11418	11/27/2013	11/27/2018
DOL	DOL		THOMAS TERRANOVA		13 NEW ROAD/SUITE 1 NEWBURGH NY 12550	11/15/2010	11/15/2015
DOL	DOL	*****2734	THREE FRIENDS CONSTRUCTION CORP		986 MADISON AVENUE PATERSON NJ 07501	01/03/2013	01/03/2018
DOL	NYC	*****6253	THUNDER BROTHERS CORP		24 CONGRESS LANE SOUTH RIVER NJ 08882	05/01/2013	05/01/2018
DOL	DOL		TIMOTHY F BARBER		635 LUZERNE ROAD QUEENSBURY NY 12804	09/16/2013	09/16/2018
DOL	NYC		TIMOTHY O'SULLIVAN		C/O SNEEM CONSTRUCTION 4322 42ND STREET SUNNYSIDE NY 11104	07/01/2011	07/01/2016
DOL	NYC	*****1523	TM MECHANICAL CORP		130-43 92ND AVENUE RICHMOND HILLS NY 11418	11/27/2013	11/27/2018
DOL	DOL	*****3315	TOTAL DOOR SUPPLY & INSTALLATION INC		16 JOY DRIVE NEW HYDE PPARK NY 11040	01/05/2010	01/05/2015
DOL	DOL	*****3315	TOTAL DOOR SUPPLY & INSTALLATION INC		16 JOY DRIVE NEW HYDE PPARK NY 11040	01/05/2010	01/05/2015
DOL	DOL	*****8176	TOURO CONTRACTING CORP		1541 EAST 56TH STREET BROOKLYN NY 11234	05/04/2012	05/04/2017
DOL	DOL	*****2357	TRAC CONSTRUCTION INC	MUNICIPAL MILLING & MIX -IN- PLACE	9091 ERIE ROAD ANGOLA NY 14006	02/03/2011	02/03/2016
DOL	DOL	*****6914	TRI-COUNTY RESTORATIONS & CONSTRUCTION INC		13 SUMMERSET DRIVE WALLKILL NY 12589	08/22/2014	08/22/2019
DOL	DOL		TRI-COUNTY RESTORATIONS INC		392 ROCK CUT ROAD WALDEN NY 12586	08/22/2014	08/22/2019
DOL	DOL	*****5213	TRIAD PAINTING CO INC		656 N WELLWOOD AVE/STE C LINDENHURST NY 11757	09/01/2011	09/01/2016
DOL	DOL	*****4294	TWT CONSTRUCTION COMPANY INC		13 NEW ROAD/SUITE 1 NEWBURGH NY 12550	11/15/2010	11/15/2015
DOL	DOL		ULIANO AND SONS INC		22 GRIFFEN COURT MILLER PLACE NY 11746	10/26/2010	10/26/2015

NYSDOL Bureau of Public Work Debarment List 12/09/2014

Article 8

DOL	AG	*****6490	UNIVERSAL STEEL FABRICATORS INC		90 JUNIUS STREET BROOKLYN NY 11212	01/23/2014	01/23/2019
DOL	NYC	*****7174	V&R CONTRACTING		P O BOX 957 PORT JEFFERSON STA NY 11776	03/12/2014	03/12/2019
DOL	DOL	*****0854	VANESSA CONSTRUCTION INC		588 MEACHAM AVE/STE 103 ELMONT NY 11003	08/24/2010	08/24/2015
DOL	NYC		VEAP SELA	C/O COLONIAL ROOFING COMPANY INC	247 48TH STREET BROOKLYN NY 11220	02/05/2014	02/05/2019
DOL	DOL	*****3270	VEZANDIO CONTRACTING CORP		530 BEECH STREET NEW HYDE PARK NY 11040	07/02/2012	07/02/2017
DOL	NYC		VICK CONSTRUCTION		21 DAREWOOD LANE VALLEY STREAM NY 11581	12/31/2013	12/31/2018
DOL	NYC		VICKRAM MANGRU	VICK CONSTRUCTION	21 DAREWOOD LANE VALLEY STREAM NY 11581	12/31/2013	12/31/2018
DOL	NYC		VINCENT PIZZITOLA		P O BOX 957 PORT JEFFERSON STA NY 11776	03/12/2014	03/12/2019
DOL	NYC	*****9936	VISHAL CONSTRUCTION INC		73-12 35TH AVE - APT F63 JACKSON HEIGHTS NY 11272	03/04/2010	03/04/2015
DOL	DOL		WESLEY J STAROBA		206 TALLY HO COURT SCHENECTADY NY 12303	06/19/2013	06/19/2018
DOL	DOL	*****0078	WESLEY J STAROBA INC	S & S ELECTRIC	235 BROADWAY SCHENECTADY NY 12306	06/19/2013	06/19/2018
DOL	DOL	*****7617	WHITE PLAINS CARPENTRY CORP		P O BOX 309 WHITE PLAINS NY 10603	12/04/2009	05/04/2017
DOL	DOL		WILLIAM CONKLIN		5 PARKER AVENUE POUGHKEEPSIE NY 12601	03/25/2014	03/25/2019
DOL	DOL		WILLIAM MAZZELLA		134 MURRAY AVENUE YONKERS NY 10704	02/03/2014	02/03/2019
DOL	DOL		WILLIAM SCRIVENS		30 MIDLAND AVENUE WALLINGTON NJ 07057	11/05/2010	11/05/2015
DOL	DOL		WILLIAM THORNE		113 N MAPLE AVENUE GREENSBURG PA 15601	02/21/2013	02/21/2018
DOL	NYC	*****5498	XAVIER CONTRACTING LLC		68 GAYLORD ROAD SCARSDALE NY 10583	02/10/2011	02/10/2016
DOL	DOL		YURIY IVANIN		C/O MOUNTAIN'S AIR INC 2471 OCEAN AVENUE-STE 7 BROOKLYN NY 11229	09/24/2012	09/24/2017

28. FEDERAL LABOR LAW

If this project is being assisted by funding from the Federal Government of the United States of America under one or more current federal funding programs, and as such, the performance of all work contemplated under the terms and conditions of this set of plans, specifications and related documents must conform to certain basic and specific standards and requirements of both Federal and New York State governments.

29. FEDERAL WAGE RATES

The rates of wages determined by the Federal Government of the United States of America pursuant to the Labor Law, which are to be paid on this project, are set forth herein immediately following:

30. INSURANCE REQUIRED BY THE TOWN OF RIVERHEAD

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 successful bidder will be required to procure and pay for the following types of insurance, in accordance with the provisions of the Conditions of Contract:

- (A) Workers' Compensation Insurance.
- (B) Public Liability and Property Damage.
- (C) Contractor's Liability and Contractor's Property Damage.
- (D) Owner's Protective Public Liability and Property Damage.

Insurance documents meeting the requirements of Conditions of Contract, Section 38, Contractor's Insurance, shall be submitted within 14 calendar days from the date of award. Failure to provide acceptable insurance certificate(s) within this time frame shall result in the termination of Primary Contractor status.

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.

31. TERM OF CONTRACT

The term of this contract shall be until the completion date set by the Notice to Proceed and the length of contract time (calendar days) as stipulated in the Proposal Form. The Town of Riverhead shall have the option of extending this contract upon good cause shown by the Contractor.

32. CERTIFIED PAYROLL RECORDS

State of New York Department of Labor

On September 10, 1997, Governor Pataki signed into law Assembly Bill 6394-B amending Article 8, Section 220, of the NYS labor Law to include the following language:

Every contractor and sub-contractor shall submit to the department of jurisdiction within thirty (30) days after issuance of its first payroll, and every thirty (30) days thereafter, a transcript of the original payroll

record, as provided by this article, subscribed and affirmed as true under penalties of perjury. The DEPARTMENT OF JURISDICTION shall be required to receive and maintain such payroll records.

The original payrolls or transcripts shall be preserved for three years from the completion of the work on the awarded project.

This law took effect on November 9, 1997.

Form WH-347 Inst. is included in this package for contractor's convenience and must be completed, for the current payment request period, including all payroll information for all employees and subcontractor employees including but not limited to laborers, mechanics, foremen, supervisors, etc.



The use of this form meets payroll notification requirements; as stated on the Payroll Records Notification.

CASD 14-02

Date _____

(b) **Where fringe benefits are paid to approved plans, funds, or programs:** In addition to the basic hourly wage rates paid to each laborer, worker, or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees.

			Hourly Benefits								Total / Hr. benefits	Total benefits
Name of Worker	Trade	Hrs. worked	Medical	Dental	Annuity	Pension	Life Insurance	Other	Other	Other		
Signature												

CASD 14-02

IB 13

~~1B-13~~

PW12 (02-06)

PERSONAL PERFORMANCE FORM
STATEMENT TO BE SUBMITTED
WHEN WORK IS PERFORMED PERSONALLY
(SECTION 10001, TITLE 18, US CODE)

I, _____, hereby certify that I am the
_____ of _____
Title Name of Firm Submitting Statement

_____ for _____
Prime Contractor or Subcontractor Nature of Work

at _____, located in _____
Name of Building work being done City and State

under contract number _____
Government Contract No. (See No. 3 Below)

that _____
State All Work or List the Specific Classes of Work

was done personally by _____
Names of Person(s) Performing Work & Their Connection

w/ Firm _____

that no wages were received for the labor performed; that no mechanics or laborers were employed in the prosecution thereof; and that the work was done during the following periods: _____
_____ to _____
Beginning Date Ending Date

Last date on which work was performed at the site was _____.

Signature

Title

Section 100001 of Title 18 of the United State Code (Criminal Code and Criminal Procedures) shall apply to such statements – 72 Stat 887, 18 U.S.C., among other things, provides that whoever knowingly and willfully makes or uses a document or writing containing any false, fictitious or fraudulent statement or entry, in any matter within the jurisdiction of any department or agency of the United State, shall be fined not more than \$10,000 or imprisoned not more than five years, or both)

Instructions for Submission of Statements of Work Performed Personally

1. Prime contractors or subcontractors who perform the work are required to submit in lieu of weekly statements of compliance and payrolls with respect to the payment of wages pursuant to the Copeland Anti-kickbacks regulations, a certified statement clearly showing (1) their contractual relationship,; (2) the scope and dates of work performed (3)

that they received no wages; and (4) that no mechanics or laborers were employed in the prosecution of the work. The aforementioned sample form sets forth the wording described for such certified statements.

2. Prime contractors are responsible for the submission of the certified statements of subcontractors. Subcontractors' statement should be forwarded to the prime contractor for transmission to the Government contracting officer or his designated representative.

Statements of prime contractors and subcontractors should be submitted as soon as possible after the last date on which work was performed at the site.

3. To facilitate identification of the project involved, prime contractors should provide their subcontractors with the Government contract number (if exists) or project name as called for on statement form.

4. Prime contractors should furnish their subcontractors with copies of the sample statement form so as to facilitate submission of the necessary information.

33. NO LIEN AFFIDAVIT & WAGE DISCLAIMER

State of New York Department of Labor

Pursuant to Section 220-a of the New York State Labor Law all contractors, subcontractors and subcontractors to subcontractors must file an affidavit pertaining to the payment of all laborers and mechanics, exclusive of supervisory employees.

Affidavit Form 220 and Town of Riverhead Wage Disclaimer Form is included in this package for contractor's convenience. Unless given at later date, leave project number blank.

NOTE: Bidders are advised that this is not a contract authorizing any work. It is the option of the Town to authorize work at any time of the year. Any Town department or agency can use this contract.

MUNICIPAL CORPORATION
RIVERHEAD

TOWN OF

200 HOWELL AVENUE
RIVERHEAD, NY 11901

CONTRACT NAME: _____ PROJECT No.: _____

AFFIDAVIT

Pursuant to Section 220-a of the Labor Law and Town of Riverhead Requirements
Note: All contractors, subcontractors, and subcontractors of subcontractors must file this statement for each payment period requested.

I, _____, _____
Name Title

of _____ Contractor
Name of Firm Subcontractor

Project No.: _____ With: _____
Contractor Name

for _____
Indicate Nature of Work

at _____ hereby certify that all laborers have been paid in full for period ended __, 20 __. and that there is now due and owing from it/me to any and all laborers (laborers include all laborers, mechanics, foremen and supervisory employees) for daily or weekly wages or supplements on account of labor performed upon the work under said contract, the following amounts to the persons whose names are set forth below opposite such amounts. (If none, so state.)

\$ _____ due and owing to _____

\$ _____ due and owing to _____

\$ _____ due and owing to _____

\$ _____ due and owing to _____

_____ Use additional sheet if necessary.

I further certify that I have contracted with the firms listed below as subcontractors, for labor to be performed upon the work under said contract for the current pay period requested. (If none, so state.)

Names and Address of Subcontractors	Type of Work
_____	_____
_____	_____
_____	_____

_____ Use additional sheet if necessary

Signature

STATE OF NEW YORK
SS:
COUNTY OF: _____

On this _____ day of _____ 20____, personally appeared before me _____

 to me known and known to me who being by me duly sworn said that he is _____

 _____ (Officer)

of _____ the _____
(Contractor or Subcontractor) (Corporation or Partnership)
for which he executed the foregoing statement, for and in behalf of the said _____
_____ contractor; that he has read the said statement so signed by him and known to be the
seal thereof and that the same is true and to his own knowledge.

Notary Public

Dated: _____

Section 220-c Labor Law. Any Contractor or subcontractor who shall upon his oath verify any statement required to be filed under this act which is known by him to be false, shall be guilty of perjury and punishable as provided by Section One Thousand Six Hundred and Thirty Three of the Penal Law.

TOWN OF RIVERHEAD

WAGE DISCLAIMER

Note: All contractors, subcontractors, and subcontractor of subcontractors must file this statement for each payment period request.

DATE: _____

TO: TOWN OF RIVERHEAD

FROM: _____
(Contractor)

PROJECT: _____

To our knowledge, the laborers listed on the attached certified payrolls have been paid the prevailing wage rates as established by the Department of Labor.

Signature

Title

Date

TO THE TOWN BOARD, TOWN OF RIVERHEAD, 200 HOWELL AVENUE,
SUFFOLK COUNTY, NEW YORK, ACTING FOR AND ON BEHALF OF THE CALVERTON SEWER
DISTRICT:

For all work included under the following contract: SANITARY PUMP STATION UPGRADES,
BALL FIELD PUMP STATION, CONTRACT NO. CASD 14-02.

Made this ____ day of _____, 2014, by

(BIDDER'S NAME)

BIDDER'S DECLARATION: The undersigned, 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 or 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 Notice to Bidders, Information for Bidders and General Conditions hereto attached and fully understands all the same; and it proposes and agrees, if this proposal is accepted, it will contract with the TOWN BOARD of the TOWN OF RIVERHEAD in the Contract accompanying this bid to perform all the work required in accordance with the Plans and as mentioned in said foregoing Information for Bidders, General Conditions, Notice to Bidders, Contract and Specifications; and it will accept in full payment therefor the following sums to wit:

NOTE: THIS FORM MUST BE COMPLETED BY BIDDER

TOWN OF RIVERHEAD / CALVERTON SEWER DISTRICT
SANITARY PUMP STATION UPGRADES BALL FIELD PUMP STATION, CONTRACT NO. CASD 14-02

Gentlemen:

The undersigned hereby offers to furnish all labor, equipment, materials, and appurtenances for the **Sanitary Pump Station Upgrades Ball Field Pump Station Project** all in accordance with the plans and specifications prepared by H2M architects + engineers.

TOTAL PRICE BID:

For all work shown, specified and described in the Contract Documents, for the **Sanitary Pump Station Upgrades Ball Field Pump Station Project**, Contract No. CASD 14-02, for the Town of Riverhead, on behalf of the Calverton Sewer District, complete and ready for operation, including the total of the cash allowances of Fifty Thousand Dollars and Zero Cents (\$45,000.00), as specified in Section 01210 - Allowances*, for the Total Price Bid of:

_____ Dollars and _____ Cents.
(IN WORDS)

(_____)
(IN NUMERALS)

*** The Total Price shall include six (6) cash allowances as specified in Section 01210 - Allowances. The bidder shall include the total cash allowances of FIFTY FIVE THOUSAND DOLLARS (\$50,000) in the Total Estimated Price Bid.**

ALL WORK SHOWN AND SPECIFIED IN THE CONTRACT DOCUMENTS AND INCLUDED IN THE BID SHALL BE COMPLETED WITHIN **TWO HUNDRED FORTY (240)** CONSECUTIVE CALENDAR DAYS (SATURDAYS, SUNDAYS AND HOLIDAYS INCLUDED) STARTING TEN DAYS AFTER THE DATE THE OWNER EXECUTED THE CONTRACT. THE COMPLETION DATE WILL BE SET IN THE NOTICE TO PROCEED.

A NOTICE TO PROCEED WILL BE ISSUED AFTER THE CONTRACT HAS BEEN EXECUTED BY THE OWNER.

FAILURE OF THE CONTRACTOR TO COMPLETE ALL WORK SHOWN AND SPECIFIED IN THE CONTRACT DOCUMENTS, BY THE ABOVE SPECIFIED TIME, SHALL SUBJECT HIM/HER TO LIQUIDATED DAMAGES, AS SET FORTH IN ARTICLE 7 OF THE CONTRACT, IN THE SUM OF **ONE THOUSAND DOLLARS AND ZERO CENTS (\$1,000.00)** PER CALENDAR DAY.

THE TOWN BOARD RESERVES THE RIGHT TO AWARD THIS CONTRACT OR TO REJECT ANY AND ALL BIDS.

EXCESS COSTS FOR ENGINEERING & INSPECTION

SPECIFIC DAMAGES WILL BE ASSESSED AND DEDUCTED FROM AMOUNTS OTHERWISE DUE THE CONTRACTOR FOR ADDITIONAL INSPECTION AND CONTRACT MANAGEMENT TIME REQUIRED BEYOND THE CONTRACT COMPLETION PERIOD SPECIFIED ABOVE. SUCH DEDUCTION SHALL BE NO LESS THAN SIXTY-FIVE DOLLARS (\$65.00) PER HOUR AND NO MORE THAN TWO HUNDRED DOLLARS (\$200.00) PER HOUR IN ACCORDANCE WITH THE ENGINEER'S STANDARD BILLING RATE SCHEDULE IN EFFECT WITH THE OWNER AT THE TIME BASED ON CLASSIFICATION OF STAFF.

IN ADDITION, The OWNER will charge to the Contractor, and will deduct from the partial and final payments due the Contractor, all excess engineering, inspection, legal and testing charges and expenses incurred by the District as stipulated below:

1. SERVICES AND OTHER SIMILAR CHARGES AS A RESULT OF THE CONTRACTOR'S AND SUBCONTRACTOR'S ERRORS, OMISSIONS OR FAILURE TO CONFORM TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
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 EVALUATION 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, HORSEPOWERS, 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 THREE (3) TIMES FOR THE SAME PRODUCT OR PORTION OF THE WORK.
8. SERVICES AND OTHER SIMILAR CHARGES IN CONNECTION WITH ANY WORK PERFORMED PAST THE SPECIFIED WORKING HOURS WHICH WILL BE INVOICED TO THE OWNER AT 1.15 TIMES THE ENGINEER'S STANDARD HOURLY BILLING RATE.

9. ENGINEERING AND LEGAL SERVICES, AND SIMILAR CHARGES AS A RESULT OF THE CONTRACTOR NOT COMPLETING ALL THE WORK WITHIN THE SPECIFIED COMPLETION TIME WHICH SHALL NOT BE CONSIDERED AS PART OF THE LIQUIDATED DAMAGES SPECIFIED ABOVE.

BIDDER'S PRINTED NAME & SIGNATURE:

(Print Name)

(Signature)

NOTE: THIS FORM MUST BE COMPLETED BY BIDDER

THE UNDERSIGNED HEREBY ACKNOWLEDGES RECEIPT OF THE FOLLOWING ADDENDA (IF ANY):

<u>Addendum No.</u>	<u>Dated</u>
_____	_____
_____	_____

Signature of person, firm or corporation making this proposal:

(Contractor)

(Title)

P.O. Address: _____

Telephone No.: _____ Dated: _____

The full names and address of all persons interested in the Proposal or principals are as follows:

<u>Name</u>	<u>Address</u>
_____	_____
_____	_____
_____	_____

NOTE: THIS FORM MUST BE COMPLETED BY BIDDER (IF NONE WERE RECEIVED THEN WRITE THE WORD "NONE").

The Town Board reserves the right to award this contract to the lowest qualified bidder and to reject and declare invalid any or all bids deemed not in the best interest of the Town. In awarding this contract, the Town is not bound by the quantities stated in the Bid Form. It is emphasized that the quantities are approximations only. No guarantee is made for any quantities stated nor is a guarantee made as to the total bid. Such total bid is for the purpose of guidance in awarding the contract only. Payment shall be on the basis of actual work done at the bid prices quoted.

On acceptance of this bid, the undersigned binds himself or themselves to enter into a written contract with the Town not later than fourteen (14) days after the date of notice of the acceptance of his bid and to furnish the required security for faithful performance of the terms of said contract and the insurance as required by the Conditions of contract, and to process the work diligently so as to complete all the work required under this contract within the time frame as dictated by the Town Board or their representative.

PROPOSAL CERTIFICATION

THIS BID IS HEREBY SUBMITTED BY:

DATED: _____

NAME OF BIDDER: _____

BIDDER'S ADDRESS: _____

SIGNED BY: _____

PRINTED NAME & TITLE: _____

BIDDER'S TELEPHONE NO.: (DAY): _____

(NIGHT): _____

FAX: _____

FEDERAL ID NO. OR SOCIAL SECURITY No.: _____

NOTE: THIS FORM MUST BE COMPLETED BY BIDDER

Enclose certified check or bid bond for five percent (5%) of the bid total as stipulated in the foregoing Information for Bidders.

The Bidder hereby agrees to enter into a Contract within fourteen (14) days (Saturdays and Sundays excepted) after due notice from the Town Board, Town of Riverhead, that the Contract has been awarded to it and is ready for signature; such notice to be given in writing within ninety (90) 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 Contract.

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 fourteen (14) days 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:

<u>NAME</u>	<u>ADDRESS</u>
_____	_____
_____	_____
_____	_____

NAME OF BIDDER:

BUSINESS ADDRESS OF BIDDER:

DATED AT: _____ THE _____ DAY OF _____, 20____

NOTE: THIS FORM MUST BE COMPLETED BY BIDDER

FORM OF BID BOND, PAYMENT BONDS AND PERFORMANCE BONDS

The Form of Bid Bond shall be AIA Document A310.

The Form of Labor and Material Payment Bond shall be AIA Document A311.

The Form of Performance Bond and Payment Bond shall be AIA Document A312.

X:\CASD (CALVERTON SEWER DISTRICT) - 10178\CASD1402 BALLFIELD PS DESIGN & CONST SERVICES\02-SPECS\BOILER PLATE\07 PROPOSAL FORM - C - CASD 1402.DOC | FMR 12/23/14 | CASD 14-02

NON-COLLUSIVE BIDDING CERTIFICATE

As per Chapter 751 of the Laws of 1965, an amendment to the General Municipal Law sponsored by the New York State Department of Law, all bids, proposals and contracts awarded or accepted by a municipality must contain a statement of non-collusion. By submission of this bid or proposal, the bidder certifies 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 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 has fully informed himself regarding the accuracy of the statements contained in this certification and under the 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 corporation bidder) is a certified copy of resolution authorizing the execution of this certificate by the signature of this bid or proposal in behalf of the corporate bidder.

Resolved that _____ be authorized
(Name of Corporation)

to sign and submit the bid or proposal of this corporation for the following project:

(Describe Project)

and to submit in such bid or proposal the certificate as to non-collusion required by Section One Hundred Three D (103-D) of the General Municipal Law as the act and deed of such corporation and for any inaccuracies or misstatements in such certificates, this corporate bidder shall be liable under the penalties of perjury.

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

Corporation at a meeting of its Board of Directors on the _____ day of _____, 20 ____.

(Seal of Corporation)

Secretary

Legal name of person, firm or corporation making this Bid:

Dated: _____

(Bidder's Seal)

NOTES:

- (1) Where a bidder is a firm, the bid must be signed in the name of the firm by a member of the firm who must sign his own name immediately thereunder as _____, Partner.
- (2) Where a bidder is a corporation, the bid must be signed in the name of the corporation by a duly authorized officer or agent thereof having knowledge of the matters stated in the bid and such officer or agent shall also subscribe his own name, the office he holds, and the seal of the corporation must be affixed.
- (3) The bid must be sworn to by the person signing it, using one of the appropriate forms of acknowledgement that follow.
- (4) The bidders shall date the Form of Affidavit, fill in all blank spaces and complete the "Questionnaire" which follows as part of the bid.
- (5) In case of any discrepancy in the bidder's extensions or total, the Town Engineer's computation of extensions and totals will govern.

FORM OF AFFIDAVIT WHERE BIDDER IS AN INDIVIDUAL

STATE OF NEW YORK)
COUNTY OF) ss.:

_____, being duly sworn, deposes and says: I am the person described in and who executed the foregoing bid and the several matters therein state are in all respects true.

(Signature of person who signed bid)

Subscribed and sworn to before me this
_____ day of _____, 20____.

(Notary Public)

FORM OF AFFIDAVIT WHERE BIDDER IS A FIRM

STATE OF NEW YORK)
) ss.:
COUNTY OF)

_____ being duly sworn, deposes and says: I am a member of
_____, the firm described in and which executed the foregoing bid. I
subscribed the name of the firm thereto on behalf of said firm, and the several matters therein stated in all
respects are true.

(Signature of person who signed bid)

Subscribed and sworn to before me:

this _____ day of _____, 20__.

(Notary Public)

FORM OF AFFIDAVIT WHERE BIDDER IS A CORPORATION

STATE OF NEW YORK)

COUNTY OF) ss.:

_____ being duly sworn, deposes and says: I am the
_____ of _____ the above named
corporation, whose name is subscribed to and which executed the foregoing bid. I reside at
_____, State of _____. I
have knowledge of the several matters therein stated and they are in all respects true.

(Signature of person who signed bid)

Subscribed and sworn to before me this _____

day of _____, 20____.

(Notary Public)

BIDDER MUST SIGN THIS FORM BEFORE A NOTARY PUBLIC

Bid or Contract Number _____

STATE OF NEW YORK)
) ss.:
 COUNTY OF)

That in connection with the above bid or contract of _____ I
 _____ the *(applicable herein), (an officer or agent of the corporate
 applicant, namely its _____), swears or affirms under the penalties of
 perjury, that no other person will have any direct or indirect interest in this proposal except
 _____ (in case of a corporation, all officers of the corporation and
 stockholders owning more than 5% of the corporation and stock must be listed. Use separate sheet in
 necessary.)

That *(none of the officers or stockholders are) related to any officer or employee of the Town of
 Riverhead except _____.

That there is not any state or local officer or employee or a member of a board of commissioners of a local
 public authority or other public corporation within the county (exclusive of a volunteer fireman or civil
 defense volunteer) interested in such application.

 (Signature)

Sworn to before me this _____
 day of _____, 20____.

 (Notary Public)

*Cross out phrase not appropriate.

NOTE: It is not forbidden that individuals working for the Town of Riverhead or other municipality bid on
 contracts but only that such interest be revealed when they do bid.

NOTE: THIS FORM MUST BE COMPLETED BY BIDDER

CALVERTON SEWER DISTRICT**TOWN OF RIVERHEAD****NEW YORK**

The District may make such investigations as the 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 District all information and data required by the District, including complete financial data, within the time and in the form and manner required by the District. The District reserves the right to reject any bid if the evidence required by the District is not submitted as required or if the evidence submitted by or the investigation of any Bidder fails to satisfy the 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 District, the Bidder may be required to complete and submit the enclosed New York State Uniform Contracting Questionnaire to assist in determining the Bidder's qualifications. If requested, it shall be submitted within five (5) working days from notice.

The bidder shall complete the following list. The list shall include projects of similar size and nature (i.e. design flow, prime contract dollar amount) and type (i.e. municipal sewage or water pump stations involving pumps, piping, and valves). The list of projects shall demonstrate the Bidder's experience with construction methods, and construction procedures. The list shall only include projects which have been completed by the Bidder as the prime contractor, and which have been in operation for a period of not less than one year. A minimum of five such projects shall be provided. At least one (1) of the listed projects shall demonstrate the Bidder's experience with staging construction wherein operation of an existing pump station was maintained during the work. List this project as project no.1 and describe the sequence used to phase the project.

Project No. 1 (This project must show the bidder's experience with phased construction).

Project Title: _____

Owner: _____

Owner Contact Name and Phone Number: _____

Location: _____

Engineer's Name and Telephone Number: _____

General Description: _____

Contract Amount: _____

Project No. 2

Project Title: _____

Owner: _____

Owner Contact Name and Phone Number: _____

Location: _____

Engineer's Name and Telephone Number: _____

General Description: _____

Contract Amount: _____

Project No. 3

Project Title: _____

Owner: _____

Owner Contact Name and Phone Number: _____

Location: _____

Engineer's Name and Telephone Number: _____

General Description: _____

Contract Amount: _____

Project No. 4

Project Title: _____

Owner: _____

Owner Contact Name and Phone Number: _____

Location: _____

Engineer's Name and Telephone Number: _____

General Description: _____

Contract Amount: _____

Project No. 5

Project Title: _____

Owner: _____

Owner Contact Name and Phone Number: _____

Location: _____

Engineer's Name and Telephone Number: _____

General Description: _____

Contract Amount: _____

The Owner 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

BIDDER NAME: _____

PREPARED BY: _____

SIGNED BY: _____

TITLE: _____

NOTE: THIS FORM MUST BE COMPLETED BY BIDDER

**INSTRUCTIONS FOR COMPLETING THE NEW YORK STATE
UNIFORM CONTRACTING QUESTIONNAIRE**

*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 OF \$10,000 or more, or when proposed for subcontract work valued at \$10,000 or more. If you have submitted one within 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 question #16, if your firm has OSHA citations, attach copies of each citation. Add additional explanatory material for any other affirmative answers.
- ! A certified annual financial disclosure will be acceptable in lieu of completing the financial disclosure in the questionnaire.
- ! If you wish material in this disclosure form to be held as confidential and exempt from disclosure under Freedom of Information, be sure to 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.)
- ! Submit completed questionnaires marked **"CONFIDENTIAL"** to:

Town Clerk
Town of Riverhead
Town Hall, 200 Howell Avenue
Riverhead, New York 11901
(631) 727-3200

NEW YORK STATE
UNIFORM CONTRACTING QUESTIONNAIRE

INSTRUCTIONS

Submit this form as required by the contracting agency after being announced the low bidder for any competitively bid contract of \$10,000 or more, or when proposed for subcontract work valued at \$10,000 or more. If you have submitted one within 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.**

NOTE: Please indicate whether you believe that any of the information supplied herein is confidential and should be exempt from disclosure under the Freedom of Information Law: yes , no . If you checked "yes" you must identify the information you feel is confidential by placing an asterisk in front of the appropriate question number(s) and you are requested to attach an additional sheet(s) upon which the basis for such claim(s) is explained.

GENERAL INFORMATION

1. NAME OF FIRM _____
- DBA NAME, IF ANY _____
- MAILING ADDRESS _____ PHONE NO. (____) _____
- CITY _____ COUNTY _____ STATE _____ ZIP _____ FAX NO. (____) _____
- ACTUAL LOCATION _____
- E-MAIL ADDRESS _____
2. TYPE OF FIRM (check(T) only one) ☐ CORPORATION ☐ PARTNERSHIP ☐ PROPRIETORSHIP ☐ JOINT VENTURE ☐ LLC ☐ LLP
3. HOW MANY YEARS HAS THE FIRM BEEN IN BUSINESS? _____ UNDER THE SAME NAME? _____ FORMER NAME: _____
4. WHAT IS THE FIRM'S BONDING RANGE? \$ _____ SINGLE PROJECT \$ _____ AGGREGATE (ALL PROJECTS)
5. ARE YOU CERTIFIED AS A DBE _____ MBE _____ WBE _____ IF SO, WITH WHOM? _____

OWNERSHIP, MANAGEMENT, AFFILIATION

6. Identify each person who is, or has been within the past five years, an owner 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. Joint ventures: provide information for all firms involved. Fill in name, % owned, office held; indicate by Y or N whether director, officer or partner:

FIRST NAME	MI	LAST NAME	DATE OF BIRTH	% OWNED	DIRECTOR (Y or N)	OFFICER (Y or N)	TITLE	PARTNER (Y or N)

7. Identify any other firms in which, now or in the past five years, the firm or any of the individuals listed in question six above, either owned or owns 5.0% or more of the shares of, or was or is one of the five largest shareholders or as a director, officer, partner or proprietor of said other firm:

FEDERAL ID NO.	% OWNED	FIRM/COMPANY NAME	FIRM/COMPANY ADDRESS

8. Identify any affiliate not listed in your answers to questions 6 and 7. For purposes of this question your firm and another are affiliates when, either directly or indirectly, one controls or has the power to control the other, or a third party or parties controls, or has the power to control both:

FEDERAL ID NO.	COMPANY NAME	ADDRESS

9. Identify any and all shareholders, directors, officers, owners, partners, or proprietors in common between your firm and any firm listed in response to questions 6,7 or 8:

FEDERAL ID NO.	FIRST NAME, MI & LAST NAME	POSITION	OTHER FIRM

10. List the ten most recent contracts the firm has completed. If less than ten, include most recent subcontracts on projects up to that number:

AGENCY/OWNER, CONTACT PERSON & TELEPHONE NO.	CONTRACT NO.	PRIME OR SUB	DESIGN ARCHITECT AND/OR DESIGN ENGINEER	AWARD DATE	AMOUNT	DATE COMPLETED
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

11. List all current uncompleted construction contracts:

AGENCY/OWNER, CONTACT PERSON & TELEPHONE NO.	CONTRACT NO.	PRIME OR SUB	DESIGN ARCHITECT AND/OR DESIGN ENGINEER	TOTAL \$ AMOUNT OF FIRM'S CONTRACT (OR SUBCONTRACT)	\$ AMOUNT SUBLET TO OTHERS	UNCOMPLETED \$ AMOUNT OF FIRM'S CONTRACT (OR SUBCONTRACT)

GRAND TOTAL:

12. Gross Sales for Firm's Previous 3 Fiscal Years:

YEAR

_____ \$ _____
 _____ \$ _____
 _____ \$ _____

Average Backlog for Firm's Previous 3 Fiscal Years:

(Estimated total value of uncompleted work on outstanding contracts)

YEAR

_____ \$ _____
 _____ \$ _____
 _____ \$ _____

13. Has the firm, or any firm listed in response to questions 6,7 or 8, defaulted or been terminated on, or had its surety called upon to complete, any contract awarded within the past five years? NO { } YES { } If, yes, give date(s), agency(ies)/owner(s), project(s), contract numbers, and describe including the result: _____

14. For all contracts within the past five years: (a) list and describe all liens or claims over \$25,000 filed against the firm and remaining undischarged or unsatisfied for more than 90 days; and (b) list and describe all liquidated damages assessed _____

FINANCIAL INFORMATION

15. Complete the attached financial statement or attach a copy of the firm's most recent annual financial statement and accompanying notes.

OTHER INFORMATION

16. Within the past five years has the firm, any affiliate, any predecessor company or entity, or any person identified in question number 6 above been the subject of any of the following: (respond to each question and describe in detail the circumstances of each affirmative answer; attach additional pages if necessary)

(a)	a judgment of conviction for any business-related conduct constituting a crime under local, state or federal law?	no__	yes__
(b)	a criminal investigation or indictment for any business-related conduct constituting a crime under local, state or federal law?	no__	yes__
(c)	a grant of immunity for any business-related conduct constituting a crime under local, state or federal law?	no__	yes__
(d)	a federal, state or local suspension or debarment?	no__	yes__
(e)	a rejection of any bid for lack of qualifications, responsibility or because of the submission of an informal, non-responsive or incomplete bid?	no__	yes__
(f)	a rejection of any proposed subcontract for lack of qualifications, responsibility or because of the submission of an informal, non-responsive or incomplete bid?	no__	yes__
(g)	a denial or revocation of prequalification?	no__	yes__
(h)	a voluntary exclusion from bidding/contracting agreement?	no__	yes__
(i)	any administrative proceeding or civil action seeking specific performance or restitution in connection with any public works contract except any disputed work proceeding?	no__	yes__
(j)	an OSHA Citation and Notification of Penalty containing a violation classified as serious?	no__	yes__
(k)	an OSHA Citation and Notification of Penalty containing a violation classified as willful?	no__	yes__
(l)	a prevailing wage or supplement payment violation?	no__	yes__
(m)	a State Labor Law violation deemed willful?	no__	yes__
(n)	any other federal, state or local citations, Notices, violation orders, pending administrative hearings or proceedings or determinations of a violation of any labor law or regulation?	no__	yes__

- (o) any criminal investigation, felony indictment or conviction concerning formation of, or any business association with, an allegedly false or fraudulent women's, minority or disadvantaged business enterprise? no__ yes__
- (p) any denial, decertification, revocation or forfeiture of Women's Business Enterprise, Minority Business Enterprise or Disadvantaged Business Enterprise status? no__ yes__
- (q) rejection of a low bid on a State contract for failure to meet statutory affirmative action or M/WBE requirements? no__ yes__
- (r) a consent order with the NYS Department of Environmental Conservation, or a federal, state or local government enforcement determination involving a violation of federal, state or local environmental laws? no__ yes__
- (s) any bankruptcy proceeding? no__ yes__
- (t) any suspension or revocation of any business or professional license? no__ yes__
- (u) any citations, Notices, violation orders, pending administrative hearings or proceedings or determinations of a violation of:
- * federal, state or local health laws, rules or regulations no__ yes__
 - * federal, state or local environmental laws, rules or regulations no__ yes__
 - * unemployment insurance or workers compensation coverage or claim requirements no__ yes__
 - * ERISA (Employee Retirement Income Security Act) no__ yes__
 - * federal, state or local human rights laws no__ yes__
 - * federal, state or local security laws? no__ yes__
- (v) a request to withdraw a bid submitted to a public owner or any claim of an error on a bid submitted to a public owner? no__ yes__

CERTIFICATION

The undersigned recognizes that this questionnaire is submitted for the express purpose of inducing the State of New York or its agencies and instrumentalities to award a contract, or approve a subcontract; acknowledges that the State or its agencies and instrumentalities may in its discretion, by means which it may choose, determine the truth and accuracy of all statements made herein; and states that the information submitted in this questionnaire and any attached pages is true, accurate and complete. It is further acknowledged that intentional submission of false or misleading information may constitute a felony under Penal Law Section 175.35 or may constitute a misdemeanor under Penal Law Sections 175.30, 210.35 or 210.45, and may also be punishable by a fine and/or imprisonment of up to five years under 18 USC Section 1001 and may result in a denial of contract award or contract termination.

Sworn to before me this

_____ day of _____,

Signature of Officer

Notary Public

Title

Commission Expiration Date

Officer Name (Please Print)

As of (date): _____

<u>Current Assets</u>	<u>ASSETS</u>	
1. Cash	\$ _____	
2. Accounts receivable - less allowance for doubtful accounts	_____	
Retainers included in accounts receivable	\$ _____	
Claims included in accounts receivable not yet approved or in litigation	_____	
3. Notes receivable - due within one year	_____	
4. Inventory - materials	_____	
5. Contract costs in excess of billings on uncompleted contracts	_____	
6. Accrued income receivable	_____	
Interest	_____	
Other (list) _____	_____	
Total accrued income receivable	_____	_____
7. Deposits		
Bid and plan _____	_____	
Other (list) _____	_____	
Total deposits	_____	_____
8. Prepaid Expenses		
Income Taxes	_____	
Insurance	_____	
Other (list) _____	_____	
Total prepaid expenses	_____	_____
9. Other current Assets		
(list) _____	_____	
Total other current assets	_____	_____
10. Total Current Assets		_____
11. <u>Investments</u>		
Listed securities-present market value	_____	
Unlisted securities-present value	_____	
Total investments	_____	_____
12. Fixed Assets		
Land	_____	
Building and improvements	_____	
Leasehold Improvements	_____	
Machinery and equipment	_____	

12. Fixed Assets (Continued)

Automotive equipment _____

Office furniture and fixtures _____

Other (list) _____

Total

Less: accumulated depreciation _____

Total fixed assets - net _____

13. Other Assets

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 Assets14. TOTAL ASSETS _____

Current Liabilities

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		\$ _____
(list) _____		_____
Total other payables - due within one year		_____
20. Billings in excess of costs and estimated earnings	_____	
21. Accrued expenses payable - salaries and wages	_____	
- payroll taxes	_____	
- employees' benefits	_____	
- insurance	_____	
- other	_____	
Total accrued expenses payable		_____
22. Dividends payable	_____	
23. Income taxes payable	_____	
- state	_____	
- federal	_____	
- other	_____	
Total income taxes payable		_____
24. Total Current Liabilities		_____
25. <u>Deferred Income Taxes Payable</u>	_____	
- state	_____	
- federal	_____	
- other	_____	
Total deferred income taxes		_____
26. <u>Long Term Liabilities</u>		
Loans from shareholders - due after one year	_____	
Notes payable - due after one year	_____	
Mortgage - due after one year	_____	
Other payables - due after one year	_____	
(list) _____	_____	
Total long term liabilities		_____
27. <u>Other Liabilities</u>	_____	
(list) _____	_____	
Total other liabilities		_____
28. TOTAL LIABILITIES		_____

NET WORTH

29. Net Worth (if proprietorship or partnership) \$ _____
30. Stockholders' Equity
 Common stock issued and outstanding _____
 Preferred stock issued and outstanding _____
 Retaining earnings _____
 Total _____
 Less: Treasury stock _____
31. TOTAL STOCKHOLDERS' EQUITY _____
32. TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY _____

NOTE: IF ADDITIONAL SPACE IS REQUIRED, PLEASE NOTE AND ATTACH SCHEDULE TO STATEMENT

Dated this _____ day of _____, 20__.

Name of Organization

By: _____
Signature and Title

Name (please print)

CALVERTON SEWER DISTRICT**TOWN OF RIVERHEAD****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.

Subcontractor Name: _____**Type of Work:** _____

<u>Owner</u>	<u>Contact Name</u>	<u>Phone Number</u>	<u>Location</u>	<u>Contract Amount</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

LIST OF SUBCONTRACTORS



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>

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

LIST OF SUBCONTRACTORS



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>

NOTE: THIS FORM MUST BE COMPLETED BY BIDDER

X:\CASD (CALVERTON SEWER DISTRICT) - 10178\CASD1402 BALLFIELD PS DESIGN &CONST SERVICES\02-SPECS\BOILER PLATE\10 LIST OF SUBCONTRACTORS - CASD 1402.DOC | FMR | 12/23/14 | CASD 14-02

INDEX

- 1. Contract Documents and Definitions.**
- 2. Scope of Services.**
- 3. Compensation to be Paid to the Contractor.**
- 4. Time of Essence.**
- 5. Time of Completion**
- 6. Liquidated Damages.**
- 7. Termination of Primary Contractor.**
- 8. Extension of Time. No Waiver.**
- 9. Weather.**
- 10. Contract Security.**
- 11. Laws and Ordinances.**
- 12. Qualifications for Employment.**
- 13. Non-Discrimination.**
- 14. Payments of Employees.**
- 15. Estimates and Payments.**
- 16. Acceptance of Final Payment Constitutes Release.**
- 17. Construction Reports.**
- 18. Inspection and Tests.**
- 19. Plans and Specifications: Interpretations.**
- 20. Superintendency by Contractor.**
- 21. Contractor's Title to Materials.**
- 22. Protection of Work, Persons and Property.**
- 23. Representation of Contractor.**
- 24. Authority of the Engineer.**
- 25. Changes and Alterations.**
- 26. Correction of Work.**
- 27. Weather Conditions.**
- 28. The Town's Right to Withhold Payments.**
- 29. The Town's Right to Terminate Contract.**
- 30. Contractor's Right to Stop Work or Terminate Contract.**
- 31. Responsibility for Work.**

- 32. Use of Premises and Removal of Debris.
- 33. Suits of Law.
- 34. Power of the Contractor to Act in an Emergency.
- 35. Provisions Required by Law Deemed Inserted.
- 36. Subletting, Successor and Assigns.
- 37. General Municipal Law Clause.
- 38. Contractor's Insurance.
 - 38A. Hold Harmless Clause.
- 39. Claims Against Town Officials and Town Employees.
- 40. Proof of Carriage of Insurance.
- 41. Term of Contract.

1. CONTRACT DOCUMENTS AND DEFINITIONS

The Notice to Bidders, Instructions to Bidders, Proposal Form, Form of Bond, Conditions of Contract, General Conditions, Specifications, Form of Contract, Construction Drawings, 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 table of contents, titles, heading, headlines, and marginal notes contained herein are solely to facilitate reference to 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 the Notice to Bidders, Instructions to Bidders, Proposal Form, Form of Bond, Conditions of Contract, General Conditions, Plans & Specifications, Form of Contract and any Addenda. In case of any conflict or inconsistency between the provisions of the contract and those of the Specifications, the provisions of this contract shall govern.

Extra Work: The term "extra work" as used herein, refers to and includes all work required by the Town, which in the judgment of the Town Engineer involves changes in or additions to work required by the Specifications and any Addenda in their present form and which is not covered by the price in the Form of Bid.

Subcontractor: The term "subcontractor" shall mean any person, firm, or corporation supplying labor and material for work at the site of the project but not including the parties to this contract.

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 last known business address of, the person, firm or corporation for who intended, or his, their, or its duly authorized agents, representatives, or officer, 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 mailbox.

Directed, Required, Approved, Acceptable: Whenever the Contract Documents refer to the work or its performance, "directed", "required", "permitted", imply the direction, requirement, permission, order, designation or prescription of the Town Engineer, or his representative, and "approved", "satisfied", or "satisfactory", "in the judgment of", and words of like import, shall mean approved, or acceptable to, or satisfactory to, or in the judgment of the Town Engineer, or his representative.

2. SCOPE OF SERVICES

The contractor will furnish all labor, materials, suppliers, equipment and other facilities necessary or proper for, or incidental to, the work contemplated by this contract as required by, and in strict accordance with the applicable Plans and Specifications and Addenda prepared by the Town 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 this contract. It is specifically understood that this contract does not guarantee any minimum or maximum quantities of work. Quantities will be as ordered by the Town from time to time, and unit bid prices will govern. The quantities in the proposal are for bidding purposes only.

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 the products of the actual quantities in place upon the completion of the work, as determined by the Town Engineer's measurements, by the unit prices bid, no allowances being made for anticipated profit or for reasons of variations from the estimated quantities set forth in the Form of Bid.
- (B) Extra Work: The town 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 contract 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 price or by a lump sum mutually agreed upon by the town and the contractor; and
 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 of applied labor, premiums for Worker's Compensation Insurance, payroll taxes required by law, rental for plant and equipment used (excluding small tools) to which total cost will be added twenty (20) percent as full compensation for all other items of profit costs and expenses, including administration, overhead, superintendency, insurance, insurance other than Workers' Compensation Insurance, materials 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 the contract relating to the time of performance and completion of the work are for the purpose of enabling the town 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. TIME OF COMPLETION

The town shall assign a construction schedule indicating a start date and a completion date. The contractor shall have a minimum of fourteen (14) days from the date of receipt of construction schedule to the earliest start date on the assigned construction schedule. If said schedule is not acceptable to the contractor, the contractor shall notify the town in writing, postmarked within three (3) working days from date of receipt of construction schedule. This notification shall include an alternative construction schedule. The alternative construction schedule completion date shall not exceed twenty-eight (28) calendar days from the original completion date assigned by the town. Failure to comply with time of completion shall constitute liquidated damages and termination of primary contractor.

6. LIQUIDATED DAMAGES

The time limit being essential to and of the essence of this contract, the primary contractor hereby agrees that the Town 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 the cost of completing the work by the secondary contractor, including overhead charges, services, inspector's wages, and interest on the money invested that the Town will suffer by reason of such default. The Town shall have the right to extend the time for the completion of said work.

7. TERMINATION OF PRIMARY CONTRACTOR

Termination of primary contractor shall include all work in progress and pending. All existing and pending purchase orders pertaining to work issued through the Town-wide Construction Contract shall be hereby considered void. All items previously awarded to terminated contractor shall be hereby awarded to corresponding secondary contractors. Termination of primary contractor shall extend the duration of the contract. At the discretion of the Town of Riverhead, termination of contractor shall warrant disqualification from awarding specific items or all items in succeeding Town-wide construction contracts Capital Improvement Projects, etc..

8. EXTENSIONS OF TIME. NO WAIVER

If the contractor shall be delayed in the completion of his work by reason or by reasons of unforeseeable causes beyond his control and without his fault or negligence, including but not restricted to; acts of God, the public enemy, fires, floods, epidemics, quarantine restrictions, strikes, riots, civil commotion or freight embargoes, the period herein specified for completion of his work shall be extended by such time as shall be fixed by the Town.

No such extension of time shall be considered a waiver by the Town of its right to terminate the contract for abandonment or delay by the contractor as hereinafter provided, or relive the contractor from full responsibility for performance of his obligations hereunder.

9. WEATHER

During unsuitable weather, all work must stop when such work would be subject to injury and the contractor shall transfer his men and materials to those parts of the work where weather conditions will not have any effect on the workmanship to any damages on account of such damages or suspension, and he must protect any work that might be injured by the elements and make good any work that is injured.

10. CONTRACT SECURITY

The contractor shall furnish, at the request of the Town, a Performance Bond equal to 100% of the estimated value of individual projects completed under this contract at the discretion of the Town Engineer. Each individual project to be completed under the contract will be evaluated by the Town Engineer or his representative to determine the need for bonding. If bonding is deemed necessary, the contractor will be required to submit documentation confirming the actual cost of such bonding to the Town Engineer for approval. Upon approval, the Town will reimburse the contractor for 100% of the cost of any required bonding. The contractor is advised not to include the cost of bonding in bid submittals.

Additional or Substitute Bond: If at any time the Town 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, the contractor shall within five (5) days after notice from the Town to do so, substitute an acceptable bond in such form and sum and signed by such other surety as may be satisfactory to the Town. The premiums on such bonds shall be made until the new surety shall have been qualified.

11. LAWS AND ORDINANCES

In the execution of the contract, the contractor will be required to observe and obey all federal, state, county and local laws, ordinances, codes and regulations relating to the performance of the contract including but not limiting labor employed thereon, materials supplied, obstructing streets and highways, maintaining signals, storing, handling and use of explosives and all other general ordinances and state statutes affecting him or his employees of his work hereunder in his relations with the municipality or any other persons, and also all laws, codes, ordinances controlling or limiting the contractor while engaged in executing the work under the contract.

As a condition of the contract, the contractor shall and does hereby agree to comply with all requirements of the Labor Laws of the State of New York.

The contractor shall comply with the provisions of Sections 291-299 of the Executive Law and Civil Rights Law, shall furnish all information and reports deemed necessary by the State Commission for Human Rights, the Attorney General and the Industrial Commissioner for purposes of investigation to ascertain compliance with such sections of the Executive Law and Civil Rights Law.

The contract may be forthwith canceled, terminated or suspended, in whole or in part, by the contracting agency upon the basis of a finding made by the State Commissioner for Human Rights that the contractor has not complied with these laws.

The contract 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 the contract. The Labor Law, as amended, provides that no laborer, workman 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 (1) 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 herein before defined, to laborers, workmen or mechanics upon the work called for under this contract or upon 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, workman 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 maintenance, and repair of highways and in water works construction outside the limits of cities and villages are no longer exempt from the provisions of the labor Law which require that payment of the prevailing rate of wages and the eight (8) hour day.

Section 222 of the Labor Law, as amended by Chapters 556 and 557 of the Laws of 1933, provides that preference in employment shall be given to citizens of the State of New York who have been residents of Suffolk County for at least six (6) consecutive months immediately prior to the commencement of their

employment. Each person so employed shall furnish satisfactory proof of residence in accordance with rules adopted by the Industrial Commissioner. Person other than citizens of the State of New York shall be employed only when such citizens are not available. Section 222 further provides that upon the demand of the State Industrial Commissioners, the contractor shall furnish a list of names and addresses of all his subcontractors and further provides that a violation of this section shall constitute a misdemeanor and shall be punishable by a fine of not less than Fifty Dollars (\$50.00) nor more than Five Hundred Dollars (\$500.00) or by imprisonment for not less than thirty nor more than ninety days, or both fine and imprisonment.

Section 220-A 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 amount then due and owing to any and all laborers for daily or weekly wages on account of labor performed upon the work of the contractor, setting forth herein the names of the persons whose wages are unpaid and the amount due each respectively.

Section 220-B of the Labor Law, as so amended, provides that any interested person who shall have previously filed a protest in writing objecting to the 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 reason, it may be deemed advisable, the comptroller of the state or financial officer of the municipal corporation may deduct from the whole amount of any payment on account thereof of the sums or sum 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 work, weekly wages, whose wages are unpaid as shown by the verified statements filed by any contractor or subcontractor and may pay directly to any person the amount or amounts so shown to be due for such wages.

Section 220-C of the Labor Law, as so amended, provides the penalty for making of a false oath or verification.

Section 220-D 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 a 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 whether by the contractor, subcontractor or other person doing or contracting to do the whole or part of the work completed by the 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 (\$500.00) or by imprisonment; for a second offense by a fine of One Thousand Dollars (\$1,000.00) 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 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 or a 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 set forth herein above as part of "Instructions to Bidders, Section 21 "NYS Wage Rates"

12. QUALIFICATIONS FOR EMPLOYMENT

No person under the age of sixteen (16) years and no person currently serving sentence in a penal or correctional institution shall be employed to perform any work on the project under this contract. No person whose age or physical condition is such as to make his employment dangerous to his health or safety or to the health or safety of others, shall be employed to perform any work on this project; provided, however, that such restrictions shall not operate against the employment of physically handicapped persons, otherwise employable, where each person may be safely assigned to work which they can ably perform.

13. NONDISCRIMINATION

There shall be no discrimination because of race, creed, or color in the employment of persons for work under this contract, whether performed by the contractor or any subcontractor. Neither shall the contractor or subcontractor or any person acting on behalf of the contractor or subcontractor discriminate in any manner against or intimidate any employee hired for the performance of work under this contract on account of race, creed, or color.

14. PAYMENTS OF EMPLOYEES

The contractor and each of his subcontractors shall pay each of his employees engaged in work on the project under this contract in full (less deductions made mandatory by law) not less often than once each week. Certified payrolls shall be submitted to the Town Engineer before payment to the contractor is processed. Affidavit attesting to payment or amount owed to employees shall be submitted before payment to contractor is processed.

15. ESTIMATES AND PAYMENTS

Upon successful completion of all work, the contractor shall submit an invoice to the Town Engineer for approval. Upon approval by the Town Engineer, payment will be made to the contractor within thirty (30) calendar days provided the payment request is correct and complete.

- (A) Monthly: At the end of each calendar month during the progress of the work, the Town Engineer shall make an approximate estimate of the work satisfactorily completed, based upon the prices set forth in the Form of Bid. In consideration of the work completed, the Town will pay or cause to be paid to the contractor the amount estimated by the Town Engineer as due him less five (5%) percent.

The making of any such estimate or payment made thereon shall not be taken or construed as an acceptance by the Town of any work so estimated and paid for. The five (5%) percent of the amount of the monthly estimate remaining unpaid will be retained by the Town as a guarantee that the contractor will faithfully and completely fulfill all obligations imposed by the contract and specifications, and against any damages caused the Town by reason of any failure on the part of the contractor to fulfill all conditions and obligations herein contained.

- (B) Final Estimate: One month after the completion and acceptance of the work specified and contracted for, the Town Engineer will make a final estimate of all the work done. Thereafter, the Town will pay the full amount, less prior payments, less any amounts retained to complete the work according to the provisions of the specifications, less any money paid by the Town by reasons of said contractor having failed to carry out faithfully and completely all the obligations and requirements

herein contained. Upon final settlement, according to the conditions herein specified and not until such settlement shall have been made, will the contractor be relieved from the obligations assumed in the contract.

- (C) Measurement for Payment: The Town Engineer shall make due measurement of work completed 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 full measure of compensation to be received by the contractor.
- (D) No payments will be made for materials delivered to the site which have not been incorporated into the work.

16. ACCEPTANCE OF FINAL PAYMENT CONSTITUTES RELEASE

The acceptance by the contractor of final payment shall be, and shall operate as a release to the Town from all claims and all liabilities to the contractor for all the things done or furnished in connection with this work and for every act and neglect of the Town and others relating to or arising out of, this work, excepting to the contractor's claims for interest upon the final payment, if this payment 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 or maintenance bond.

17. CONSTRUCTION REPORTS

The contractor shall submit to the Town Engineer prior to commencing any work under this contract, a detailed schedule and plan of operations indicating the manner in which the contractor proposes to prosecute the work and a time schedule therefor. Such schedules are not intended to bind the contractor to a predetermined plan or procedure, but rather to enable the Town Engineer to coordinate the work of the contractor with work required of and to be performed by others. The detailed schedule shall include a list of the subcontractors and material suppliers he proposes to use on the work.

18. INSPECTION AND TESTS

All material and workmanship shall be subject to inspection, examination and test by the Town Engineer, or his representative, at any time during the construction and at any and all places where manufacturing of materials used and/or construction is carried on.

If at any time before final acceptance of the entire work, the Town Engineer, or his representative, considers necessary or advisable an examination of any portion of the work already completed, by removing 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, contractor shall be liable for the expense for 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 cost of extra work.

The selection of laboratories and/or agencies for the inspection and tests of supplies, materials or equipment shall be subject to the approval of or designated by the Town. Satisfactory documentary

evidence that the material has passed the required inspection and tests must be furnished to the Town Engineer prior to the incorporation of the material in the work.

Any rejected work will 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 copy of the plans and specifications. Bidding of this contract shall be based on the information and data contained herein. Materials of construction and component installation shall conform to the general requirements of the specifications and details contained at the end of the specifications. The Town Engineer will provide plans and directions for specific drainage projects as projects arise. System configurations, arrangements, elevations, materials and methods are to be as directed by the Town Engineer on a specific project basis.

20. SUPERINTENDENCY BY CONTRACTOR

At the site of the work, the contractor shall give his constant, personal attention to the work or employee 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 town Engineer, or his representative, and shall be one who can be contained in that capacity for the particular job involved unless he ceases to be on the contractor's payroll. The contractor's superintendent and foreman must be able to read and speak the English language.

21. CONTRACTOR'S TITLE TO MATERIALS

No materials or supplies for the work shall be purchased by the contractor or any subcontractor subject to a 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. PROTECTION OF WORK, PERSONS AND PROPERTY

Precaution shall be exercised at all times for the proper protection of all persons, property and work the contractor shall give notice to the owners of utilities which may serve the area and request their assistance in predetermining the location and depth of various pipes, conduits, manholes, and other underground facilities. The safety provisions of applicable laws and 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 to adequately safeguard the traveling public.

23. 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 plant, materials, supplies and/or equipment to be furnished for the work; and

- (B) That he is familiar with all federal, state and municipal law, ordinances and regulations which may in any way affect the work of those employed thereunder, 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 is intended and that such construction will not injure any person or damage any property; and
- (D) That he has carefully examined the specifications and project site and that from his own investigations he has satisfied himself as to the nature of the work, the character of equipment and other facilities needed for the performance of the work, and the general local conditions which may in any way affect the work or its performance.

24. AUTHORITY OF THE ENGINEER

In the performance of the work, the contractor shall abide by all orders and directions and requirements of the Town Engineer, or his representative, and shall perform work to the satisfaction of the Town Engineer, or his representative, at such time and places, by such methods, and in such manner and sequence as he may require. The Town Engineer, or his representative, 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 Town Engineer, or his representative, shall confirm in writing any oral orders, directions, requirements or determinations. The enumeration herein or elsewhere in the contract documents of particular instance in which the opinion, judgement, discretion or determination of the Town Engineer, or his representative, 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 performed, but without exception all the work shall be governed and so performed.

25. CHANGES AND ALTERATIONS

The Town Engineer reserves the right to make alterations in locations, line, grade, plan, form or dimensions of the work, or any part thereof, either before or after the commencement of construction. If such alteration diminishes 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 prices for such work as contained in the schedule of prices.

26. 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 Town Engineer, or his representative, 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.

If, in the opinion of the Town Engineer, or his representative, 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 thereunder shall be reduced by such amount as in the judgement of the Town Engineer, or his representative, 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 which may appear within one year following the final completion of the work. 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.

27. WEATHER CONDITIONS

In the event of temporary suspension of work or during inclement weather or whenever the Town Engineer, or his representative, shall direct, the contractor will, and will cause his subcontractor to sufficiently protect his and their work and materials against damage or injury from the weather. If, in the opinion of the Town Engineer, or his representative, any work or material shall have been damaged or injured by reason of 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.

28. THE TOWN'S RIGHT TO WITHHOLD PAYMENTS

The Town may withhold from the contractor so much of any approved payments due him as may, in the judgement of the Town 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 from loss due to defective work not remedied; or
- (C) To protect the Town 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 shall have the right, as agent for the contractor, to apply such amounts so withheld in such manner as the town may deem proper to satisfy such claims or to secure such protection. Such applications of such money shall be deemed payments for the account of the contractor.

29. THE TOWN'S RIGHT TO TERMINATE CONTRACT

The Town of Riverhead may terminate this contract if:

- (A) the contractor shall be adjudged bankrupt 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 20 days after such appointment, or the proceedings in connection therewith shall not be stayed on appeal within the said 20 days; or
- (C) the contractor shall refuse or fail, after notice or warning from the Town Engineer, or his representative, to supply enough properly skilled workmen or proper materials to the job; or
- (D) the contractor shall refuse or fail to prosecute the work or any part thereof with such diligence as will insure its completion within the period herein specified (or any duly authorized extension thereof) or shall fail to complete the work within said period; or

- (E) the contractor shall fail to make prompt payments to persons supplying labor or materials for the work; or
- (F) the contractor shall fail or refuse to regard laws, ordinances or the instruction of the Town Engineer, or his representative or otherwise be guilty of a substantial violation of any provisions of this contract.

Upon the determination by the Town of Riverhead to terminate this contract, and in any such event, the Town, without prejudice to any other rights or remedy it may have, may give seven (7) days notice to the contractor, terminate the employment of the contractor and his rights to proceed with as to the entire work or (or at the option of the Town) as to any portion thereof as to which delay shall have occurred, and may take possession of the work and complete the work by contract, secondary contractor or otherwise, as the Town may deem appropriate. In such case, the contractor will not be entitled to receive any further payment until the work is finished. If the unpaid balance of the compensation to be paid to the contractor thereunder shall exceed the expense of so completing the work (including compensation for additional managerial, administrative and inspection services and any damages for delay), such excess shall be paid to the contractor. If such expense shall exceed such unpaid balance, the contractor and his sureties shall be liable to the Town for such excess. If the right of the contractor to proceed with the work is so terminated, the Town may take possession of and utilize in completing the work, such materials, appliances, supplies, plant and equipment as may be on the site of the work and necessary thereof.

30. CONTRACTOR'S RIGHT TO STOP WORK OR TERMINATE CONTRACT

If the work shall be stopped by order of the court or other public authority for a period of three (3) months without act or fault of the contractor or any of his agents, servants, employees or subcontractors, the contractor may, upon ten (10) days notice to the town, discontinue his performance of the work and/or terminate the contract; in which event, the liability of the Town immediately preceding (Paragraph 31), the contractor shall not be obligated to pay to the Town any excess of the expense of completing the work over the unpaid balance of the compensation to be paid to the contractor thereunder.

31. RESPONSIBILITY FOR WORK

The contractor agrees to be responsible for the entire work embraced in this contract until its completion and final acceptance by the Town of Riverhead. The contractor further agrees that any imperfect and/or damaged work that may be discovered at any time before the completion and acceptance of work shall be removed and/or replaced in conformity with the requirements of this contract without charge to the Town. Such removal and replacement will be performed as soon as practicable following receipt of written notice from the Town Engineer that the work is imperfect and/or damaged. The contractor further agrees that the inspection of the work by the Town Engineer of his or her designee shall not relieve him of any obligation to do sound and reliable work. Furthermore, such inspection and/or partial payment for work shall not preclude the Town Engineer from requiring removal and/or replacement at a later time. Neither shall such inspection or partial payment be deemed to be acceptance of any work.

32. USE OF PREMISES AND REMOVAL OF DEBRIS

The contractor expressly undertakes at his own expense:

- (A) 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;
- (B) 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, orderly and workmanlike appearance;
- (C) Before final payment hereunder to remove all surplus material, temporary structures, plants of any descriptions and debris of every nature resulting from his operations.

33. SUITS OF LAW

The contractor shall indemnify and save harmless the Town and its employees 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 of any subcontractor, and in case of any such action shall be brought against the Town, the contractor shall immediately take charge of and defend the same at his own cost and expense.

34. POWER OF THE CONTRACTOR TO ACT IN AN EMERGENCY

In case of an emergency which threatens loss or injury to property and/or safety of life, the contractor will be permitted to act as he sees fit without previous instructions from the Town Engineer, or his representative. He shall notify the Town Engineer, or his representative thereof immediately 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 Engineer, or his representative, for approval.

Where the contractor has not taken action but has notified the Town Engineer, or his representative, 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 Town Engineer, or his representative to prevent such threatened injury or damage, he shall act as instructed by the Town Engineer, or his representative. 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.

35. PROVISION 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 read and be 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 be forthwith physically amended to make such insertion.

36. 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. This contract shall insure 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.

37. GENERAL MUNICIPAL LAW CLAUSE

Pursuant to the provisions of Section 103-a of the General Municipal Law, in the event that the bidder or any member, partner, director or officer of the bidder, should refuse, when called before a grand jury to testify concerning any transaction or contract had with the state, any political subdivision thereof, a public authority or any public department, agency or official of the state or of any political subdivision thereof or of a public authority, to sign a waiver of immunity against subsequent criminal prosecution or to answer any relevant question concerning such transaction or contract, such person, and any firm, partnership, or corporation of which he is a member, partner, director or officer shall be disqualified from thereafter selling to or submitting bids to or receiving awards from or entering into any contracts with any municipal corporation or any public department, agency or official thereof for goods, work or services for a period of five (5) years after such refusal, and any and all contracts made with any municipal corporation or any public department, agency or official thereof on or after the first day of July, 1959, by such person, and by any firm, partnership or corporation of which he is a member, partner, director or officer may be canceled or terminated by the municipal corporation without incurring any penalty or damages on account of such corporation for goods delivered or work done prior to the cancellation or termination shall be paid.

38. CONTRACTOR'S INSURANCE

The contractor shall not commence any work until he has obtained, and had approved by the Town, all the insurance required under this contract as enumerated herein:

Workers' Compensation Insurance

Public Liability and Property Damage Insurance

Contractor's Protective Liability and Property Damage Insurance

Owner'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.

- (A) Workers' Compensation Insurance: The contractor shall take out and maintain, during the life of this contract, Workers' Compensation Insurance for all his employees employed at the site of the project, and in case of any of the work being sublet, the contractor shall require all subcontractors similarly to provide Workers' Compensation Insurance for all the latter's employees unless such employees are covered by the protection afforded by the contractor. Limits: statutory for Workers' Compensation, One Million Dollars (\$1,000,000) Employers Liability.
- (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 or 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 completed by the contractor or by any subcontractor, or by anyone directly or indirectly employed by either of them, and the amounts of such insurance shall be as follows:

Public Liability Insurance in an amount not less than One Million Dollars (\$1,000,000) combined single limit for bodily injuries, including wrongful death, and property damage. The Town of Riverhead must be named as an additional insured.

- (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. The Town of Riverhead shall be named as additional insured.
- (D) Owner's Protective Public Liability and Property Damage Insurance: The contractor shall furnish to the Town, 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, 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 One Million Dollars (\$1,000,000) 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 Million Dollars (\$1,000,000) for damages arising out of injury to, or destruction of, property during the liability of the Town. The coverage provided under this policy must not be affected if the Town 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 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 a subcontractor or by anyone directly or indirectly employed by either of them and the amounts of such insurance shall be as follows:

Automobile Public Liability Insurance in an amount not less than One Million Dollars (\$1,000,000) combined single limit for bodily injuries, including wrongful death, and property damage. The Town of Riverhead must be named as an additional insured.

Automobile Property Damage Insurance in an amount of not less than One Million Dollars (\$1,000,000) for damages on account of any accident and in an amount of not less than One Million Dollars (\$1,000,000) for damages on account of all accidents.

38A. HOLD HARMLESS CLAUSE

To the fullest extent permitted by law, the contractor shall indemnify and hold harmless the Owner and their agents and employees from and against all claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from the performance of the work, provided that any such claim, damage, loss or expense (i) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself) including the loss of use resulting therefrom and (ii) is caused in whole or in part by any negligent act or omission of the contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in the paragraph.

39. CLAIMS AGAINST TOWN OFFICIALS AND TOWN EMPLOYEES

The Contractor expressly agrees and represents that the contractor shall make no claim and shall bring no action pursuant to any federal or state laws, including, but not limited to 42 U.S.C. § 1983, against any Town official or employee in his/her individual or personal capacity for any act, omission, or statement made or done relating to, or arising out of, this contract and expressly waives its rights to bring such a claim pursuant to any federal or state laws, including, but not limited to 42 U.S.C. § 1983.

40. PROOF OF CARRIAGE OF INSURANCE

The contractor shall furnish the Town with certificates of each insurer insuring the contractor under this contract except with respect to subdivision "D". In respect to this paragraph, the contractor shall furnish the Town with the original insurance policy.

Both certificates, as furnished, and the insurance policy, as required, shall bear the policy numbers, the expiration date of the policy and the limits of liability thereunder. Both the certificates and the policy shall be endorsed to provide the Town with any notice of cancellation at least five (5) days prior to the actual date of such cancellation.

The insurance company utilized must have a minimum AM Best Rating of "A-VII".

41. TERM OF CONTRACT

The term of this contract shall be until the completion date set by the Notice to Proceed and the length of contract time (calendar days) as stipulated in the Proposal Form. The Town of Riverhead shall have the option of extending this contract in six-month intervals up to a maximum of one additional year when mutually agreed upon by the Town and the contractor.

INDEX

1. DEFINITIONS
2. STANDARDS OF WORKMANSHIP
3. SAMPLES
4. MANUFACTURED MATERIALS
5. LABORATORY
6. SHOP DRAWINGS
7. PERMITS
8. CONTRACT DOCUMENTS / PLANS AND SPECIFICATIONS
9. ERRORS, OMISSIONS AND DISCREPANCIES
10. TEMPORARY TOILET
11. CUTTING, PATCHING AND DIGGING
12. PROPER METHOD OF WORK AND WORK MATERIALS
13. INSPECTION
14. WAIVER
15. WATER AND ELECTRIC POWER
16. MACHINERY AND EQUIPMENT
17. RIGHT TO USE WORK
18. NOTICE OF WARNING
19. WARNING SIGNS
20. ACCIDENT PREVENTION
21. DAMAGES
22. MAINTENANCE OF TRAFFIC
23. PROTECTION OF LAND MARKERS, TREES, SHRUBS, AND PROPERTY
24. PROTECTION OF UTILITIES
25. APPROVAL OF SUBCONTRACTORS AND MATERIALS
26. INTERPRETATION OF DRAWINGS, ETC.
27. ADDITIONAL WORK
28. OCCUPATIONAL SAFETY AND HEALTH ACT
29. SAFETY PROVISIONS
30. SANITARY REGULATIONS
31. RESPONSIBILITY OF ENGINEER AND CONTRACTOR DURING CONSTRUCTION

- 32. LABOR
- 33. CONTRACTOR'S REPRESENTATIVE
- 34. SCHEDULE OF VALUES (LUMP SUM CONTRACTS)
- 35. INCOMPETENT EMPLOYEES
- 36. CLAIMS OR PROTESTS
- 37. NOTIFICATION, INTERFERENCE AND INJURY TO UTILITIES
- 38. INFRINGEMENT OF PATENTS
- 39. GUARANTEE/WARRANTY
- 40. STANDARDIZATION

1. DEFINITIONS

The "General Conditions" are hereby made part of these Specifications and are attached herein.

Where any article of the General Conditions is supplemented hereby, the provisions of such article shall remain in effect. All the supplemental provisions shall be considered as added thereto. Where any such article is amended, voided or superseded thereby, the provisions of such article not so specifically amended, voided or superseded shall remain in effect.

Work, materials, plant, labor and other requirements of the General Conditions shall be furnished by the Contractor. No direct payment will be made for these General Conditions, and payment shall be deemed to be included in the Contract price or various items of the entire Contract.

The words "or approved equal", as hereinafter used, shall refer to the use of an equal product that has received prior approval by the Consulting Engineer for the District.

1.1. DEFINITION OF TERMS

Whenever the following words and expressions are used in the Specifications, it is understood that they have the meaning defined below:

Plans: All official drawings or reproductions of drawings pertaining to the work or to any structure connected therewith.

Specifications: The body of directions, requirements, descriptions, etc. contained in this document, together with all documents of any description and agreements made (or to be made) pertaining to the methods or manner of performing the work and/or to the quantities and quality of materials to be furnished and accepted under this contract.

Town: Town Board of the Town of Riverhead.

Engineer: Holzmacher, McLendon & Murrell, P.C., Consulting Engineer for the District.

Contract: Collectively, the contract executed by the Town and the contract, Notice to Bidders, Instruction to Bidders, Proposal Form, Form of Bond, Conditions of Contract, General Conditions, Specifications, Addenda, Performance Bonds, and all supplemental agreements made or to be made.

Inspector: An authorized representative of the Town assigned to make any and all necessary inspections of the work performed and the materials furnished by the contractor.

Materials: Any approved materials acceptable to the Town and conforming to the requirements of these specifications.

Work: 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 complete project. This includes all plant, labor, materials, supplies, equipment and other facilities and acts necessary or proper or incidental to the carrying out and completion of other terms of this contract. The term "work performed" shall be construed to include the materials delivered to and suitably stored at the site of the project.

2. STANDARDS OF WORKMANSHIP

The apparent silence of the specifications as to any detail or and apparent omission from them of a detailed description concerning any work to be done and materials to be furnished shall be regarded as meaning that only the best general practice observed in the latest current construction work is to prevail and that only material and workmanship of first quality is to be used in this connection and all interpretations of these specifications shall be made upon this basis.

3. SAMPLES

The contractor shall furnish for approval, all samples as directed. The work shall be in accordance with approved samples. Samples shall be submitted in ample time so as to prevent delay in fabrication or ordering of materials, allowing for a reasonable time for the Town Engineer, or his representative, to consider the samples submitted, and is necessary, to permit a re-submission of samples to the Town, or its representative, until approval is given.

Work and material shall be furnished and executed in accordance with approved samples, in every aspect. Each sample shall be labeled, bearing material, name and quality, contractor's name, date and other pertinent data. Unless otherwise specified, samples shall be in duplicate and of adequate size to show quality, type, color, range and finish and texture of material. Materials shall not be ordered until approval is received in writing from the Town, or its representative.

4. MANUFACTURED MATERIALS

Where several materials are specified by name, the Town, or its representative, shall have the right, before execution of the contract, to require any and all bidders to state the materials upon which they based their bid. Where any materials are specified by name or trade name, or by catalog number of a company or companies, the contractor shall furnish the article mentioned unless approval of the Town, or its representative, is obtained in writing for a substitution. Should the contractor desire to substitute other materials for one or more specified by name, he shall apply in writing for such permission and state credit or extra involved. He shall also provide supporting data and samples for the consideration of the Town.

Unless particularly specified otherwise, all manufactured articles, materials and equipment shall be applied, assembled, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer and including the necessary preparation to properly install the work. Where reference is made to manufacturer's directions, the contractor shall submit such directions to the Town or its representative as required.

The materials used in construction shall be disposed so as not to endanger the work, and so that full access may at all times be had to partly completed work and structures and they shall be so disposed as to cause no injury to those having access to the work or any of the units.

All labor shall be performed in the best and most workmanlike manner by mechanics skilled in their respective trades. Standards of work required throughout shall be of such grades as will bring first-class results only. The type of labor employed by the contractor shall be such as will insure the uninterrupted continuity of the entire work, without conflict of any kind.

5. LABORATORY

Laboratories shall be approved by the Town, or its representative, for testing the materials to be used under the contract. Where tests are made, two certified copies showing correctly the chemical analysis and physical tests shall be furnished to the Town, or its representative.

6. SHOP DRAWINGS

The contractor shall submit to the Town Engineer, six (6) copies of all shop drawings and schedules and no work shall be fabricated until his approval has been given. All shop drawings submitted to the Town Engineer must bear the contractor's stamp of approval evidencing that the drawings have been checked.

The contractor will make any corrections in the drawings required by the Town or its representative and will file with the Town or its representative six (6) corrected copies. Approval by the Town Engineer of such drawings or schedules shall not relieve the contractor from responsibility for:

- (a) Errors of any sort in shop or setting drawings or schedules;
- (b) Deviations from Plans and Specifications unless the contractor, at the time of submission of said drawings and schedules, has given notice to the Town or its representative of any such deviations.

7. PERMITS

7.1 Municipal: All work in connection with the installation of pipes or other underground structures of a like nature either within or without the limits of the highway, shall follow all the provisions as contained herein together with the provisions, as they apply, of the Highway Law, Road Openings, Section 149 and Section 198 of Town law, with all subsequent changes, additions or corrections thereto.

7.2 Suffolk County: All permits required for opening country roads and making connections with county drains will be obtained by the Contractor unless otherwise stated in the Contract documents. A copy of the permit must be kept on the job site at all times. The contractor will not be permitted to open any county road or make any connection to any county drain until he has obtained required permits.

7.3 State of New York: The contractor shall obtain all necessary New York State highway permits whenever the contract requires any work to be done within or upon existing state highway right-of-ways. These permits shall be obtained from the District Office in Hauppauge prior to the performance of the work. Upon application for the permit, the contractor will be required to supply the following:

- (1) Three (3) copies of a sketch or print showing description and location of the proposed work. These prints will be supplied to the contractor by the Town or its representative.
- (2) Contingent liability insurance for the state (in addition to his own liability insurance) shall be furnished in amounts and manner as required by the State of New York. The contingent protective liability and complete operations liability insurance policy to cover:

"The people of the State of New York and/or the Highway Superintendent covering liability arising with respect to all operations through highway permits by permitted by anyone acting by, through or for the permitted, including omissions and supervisor acts of the State", in the amount of personal injury (including death) and property damage as required.

8. CONTRACT DOCUMENTS / PLANS AND SPECIFICATIONS

The Contract Documents include, but are not limited to, the General Conditions, General Specifications, Detailed Specifications, Plans, Proposal, Contract and other sections as either cited on the Index page(s) or actually included in the bound documents.

Each section of the Contract Documents is intended to be complementary to the other sections.

It is intended that they include all items of labor and materials and everything required and necessary to complete the work, even though some items of work or materials may not be particularly mentioned in every section or may have been inadvertently omitted from the Drawings or Specifications or both.

The contractor will be furnished with five (5) sets of Plans and Specifications giving all the details and dimensions necessary for carrying out the work. One copy of Plans and Specifications furnished to the contractor must be kept constantly at the site. Anything shown on the Plans and not mentioned in the Specifications or mentioned in the Specifications and not shown on the Plans and all work and materials necessary for the completion of the work according to the intent and meaning of the contract shall be furnished, performed and done as if the same were both mentioned in the Specifications and shown on the Drawings. Any conflict or inconsistency between the figures and scale of Drawings shall be submitted by the contractor to the Town Engineer, or his representative, whose decisions hereon shall be conclusive.

In the event the meaning of any portion of the Specifications or Drawings or any supplementary drawings or instructions of the Town Engineer, or his representative, is doubtful, the same shall be understood to call for the best type of construction, both as to materials and workmanship, which reasonably can be interpreted.

All materials and workmanship must be strictly in accordance with the Plans and Specifications.

Additional copies of Plans and Specifications, when requested will be furnished to the contractor at cost of reproduction.

The contractor shall furnish to each of the subcontractors and materials men such copies of the Contract Documents as may be required for their work.

9. ERRORS, OMISSIONS AND DISCREPANCIES

- a) If any errors, omissions or discrepancies appear in the drawings, specifications or other documents, the contractor shall, within ten (10) days from receiving such drawings, specifications or documents, notify the Town, or its representative, in writing of such errors or omissions. In the event of the contractor's failing to give such notice, he will be held responsible for the results of any such errors or omissions and the cost of rectifying the same.
- b) If, in the opinion of the contractor, any work is shown on drawings, or details, or is specified in such a manner as will make it impossible to produce a first class piece of work, or should discrepancies appear between the drawings and/or specifications, he shall refer the same to the Town, or its representative, for interpretation before proceeding with the work. If the contractor fails to make such references to the Town, or its representative, no excuse will thereafter be entertained for failure to carry out the work in a satisfactory manner as directed.

- c) Should a conflict occur in or between the drawings and specifications and/or existing conditions, the contractor shall be deemed to have estimated on the more expensive way of doing the work, unless he shall have asked for and obtained the decision in writing from the Town Engineer or his representative, before the submission of bids, as to which method or materials will produce the results to the best interests of the Town.

10. TEMPORARY TOILET

The contractor shall provide and maintain a sanitary temporary toilet where directed by the Town, or its representative. The temporary toilet shall be enclosed, weatherproof and kept in a sanitary condition at all times. Upon removal of the temporary outside toilet, and all evidence of the toilet shall be removed from the site.

11. CUTTING, PATCHING AND DIGGING

The contractor shall do all cutting, fitting or patching of his work that may be required to make its several parts come together properly and fit it to receive or be received by work of other contractors shown upon or reasonably implied by Drawings and Specifications for the completed structure, and he shall make good after them as the Town, or its representative may direct. Any cost caused by defective or ill-timed work shall be borne by the party responsible therefore.

The contractor shall not endanger any work by cutting, digging or otherwise, and shall not cut or alter the work of any other contractor except with the consent of the Town, or its representative.

12. PROPER METHOD OF WORK AND PROPER MATERIALS

The Town, or its representative, shall have the power in general to direct the order and sequence of the work, which shall be such as to permit the entire work under this contract to be begun and to proceed as rapidly as possible and such as to bring the several parts of the work to a successful completion at about the same time.

If at anytime before the commencement or during the progress of the work the materials and appliances used or to be used appear to the Town Engineer, or his representative, as insufficient or improper for assuring the quality of the work required, or the required rate of progress, he may order the contractor to increase their efficiency of to improve their character, and the failure of the Town, or its representative, to demand any increase of such efficiency or improvement shall not release the contractor from his obligation to secure the quality of work or the rate of progress specified.

During freezing or inclement weather, no work shall be done except such as can be done satisfactorily and in a manner to secure first class construction throughout. All work shall be done in such a manner as will properly protect and support existing permanent structures, pipe lines, etc.

13. INSPECTION

Inspectors shall be authorized to inspect all work done and materials furnished. Such inspections may extend to all parts of the work and to the preparation or manufacture of the materials to be used. In case of any dispute arising between the contractor and the inspector as to materials furnished or the manner of performing the work, the inspector shall have the authority to reject material or suspend the work until the question at issue shall be referred to and decided by the Town, or its representative. The inspector shall not be authorized to revoke, alter, enlarge, relax or release any requirements of these specifications; nor

approve or accept any portion of the work; nor issue instruction contrary to the plans and specifications. The inspector shall in no case act as foreman or perform other duties for the contractor or interfere with the management of the work by the latter.

Any advice which the inspector may give the contractor shall in no way be construed as binding the Town, or its representative, nor the Town in any way, nor releasing the contractor from the fulfillment of the terms of the contract.

The contractor shall be conclusively presumed to be acquainted with all existing conditions and to guarantee that all work and materials shall, upon final completion of the work, be turned over to the Town in a complete and perfect condition and the contractor shall be responsible for the proper care, maintenance and protection of all work and material until his entire contract is completed and all work and materials found in good condition and accepted. The contractor will be held responsible for the entire work until completed and accepted by the Town.

The contractor shall, at all times, provide the Town, and its representative, assistants and inspectors under him with necessary facilities for determining both on the job and at the places of manufacture, that all work being performed and all materials being manufactured are strictly in accordance with the contract.

Until acceptance of work by the Town, the contractor shall be responsible for all damages to the work including action of the elements or any other cause whatsoever. The contractor shall continuously and adequately protect the work against damage from any cause.

14. WAIVER

Neither the inspection by the Town, its representative or any part of their employees, nor any order, measurement or certificate by the Town, or its representative, nor any order by the Town for the payment of any money, nor any payment for or acceptance of, the whole or any part of the work by the Town, its representative, or the Town, nor any extension of time, nor any possession taken by the Town or its employees shall operate as a waiver of any provision of this contract or of any power herein reserved to the Town or any right to damages herein provided; nor shall any waiver of any breach of the contract constitute a waiver of any subsequent breach. Any remedy provided in this contract shall be construed as cumulative in addition to each and every remedy herein provided.

15. WATER AND ELECTRIC POWER

All water and electric power supply for construction purposes must be provided by the contractor. The cost shall be borne by the contractor.

16. MACHINERY AND EQUIPMENT

All machinery, equipment, trucks and vehicles used in the prosecution of the work or in connection therewith, shall at all times be in proper working condition.

The contractor shall be responsible for curtailing noise, smoke, fumes, or any other nuisance resulting from his operations. He shall, upon written notification from the Town, or its representative, make any repairs, replacements, adjustments, and additions and furnish mufflers when necessary to fulfill these requirements.

17. RIGHT TO USE WORK

The Town may enter upon and use the whole or any portion of the work, which may be in condition to use any time previous to its final acceptance by the Town. Such use shall not constitute or be evidence of acceptance by the Town of the whole or any part of the material furnished or work performed under the contract.

18. NOTICE OF WARNING

If the contractor shall fail to make prompt payment to persons supplying labor or materials for the work, or refuse or fail to supply enough properly skilled workmen or proper materials or refuse or fail to prosecute the work or any part thereof with such diligence as will insure its completion within the period herein specified (or any duly authorized extension thereof) or fail to complete the work within said period or refuse or fail to regard laws, ordinances, codes, instruction of the Town, or its representative, then the Town shall forward by registered mail to the contractor, at the address given in the contract, a Notice of Warning, and in the event the contractor fails to comply with said Notice of Warning within five (5) days from receipt thereof, the Town shall have the right to terminate the contract.

19. WARNING SIGNS

Contractor shall provide and maintain proper luminous warning and detour signs where directed by the Town, or its representative.

Obstruction, such as stored materials, equipment and excavations shall be marked with no less than two (2) lights which shall be no more than four (4) feet apart.

All lights shall be kept burning from one-half hour before sunset until one-half hour after sunrise.

20. ACCIDENT PREVENTION

During the performance of the work, the contractor shall exercise all reasonable precautions for the protection of persons and property. The safety provisions of applicable laws, building and construction codes shall be observed. Machinery, equipment and all other physical hazards shall be guarded 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 inconsistent with federal, state or municipal laws or regulations.

If any operation, practice or condition is deemed by the Town, or its representative, to be unsafe, he shall notify the contractor in writing to take corrective action. Where in the opinion of the Town, or its representative, any operation, practice or condition shall be promptly discontinued and before the affected part of the work is resumed, remedial action taken.

The Town reserves the right to remedy any neglect on the part of the contractor as regards the protection of the work which may come to its attention, after twenty-four (24) hours notice in writing; except that in cases of emergency, it shall have the right to remedy any neglect without notice, and in either case to deduct the cost of such remedy from money due the contractor.

Nothing in the foregoing paragraphs shall be construed as relieving the contractor from full responsibility at all times for safe prosecution of the work.

21. DAMAGES

The contractor shall pay and make good all losses or damages arising out of any cause connected with the contract and shall indemnify and save harmless the Town, and its representatives, from any and all claims and any and all liability or responsibility of every nature against the Town or any of its officers or agents, by reason of, or connected with the work or materials furnished under the contract and shall pay all costs and expenses of every kind, character, and nature whatsoever, occurring upon or arising out of the contract.

All damages, direct or indirect, of whatever nature either resulting from the performance of or resulting to the work under this Contract during its progress from whatever cause shall be borne and sustained by the Contractor, and all work shall be solely at its risk until the date of the final payment request, as prepared by the Engineer.

22. MAINTENANCE OF TRAFFIC

All work under this contract is to be completed within the time indicated in the Contract Agreement or as extended by the Town. If in the meantime it should become necessary, because of the lateness of the season, or any other reason to stop work, the contractor shall at his own expense, open proper drainage ditches, erect temporary structures where necessary, prepare the roads so there will be minimum interference with traffic, set up and maintain a competent organization as directed by the Town, or its representative, to keep the highways in first class condition for traffic, and take every precaution to prevent any damage or unreasonable deterioration of the work during the time it is closed.

23. PROTECTION OF LAND MARKERS, TREES, SHRUBS, AND PROPERTY

Wherever in the conduct of the work, a monument making a point of public or private survey is encountered or brought to view by excavation, the fact shall at once be communicated to the Town, or its representative. In no case shall the contractor remove the same until the location for resetting shall have been made by the Town, or its representative. All monuments or land markings exposed to view when the work is first undertaken shall be carefully preserved and the greatest care exercised to prevent injury to or disturbance of position of the monument.

The unit price of all items shall include the cost of restoring to its former condition any sidewalks or curbs, as well as restoring any trees, shrubs or lawns that may be damaged during this construction. No additional payment will be made.

The contractor is required at his own expense to obtain any and all permits for use of private property if he uses such property for storage, transportation or accomplishment of the work under the contract. Private property shall be cleaned up neatly, any damage repaired and premises restored to their original condition.

24. PROTECTION OF UTILITIES

The contractor shall familiarize himself with the existence of structures of municipal and other public service corporations on or adjoining the site of the work, for the area within the scope of the contractors work. The contractor shall be responsible for calling for a mark out given reasonable opportunity to work in cooperation with the owners of these utilities in the work, reconstruction or alteration of these structures. Such reconstruction and alteration shall be so conducted as to delay or interfere as little as practicable

with the work of the contractor. Any additional cost of various items or work because of these utilities shall be included in the price bid for these items.

The Town, or its representative, shall direct the public utility corporations to shift or remove those utility structures that may be necessary to permit the contractor to carry out the work in accordance with the plans. The contractor shall not remove or cause to be removed, any structure or part of a structure owned by a public utility corporation without the approval of the Town, or its representative.

The contractor shall cooperate with the public utility corporation whose structures (aerial, surface or subsurface) are within the limits of or along the outside of the right-of-way, to make it possible for them to maintain uninterrupted service. The contractor shall conduct his operations in such a way as not to delay or interfere as little as practicable with the work of the utility corporation.

25. APPROVAL OF SUBCONTRACTORS AND MATERIALS

Prior to commencing any work under this Contract, the Contractor shall submit to the Engineer for approval a list of all the subcontractors and material suppliers it proposes to use for this Contract.

No subcontractor or material supplier will be permitted to deliver materials or perform any work on this Contract until it has been approved by the Engineer.

26. INTERPRETATION OF DRAWINGS, ETC.

In the event of discrepancies between the Drawings and the Specifications, the following order shall be given preference when making interpretations:

- a. Addenda (later dates to take precedence over earlier dates).
- b. Drawings (schedules or notes to take precedence over other data shown on Drawings).
- c. Detailed Specifications
- d. General Specifications

On all Plans, Drawings, etc., the figure dimensions shall govern in the case of discrepancy between the scales and figures.

The Contractor shall take no advantage of any error or omission in the Plans, or of any discrepancy between the Plans and Specifications, and the Engineer shall make such corrections and interpretations as may be deemed necessary for the fulfillment of the intent of the Specifications and of the Plans as construed by him, and his decision shall be final.

All work that may be called for in the Specifications and not shown on the Plans, or work shown on the Plans and not called for in the Specifications, shall be furnished and executed by the Contractor as if designated in both. Should any work or material be required which is not denoted in the Plans and Specifications, either directly or indirectly, but which is necessary for the proper carrying out of the intent thereof, it is understood and agreed that the same is implied and required, and that the Contractor shall perform such work and furnish such materials as if they were completely delineated and described.

27. ADDITIONAL WORK

Additional work, if required to be performed under this Contract, shall be in accordance with the applicable paragraphs of the Contract. The Town will be the sole judge as to whether such work was intended as part of the Contract or is in addition thereto.

28. OCCUPATIONAL SAFETY AND HEALTH ACT

The Contractor shall meet all standards of the Occupational Safety and Health Act of 1970 and subsequent revisions. This shall include, but not be limited to, the following areas:

Sanitation, noise, radiation, gases, vapors, fumes, mists, dust, illumination, ventilation, protective equipment, fire protection, waste disposal, electrical hazards, scaffolds and ladders, floor holes and wall openings, heavy equipment and permit-required confined spaces.

All specific requirements of the Act shall be adhered to.

29. SAFETY PROVISIONS

The Contractor shall take every precaution and shall provide such equipment and facilities as are necessary or required for the safety of its employees. In case of an accident, first aid shall be administered to any who may be injured in the progress of the work. In addition, the Contractor shall also be prepared for the removal to the hospital for treatment of any employee either seriously injured or ill.

30. SANITARY REGULATIONS

In addition to compliance with the Occupational Safety and Health Act, the Contractor shall erect and maintain necessary sanitary conveniences for the use of employees on the work. Such conveniences shall be properly secluded from observation, and their use shall be strictly enforced. Such sanitary conveniences shall be constructed in compliance with all laws, ordinances or regulations governing these facilities. The contents of same shall be removed with sufficient frequency to prevent nuisance, and disposed of to the satisfaction of the Town, or its representative.

The Contractor shall obey and enforce such other sanitary regulations and orders and shall take such precautions against infectious diseases as may be deemed necessary. In case any infectious diseases occur among its employees, it shall arrange for the immediate removal of the patient from the work and his isolation from all persons connected with the work.

The building of shanties or other structures for housing the workers, tools, machinery or supplies will be permitted only at approved places, and the sanitary condition of the grounds in and at such shanties or other structures must, at all times, be maintained in a satisfactory manner.

31. RESPONSIBILITY OF ENGINEER AND CONTRACTOR DURING CONSTRUCTION

The Engineer is responsible solely for the general and/or detailed inspection of the work being performed. Such inspection will be periodic and strictly to assure conformance of the Contractor with the Plans and Specifications, such that the end product will conform to the Plans and Specifications.

The Contractor is responsible for complete conformance to the Plans and Specifications, proper construction procedures, coordination with subcontractors, other contractors and utilities, and safe working conditions for its employees.

32. LABOR

All contractors and subcontractors employed upon the work shall and will be required to conform to the Labor Laws of the State of New York and the various acts amendatory and supplementary thereto; and to all other laws, ordinances and legal requirements applicable thereto.

All labor shall be performed in the best and most workmanlike manner by mechanics skilled in their respective trades. The standards of the work required throughout shall be of such grade as will bring results of the first class only.

33. CONTRACTOR'S REPRESENTATIVE

The Contractor, in case of his absence from the work, shall have a competent representative or foreman present, who shall follow without delay all instructions of the Engineer or his assistants in the prosecution and completion of the work, in conformity with this Contract, and shall have full authority to supply labor and material immediately. The Contractor shall also have a competent representative available to receive telephone messages and provide a reasonable reply as soon as possible, but not later than 24 hours.

34. SCHEDULE OF VALUES (LUMP SUM CONTRACTS)

Before the first partial payment under this Contract becomes due, the Contractor shall prepare a Schedule of Values which totals the amount of the Contract and submit it to the Engineer for approval. The Contractor shall make such revisions as may be required to make this Schedule conform to the true value of work as jointly agreed upon by the Engineer and the Contractor. The Contractor shall submit the Schedule of Values in accordance with the requirements contained in Section 01295.

35. INCOMPETENT EMPLOYEES

The Contractor shall employ only competent, skilled and faithful workers to do the work. Upon request of the Engineer in writing, the Contractor shall suspend or discharge from the work any disobedient, disorderly or incompetent person or persons employed thereon, and will not again employ any person so suspended or discharged without the consent of the Engineer.

This requirement shall not be made on the basis of any claim for compensation or damages against the District or any of its officers or agents.

36. CLAIMS OR PROTESTS

If the Contractor considers any work required of it to be outside the requirements of the Contract or considers any record or ruling of the Engineers or Inspectors as unfair, it shall ask for written instructions or decisions immediately, and then file a written protest with the District against the same within five (5) days thereafter, or be considered as having accepted the record or ruling.

37. NOTIFICATION, INTERFERENCE AND INJURY TO UTILITIES

The Contractor shall cooperate in every way with the utility companies.

All excavation shall be done in compliance with Article 36 of the General Business Law and notices given as provided by CLS General Business Law, Part 761.

All conduits, water mains and gas mains encountered in the construction shall be properly and safely taken care of by the Contractor, who shall, upon encountering same, notify the public corporation to whom they belong in order that they may be changed in such a manner as not to interfere with the final construction.

In case any damage shall result to any service pipe for water or gas, or any private or public sewer or conduit, by reason of negligence on the part of the Contractor, the Contractor shall, without delay and at its own expense, repair the same to the satisfaction of the Engineer. If such repairs are not made promptly or satisfactorily, the District may have the repairs made by another Contractor or otherwise, and deduct the cost of same from any monies due or to become due the Contractor.

38. INFRINGEMENT OF PATENTS

The Contractor further agrees to hold itself responsible for any claims made against the District for any infringement of patents by the use of patented articles in any one phase of construction of the work and the completion of same, or any process connected with the work agreed to be performed under this Contract or of any materials used upon said work, and to save harmless and indemnify the District from all costs, expenses and damages which the District shall be obliged to pay by reason of any infringement of patents used in the construction and completion of the work.

39. GUARANTEE/WARRANTY

The Contractor shall guarantee and warrant its work and that of its subcontractors against defects in workmanship and/or materials for a period of one (1) year from the date of the final payment request, as prepared by the Engineer, except as otherwise specified. Upon written notification from the Engineer, the Contractor shall repair, replace or reconstruct such defects to the satisfaction of the Engineer, at no cost to the District.

40. STANDARDIZATION

The Detailed and General Specifications indicate specific manufacturers and/or catalog numbers, etc., for the purpose of standardization within the District in order to minimize stockpiling of replacement parts.

INDEMNITY, LIMITATION OF LIABILITY

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.

THE TOWN OF RIVERHEAD
SANITARY PUMP STATION UPGRADES
BALL FIELD PUMP STATION
CONTRACT NO. CASD 14-02
 RIVERHEAD, NEW YORK

CONTRACT DATED _____, 20 ____ BY AND BETWEEN THE TOWN OF RIVERHEAD (HEREIN CALLED THE "OWNER" AND _____
 (HEREIN CALLED THE "CONTRACTOR")

WITNESSETH, the Town and the Contractor, in consideration of the premises and of the mutual covenants, considerations and agreements contained, agree as follows:

The Notice to Bidders, Instruction to Bidders, Proposal Form, Form of Bond, Conditions of Contract, General Conditions, Specifications, Form of Contract, Construction Drawings, 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 Table of Contents, title, heading, headlines and marginal notes contained herein are solely to facilitate reference to various provisions of the Contract Documents and in no way affect, limit or case light upon the interpretation of the provisions to which they refer. Whenever the term "Contract Documents" is used, it shall mean and include the Notice to Bidders, Instruction to Bidders, Proposal Form, Form of Bond, Conditions of Contract, General Conditions, Specifications, Form of Contract, Construction Drawings, and any Addenda. In case of any conflict or inconsistency between the provisions of the conditions of this contract shall govern.

IN WITNESS THEROF, the parties hereunto set their hands and seals, and such of them as are corporations have caused these presents to be signed by their duly authorized officers.

NOTE: Quantities of any or all items may be increased, decreased or eliminated in their entirety at the option of the Town prior to or after award of the contract.

Total Bid

_____ Dollars _____
 (written in words) (figures)

ATTEST:

TOWN OF RIVERHEAD

 SUPERVISOR

 CONTRACTOR

 TITLE

STATE OF NEW YORK)
)ss:
COUNTY OF _____)

On this _____ day of _____, 20____ before me personally appeared

(Town Supervisor)

The duly elected and qualified Supervisor of the Town of Riverhead, the corporation described in and which executed the foregoing instrument, to me known and known to me to be such Supervisor of the Town of Riverhead; and he being by me duly sworn did depose and say; that he is the Supervisor of the Town of Riverhead; that he resided at

_____, Suffolk County, New York; that he knows the corporation seal of said Town of Riverhead; that the seal affixed to said instrument is such corporate seal; and that he executed the same as such Supervisor for the purpose herein mentioned.

Notary Public

Acknowledgement by Contractor if a PARTNERSHIP

STATE OF NEW YORK)
)ss:
COUNTY OF _____)

On this _____ day of _____, 20 ____, before me personally appeared _____ to me known to by the person described in and who executed the foregoing instrument and who acknowledged to me that he executed the same.

Notary Public

Acknowledgement by Contractor if a PARTNERSHIP

STATE OF NEW YORK)
)ss:
COUNTY OF _____)

On this _____ day of _____, 20 ____ before me personally came _____ to be known and known to be to a member of _____ the firm described in and which executed the foregoing instrument and he acknowledged to me that he subscribed the name of said firm thereto on behalf of said firm for the purpose therein mentioned.

Notary Public

Acknowledgement by Contract if a CORPORATION

STATE OF NEW YORK)
)ss:
COUNTY OF _____)

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

Notary Public

PART 1 - GENERAL**1.01 - BRIEF PURPOSE OF PROJECT / GENERAL**

- A. The purpose of the project is to upgrade the Ball Field Pump Station in the Calverton Sewer District to replace the aged pumping and control systems, provide online stand-by back-up power generation system and create a safer and more reliable operation.
- B. All work shown and specified in the Contract Documents shall be work of this Construction Contract including the installation of equipment purchased and supplied by the Town as outlined in SECTION 01110 1.06 (A). 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 associated with the Owner's program to construct the project.

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 A+E or 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 GENERAL, MECHANICAL & ELECTRICAL CONSTRUCTION CONTRACTOR may be referred to as the "General Contractor", "Prime General Contractor", "Contract G Contractor" or similar wording. The lack of word capitalization shall be incidental. This Construction Contract shall be known as Contract G.

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. Tree removal, site clearing, grubbing, sheeting, bracing, excavation, soil erosion protection, slope protection, earth movement, subgrade preparation, removal of excess and/or unsuitable excavated material and import of suitable material, as necessary to install and construct all the work defined within the Contract Documents.
2. Site work for the pump station upgrades including, but not limited to: rough and final grading, landscape restoration, asphalt and concrete paving repair.
3. Construction of cast-in-place concrete slabs and installation of new aluminum access hatches in existing tank slabs.
4. New Electrical service, primary transformer, and associated electrical distribution equipment and installation of new natural gas stand-by power generator.
5. Demolition of existing mechanical equipment, sewage pumps, piping, valves, and control systems.
6. Bypass pumping of sanitary sewage.
7. Clean existing wet well to prepare for installation of new equipment and materials.
8. Installation of new pumping systems, piping, valves, and control systems.
9. Relocation and re-installation of existing alarm monitoring and reporting control panel and system.
10. New interior and exterior lighting.
11. New natural gas service & gas meter for standby generator system.
12. Project closeout submittals.
13. 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. Calverton Sewer District requirements for site access.
 2. Guidelines and requirements of the New York State Department of Environmental Conservation (NYSDEC).
 3. Local laws and ordinances of the Town of Riverhead.

1.05 - PARTIAL LISTING OF OVERALL CONTRACT REQUIREMENTS

- B. 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. Maintain facilities to be used during the contract period 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, 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 Town of Riverhead will direct purchase the following equipment through the Suffolk County Contract and turning this equipment over to the Contractor for installation:
1. (2) 3HP Flygt FP 3085.092 (493 Impeller) Submersible Pumps & applicable hardware
 2. (1) Day manufacturer pump and control panel start-up
 3. (2) 4-inch discharge connection w/(2) P/N 541305
 4. (2) SS upper guide bar bracket & Mounting Kits P/N 6136804 & 14-590000
 5. (2) Safety Hooks P/N 14589106
 6. (2) SS Discharge Connection Hardware Kits P/N 14-589535
 7. (2) 4-inch Ball Check Valves Type 5087 P/N 839173
 8. (2) 316 SS platform sockets P/N 14-58 7918

9. (1) 208V Duplex MultiSmart MSU-3MP Pump Control System and Enclosure
 10. (1) Multitrode Level Sensor P/N 2.5/10-30FS
 11. (2) Anchor Scientific Floats with weights DN50N0
 12. (1) 208 V 30 KW GS/DS Natural Gas Generator Gillette SP300
 13. (1) 150 AMP Transfer switch
 14. Freight and Start-up Services associated with aforementioned equipment.
- B. The Owner will not be supplying any other equipment, nor labor or tools for any part of this project.
- C. **The Owner will not pay for electricity usage. The restrictions on the limited electrical service available on site shall be as follows:**
1. Connection to existing available electrical supply system at the pump station site. Owner shall not provide additional electrical resources or equipment to the contractor for any portion of this contract work.
 2. Power tool usage during specified working hours will only be permitted.
 3. Dewatering and trash pumps and portable heaters will not be permitted.
 4. 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.
 5. Power to help cure concrete or painting systems will not be permitted.
- D. The Owner reserves the right to stop permitting the use of the limited existing electric service for electrical usage at any time if, in the opinion of the Owner/Engineer/Architect, the use of this electrical source adversely effects the current property owner or, 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

NO TEXT ON THIS PAGE

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.
- F. Suggested construction sequence.

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.
 - 1. The Owner may permit, solely at the Owner's discretion, the temporary use of another entrance for site access.
 - 2. The Owner will only review requests made by the Contractor for an exception to the designated site entrance if made in writing at least 72 hours in advance of each of the times desired for use.
- 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 \$1,000 per occurrence.
- C. The area around the site is active industrial/commercial park 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 including property purchased, turned over and accepted by the Contractor for installation. 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. Limit use of the site to the area(s) shown on the Contract Drawings. Confine operations to permit others working on the site easy access to all areas of Work.
- G. Keep all existing operations areas, driveways, roads, and parking areas free and clear of materials and equipment. Do not unreasonably encumber the site with materials and equipment. Confine stockpiling of excess excavated material, materials and equipment to areas selected by the Owner's construction representative. Locate storage sheds and trailers to areas designated in the plan or by the Owner's Construction Representative.
- H. Immediately remove excess excavated material or relocate to areas on the site requiring placement of fill. Do not stockpile excess material on the site.
- I. 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.
- J. Due to the limited site area available for construction, staging areas shall be relocated several times during the various stages of construction. Additional compensation for relocating staging areas, equipment and material storage, and trailers are not to be considered an extra cost to the Contractor as this is an anticipated expense that shall be considered at the time of the bid.

- K. 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.
- L. 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 \$500 per occurrence if their employee (or subcontractor's employee) is observed disregarding these rules.
- M. 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.
- N. Refer to Section 01500 - Construction Facilities and Controls for minimum rubbish removal requirements.
- O. Do not discard or dispose of any waste on-site.
- P. Open fires will not be permitted on the site.
- Q. Install erosion control measures as indicated in the Contract. The Contractor shall confine stormwater runoff to the site.
- R. Dewatering is not anticipated.
- S. The Contractor shall be responsible for managing dust as specified in Section 01500.

1.04 - CONTRACTOR STORAGE, PARKING AND DELIVERIES

- A. Contractor must provide exterior storage containers when required. Final location of storage container shall be determined and approved 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. Compressed gas containers shall be properly stored and secured per OSHA, to the satisfaction of the Owner. Failure to do so will result in a \$250 back charge, per occurrence.
- G. Contractor shall provide minimum of 48 hours advance written notice to the Owners Construction Representative for deliveries of materials, site visits by inspectors, manufacturer's 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.
- H. 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.
- I. 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.
- J. 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 -4:00 pm.
- 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. Employees shall not converse with local residents or Owner's employees.
- E. Any employee found under the influence of any drug or alcohol will be banned from the site.

1.06 - CONTRACT REQUIREMENTS RELATED TO MAINTAINING OWNER'S CURRENT OPERATIONS AND EXCESS INSPECTION REQUIRED

- A. The Contractor shall schedule working days and hours as specified. The Contractor shall pay all excess costs for inspection services provided by the Owner/Engineer/Architect for working beyond the times specified.
- B. The hourly rate paid for inspection services beyond normal working hours shall be at a maximum billing rate of \$200 per hour, which shall be used to compute the overtime hourly charge.
- C. It is the Contractor's responsibility to determine the dollar amount to be included in the bid to pay for the services of one (1) inspector to be present during the entire time work is being performed during low flow periods or beyond a normal 8-hour day. If the Owner elects to have more than one representative present, then the cost of the additional inspector(s) will not be paid for by the Contractor. The maximum hourly billing rate applies for all instances where excess engineering and/or architectural services are performed beyond a normal 8-hour work day, not just work to be performed during low flow periods.
- D. The Contractor will be allowed to work early morning hours if a planned tie-in must be performed. Early morning work is required since it is a low flow period. Provide 72 hours advanced notice to the Engineer/Architect for all early morning work together with a written plan as to the steps necessary to construct the work. The overtime salary costs for early morning tie-in work associated with having the operations staff of the treatment facility present shall be paid by the Contractor. This cost will be eligible for reimbursement payment as specified in Section 01210 – Allowances.
- E. Maintenance of Operations:
 - 1. The Contractor shall be responsible for all fines if the cause of the violation was due to the direct or indirect construction action of the Contractor or any of his/her employees, subcontractors, vendors or material suppliers.
 - 2. When it becomes necessary to alter the existing pump station operations in any way, the Contractor shall provide at least 72 hours advance written notice to the Engineer/Architect and Owner.
 - 3. The Contractor shall not open, close, start or stop any valve, piece of equipment or any other component at the existing facility without first providing written notice. Only licensed

operators designated by the Owner shall be permitted to alter the operation of the pump station.

4. The Contractor shall employ bypass pumping from upstream manholes/tanks to another in order to take tanks off-line, perform required modifications and demolitions and to complete the work.
5. All equipment, labor, materials, and fuel or source of power used for bypass operations shall be furnished and installed by the Contractor.
6. Where existing electrical facilities require modifications or abandonment, then the Contractor shall first decommission them with the approval of the Owner.
7. The Contractor shall conduct all physical work necessary to alter pump station flows and install whatever measures are required to perform the work safely.

1.07 – SUGGESTED CONSTRUCTION SEQUENCE

- A. The following is one suggested general, not all-inclusive, sequence of construction that may be used to complete all the work under the Contract within the time specified.
- B. Work restrictions may be noted throughout the suggested sequence provided below. The Contractor shall comply with all noted work restrictions that appear.

1. **Ball Field Pump Station:**

- a. Obtain approval of all new equipment and controls (piping, valves, control etc) required to install the complete new pumping system. Obtain delivery dates for new and Owner supplied equipment.
- b. Arrange for and install new primary electrical service
- c. Install new by-pass pumping system.
- d. Install new electric service panels, meter and wiring.
- e. Demolish all existing piping, pump and control systems.
- f. Install new pump control panel
- g. Install new pump access hatches on deck and in wet well.
- h. Install new pumps, piping and valves.

- i. Install new pump level controls.
- j. Relocate existing remote alarm panel system
- k. Test new pump systems and place into permanent operation. By pass pumping system shall remain available for use for 2 weeks after initial start up of the new pumping system to be placed back into service by the Contractor, if a mechanical/electrical occurrence with the new system causes a system shut down.
- l. Arrange for and install new gas service, meter and gas piping to new genset.
- m. Install new natural gas genset and ATS.
- n. The following construction items may be scheduled by the contractor and are not required to be coordinated with the bypass pumping operations: new lighting, fencing, grading and crushed rock surfacing, and pump station door replacement.
- o. Complete all remaining contract work

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

PART 1 - GENERAL**1.01 SECTION INCLUDES**

- A. This Section covers the requirements for use of the cash allowance(s) contained in the proposal (Bid Forms, Price Schedule) and included in the Contract Price bid by the Contractor and defines and stipulates the costs which will be paid for out of the stipulated allowance(s). The Contractor shall include the cash allowance(s) stipulated in this Section in the amount bid.
- B. Eligible costs described in this Section will be the only costs paid for out of the stipulated allowance. All other costs associated with the project shall be included in one or more of the bid items or in the lump sum bid.

1.02 PAYMENTS TO BE MADE OUT OF TESTING ALLOWANCE

- A. Include the cash allowance of \$5,000.00 (Five Thousand Dollars and Zero Cents) in the amount bid for independent testing laboratory services specified in Section 01450.
- B. The actual invoiced charges of the testing laboratory incurred for field and laboratory tests, as specified in Section 01450 - Quality Control, shall be paid for out of the cash allowance.
- C. One (1) week prior to each partial payment, submit a certified invoice from the testing company listing and detailing the total costs incurred since the last invoice. The invoice shall be on company letterhead signed by an authorized representative of the testing company and shall include man-hours, tests conducted, date of tests and associated costs and fees. Payment for testing costs will not be made unless the information is provided and certified. Payment for testing costs will not be made unless the typed test data reports have been received by the Engineer.
- D. 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 he may re-test samples to verify the original test results at his/her own expense.
- E. Costs for re-testing failed components of the work, when ordered by the Engineer, will not be paid for out of the cash allowance and will be directly borne by the Contractor.

1.03 PAYMENTS TO BE MADE OUT OF SECURITY/ALARM ALLOWANCE

- A. Include the cash allowance of \$5,000.00 (Five Thousand Dollars and Zero Cents) in the amount bid for security and alarm system services as specified herein and on the Contract Plans.
- B. The actual invoiced charges of the alarm company incurred for relocating, updating, furnishing and installing the security, monitoring and remote alarm annunciation system in accordance with

the standard system installed at all Riverhead Sewer District pump station facilities, shall be paid for out of the cash allowance.

- C. One (1) week prior to each partial payment, submit a certified invoice from the security/alarm company listing and detailing the total costs incurred since the last invoice. The invoice shall be on company letterhead signed by an authorized representative of the company and shall include man-hours, material/equipment installed, date of work performed and associated costs and fees. Payment for security/alarm costs will not be made unless the information is provided and certified. Payment for security/alarm costs will not be made unless the typed test field reports for the installed equipment has been received by the Engineer.
- D. Work to furnish and install the required equipment shall be performed by Strategic Alarm Concepts LTD, 336 Hempstead Avenue, West Hempstead, NY 11552, (516) 489-5550, or District's currently contracted alarm monitoring provider if changed from the former.
- E. Equipment to be installed shall include, but not limited to, the following: radio transceiver, power serial cable, I/O cable, mounting brackets, Ni-cad battery pack, power supply, antenna, Ademco alarm control panel, infrared – dual technology, smoke & heat detector, Barrie Bar-vertical, Siren – Stainless Steel, enclosure, conduit, 4 conductor cable, 2 conductor cable, necessary hardware and necessary programming. All proposed equipment and the proposed installation locations shall be approved by the Engineer and the Sewer District representative prior to furnishing and installing any of the equipment.
- F. System shall connect to the existing central station monitoring currently servicing the Calverton Sewer District.
- G. Existing signal alarm system and equipment shall be disconnected at the existing Ball Field pump station site and relocated as directed by the Engineer and reconnected to the new pump control and monitoring system points and miscellaneous alarm points. Any removed equipment not used in final relocated system shall be turned over to the District for use as spare parts.
- H. Contractor shall responsible to schedule all work of the security/alarm contractor to coordinate with the installation of the mechanical and electrical work. Contractor shall bring all required alarm monitoring points and power wiring to the relocated alarm panel for field termination by the alarm panel contractor. Labor and material costs to bring the field wiring to the relocated alarm panel are not eligible under this allowance and shall be included in the base bid.
- I. Funds remaining at project closeout shall be credited to the Owner.

1.04 PAYMENTS TO BE MADE OUT OF SLUDGE HAULING ALLOWANCE

- A. Include the cash allowance of \$5,000.00 (Five Thousand Dollars and Zero Cents) in the amount bid for sludge/wet well debris hauling services specified herein this Section.
- B. The actual invoiced charges of the waste hauling company incurred for removing sludge, debris and grit from existing wet wells located at the pump station sites of the project. The eligible charges shall only include the hauling cost and disposal charges. The Contractor shall submit a unit price cost that shall be used throughout the entire contract period. The Owner's sludge hauler shall be used if the Owner has a company under contract. The hauler shall be properly licensed by the State. The unit price shall be on a dollar per gallon basis for disposal. Labor and equipment use/rental charges for cleaning existing tanks, equipment, channels, and the like to facilitate the upgrade work are not eligible under this allowance and shall be included in the base bid.
- C. The Contractor shall coordinate and arrange with the waste hauling company to have existing wet wells and chambers pumped. The Contractor will not be allowed an overhead markup for coordinating this work. Provide evidence that the waste hauling company has an approved waste hauler license in accordance with 6 NYCRR Part 364.
- D. The Engineer shall witness all pumping activities. The Contractor shall obtain from the Engineer his signature attesting to the amount of waste that was hauled away measured in gallons occupied in the tanker. Pumping shall not begin until the Engineer has inspected the volume of the tanker before work has started. The tanker shall not leave the site until the Engineer has re-inspected the tanker. The Contractor will not be reimbursed for this cash allowance unless the Engineer has inspected the sludge hauling activity and has provided his signature on the company's work order.
- E. First preference shall be given to the waste hauler that is currently assigned the Calverton Sewer District account.
- F. One (1) week prior to each partial payment, submit a certified invoice from the company listing and detailing the total costs incurred since the last invoice. The invoice shall be on company letterhead signed by an authorized representative of the company and shall include date, amount hauled, and charges. Payment will not be made unless the information is provided and certified. The work order containing the Engineer's signature shall be submitted with each invoice.
- G. Funds remaining at project closeout shall be credited to the Owner.

1.05 PAYMENTS TO BE MADE OUT OF CONTINGENCY ACCOUNT

- A. Include the cash allowance of \$10,000.00 (Ten Thousand Dollars and Zero Cents) in the amount bid for use upon the Owner's instructions.

- B. Funds will be drawn from this account to pay for overtime hours worked by Owner's operations staff associated with after hour tie-in work as specified in Section 01140.
- C. The Owner shall draw funds from the contingency account only upon prior approval by the Owner's Construction Field Representative and Architect/Engineer.
- D. Funds remaining at project closeout shall be credited to the Owner.

1.06 PAYMENTS TO BE MADE OUT OF GAS MAIN ALLOWANCE

- A. Include the cash allowance of \$15,000.00 (Fifteen Thousand Dollars and Zero Cents) in the amount bid for natural gas main extension and gas service to the pump station property.
- B. The actual invoiced charges of the natural gas provider (National Grid) incurred for extension of the gas mains and providing the gas services to the gas meter pads on the proposed pump station properties and furnishing and installing the gas service meters, shall be paid for out of the cash allowance.
- C. National Grid, Mr. Tom Laplage, telephone number (631) 758-5151, has been advised regarding this proposed project and the need for the gas main extension and service. The Contractor shall coordinate the final arrangements with National Grid as necessary to schedule the gas main and service work to fit into the proposed generator startup schedule.
- D. Contractor shall coordinate the work to be preformed by National Grid with the work of this contract such that the contract work shall not be damaged or disturbed in order to complete the gas main and service installation work. Any repair or reinstallation of the contract work caused due to the installation of the gas main and service work shall be the responsibility of the Contractor and be performed at no additional contract cost to the District.
- E. Funds remaining at project closeout shall be credited to the Owner.

1.07 PAYMENTS TO BE MADE OUT OF ALLOWANCE FOR NEW PRIMARY ELECTRIC SERVICES

- A. Include the cash allowance of \$10,000.00 (Ten Thousand Dollars and Zero Cents) in the amount bid for electric utility company charges associated with the relocation / installation of new primary electric services.
- B. The actual invoiced charges incurred in connection with relocating existing service(s) and the installation of new primary services shall be paid for out of the cash allowance. Labor and material costs to install the secondary wiring (including surface restoration), set the transformer pad, install

CT cabinet and meter, etc., that are not invoiced installation/material services are not eligible under this allowance and shall be included in the base bid.

- C. Contractor shall coordinate the work performed by the electric utility provider with the work of this contract such that the contract work shall not be damaged or disturbed in order to complete the electric service installation work. Any repair or reinstallation of the contract work caused due to the installation of the electric service work shall be the responsibility of the Contractor and be performed at no additional contract cost to the District.
- D. Funds remaining at project closeout shall be credited to the Owner.

1.08 SUBMITTALS

- A. Submit backup information to substantiate the invoiced amount as the Engineer may require.

1.09 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.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

NO TEXT ON THIS PAGE

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Schedule of Values

1.02 – SCHEDULE OF VALUES

- A. Submit for approval prior to the start of the work a Schedule of Values that indicates a breakdown of the labor, materials and equipment and other costs used in the preparation of the bid. This schedule shall be in sufficient detail to indicate separate figures for such items as excavation, concrete, equipment and all other items making up the lump sum price. The cost breakdown shall be separately itemized for each lump sum bid item in the project.
- B. Where the cost breakdown includes items for bond payment, insurance payment, job set-up, or job mobilization, these items will be paid based on paid invoices and copies of cancelled checks.
- C. Submit a Schedule of Values to the Engineer/Architect for review and approval within thirty (30) calendar days from the date shown on the Notice to Proceed.

1.03 - FORM OF SUBMITTAL

- A. Submit type written Contract Cost Breakdown on AIA Form G703 - Application and Certificate for Payment Continuation Sheet or EJCDC 1910-8-E. The Engineer/Architect reserves the right to revise the form or provide a form prepared by the Engineer/Architect.
- B. Use the Table of Contents of the Contract Specifications as a basis for format for listing costs of work for Sections under Divisions 1-16 as sections apply to work. Not all Sections need be assigned a breakout price as determined by the Engineer/Architect.
- C. Identify each line item with number and title as listed in Table of Contents.
- D. Provide dollar values for each line item for labor, overhead, profit, material, and equipment components for each category of work if requested by the Engineer/Architect.
- E. List quantities of materials specified under unit price allowances.
- F. The Schedule of Values, after approval by the Engineer/Architect, shall be the basis for the Contractor's Application for Payment.
- G. The first Application for Payment will not be reviewed prior to an approved breakdown.

1.04 - PREPARATION OF SCHEDULE OF VALUES

- A. In addition to the above, provide a separate line item cost for each of the following items which shall be supported by proof where specified below:
1. Mobilization and Demobilization,
 2. Performance and payment bonds (Submit proof of this amount),
 3. Insurance (Submit proof of this amount),
 4. Temporary facilities and measures as specified in Section 01500,
 5. All Cash Allowance items as contained in Section 01210,
 6. On-site, full time superintendent starting on the date of the Notice To Proceed and ending on the date that all punch list items are completed, which for the purposes of the Schedule of Values, shall be the contract completion date,
 7. A total dollar amount for furnishing all the Operations and Maintenance Manuals specified throughout the specifications,
 8. Electrical line items for 1) Materials and 2) Labor,
 9. Gas piping line items for 1) Materials and 2) Labor,
 10. Gas piping line items for pressure test,
 11. Sanitary piping line items for 1) Materials and 2) Labor,
 12. Start-up assistance amount specified in Section 01820,
 13. Record Drawings retainage amount specified in Section 01785,
 14. Final cleaning.
- B. Show total costs *including* overhead and profit.
- C. Provide additional details and data to substantiate the cost breakdown as requested by the Engineer/Architect.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

NO TEXT ON THIS PAGE

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 base bid 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 01322 - 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 construction activity 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. 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 01322 for the project schedule.
 5. 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.

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.
- G. The superintendent shall be on the site for each work day, full time, starting within twenty one (21) calendar days from the date of the Notice To Proceed through the date of Final Completion, including all punch list items.
- H. The superintendent shall speak English. If required by the Engineer/Architect, provide a resume for the proposed superintendent that shall be typed and shall list the qualifications of the superintendent. Prior to the Contractor assigning a superintendent to the project, he may wish to arrange an interview with the Engineer/Architect to determine the proposed superintendent's ability to properly coordinate the work through the Owner/Engineer/Architect. The Contractor shall employ a superintendent acceptable to the Owner.

This space left intentionally blank.

REQUEST FOR INTERPRETATION/INFORMATION (RFI)

**TOWN OF RIVERHEAD
CALVERTON SANITARY PUMP STATION UPGRADES
BALL FIELD PUMP STATION
CASD 14-02**

Product, Item, or System:			
Request Date:		RFI No.:	
Specification Section:		Paragraph Reference:	
Contract Drawing Reference(s):			
Describe Request:			
Signed:	☐ See Contractor's Attachments for Additional Description for Information		
Owner/Engineer Response:			
Engineer (Printed):	☐ See Engineer/Architect's Attachments for Additional Information		
<i>Engineer's Signature & Date</i>		<i>Response Accepted By Contractor Contractor's Signature & 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 four (4) 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 \$1,000 shall be deducted from the Contract Amount for each announced meeting not attended by the Contractor.*
- D. The job site superintendent or office project manager for the Contractor must 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

NO TEXT ON THIS PAGE

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 01330.

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.

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. Pre and post-construction photography.

1.02 - PHOTOGRAPHY

- A. Provide color photographs of the site (pre and post-construction) acceptable to the Engineer.
- B. Preconstruction Photographs: Provide photographs, taken within the limits of the work, to document existing conditions. Engineer/Architect will designate the date and location of the exposures that will generally be taken just prior to the construction operations. The minimum number of photographs required shall be forty (40).
- C. Progress Photographs: The Engineer/Architect will take progress photographs for the Owner's record. The Contractor shall secure his/her own progress photographs.
- D. Final Photographs: Provide post-construction photographs, taken within the limits of the work, to document the final project and the conditions at final payment and issuance of the Final Certificate. The Final Payment will not be processed until such time as the photographs are provided. Engineer/Architect will designate the date and location of the exposures that will be taken. The minimum number of photographs required shall be forty (40).
- E. Digital Photographs: Submit image files in JPG format via Newforma® within three days of taking photographs.
 - 1. Format: Minimum 3200 by 2400 pixels, in unaltered original files, with same aspect ratio as the sensor, uncropped, date and time stamped, in folder named by date of photograph, accompanied by key plan file.
 - 2. Identification: Provide the following information with each image description in file metadata tag:
 - a. Name of Project.
 - b. Name and contact information for photographer.
 - c. Name of Engineer.
 - d. Name of Contractor.
 - e. Date photograph was taken.
 - f. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
 - g. Unique sequential identifier keyed to accompanying key plan.

1.03 – PHOTOGRAPHIC MEDIA

- A. Digital Images: Provide images in JPG format, produced by a digital camera with minimum sensor size of 8 megapixels.
- B. Panoramic photographs shall be taken at appropriate locations.

1.04 - SUBMITTALS

- A. Submit photographs via Newforma® within three (3) working days of taking photograph in accordance with the requirements of Section 01330.

1.05 USAGE RIGHTS

- A. Obtain and transfer copyright usage rights from photographer to Owner for unlimited reproduction of photographic documentation.

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.
- B. Refer to Section 01322 - 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 resubmittals, 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 ten (10) 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 **NINETY (90)** 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 **NINETY (90)** 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'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'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. Engineer 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.
 - 1. As an external team member on this project the Contractor will be required to access the Engineer/Newforma Info Exchange website for information related to the project, including file transfers, RFI, Submittals, Action Items, and project Calendar information. You will have access to this website using any internet-capable computer running Internet Explorer or Firefox. All data transmitted through the Engineer /Newforma Info Exchange website is encrypted and logged. Further instructions will be provided to the Contractor after the contract is awarded.

- D. 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, 4th 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 01310 - 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 a 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, resubmittals, 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 01630, 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 - SUBCONTRACTOR LIST

- A. The Contractor shall submit, on AIA Form G805, within five (5) 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.

1.13 - 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.

1.14 - 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 and the Owner, 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.
 - 3. Send one print to the Owner as specified above.
- C. Submit two (2) copies of each standard drawing, catalog cut, or other material for which no transparency is available.
- 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.

1.15 - 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.

1.16 - 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.

1.17 - 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.

1.18 - 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.

1.19 - 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.

1.20 - 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.

1.21 - 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.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

This space left intentionally blank.

CONTRACTOR'S COMPANY NAME:
ADDRESS:

SUBMITTAL TRANSMITTAL FORM – CONTRACT G

**TOWN OF RIVERHEAD
CALVERTON SEWER DISTRICT
SANTIARY PUMP STATION UPGRADES: BALL FIELD PUMP STATION
CONTRACT NO. CASD 1402**

Contractor Submittal No.:	
Name of Item Submitted:	
General Location Point of Use:	
Date of Submission:	
Number of Times Submitted (incl. this one):	
Date of Previous Submission:	
Name of Subcontractor:	
Supplier Name and Number:	
Manufacturer Name and Number:	
This Item is a Substitution (Y/N):	
Specification Section No.:	
Drawing Sheet No.:	
Remarks/Deviations:	

CONTRACTOR'S CERTIFICATION STATEMENT:

By this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers, and similar data and I have reviewed and approved this submittal and checked and coordinated each item with the other applicable approved Shop Drawings and all Contract requirements.

Contractor's Approval Stamp	H2M Shop Drawing Review Stamp
<i>Contractor's Approval Stamp with Signature and Date</i>	

This page left intentionally blank.

NO TEXT ON THIS PAGE

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 State Department of Labor prior to commencing work.
- C. Electrical Work: Conform to the requirements of the National Electrical Code (NEC) 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 Codes, Rules, Laws and Ordinances
11. Sewer District Sewer Use Code
12. Local Water District
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.
- C. Such permits include, but are not limited to:
 1. Transportation and disposal of construction debris
 2. Building permits that are required by the municipality where the work is located. Arrange for inspections of the work by the municipal building department before closing in the installed work, if so required. Work will not be accepted for payment until such inspections are performed and accepted by the building department.
 3. Road opening permit
 4. Obtain a New York Board of Fire Underwriters inspection and certificate.

1.05 – LISTINGS

- A. Equipment and materials for which Underwriters' Laboratories, Inc. (UL) provides product listing service, shall be listed and bear the listing mark. Alternately, ETL Testing Laboratories, Inc. Product Safety Testing Listing is acceptable if the listed product has been tested to the applicable UL Standard.

1.06 – 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.

1.07 – COORDINATION WITH ELECTRIC UTILITY COMPANY

- A. Comply with the utility company requirements for the incoming electric service.
- B. Pay the utility company's charges in connection with the installation of the incoming service.
- C. An allowance for the utility company's charges is included in Section 01210.
- D. Comply with the utility company requirements for the incoming electric service. There are no utility company charges associated with the installation of the incoming service.

1.08 – COORDINATION WITH GAS UTILITY COMPANY

- A. Comply with the gas utility company requirements including inspection for the incoming gas service. Pay the utility company's charges in connection with the installation and inspection of the incoming service. An allowance for the utility company's charges is included in Section 01210.
- B. Comply with the gas utility company requirements including inspection for the incoming gas service.

1.09 – COORDINATION WITH WATER UTILITY

- A. Comply with the water utility requirements for water and fire service connections.

1.10 – COORDINATION WITH SANITARY SEWER UTILITY

- A. Comply with the public utility requirements for the connection of sanitary sewer lines to the public utility services. Obtain and pay for all necessary permits from public sewer department. Obtain authority to connect to their existing sanitary sewers.

1.11 – COORDINATION WITH TELEPHONE UTILITY COMPANY

- A. Comply with the utility company requirements for the incoming telephone service. Pay the utility company's charges in connection with the installation of the incoming service. An allowance for the utility company's charges is included in Section 01210.

- B. Comply with the utility company requirements for the incoming telephone service.
- C. Contact the local telephone company and arrange for the removal and relocation of existing telephone equipment.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

PART 1 - GENERAL**1.01 - ABBREVIATED SUMMARY**

- A. This Section explains the format of the specifications.

1.02 - SPECIFICATION FORMAT

- A. The Specifications are generally arranged according to the Construction Specifications Institute (CSI) format. Most of the technical requirements are specified in the technical specifications of the document, which are grouped into sixteen (16) major divisions. Most of the legal and administrative requirements are included in Division 1, General Conditions, Information For Bidders, and the Contract (agreement).
- B. Technical sections are arranged in numerical order, however section numbers may not be consecutive from section to section.
- C. Page numbering is subordinate to each section.
- D. Most sections are generally broken down into three (3) parts:
 - 1. PART 1 - GENERAL
 - 2. PART 2 - PRODUCTS
 - 3. PART 3 - EXECUTION
- E. Not all these parts may be used and in some cases, the title of some of the parts may be different than listed above. Paragraph numbers are subordinate to each part.
- F. The Contractor is advised that the format described here is flexible in nature.
 - 1. There is some overlapping of specified information between various portions of the Specifications.
 - 2. In all cases, the entire requirements of the Contract Documents for the project shall apply.
- G. Explanations:
 - 1. Many technical sections begin with a paragraph titled "SECTION INCLUDES", "DESCRIPTION", or similar wording.

- a. In these paragraphs, a brief listing of the specified products may appear or a brief description of the work generally specified in that section is presented.
 - b. These descriptions or listings are not all inclusive, but merely are provided as an aid in locating subject matter.
 - c. In some cases special cost related items of work are called to the attention of the Contractor in these opening paragraphs.
2. "RELATED SECTIONS" or "RELATED WORK" or similar wording paragraphs list or reference related work specified elsewhere in the Contract Documents. Such listing is not all inclusive, rather, they are merely an aid to the Contractor in locating some of the other Specification Sections wherein work is specified which has a particularly close interrelationship with the work specified in that section.
 - a. It shall be understood that all of the Work, and all of the Specifications and other portions of the Contract Documents, are interrelated, and that the total of all requirements set forth in all of the Contract Documents shall be met.
 - b. Equipment suppliers and manufacturers shall be advised of the requirements for making submittals and delivering products, as specified in Division 1 sections, even if said sections are not referenced therein that section.
3. "REGULATORY REQUIREMENTS" or "REFERENCES" or similar wording paragraphs describe standards, laws, guidelines, regulations, and standards related to workmanship and installation of the products specified which shall be followed by the Contractor in completing the work specified therein that section as if it was written there in that section. All such requirements and references shall be latest issue in effect at the time of the bid opening.
4. When a "GUARANTEE" or "WARRANTY" paragraph appears in the section it is calling attention to a guarantee which extends beyond the period of the Contractor's Guarantee called for in the administrative portion of the Contract Documents or it states special requirements specific to the equipment, systems or products specified in that section.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

NO TEXT ON THIS PAGE

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 01210 – 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, 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 fifteen (15) 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. 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.

3.02 - 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.

3.03 - 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. 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.
- B. Temporary electric shall be provided by the Contractor as specified in Section 01510.

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. The Contractor shall be required to keep the facilities clean during the period of use.
- B. The Owner will pay for water usage for general construction activities such as dust control and for sanitary purposes, like hand washing.
- C. Contractor shall exercise measures to conserve water.
- D. Provide insulation and heat tracing to prevent freezing of temporary piping. Drain hoses at the end of each use.
- E. 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. The Contractor shall provide and maintain temporary toilet facilities and enclosures.
- 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.
- 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 not be available for use by Contractor.

2.04 - HEAT

- A. 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. The Contractor shall heat buildings to properly apply paint, if required, in accordance with Section 09910 requirements.

- C. 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.
- B. The Contractor shall ventilate buildings to safely apply paint in accordance with Section 09910 requirements.

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.
- C. Security Fencing:
1. Install 8 foot temporary chain line fence along Hangar Building property's perimeter fence line until new fence is installed as detailed on the contract plans.
 2. Temporary perimeter fence shall be secured at all times when contractor is not working on site.
 3. Additional temporary chain link security fencing shall be installed at the Contractor's option to protect the work area and materials. The contractor is responsible for all site and equipment security during the course of the contract period.

2.08 - 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.

2.09 - 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 01140 - 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 two (2) 55-gallon general trash containers per pump station site. 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.

2.10 – SNOW REMOVAL

- A. The Contractor shall be responsible for maintaining roads, and parking areas, pump station sites and access ways to each pump station site free of snow to as required to accommodate the contract work.
- B. Provide snow plowing during and after each snow fall equal to or greater than 1.0 inch as reported by the local weather service.
- C. Any damage resulting from the Contractor's snow clearing operations shall be immediately repaired at no additional cost to the Owner.

2.11 - 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 01650 - Product Delivery, Storage and Handling.

2.12 - 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.

2.13 - 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.
- 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.

2.14 - 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.

2.15 - 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.

2.16 - 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.

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

NO TEXT ON THIS PAGE

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. The Contractor shall install temporary light and electricity.
 - 1. Temporary electricity shall be installed to all areas of the site where new work is planned or where temporary electric facilities are required to facilitate the demolition and installation of new work shown on the Contract Drawings.

1.02 - SERVICE

- A. Provide minimum 100-amp temporary electrical services for each area requiring electric.
- B. Furnish means for connection of small power tools.
- C. Furnish three (3) 100 foot high capacity, heavy-duty power extension cords for use throughout the site by others.
- D. Applications for electrical service shall be completed by the Contractor.
- E. The cost for installations, including labor, material, tools, removals, and supplies shall not be eligible for payment under any cash allowance and shall be included in the price as bid.

1.03 - TEMPORARY LIGHT AND ELECTRICITY

- A. The Contractor shall make all necessary arrangements for temporary electric service at the site of the Work.
- B. Install all temporary light and power in accordance with the National Electrical Code.
- C. At the Contractor's option, a properly sized generator may be provided during this period with all costs associated with its operation and maintenance being paid for by the Contractor.
- D. Provide wiring and other equipment for temporary light and power in accordance with recognized industry standards.
 - 1. Wiring for temporary light and single-phase power shall, in general, consist of 3 wire, 120/240 volt with branch circuits of #12 conductors minimum.
 - 2. Provide branch circuits with weatherproof medium base type lamp holders for temporary lighting as required to maintain a minimum of 10 foot candles in the work areas of all buildings being constructed or renovated as work of this project.

3. Provide branch circuits with fused ground type receptacle outlet for single-phase power.
 4. Provide lamps and fuses, including replacements.
 5. Provide new materials for temporary light and power, except that transformers need not be new if they are in satisfactory operating condition.
 6. Provide ground fault protection (such as portable plug-in type ground fault circuit interrupters) on single-phase 15 and 20 amp receptacle outlets.
 7. Provide receptacle outlets, portable cord connectors and attachment plugs with standard NEMA configurations.
- E. Upon completion of the project, remove all temporary electric light and power work and restore all affected finishes and connections.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

PART 1 - GENERAL**1.01 – SECTION INCLUDES**

- A. Temporary system of pumps, pipes and appurtenances to convey sanitary wastewater to allow the work to be performed.
- B. Standby equipment for the temporary sanitary wastewater conveyance system to assure continuous operation.

1.02 – SYSTEM DESCRIPTION

- A. Each temporary pump shall be capable of conveying the design operating flow rate.
- B. Provide pump control elements such as floats to prevent surcharging of wastewater into the piping system and overflow from structures.
- C. Pumps handling raw and partially treated wastewater shall be capable of passing a sphere of at least 3-inches in diameter.
- D. Pump suction and discharge openings shall be at least 4-inches in diameter.
- E. Maintain sanitary conditions to allow work to be performed. Protect equipment, suction piping and discharge piping main from inclement weather, freezing conditions and traffic.
- F. Prevent leakage and spillage of wastewater.
- G. Provide walkways over obstructions on sidewalks to maintain pedestrian traffic.
- H. Provide ramps or below grade piping to maintain vehicular traffic.
- I. Provide alarm system to indicate increase above normal operating liquid level in manhole /sewer and connect to Owner's alarm system. Provide 24 hour contact information for response to alarm conditions. Owner needed responses to bypass pumping alarm conditions will incur back charge to the Contractor equal to the costs incurred by the Owner for the response.
- J. Electrical system and components in sewers and raw wastewater wet wells shall comply with the National Electric Code requirements for Class I, Group D, Division 1 locations.
- K. Provide spare suction and discharge piping at the project site.

- L. Provide emergency back-up pumping equipment or provisions for emergency 24 hour wastewater hauler service as back up to primary bypass pumping system if primary bypass system fails to operate or breaks down during operation
- M. For temporary sanitary wastewater conveyance systems located in roadways, provide signs and traffic controls in accordance with the State Manual of Uniform Traffic Control Devices.
- N. Obtain confined space entry permit from Owner.
- O. All electrical service and fuel requirements for the bypass pumping system shall be provided by the Contractor. If existing electrical service is suitable to power bypass system, then the Contractor may connect to existing electrical service at his/her own risk. Owner is not required to pay for electrical usage costs incurred by bypass pumping system. The Contractor shall pay for all electrical usage costs for bypass pumping system operations if, in the owners opinion, the power usage is beyond that needed for the normal pumping system operation.

1.03 – SUBMITTALS

- A. Submit under provisions of Section 01330.
- B. Provide a written plan of the proposed temporary sanitary wastewater conveyance system to the Engineer/Architect at least two weeks prior to the need for the system.
 - 1. The written plan shall include number size and type of pumps, material, diameter and proposed route of piping and/or hoses, control system, back-up and spare equipment, and estimated duration of bypass operation.
 - 2. Provide a schematic diagram of the system if so requested by the Engineer/Architect.

PART 2 - PRODUCTS

2.01 – PRODUCTS

- A. Provide close coupled centrifugal pump with vacuum priming compressor mounted to a diesel engine or electric motor on skid base or two-wheeled highway trailer, or submersible pump.
- B. Provide solids handling ball type check valve with flexible rubber seat and quick release access feature with centrifugal pumps.
- C. Provide compact unit mounted on skid base or two-wheeled highway trailer. Either option shall include overnight running fuel tank.

- D. Engines shall be equipped with critical silencers and be housed to minimize noise during operation.
- E. Provide suction hose from source to pump.
- F. Provide plugs in the upstream manhole to prevent flow from the upstream sanitary sewer through the sewer in the work location.

PART 3 – EXECUTION

3.01 – INSTALLATION

- A. Furnish all labor, materials, equipment and appliances necessary to maintain both vehicular and pedestrian traffic, to protect the public from all damage to person and property and to minimize inconveniences to the facilities adjacent to the work areas for the duration of the use of the temporary sanitary wastewater conveyance system in accordance with the Contract and the appropriate State, County or local agency.
- B. Install, operate and maintain bypass pumping system in accordance with manufacturers' instructions.
- C. Install plugs or other devices to prevent flow into out of service facilities.
- D. Test temporary conveyance system to the satisfaction of the Engineer/Architect prior to usage.
- E. System shall require low level of maintenance, typically confined to checking engine oil levels and seal cavity oil levels.
- F. Provide full-time personnel to continuously operate the bypass system to assure continuous wastewater conveyance for entire time use of the system is required.
- G. Conduct work to minimize duration of bypass pumping system operation.

END OF SECTION

NO TEXT ON THIS PAGE

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 – CONTROL PANELS, MCC'S AND SWITCHBOARDS

- A. All control panels, motor control centers, and switchboards shall be fabricated with pilot lights, selector switches, PLC, graphics display panels, elapsed time meters and other components that shall match.

1. This does not require that all components be one manufacturer, but does require that the like components be of the same manufacturer.
 2. The Contractor shall coordinate the shop drawing submittals to indicate that all components have been selected on this basis.
 3. This requires the Contractor to advise each control panel supplier that product options are limited in this regard.
- B. Replacement of unlike products delivered to the job site shall be the responsibility of the Contractor.
- C. All costs associated with the replacement shall be borne by the Contractor.

2.03 - 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.

2.04 - 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, disfigurations 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

NO TEXT ON THIS PAGE

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 01330.
- H. Substitutions may be considered when a product becomes unavailable through no fault of the Contractor.

PART 2 - PRODUCTS

Not Used

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. The undersigned will pay for changes to building design, including Architectural and Engineering design, detailing, and construction costs caused by requested Substitution.
4. Proposed Substitution will have no adverse affect on the construction schedule, or specified warranty requirements.
5. Maintenance and service parts will be locally available for proposed substitution.
6. 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.
 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/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.
-
-
-

Contractor's Authorized Representative (Typewritten): _____

Authorized Signature: _____

Date: _____

END OF SECTION

NO TEXT ON THIS PAGE

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. Delicate instruments and devices, reagents, chemicals, and glassware shall be shipped in packaging normally provided by the manufacturer.
- G. 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

NO TEXT ON THIS PAGE

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.
- B. The site shall be clean, organized, and totally free of construction debris, tools, and equipment.

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 of wet and/or slippery floor conditions 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 from all contract and direct purchase equipment and materials on the project.

- 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. Polish bright metal by damp wiping and drying with a suitable cloth. If a polished appearance is not thereby produced, apply appropriate metal polish.
 - 2. Clean and polish all stainless steel surfaces, including control panels supplied under this Contract.
 - 3. Clean furniture and equipment in accordance with manufacturers instructions.
 - 4. 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.
 - 5. Repair or repaint damaged pavement markings.
 - 6. Vacuum and clean with a damp cloth light fixtures, including glass and plastic lenses, ceiling and wall mounted lights, cover panels, side panels, louvers, fixture frames and lamps.
 - 7. Rake clean landscaped surfaces. Final mow all areas grassed and sodded during the work.
 - 8. 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.
 - 9. Vacuum the inside of all control panels provided under this Contract after the panel has been wired.

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. Verify that each piece of equipment or system has been checked for proper:
 - 1. lubrication,
 - 2. drive rotation,
 - 3. motor starter heater size,
 - 4. fuse size,
 - 5. water pressures,
 - 6. terminal connections,
 - 7. control sequence
 - 8. 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 01450 - Quality Control.
- L. Submit manufacturer's start-up reports (MSR's) in accordance with Section 01330.

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 01330.
- 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. 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 – TEST FOR TANKS VENTED TO ATMOSPHERE

- A. Prior to testing liquid holding tanks open to the atmosphere, backfill to finished grade. Piping and equipment within the tank that might affect the watertightness of the tank shall be completely installed and operable.
- B. Isolate each individual tank for testing.
 - 1. Fill with clean, potable water to the maximum operating level.
 - 2. After a suitable stabilization period, the maximum operating level shall be reestablished and a twenty-four (24) hour leakage test shall be performed.
 - 3. During the test, no water shall be added to or taken from the tank. The drop in the water level shall be recorded at the end of the period.
 - 4. The allowable loss is no more than 1/4-inch per eight hours.

5. Leaks shall be repaired by methods and materials approved by the Engineer/Architect prior to the start of the corrective action.
 6. Leakage shall be corrected prior to the performance of equipment testing.
 7. During the testing of each individual tank, as outlined in this paragraph, all immediately adjacent tanks shall be empty of water.
- C. After each individual tank has passed the leakage test, all tanks within each complex shall be filled with water to the normal operation level to check complex structural integrity and the hydraulics of operation.

3.07 - 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.

3.08 - SCHEDULE**LEAKAGE TESTING REQUIREMENTS**

SERVICE	FLUID	PRESSURE	DURATION (Hrs.)	ALLOWABLE LEAKAGE (Note 1)		
				UNDERGROUND		EXPOSED
				Infil.	Exfil.	
Non-Pressure Piping	Water	4ft.	6	100	100	None
Pressure Piping	Water	(Note 2)	(Note 2)	0	0	0

SCHEDULE NOTES:

1. Maximum allowable leakage in gallons/day/inch diameter/mile of pipe, or gallons/day/inch diameter/mile for manholes. Where a percentage is shown, the loss shall not exceed the percentage of the starting test pressure.
2. Maintain 100 psi or two times operating pressure, whichever is greater, for 2 hours.

END OF SECTION

NO TEXT ON THIS PAGE

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 01785.
 2. Operations and Maintenance Manuals prepared in accordance with Section 01782 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. 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.
- K. 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.
- L. 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 01750 - Starting and Adjusting for requirements related to updating the manual(s).

- M. 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 5% 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

1.02 - PLANS AND SPECIFICATIONS FURNISHED TO THE CONTRACTOR

- A. A CD containing a complete set of Contract Documents (plans, specifications and addenda) in PDF format will be furnished to the Contractor.

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. 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. The Contractor shall include a lump sum amount of \$10,000 in the bid amount for preparation of record drawings.
 - 1. Stipulated amount will be released when the record drawings have been accepted by the Engineer/Architect.

2. Satisfactory evidence shall be provided by the Contractor demonstrating compliance with these specifications and said drawings have been delivered and deemed in compliance with the specifications by the Engineer/Architect.
 3. Progress payments will be allowed against the line item in the Schedule of Values only if record documents are considered accurate and up-to-date by the Engineer/Architect.
- D. 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.
- E. 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 survey illustrating dimensions, locations, angles, and elevations of construction, site work and underground facilities installed as work of this Contract.
- C. The primary electric service installed by PSEG and gas service installed by National Grid shall also be located on the record drawings.

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 and then provide the Owner a complete reproducible set of as-built drawings on a CD in DWG format.
- 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 will make available to the Contractor 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.
 - 2. Electronic media will be provided free of charge on disc in a zipped format.
 - 3. Electronic media shall be returned to the Engineer/Architect upon acceptance of the as-built drawings by the Owner.
 - 4. Provide (5) copies of the approved Final Record Drawings and (2) CD copies.

1.07 - RELATED DOCUMENTS

- A. Provide certificate of release of liens if requested by the Engineer/Architect.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

NO TEXT ON THIS PAGE

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.
- B. Manufacturer field services and the credit for unused service time is also included herein.

1.02 - MANUFACTURER'S FIELD SERVICES

- A. When specified in individual specification sections require field services to be provided, said services shall be provided by qualified, authorized and factory trained representative(s) of the manufacturer (supplier).
- B. Field services shall generally consist of:
 - 1. installation supervision,
 - 2. verify terms of the manufacturer's warranty,
 - 3. equipment and system calibration,
 - 4. startup supervision,
 - 5. and operation and maintenance instructions to the Owner's employees.
- C. Such services do not include service time to correct a factory fault, correct problems resulting from a factory wiring or control logic error, or errors caused by poor or improper installation by the Contractor.
- D. Sale representatives are not acceptable.
- E. The time specified to be provided under the specification sections shall be exclusive of travel time to and from the facility or site. For the purposes of this Contract, one (1) day shall be defined as eight (8) hours exclusive of breaks or mealtime.
- F. The times specified to be provided by the manufacturer does not relieve the manufacturer from providing sufficient service time to place the equipment or systems into satisfactory operation and to obtain the specified performance. The manufacturer shall provide, as a minimum, the times specified in the Specification Sections.

- G. Where manufacturer services are specified for control panel or control center startup, the representative shall be experienced and trained to work on and field rewire such devices.
 - 1. Field representatives for control panel startup shall understand the control sequence specified and, in the case of programmable logic controllers, are able to make revisions to the factory program using handheld programming devices or laptop computers.
 - 2. The time spent by the representative to correct a PLC program shall not be included in the time specified for startup.
 - 3. The Owner will not pay for time spent in the field to correct a PLC programming problem.
- H. If for any reason, the specified service days are not used, then the Owner shall receive a credit equal to **\$500.00 (FIVE HUNDRED DOLLARS AND ZERO CENTS)** for each unused field service day specified. The Contractor shall include, as a minimum, **\$5,000 (FIVE THOUSAND DOLLARS AND ZERO CENTS)** in the amount bid for manufacturer supplied field service for equipment furnished and installed under Contract G. Said amount of **\$5,000** being equal to **10** days of service at **\$500** each day.
- I. A change order to the Contract reducing the Contract Price, by the dollar amount equivalent to the unused field service days, will be issued.
- J. Submit manufacturers' startup reports (MSR's) in accordance with the requirements contained in Section 01330 - Submittals.

1.03 - 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 01330.
- B. Manufacturer's Startup Reports

1.04 - 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.

1.05 - SCHEDULING - FIELD SERVICES

- A. The Contractor shall arrange field service on dates acceptable to the Owner and Engineer/Architect.
- B. The service visits shall be scheduled at least 2 weeks in advance so that the Owner and Engineer/Architect can adequately staff the date.
- C. Operator training will not be allowed until such time as the Manufacturer's Operation and Maintenance Manuals have been supplied and approved by the Engineer/Architect.
 - 1. The field service technician shall review the contents of the manual with designated employees of the Owner.
 - 2. Field services will not be deemed provided until the MSR is provided.

1.06 - 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.
- I. For control panels, explain the control sequence, timing structure, and safety precautions when working inside the panel, terminal wiring system, PLC program, if applicable, operator interface(s) and control logic.
- J. Explain PLC LED input and output numbering system, if applicable. If control relays are used, explain technique for their replacement.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Clearing and grubbing as required to perform the work.
- B. It is the intent of this Section to limit the area of clearing and grubbing to the minimum area possible to allow for the proper installation of the work and to preserve all plantings, grass, natural vegetation and improvements to the maximum extent possible.

1.02 - RELATED SECTIONS

- A. Section 02312 - Rough Grading
- B. Section 02920 - Seeding

1.03 - REGULATORY REQUIREMENTS

- A. Conform to applicable local, state, and federal code(s) for disposal of debris.
- B. Burning of materials on site is prohibited.
- C. Coordinate clearing work with utility companies.

1.04 - QUALITY ASSURANCE

- A. Confine clearing and grubbing operations to within the following limits:
 - 1. All areas where work is required to be done, but, to the minimum extent possible to install the work.
 - 2. Within the grading limits when shown on the Drawings.
 - 3. Within the easements provided by the Owner.
- B. No trees, plants, shrubs, flowers, or other vegetation shall be removed or trimmed without the prior permission of the Engineer.
- C. Provide at least one person who shall be present at all times during clearing and grubbing who shall be thoroughly familiar with the following:
 - 1. The types and trees and planting encountered.
 - 2. The proper procedure and methods for taking-up and preserving trees and plantings.

3. The proper procedure for felling, trimming, pruning and caring for trees and plants.
- D. Such person, firm or subcontractor shall be regularly engaged in this type of work who shall be responsible for directing others.

PART 2 – PRODUCTS

Not Used

PART 3 - EXECUTION

3.01 - PREPARATION

- A. Verify existing conditions.
- B. Verify that existing plant life designated to remain is tagged or identified.
- C. Verify limits of clearing.
- D. Coordinate identification of a temporary topsoil stockpile location with Owner.
- E. Verify that pipeline routings and other items of work have been accurately located and clearly marked.

3.02 – CLEARING AND GRUBBING

- A. Clearing consists of cutting and disposing of all down timber, stubs, brush, brushes, snags, vegetation, rubbish, debris and other objectionable matter and materials and the removal and storage of fences, signs, walks, and other items to be restored.
- B. Pavements which are required to be removed, including roadways and driveways may be saw cut in advance but removals shall not be done until the work is ready to be installed.
- C. All signs, guide rails and all other control, safety and warning devices shall not be removed until just prior to the installation of the work. All fences which are required to be removed shall not be removed until the property owners affected are notified at least four days in advance of such removal. Unless received, no fence shall be removed more than 48 hours in advance of the installation of the work affecting the fence.
- D. It is the intent of this Section that all items affecting traffic, safety, lives and all items essential to the protection of property be left in place as long as possible and replaced as soon as possible when such items must be removed.

- E. Schedule and conduct operations to minimize erosion of soils and to prevent silting and muddying of streams, rivers, wetlands, impoundments and land adjacent to or affected by the work. Erosion control measures include: water diversion structures or ditches, sedimentation basins or traps, berms, staked hay bales seeding, mulching, covering with netting, or sodding disturbed areas. The area of soil exposed by construction at any one time should be kept to a minimum and final restoration should be carried out as soon as possible following completion of construction.
- F. Grubbing consists of the removal and disposal of all stumps, roots, duff, grass, turf, sod, debris, vegetation, foundations and other objectionable matter and materials.
- G. All operations shall be done in a manner so that present growth will blend with the limits of construction and a natural appearance will be attained.

3.03 - TREES AND PLANTINGS

- A. In grassed, planted and open areas, do not remove or trim trees or planting without the prior permission of Owner. Take-up and preserve small trees, plantings, flowers, and similar vegetation for reuse. Comply with all requirements of this section.

3.04 – PAVEMENTS AND WALKS

- A. Remove existing pavements and walks to the limits shown on the Drawings, or if not shown, to the minimum extent possible.
- B. Saw cut asphalt and concrete paved surfaces before removal. Use a saw blade that will cut a neat, straight joint line.
- C. Carefully remove slate and flag stone walks, granite, and stone curbs to the minimum extent possible. Terminate removals at a joint. Store and protect for reuse.

3.05 – WALLS, FENCES AND OTHER OBSTRUCTIONS

- A. All walls, fences, signs, sheds and other obstructions encountered shall be carefully taken-up and stored for subsequent replacement. If damaged, full new replacement will be required at no additional expense to the Owner.
- B. Do not disturb property markers unless necessary. If it becomes necessary to disturb or remove a property marker, have a licensed land surveyor provide four (4) ties to the marker. The licensed land surveyor shall replace the marker as soon as possible.
- C. Remove and dispose of all other obstructions which will affect the Work or which are specifically designated to be removed.

3.06 – DISPOSAL

- A. Burning along the route or at the site is not permitted.
- B. Burial of materials is not permitted.
- C. All materials shall be promptly removed and disposed of away from the site.
- D. Methods of disposal shall conform to the requirements of all Federal, State and Local Laws and Ordinances.
- E. Leave the route of the work and the site in a neat and orderly condition.

3.07 – PROTECTION

- A. Carefully protect and guard all trees, shrubs, and vegetation and take every precaution to avoid damage to utilities, buildings, and other property.

3.08 – REPLANTING AND RESTORATION OF SURFACES

- A. The requirements for replanting and restoration of surfaces are in Section 02952.

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 aggregate base for final grading.

1.02 - RELATED SECTIONS

- A. Section 02230 - Site Clearing

1.03 - REFERENCES

- A. ANSI/ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb. (4.54 kg) Rammer and 18 inch (457 mm) Drop.

1.04 - SUBMITTALS

- A. Submit under provisions of Section 01330.
- 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 (75 mm) in size, debris and contaminants.

PART 3 - EXECUTION**3.01 - EXAMINATION**

- A. Verify that existing conduits, pipelines and buried structures do not exist in the line of the Work.
- B. Verify that survey benchmark and intended elevations for the Work are as required.

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 which 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, re-landscaped or re-graded. 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 (2.4 m). Cover to protect from erosion.
- D. When excavation through roots is necessary, perform work by hand and cut roots with sharp saw.
- 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 continuous layers not exceeding 6 inches (150 mm) compacted depth, compacted to 95 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 (25 mm).

3.05 - FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Section 01450.
- B. Perform tests and analysis of fill material in accordance with ANSI/ASTM D1557.

END OF SECTION

NO TEXT ON THIS PAGE

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Excavation.

1.02 - QUALITY ASSURANCE

- A. Do not excavate wet or frozen materials without written approval from the Engineer.
- B. If excavation exceeds a depth of four feet (1.2 m), place temporary sheeting. Refer to Section 02260.
- C. Provide safety barricades around all open excavations.

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 that are to remain.
- E. Protect features remaining as a portion of final landscaping.
- F. Protect benchmarks, existing structures, fences, sidewalks, paving and curbs from excavation equipment and vehicular traffic.
- G. Verify fill materials to be reused, are acceptable.
- H. Contractor shall break frozen ground from zero to 4 inches in depth.

3.02 - EXCAVATION

- A. Maintain excavations free of water.

- B. Underpin adjacent structures that may be damaged by excavation work, including utilities and pipe chases.
- C. Cut trenches sufficiently wide to enable installation of utilities and allow inspection.
- D. Machine slope banks to angle of repose or less, until shored.
- E. Hand trim excavation. Remove loose matter.
- F. Remove lumped subsoil, boulders, and rock up to $\frac{1}{2}$ cu.yd. measured by volume.
- G. Correct unauthorized excavation that is not in accordance with paragraph 3.04 of this Section, at no additional cost to the Owner.
- H. Trim approximately the last four (4) inches of excavation subgrade in earth with a smooth edged bucket or by hand just prior to setting pipe, manholes and appurtenances.
- I. Stockpile excavated material to be used as backfill in a designated area approved by the Engineer and immediately remove excess or unsuitable material not being used. Limit stockpile height to 8 feet at all times.
- J. Protect excavations by methods required to prevent cave-in or loose soil from falling into excavation.
- K. Protect bottom of excavations from freezing.

3.03 - PROTECTION

- A. Protect excavations by methods required to prevent cave-in or loose soil from falling into excavation.
- B. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.

3.04 - DISPOSAL OF MATERIALS

- A. All suitable excavated material shall be utilized for backfill or embankment. Stockpile on-site or transport suitable material off site and bring back when conditions allow the stockpiling or filling operations to begin.
- B. All excess suitable excavated material shall become the property of the Contractor and be disposed of by the Contractor in accordance with governing regulations and laws. The cost for hauling and disposal of excess suitable excavated material shall be included in the price as bid.

- C. All unsuitable excavated material that cannot be used for backfill shall become the property of the Contractor and be hauled and disposed of off-site in accordance with governing regulations and laws. The cost for hauling and disposal of unsuitable material shall be included in the price as bid.

END OF SECTION

NO TEXT ON THIS PAGE

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Backfilling and compaction of excavations.

1.02 - 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. (4.54 kg) Rammer and 18-inch (457-mm) Drop.
- C. ASTM D2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

1.03 - QUALITY ASSURANCE

- A. Do not backfill over or with wet or frozen materials.

PART 2 - PRODUCTS**2.01 - MATERIALS**

- A. Type A - Coarse Stone: Angular, washed natural stone; free of shale, clay, friable material, sand, debris; graded in accordance with ANSI/ASTM C136 within the following limits:

<u>Sieve Size</u>	<u>Percent Passing</u>
2-inch (50 mm)	100%
1-inch (25 mm)	95%
3/4-inch (19 mm)	75 - 90%
5/8-inch (16 mm)	35 - 60%
3/8-inch (9.5 mm)	15 - 35%
No. 4 (4.75 mm)	< 5%

- B. 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: 1/4-inch (6.4 mm).
 - 2. Maximum Size: 5/8-inch (16 mm).

- C. Type C - Sand: (Structural Fill) 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 (4.75 mm)	100%
No. 14 (1.18 mm)	10 – 100%
No. 50 (0.30 mm)	5 – 90 %
No. 100 (0.15 mm)	4 - 30%
No. 200 (0.075 mm)	0 - 1%

- D. Type D - Subsoil: Reused excavated material, graded, free of lumps, rocks and gravel larger than 3 inches (75 mm) in size, debris and contaminants.
- E. Type E – ¾" Crushed Blue Stone Surfacing: Angular, washed blue stone; free of shale, clay, friable material, sand, debris.

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 95 percent maximum dry density in accordance with ANSI/ASTM D1557 or ASTM D2922.
- 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 materials in continuous layers not exceeding 6 inches (150 mm) compacted density.
- D. Compact backfilled materials to 95 percent maximum dry density in accordance with ANSI/ASTM D1557 or ASTM D2922. Maintain optimum moisture content to attain required density.
- E. Employ a placement method that does not disturb or damage structures or other items against which material is backfilled.
- F. Backfill only against supported structures. Do not backfill against unsupported structures. Backfill simultaneously on each side of structure.
- G. Make grade changes gradual. Blend slope into level areas.
- H. Immediately remove surplus materials from the site.
- I. Leave fill material stockpile areas completely free of excess fill materials.
- J. Remove temporary sheeting as backfilling progresses, under provisions of Section 02260.

3.04 - TOLERANCES

- A. Maximum Variation From Top Surface of Backfilling: 1 inch (25 mm).
- B. Maximum Variation From Top Surface of Backfilling Under Paved Areas: $\frac{1}{4}$ inch (6 mm) from required elevations.

END OF SECTION

NO TEXT ON THIS PAGE

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Excavate trenches for below grade piping.
- B. Compacted bedding and backfill around and over piping to subgrade elevations.
- C. Backfilling and compaction.
- D. Digging of test holes to locate or verify locations of existing utilities that are shown on the Drawings or that may otherwise be present.

1.02 - RELATED SECTIONS

- A. Section 02312 - Rough Grading: Topsoil removal from site surface.
- B. Section 02315 – Excavating, Backfilling & Compacting: Disposal requirements for excess material and unsuitable material.

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. (4.54 kg) Rammer and 18-inch (457 mm) Drop.
- C. ASTM D2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

1.04 - SUBMITTALS

- A. Submit a sieve analysis for imported bedding material.

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. When an excavation exceeds a depth of 4 feet (1.2 m), the Contractor shall place temporary sheeting. Comply with the requirements in Section 02260.

1.06 - FIELD MEASUREMENTS

- A. Verify that survey benchmark and elevations for the work are as shown on plans.

1.07 - COORDINATION

- A. Coordinate and make all arrangements to have the testing laboratory present so that tests can be made. The Engineer may stop trenching operations until such time as the testing laboratory is on-site to make tests or take required samples.

PART 2 - PRODUCTS**2.01 - MATERIALS**

- A. Bedding: 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 (4.75 mm)	100
No. 16 (1.18 mm)	10-100
No. 50 (0.30 mm)	5-90
No. 100 (0.15 mm)	4-30
No. 200 (0.075 mm)	0-1

- B. Subsoil: Reused, excavated material, graded, free of lumps, rocks and gravel larger than 3 inches (75 mm) in size, debris and contaminants.

PART 3 - EXECUTION**3.01 - EXAMINATION**

- A. Verify that existing site conditions are suitable for trenching operations to take place and that existing structures, piping, and utilities have been located as not being in conflict with the new Work.
- B. Verify with the Engineer that excavated material is acceptable for fill. If directed by the Engineer, send soil samples to the testing laboratory to determine its ability to support intended loads.
- C. Do not backfill any item until the Engineer has fully inspected the work. Expose the work that was not inspected by the Engineer, when so directed by the Engineer.

3.02 - PREPARATION

- A. Identify required lines, levels, contours, and datum.

- B. Maintain and protect existing utilities remaining which pass through the work area.
- C. 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.
- D. Protect above and below grade utilities that are to remain.
- E. Excavate unsuitable material in accordance with the requirements contained in Section 02315. Import suitable material in accordance with the requirements contained in Section 02315.

3.03 - EXCAVATION

- A. Excavate subsoil required for piping.
- B. Excavate trenches to the dimensions shown on the plans, or if not shown, to the dimensions required to properly install the work.
- 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 (300 mm) below the proposed pipe invert.
- G. Stockpile excavated material in area designated on site and remove excess as specified in Section 02315.
- H. Install sheeting if trench depth exceeds 4 feet (1.2 m). Refer to Section 02260.

3.04 - INSTALLATION - BEDDING

- A. Support pipe during placement and compaction of bedding fill.
- B. For trenches made in solid rock, place an additional 1-foot (300 mm) of bedding under pipe.
- C. Place bedding to the dimensions and limits as shown on the plans.
- D. Place bedding material against and to 1 foot (300 mm) over the top of the pipe in 6 inch (150 mm) compacted layers.

- E. Compact bedding material to 95 percent maximum dry density in accordance with ANSI/ASTM D1557 or ASTM D2922. Maintain optimum moisture content to attain required density.
- F. Place bedding simultaneously on both sides of the pipe.

3.05 - BACKFILLING

- A. Backfill trenches to contours and elevations with unfrozen materials.
- B. Backfill to the dimensions and limits shown on the plans with reused subsoil.
- C. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen or spongy subgrade surfaces.
- D. Place and compact material in continuous layers not exceeding 6 inches (150 mm) compacted depth.
- E. Employ a placement method that does not disturb or damage pipe.
- F. Compact backfilled materials to 95 percent of maximum dry density in accordance with ANSI/ASTM D1557 or ASTM D2922. Maintain optimum moisture content to attain required density.
- G. Import suitable material as specified in Section 02315 if directed by the Engineer.

3.06 - TOLERANCES

- A. Maximum variation from top surface of backfilling under paved areas: 1/4 inch (13 mm).
- B. Maximum variation from top surface of general backfilling: 1 inch (25 mm).

3.07 - FIELD QUALITY CONTROL

- A. Test and analyze fill material in accordance with ANSI/ASTM D1557 or ASTM D2922.
- B. If tests indicate work does not meet specified requirements, remove work, replace and re- test at no cost to Owner.

END OF SECTION

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Asphaltic concrete paving, including the wearing and binder courses.

1.02 - RELATED SECTIONS

- A. Section 02312 - Rough Grading: Preparation of site for paving and base.
- B. Section 02721 - Recycled Concrete 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. Submit under provisions of Section 01330.
- B. Supplier: Submit name of asphalt supplier to be used on the project prior to placement of any asphalt on the project.
- C. Design Data: Submit asphalt mix design for each asphalt type to be used.

1.05 - QUALITY ASSURANCE

- A. Field quality control laboratory tests will be paid for out of the cash allowance for testing services. Coordination with the testing lab shall be the Contractor's responsibility and be included in the price as bid.
- B. Obtain materials from the same supplier throughout the duration of the project.
- C. Do not alter from mix design requirements.

1.06 - DELIVERY, STORAGE AND HANDLING

- A. Deliver, store and handle products to the site under provisions of Section 01650.
- B. Deliver asphalt in sealed metal containers covered with suitable material to protect the asphalt from the elements.
- C. Lightly lubricate the inside surface of the container with a thin oil or soap solution before loading asphalt.
- D. 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 (3.2 mm) 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 (3.2 mm) 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 (0.60 mm) sieve; a minimum of 85 percent shall pass the No. 80 (0.18 mm) sieve; and a minimum of 65 percent shall pass the No. 200 (0.075 mm) sieve as measured in accordance with ASTM D546.

2.02 - EQUIPMENT

- A. Pavers: Equipped with a vibratory device.
- B. Rollers: Minimum weight of 10 tons (89 kN) equipped with lubricating devices for the roller wheels.

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 6.5 percent of asphalt cement by weight in mixture in accordance with the following gradation:

<u>Sieve Size</u>	<u>Percent Passing</u>
1-1/2 inches (38 mm)	100
1 inch (25 mm)	95-100
1/2 inch (13 mm)	70-90
1/4 inch (6.4 mm)	48-74
1/8 inch (3.2 mm)	32-62
No. 20 (0.85 mm)	15-39
No. 40 (0.425 mm)	8-27
No. 80 (0.18 mm)	4-16
No. 200 (0.075 mm)	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:

<u>Sieve Size</u>	<u>Percent Passing</u>
1 inch (25 mm)	100
1/2 inch (13 mm)	90-100
1/4 inch (6.4 mm)	65-85
1/8 inch (3.2 mm)	36-65
No. 20 (0.85 mm)	15-39
No. 40 (0.425 mm)	8-27

No. 80 (0.18 mm)	4-16
No. 200 (0.075 mm)	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 substrate and conditions.
- 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. 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.
- B. Do not apply tack coat to wet or frozen surfaces.
- C. 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 percent maximum density.
- H. Develop rolling with consecutive passes to achieve even and smooth finish, without roller marks.

3.04 - TOLERANCES

- A. Maximum Variation From Flatness: $\frac{1}{8}$ inch (3 mm) measured with 10 foot (3 m) straight edge.
- B. Maximum Variation From Scheduled Compacted Thickness: $\frac{1}{8}$ inch (3 mm).

- C. Maximum Variation from True Elevation: $\frac{1}{4}$ inch (6 mm).

3.05 - FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Section 01450.
- B. Take samples and perform tests in accordance with AI MS-2.
- C. Testing to include percent compaction, graduation and asphalt content.
- D. Field quality control laboratory tests will be paid for out of the cash allowance for testing services. Coordination with the testing lab shall be the Contractor's responsibility and be included in the price as bid.
- E. Perform field-testing under provisions of Section 01450.

3.06 - PROTECTION

- A. Protect finished work under provisions of Section 01500.
- B. Immediately after placement, protect pavement from mechanical injury until date of substantial completion.

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 02230 - Site Clearing
- B. Section 02312 - Rough Grading
- C. Section 02920 - Seeding

1.03 - DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, and handle products to the site under provisions of Section 01650.
- B. Deliver topsoil to the site in uncontaminated containers.
- C. The Contractor shall place a tarp over stockpiled topsoil to protect from precipitation, erosion, and contamination. Also, comply with the erosion control measures specified in Section 02230 and Section 01568.
- D. Stockpile topsoil in accordance with the requirements contained herein and in Section 02230.

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 with all adjacent work and work within areas to receive topsoil.
- B. Coordinate the storage of topsoil 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 4.75 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.

3.02 - PREPARATION

- A. Eliminate uneven areas and low spots. Remove and dispose of debris, roots, branches and stones in excess of $\frac{1}{2}$ inch (13 mm) in size.
- B. Scarify subsoil to depth of 3 inches (75 mm) where topsoil is scheduled to be placed. Scarify all areas where heavy equipment was used and where the subgrade (subsoil) became compacted.

3.03 - INSTALLATION

- A. Place topsoil in areas where seeding or planting is scheduled or where shown on the plans.
- B. Place topsoil to the depth of 4" 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: $\frac{1}{2}$ inch (13 mm).

3.05 - PROTECTION

- A. Protect landscaping and other features remaining as final work.
- B. Protect existing structures, fences, roads, sidewalks, paving, and curbs. Restore all damaged surfaces as specified elsewhere.

END OF SECTION

NO TEXT ON THIS PAGE

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Seeding.
- B. Mulch, fertilizer and other accessories.
- C. Seeded area maintenance and protection requirements are specified herein.

1.02 - RELATED SECTIONS

- A. Section 02915 - Landscape Grading and Topsoil

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. Submit under provisions of Section 01330.
- B. Product Data: Provide data on seed mixtures, fertilizer and lime.
- C. Certificates: Provide certificates indicating that all fertilizer, pesticides and herbicides comply with all applicable regulatory agency requirements.

1.06 - QUALITY ASSURANCE

- A. Provide seed mixture in containers showing percentage of seed mix, year of production, net weight, date of packaging, and location of packaging.

1.07 - 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.

1.08 - DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect and handle products to site under provisions of Section 01650.
- 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.

1.09 - 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 (4 degrees C) or rise above 90 degrees F (32 degrees C) during the time in which the seed will establish itself.
- C. Planting Season: April 1st through May 15th or September 1st through October 15th.

1.10 - COORDINATION

- A. Coordinate with grading and placement of topsoil.

PART 2 - PRODUCTS

2.01 - MATERIALS

- A. Seed (Reclaim Conservation Mix Dry Formula): Dry, fresh, re-cleaned seed of the latest crops and of the following proportions:

<u>Grass Type</u>	<u>% of Mixture</u>
Rebel II Tall Fescue	40
Weeping Love Grass	20
<i>Reliant Hard Fescue</i>	10
Jamestown II Chewing Fescue	10
Palmer II Perennial Fescue	10
White Clover	5

Blackwell Switchgrass

5

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 dolomite limestone containing a minimum of 90 percent calcium and magnesium carbonates. One hundred percent (100%) shall pass a No. 10 (2 mm) mesh screen and a minimum of 50 percent shall pass a No. 100 (0.15 mm) 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 pound per 1,000 square feet (10 kilograms per 100 square meters).
- 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 (50 mm) of topsoil and water lightly to aid the dissipation of fertilizer.
- D. Apply seed at a rate of 4 pounds per 1000 sq. ft (2.0 kilograms per 100 square meters) 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 pounds per foot (150 kg per meter) of width.
- G. Immediately following seeding and compacting, apply mulch at a rate of 92 pounds per 1,000 square feet (45 kilogram per 100 square meters). Maintain clear of shrubs and trees.
- H. Apply water with a fine spray immediately after each area has been mulched. Saturate to 4 inches (100 mm) 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 (610 mm). Space stakes at 8 feet (2.4 meters) 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 (150 mm) deep excavated topsoil trench. Provide 12-inch (300 mm) overlap of adjacent rolls. Backfill trench and rake smooth, level with adjacent soil.
- L. Secure outside edges and overlaps at 36-inch (915 mm) 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 (300 mm).

3.04 - MAINTENANCE

- A. The maintenance period for newly seeded areas shall be 8 weeks starting on the last day that seeding took place.

- B. The Contractor shall perform the following maintenance to all newly seeded areas:
1. Following growth, the Contractor shall mow grass once every week to maintain at a maximum height of 2-1/2 inches (64 mm). Do not cut more than 1/3 of grass blade at any one mowing.
 2. Neatly trim edges and hand clip where necessary.
 3. Immediately remove clippings after mowing and trimming.
 4. Irrigate to prevent grass and soil from drying out. Use hoses and timers to insure proper watering.
 5. Immediately reseed areas that show bare spots.
 6. Overseed, fertilize again and apply weed killer should the period between the time the seed was placed and Substantial Completion exceed 90 calendar days. Aerate the seeded areas and apply lime as needed prior to this application.
- C. Maintain and protect seeded areas from damage until the seeding work is accepted by the Owner, but shall not be before the point of Substantial Completion and release of retainage for this payment item. The date that the Owner signed the Certificate of Substantial Completion shall establish the limit of this protection requirement.
- D. Repair all damage to all new seeded areas installed under the Contract regardless of the party who damaged it as stipulated above. Maintain and protect all seeded areas.

3.05 - PROTECTION

- A. Protect seeded areas with snow fence and warning signs during the maintenance period. Remove snow fence to mow grass if it is in the way.
- B. Remove fence prior to Substantial Completion.

END OF SECTION

NO TEXT ON THIS PAGE

PART 1 - GENERAL**1.01 – SECTION INCLUDES**

- A. Restoration of surfaces damaged or disturbed by the Contractor's operations and installation of the work.

1.02 - RELATED SECTIONS

- A. Section 02740 - Asphaltic Concrete Paving
- B. Section 02925 - Seeding

1.03 - QUALITY ASSURANCE

- A. Provide at least one person who shall be present at all times during this portion of Work and who is thoroughly familiar with the types of materials being installed and the best methods for their installation and who shall direct all work performed under this Section.
- B. Restored grades and surfaces shall be equal to or better than the original conditions which existed at the time they were damaged or disturbed, except as otherwise specified or shown on the Drawings.
- C. Restoration of surfaces under the jurisdiction of public authorities or public utilities shall be in accordance with the requirements of such authorities. Ascertain requirements, procure necessary permits, arrange for required inspections, and pay all fees, deposits, and other charges that may be required by the authorities.
- D. Existing pavements and walks to be restored shall be replaced with new pavement equivalent to or superior to the existing in quality, thickness, bearing capacity and surface finish, except where otherwise specified.
- E. Replaced pavement shall be free from all noticeable sags, settlements, bumps, humps, cracks or other defects. Other than possibly color, the replaced pavement shall be unnoticeable from the existing pavement.

1.04 - SUBMITTALS

- A. Submittals required are identical to those required under other Sections. If submittals have been made and approved under the other Sections, and is applicable to this Section, then a notification to this effect will be sufficient.

- B. At the completion of the Work under this Section, submit copies of letters of approval from all authorities having jurisdiction over the areas that were restored.

1.05 - SCHEDULING

- A. It is the intent of this Section to restore all surfaces as soon as possible so as to cause the least amount of inconvenience to all establishments and people to provide an aesthetically pleasing construction site, to protect lives, to ensure safety, to avoid property damage and to provide for orderly and safe traffic conditions.
- B. Replace all pavements as specified elsewhere in these specifications.
- C. Rough grade all areas to be seeded or planted within 48 hours after installation of the work; finish grade within one week after installation of the work; topsoil within three weeks after installation of the work and seed as soon as conditions are satisfactory. Replant trees, shrubs and other vegetation as soon as possible. Comply with the applicable Sections.
- D. Replace traffic signs as soon as possible, but no later than 2 hours after installation of the work.
- E. Replace all items as soon as possible, with special attention directed at those which control traffic, protect property and lives, are essential to a person's livelihood, create hazards when not in place or are otherwise deemed essential.
- F. The phrase "after installation of the work" means after the installation of the work that necessitated the removal of an item or items.

1.06 - MAINTENANCE AND GUARANTEE

- A. The maintenance and guarantee requirements of other applicable Sections are required under this Section.
- B. Maintain and care for all restoration work.
- C. Continually maintain all areas where pavement has been removed to provide a smooth, dust-free surface by adding fill and dust control materials and grading daily, or more frequently when required.

PART 2 - PRODUCTS

2.01 - MATERIALS

- A. Curbs, walks, fences, walls, signs and other items which have been removed, knocked down, or displaced shall be replaced with existing materials when, in the opinion of Engineer, such

materials are in acceptable condition. Where such materials have been damaged, marred, broken, or are otherwise in an unacceptable condition, provide replacements of equal or better quality, appearance, size and type, at the Contractor's expense.

PART 3 - EXECUTION

3.01 - INSPECTION

- A. Carefully inspect the work installed under other Sections and verify that all such work is complete to the point where restoration of surfaces may properly commence and to insure the unnecessary disturbance of restored surfaces at a later date.
- B. Verify schedule of work for conformance to allowable planting times.
- C. Do not begin restoration work until conditions are satisfactory.

3.02 - GRASS AND LAWNS

- A. Comply with Section 02925 - Seeding.

3.03 - PLANTS AND REPLANTING

- A. As soon as possible after construction operations have moved ahead, replant plants, shrubs, trees and other vegetation that was taken up in their original locations, provided that they survived and show indications of continued life.
- B. Replace with the same kind and size, any plantings, trees, shrubs or other vegetation that fail to survive the moving operation.

3.04 - ASPHALTIC CONCRETE PAVEMENT

- A. All work and materials shall conform to Section 02740.
- B. Cut back undisturbed pavement surfaces and binder course at least 12 inches beyond the walls of the backfilled excavations and trenches, with straight and vertical edges to form an undisturbed ledge of base course under the new pavement.
- C. Thoroughly roll finished surfaces and match existing adjacent surfaces as nearly as practicable. Replace all pavement markings as they originally existed.

3.05 - SIDEWALKS

- A. Portland Cement Concrete - Replace walks after backfill has been brought up to proper subgrade elevation and compacted.

END OF SECTION

PART 1 – GENERAL**1.01 - WORK INCLUDED**

- A. Formwork, shoring, bracing, and anchorage
- B. Concrete reinforcement and accessories
- C. Cast-in-place concrete
- D. Grout
- E. Concrete curing
- F. Joint Sealant
- G. Final concrete finishes

1.02 - 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. ASTM D6690 – Concrete Joint and Crack Sealants.

1.03 - SUBMITTALS

- A. The Contractor shall comply with the requirements contained in Section 01330.
- 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 1.08 below.
- D. Provide proposed concrete mix design for each type of concrete, as specified in paragraph 1.14, 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.

1.04 - QUALITY CONTROL

- A. Comply with the referenced standards specified in paragraph 1.03 above.
- B. Perform testing under the provisions of Section 01450 - Quality Control.
- C. Laboratory testing costs associated with the work of this Section will be paid for out of the stipulated cash allowance. The Contractor shall arrange to have a qualified technician present at the prescribed time.
- D. Perform all work in accordance with ACI 301.

- E. Provide field quality control as specified herein this Section.
- F. Procure concrete from a single approved central commercial batching plant.
- G. The batching plant and raw materials may be subject to inspections and tests performed by the Engineer.

1.05 - REGULATORY REQUIREMENTS

- A. Conform to ACI 304 and all applicable codes for placement of concrete and related work.

1.06 - TESTS

- A. Testing and analysis of concrete shall be performed under the requirements contained in Section 01450.
- B. The testing laboratory shall take cylinders, perform slump, and air entrainment tests in accordance with ACI 301.

1.07 - SHOP DRAWINGS

- A. Submit shop drawings of reinforcing steel and formwork under the provisions of Section 01330.
- 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.

1.08 - COORDINATION

- A. Coordinate work under provisions of Section 01310 - Project Management and Coordination.
- B. Notify Engineer a minimum of three (3) working days prior to commencement of concrete pours.

1.09 - MANUFACTURER FIELD SERVICES

- A. Manufacturer field services specified herein this Section shall be as specified elsewhere in this Section.

1.10 - 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.

1.11 - 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 01650 - Product Delivery, Storage and Handling.

1.12 - 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. Form ties: Snap-off metal, of fixed length, cone type with water-stopping washer.
- D. Reinforcing: ASTM A615, 60 ksi (414 Mpa) yield grade billet steel deformed bars; uncoated finish, size and dimensions as indicated on plans.
- E. Welded steel wire fabric: Plain type, ANSI/ASTM A185; in flat sheets; uncoated finish; size and dimensions as indicated on plans.
- F. Cement: ASTM C150, Type II, Portland type, gray color.
- G. Fine and coarse aggregates: ASTM C33. (No. 57 or No. 67).
- H. 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 Armathec 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: Formshield VOC 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 EUCLID CHEMICAL or equal. Agent shall not be detrimental to the environment.
- I. Sealant: ASTM D6690; hot applied rubber compound manufactured by Dayton Superior 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: Horncure 100 as manufactured by TAMMS INDUSTRIES 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:
 - a. Beams, walls & columns - 3 ± 1 inches
 - b. Plain footings & slabs - 2 ± 1 inches
 - 4. Air entrainment: $5\frac{1}{2} \pm 1$ percent
 - 5. Large aggregate: $\frac{3}{4}$ " crushed stone, ASTM C33, No. 67
- B. Concrete Fill:
 - 6. Compressive strength (28 days): 2000 psi
 - 7. Maximum water/cement ratio by weight: 0.50
 - 8. Slump: $6 \pm$ inch

- 9. Large Aggregate: 1 ½" gravel, ASTM C33, No. 57
- C. All concrete other than sidewalks and concrete fill shall be waterproofed.
- D. 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 Contractor shall verify that all 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. Align form joints.
- B. Do not apply form release agent where concrete surfaces are to receive special finishes or applied coatings that may be affected by the agent.
- C. Where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack with non-metallic/non-shrink grout.
- D. Prepare previously placed concrete by cleaning with steel brush and apply bonding agent in accordance with manufacturer's instructions.
- E. 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 and 350.
- D. Maintain records of concrete placement. Record date, location, quantity, air temperature and test samples taken.
- E. Place concrete continuously between predetermined expansion, control and construction joints as rapidly as possible by methods which shall prevent the separation of ingredients.
- F. 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.
- G. Do not interrupt successive placement. Do not permit cold joints to occur.
- H. Remove forms in accordance with ACI 301. Remove formwork after the concrete has sufficiently hardened, except in inaccessible spaces where approved by Engineer. Forms shall be removed from placed concrete after a minimum of three full days following placement, or as otherwise approved by the Engineer.

3.04 – CURING AND PROTECTION

- A. Hot Weather Concreting: Comply with ACI 305R whenever the atmospheric temperature or the form surface temperature is at or above 90 degrees F., or climatic conditions of wind and/or low humidity will cause premature drying of the concrete.
- B. Curing Temperature: Maintain the temperature of the concrete at 50 degrees F. or above during the curing period. Keep the concrete temperature as uniform as possible and protect from rapid atmospheric temperature changes. Avoid concrete temperature changes that exceeds 5 degrees F in any one hour and 50 degrees F in any 24-hour period.

3.05 - INSTALLATION - FLOOR SLABS

- A. Saw cut control joints at an optimum time after finishing. Cut slabs with 3/16-inch (4.8 mm) thick blade, 1/4 depth of slab thickness.
- B. Separate slabs on grade from vertical surfaces with joint filler. Extend joint filler from bottom of slab to within 1/4 inch (6 mm) of finished slab surface.
- C. Steel trowel all other surfaces except as noted.
- D. In areas with floor drains, maintain floor elevation at walls; pitch surfaces uniformly to drains maintaining a minimum 1 percent slope.

- E. Cure floor surfaces in accordance with ACI 308.
- F. Apply curing compound in accordance with manufacturer's instructions in two (2) coats with second coat at right angles to the first.

3.06 - TOLERANCES

- A. Provide Class A tolerance to floor slabs according to ACI 301.
- B. Tolerance shall be true planes within 1/8 inch in 10 feet, as determined by a 10 foot straightedge placed anywhere on the slab in any direction.

3.07 - FIELD QUALITY CONTROL

- A. Inspection and testing of concrete performed by the independent testing laboratory shall be performed under provisions of Section 01450 - Quality Control.
- B. Field supervision shall be provided by the manufacturer of the waterproofing product. The cost of supervision is to be borne by the Contractor and not be paid for out of the cash allowance for testing laboratory services.

3.08 - 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, including lean-to type structures and pipe trench floors 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 exterior exposed concrete walls shall be left with a uniform, stucco type, burlap bag rub finish and be carried to a depth of 18 inches below the final grade elevation shown on the Contract Drawings. All top of concrete walls shall also be left with a bag rub finish with chamfered edges and be left without chips, indentations, and other imperfections.
- F. All exposed horizontal and vertical wall and slab corners shall have a $\frac{3}{4}$ " wide chamfered edge.

3.09 – 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. Remove all rust spots that have formed by use of temporary handrails.

END OF SECTION

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Precast concrete structures.

1.02 - RELATED SECTIONS

- A. Section 03300 – Concrete
- B. Section 08315 – Access Doors

1.03 - REFERENCES

- A. ACI 304 - Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete.
- B. ACI 308 - Standard Practice for Curing Concrete.
- C. ACI 350R - Concrete Sanitary Engineering Structures.
- D. ANSI/ASTM A185 - Welded Steel Wire Fabric for Concrete Reinforcement.
- E. ASTM A615 - Deformed and Plain Billet Steel Bars for Concrete Reinforcement.
- F. ASTM C33 - Concrete Aggregates.
- G. ASTM C150 - Portland Cement.
- H. ASTM C260 - Air Entraining Admixtures for Concrete.
- I. ASTM C478 - Precast Reinforced Concrete Manhole Sections.
- J. CRSI 63 - Recommended Practice for Placing Reinforcing Bars.

1.04 - SUBMITTALS

- A. Submit under provisions of Section 01330.
- B. Precast Concrete Structures: Indicate structure dimensions, sleeve locations and size, concrete strength and location and size of reinforcement.
- C. Provide manufactures data on concrete accessories.
- D. 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. For each mix proposed, make and cure four (4) standard 6-inch 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.
 7. If the concrete is intended to be pumped, design mix accordingly and submit certification that it has been tested for pumping.
- E. The Engineer may approve the use of previously established design mixes if all test results, made within the last six (6) months by a recognized testing laboratory, are positive and provide sufficient evidence of full compliance with this specification. If the Engineer determines that insufficient documentation and test results exist, he may request additional testing or he may request a new design mix with complete test results.
- F. 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.

1.05 - COORDINATION

- A. Coordinate placement of hatches for access to wet well.

PART 2 - PRODUCTS

2.01 - MANUFACTURERS

- A. OLD CASTLE
- B. LONG ISLAND PRECAST, INC.
- C. COASTAL PIPELINE PRODUCTS CORP.

2.02 - MATERIALS**A. Concrete:**

1. Cement: ASTM C150 Type II or Type III, Portland type, gray color.
2. Fine and Coarse Aggregates: ASTM C33.
3. Water: Clean and not detrimental to concrete.
4. Air entrainment: 5 1/2 +/- 1 percent.
5. Mix concrete with a minimum 28 day compressive strength of 4,000 psi.
6. Provide non-shrink grout.

B. Reinforcing Steel:

1. ANSI/ASTM A185 or ASTM A615, 60 ksi yield grade, plain finish.
2. Tie Wire: Minimum 16 gauge, annealed type.

C. Air entraining admixture: ASTM C260.**2.03 - FINISHES**

- A. Provide smooth finish on exposed formed concrete surfaces. Provide fine broom finish on exterior walking surfaces.

2.04 - SOURCE QUALITY CONTROL

- A. Notify Engineer at least 48 hours before pouring precast concrete sections.
- B. Mark precast concrete structures in accordance with ASTM C478.
- C. Age precast concrete structures at least two weeks before shipment.
- D. Testing and analysis of concrete shall be performed under the requirements in Section 01450.
- E. The testing laboratory shall take cylinders and perform slump and air entrainment tests in accordance with ACI 301 and Section 01450.

PART 3 - EXECUTION**3.01 - PLACEMENT OF CONCRETE STRUCTURES**

- A. Determine required inside dimension of hatch opening, in accordance with manufacturer's recommendation, to assure a water-tight joint, for access hatch openings.
- B. Place concrete in accordance with ACI 304.
- C. Fabricate concrete reinforcing in accordance with CRSI 63.
- D. Ensure reinforcement, and embedded access hatch frame are not disturbed during concrete placement.
- E. Provide non-shrink grout continuously along the contact surfaces of the existing wet well top slab and precast access hatch slab and trowel grout around the entire interior and exterior perimeter of the existing top slab and precast access hatch slab contact joint.
- F. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures and mechanical injury.

3.02 - EXAMINATION

- A. Verify that excavation is ready to receive work and excavations, dimensions and elevations are as indicated on drawings.

3.03 - PREPARATION

- A. Place non-shrink grout continuously along the contact surfaces of the existing wet well top slab and precast access hatch slab.

3.04 - INSTALLATION

- A. Install precast concrete slab plumb and level. Use grout to level slab on top of existing concrete structure.

3.05 - SITE TOLERANCES

- A. Maximum variation from alignment with existing wet well hatch opening: 1/8 inch.

3.06 - FIELD QUALITY CONTROL

- A. Perform field inspection and testing under Section 01450.
- B. Request inspection prior to and immediately after placing precast structure.
- C. If tests indicate Work does not meet specified requirements, remove work, replace and retest at no cost to Owner.

3.07 - PROTECTION

- A. Protect structures and appurtenances from damage or displacement until Project is accepted by Owner.

END OF SECTION

PART 1 GENERAL**1.01 SECTION INCLUDES**

- A. Structural aluminum.

1.02 RELATED SECTIONS

- A. Painting: Section 09910.

1.03 REFERENCES

- A. Except as shown or specified otherwise, the Work of this Section shall meet the requirements of the following:
 - 1. Design and Fabrication: "Construction Manual Series, Section 1, Specifications for Aluminum Structures, December, 1986", by the Aluminum Association, Incorporated (AAI Specification).
 - 2. Welding: "Structural Welding Code - Aluminum, AWS D1.2", by the American Welding Society (AWS Code).

1.04 SUBMITTALS

- A. Shop Drawings: Submit shop drawings for structural aluminum. Machine duplicated copies of Contract Drawings will not be accepted. Shop drawings shall be standard 24 by 36 inch size sheets. The fabricator's name and address shall be indicated in the title block on each drawing.
 - 1. Include anchor bolt and base plate plans, erection drawings, and detail drawings for all members.
 - 2. Indicate shop and field welds by standard AWS welding symbols in accordance with AWS A2.4.
 - 3. When shop drawings are marked "Approved as Noted", promptly resubmit copies of corrected shop drawings for formal approval and record.
- B. Product Data:
 - 1. Shop Paint: Manufacturer's name and printed product literature, including storage and application instructions.

C. Samples:

1. Anodized Finish: 6 inches long; use aluminum of same alloy and configuration to be used for the Work.

D. Quality Control Submittals:

1. Certificates: Submit evidence, in triplicate, of aluminum material compliance with this Specification. Evidence shall consist of certification of source of material, copies of purchase orders and copies of the manufacturer's certification of inspection and test results.
2. Fabricator's and Erector's Qualifications Data: Name and experience of fabricator and erector.
3. Welding Procedure Specifications: Submit procedure specifications for each joint to be welded.

1.05 QUALITY ASSURANCE

- A. Fabricator's and Erector's Qualifications: The fabricator and erector shall be experienced in structural aluminum work and shall be subject to the approval of the Director.
- B. Inspection: Shop and field quality assurance inspection may be made by the State. If quality assurance inspection is made by the State, it shall not relieve the fabricator and erector of responsibility for their own quality control programs.
- C. Welding: All welding procedures, welders, welding operators and tackers shall be qualified in accordance with the AWS Code.
- D. Alloy Identification: Mill mark aluminum material with alloy and heat treatment designation.
- E. Galvanizing: Stamp galvanized items with galvanizer's name, weight of coating, and applicable ASTM number.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Coordinate delivery of anchor bolts and other anchorage devices to be built into other construction to avoid delay.
- B. Deliver prefabricated items with protective covering, and store and handle such items in a manner that will not cause damage to the finish.

- C. Upon delivery to the site, promptly cover and protect aluminum items.
- D. Store shop paint in accordance with paint manufacturer's printed instructions.

1.07 ENVIRONMENTAL REQUIREMENTS FOR SHOP PAINTING

- A. Comply with the following conditions for the application of paint unless otherwise stated in the paint manufacturer's printed directions.
 - 1. Minimum ambient, aluminum surface, and paint temperatures: 50 degrees F.
 - 2. Maximum aluminum surface temperature: 100 degrees F.
 - 3. Maximum relative humidity: 85 percent.
 - 4. Surface of aluminum: Dry.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Structural Aluminum: 6061-T6 alloy, conforming to the following specifications:
 - 1. Sheet and Plate: ASTM B 209.
 - 2. Rolled Bars and Rods: ASTM B 211.
 - 3. Extruded Bars, Rods, Shapes, and Tubes: ASTM B 221.
 - 4. Rolled or Extruded Structural Shapes: ASTM B 308.
 - 5. Extruded Structural Pipe and Tube: ASTM B 429.
- B. Anchor Bolts, Miscellaneous Rods and Anchors, and Other Material Indicated to be Galvanized: ASTM A 36; or ASTM A 675, Grade 70.
- C. High-Strength Bolts: ASTM A 325, galvanized.
- D. Common Bolts: ASTM A 307, galvanized.
- E. Stainless Steel Fasteners:
 - 1. Bolts: 316 alloy, ASTM F 593.
 - 2. Nuts: 316 alloy, ASTM F 594.
 - 3. Plain Washers: 316 alloy, FS FF-W-92, round, general assembly grade, Class B.

- 4. Lock Washers: 316 alloy, FS FF-W-84, helical spring type, Class C, Style 2.
- F. Stainless Steel Anchors:
 - 1. Externally Threaded Wedge Anchors: 303 alloy, FS FF-S-325, Group II, Type 4, Class 1.
- G. Weld Filler Metal: ER5356 filler metal complying with AWS Specification A5.10.
- H. Shielding Gas: Argon.
- I. Cold Galvanizing Compound: Single component compound giving 93 percent pure zinc in the dried film, and meeting the requirements of DOD-P-21035A (NAVY).
- J. Shop Paint for Galvanized Steel: FS TT-P-641, Type II.
- K. Shop Paint (General): Primer selected from the following:
 - 1. TNEMEC Series 15 (color as selected by the Director's Representative).
 - 2. Rust-Oleum 5781 (Gray) or 5769 (Red).
 - 3. Valspar 13-W-11.
- L. Surface Etching Solution for Shop Paint (General):
 - 1. As recommended by the manufacturer of the paint selected.
- M. Bituminous Mastic: Cold applied asphalt mastic; SSPC - Paint 12.
- N. Shrink-Resistant Grout (Non-Staining): Factory-packaged, non-ferrous mortar grouting compound selected from the following:
 - 1. Masterflow 713 by Master Builders.
 - 2. SonogROUT by Sonneborn.
 - 3. Five Star Grout by U.S. Grout Corporation.
 - 4. Crystex by L&M Construction Chemicals.
 - 5. Non-Corrosive, Non-Shrink Grout by A.C. Horn.

2.02 FABRICATION

- A. Do not commence fabrication until the fabricator has been approved and the fabrication schedule has been coordinated with the designated Quality Assurance inspection agency (independent inspection laboratory or the State).
 - 1. Give the Architect/Engineer one week advance notice of the commencement of fabrication.
- B. Progress shop fabrication from "Approved" or "Approved as Noted" detail drawings only.
 - 1. When detail drawings are "Approved as Noted", progress fabrication in strict accordance with notes thereon.
- C. Finish column ends at base plates and at load carrying cap plates to a true plane square to the column, with a maximum American National Standards Institute surface roughness value of 500 microinches.
- D. Pipe and Tube Columns: Shop weld a closure plate to top of columns to form a watertight closure.
- E. Make provisions for connections of other Work, including all cutting and punching of structural members where required by the Drawings, or for which information is furnished prior to approval of the shop drawings.
- F. Galvanizing: Unless otherwise specified or noted, items indicated to be galvanized shall receive a zinc coating by the hot-dip process, after fabrication, complying with the following:
 - 1. ASTM A 123 for plain and fabricated material.
 - 2. ASTM A 153 for iron and steel hardware.
- G. Cleaning Aluminum: Thoroughly clean structural aluminum. Remove oil, grease, and similar contaminants in accordance with SSPC SP-1 "Solvent Cleaning".
 - 1. Etch aluminum surfaces if so recommended by the manufacturer of the shop paint (general).
- H. Shop Painting:
 - 1. Galvanized Items:
 - a. Galvanized items which are to be finish painted under Section 09900 shall be rinsed in hot alkali or in an acid solution and then in clear water.

- b. Welded and abraded galvanized surfaces shall be wire brushed and repaired with a coating of cold galvanizing compound.
 - c. Do not paint galvanized items which are not to be finish painted under Section 09900.
- 2. Aluminum Items: Apply one coat of shop paint (general) to aluminum surfaces except as follows:
 - a. Do not shop paint aluminum surfaces to be field welded.
 - b. Apply 2 coats of shop paint, before assembly, to aluminum surfaces inaccessible after assembly, except surfaces in contact.
- 3. Apply coatings on dry surfaces in accordance with the manufacturer's printed instructions, and to the following minimum thickness per coat:
 - a. Shop Paint (General): 5.0 mils wet film.
 - b. Shop Paint for Galvanized Steel: 3.0 mils wet film.
 - c. Cold Galvanizing Compound: 2.0 mils dry film.
- 4. Anodized Finish: Comply with the Standards For Anodized Architectural Aluminum by the Aluminum Association. Do not anodize aluminum surfaces within 3 inches of any surface to be field welded.
 - a. Clear Anodized Finish: AA-M32A41, minimum 0.7 mil coating.
 - b. Integral Color Anodized Finish: AA-M32A42, minimum 0.7 mil coating.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verification of Conditions: Examine surfaces to receive aluminum framing for defects that will adversely affect the execution and quality of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.02 PREPARATION

- A. Isolate aluminum surfaces to be permanently fastened in contact with ferrous metal surfaces, concrete, or masonry by coating the aluminum surfaces with a 150 mil wet film coat of bituminous mastic, prior to installation.

3.03 ERECTION

- A. Whenever piles of material, erection equipment or other loads are carried during erection, make proper provision to compensate for stresses resulting from such loads. Install temporary bracing as necessary to take care of all loads to which the structure may be subjected, including equipment and the operation of same. Such bracing shall be left in place as long as may be required for safety.
- B. Erect structural aluminum framing plumb, level, and in true alignment.
- C. As erection progresses, temporarily connect the Work to take care of dead load, wind, and erection stresses.
- D. Do not perform permanent bolting or welding until as much of the structure as will be stiffened thereby has been properly aligned, and approval has been given by the Director's Representative.
- E. Prepare and place shrink-resistant grout in accordance with grout manufacturer's printed instructions.
 - 1. Comply with manufacturer's instructions for preparation of surfaces in contact with grout, and for curing and protection of grout.
- F. Do not use gas or air carbon-arc cutting to cut or enlarge bolt holes.
- G. Do not make corrections or alterations to fabricated aluminum without prior written approval by the Director's Representative.
 - 1. Do not cut or abrade finishes which cannot be completely restored in the field. Return such items to the shop for required alterations and complete refinishing.
- H. Tolerances: Individual pieces will be considered plumb, level, and aligned if the error does not exceed 1:500.

3.04 CLEANING

- A. Remove protective coverings and clean exposed surfaces.

END OF SECTION

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. The work described in this section of the specifications includes, but is not limited to, the following:
1. Loose lintels, shelf angles, anchor bolts, sleeves, bearing plates, inserts and other incidental items of structural and/or miscellaneous steel as and where shown on the drawings and/or as required to be built into concrete, masonry or other construction shall be provided as indicated or specified. Where applicable, include instructions or templates for installation within masonry and/or concrete construction.
 2. All miscellaneous steel members supporting penetrations of roof, floor or wall openings larger than 18" square, whether or not the same, are shown on the drawings.
 3. All connections, erection fittings and devices required to complete this work.
 4. All miscellaneous steel angles, beams, rods and/or braces to be furnished and/or installed for support or bracing of door frames and/or any other built in items and members as and where shown on the drawings.
 5. All steel closure members including sleeves, brackets, braces and anchorage devices as specified herein and required for support.
 6. Shop painting and field touch-up painting.
 7. Aluminum stair nosings.
 8. All miscellaneous aluminum members supporting penetrations in slab.

1.02 - RELATED SECTIONS

- A. Section 03300 - Concrete
- B. Section 06110 - Rough Carpentry
- C. Section 08110 - Hollow Metal Doors and Frames
- D. Section 09910 - Paints

1.03 - REFERENCES

- A. ANSI - American National Standards Institute.
- B. OSHA - Occupational Safety & Health Act.

- C. ASTM – American Society for Testing of Materials.
- D. ADAAG – Americans with Disabilities Act Guidelines.
- E. NYS Building Code.

1.04 - SUBMITTALS

- A. Submit complete shop and erection drawings for specially fabricated items.
- B. Submit complete descriptive data for all stock items and accessories.
- C. Submit test reports confirming that materials furnished meet those specified.
- D. Submit samples of welds, bends and finishes for all exposed and finished items.

PART 2 - PRODUCTS

2.01 - MATERIALS

- A. Steel plates, angles, and other structural shapes shall conform to ASTM A36.
- B. Bolts and nuts shall conform to ASTM A325.
- C. Steel pipe shall conform to ASTM A501.
- D. Steel tubing shall conform to ASTM A500.
- E. Welds, Welding Metal:
 - 1. Welding electrodes for manual shielded metal-arc welding shall conform to ASTM A233, E 60 or E 70 Series. Bare electrodes and granular flux used in the submerged-arc process shall conform to Section 1.17.3 or AISC Specifications for Structural Steel for Buildings, June 1, 1989.
 - 2. Electrodes shall be suitable for the positions and other conditions of use as recommended by AWS or the manufacturer.
- F. Aluminum Stair Nosing: Safe-T-Metal style "AX" (516) 294-0340, or approved equal. Cast aluminum with crosshatched surface, abrasive surface grain, and integral cast anchors. Width shall be 4-inches and length shall be 8-inches less than overall stair width. Supply in thicknesses recommended by the manufacturer for the installed conditions.
- G. Aluminum beams, angles, channels and other structural shapes shall conform to T6061-T6 alloy.

2.02 - FABRICATION

- A. Fabricate steel items according to approved shop drawings and to applicable portions of AISC Specifications. Conceal welds where possible; grind exposed welds smooth and flush.

2.03 - SHOP PAINTING AND PROTECTIVE COATING

- A. Conform to The Society for Protective Coatings Specification 15-68T, Type 1, including preparation for painting.
- B. Hot-Dip galvanizing and zinc coatings applied on products fabricated from rolled, pressed, and forged steel shapes, plates, bars and strips shall comply with ASTM Specification A123. The weight of coatings shall be as designed in Table I for the class and thickness of material to be coated. Galvanized surfaces for which a shop coat of paint is specified shall be chemically treated to provide a bond for the paint. Except for bolts and nuts, all galvanizing shall be done after fabrication. **All exterior steel lintels shall receive hot-dip galvanizing process.** Field touch-up galvanizing as required.
- C. All aluminum surfaces in contact with steel and/or concrete should be coated with bituminous paint.

PART 3 - EXECUTION**3.01 - ERECTION**

- A. Conform to AISC Specifications, Contract Documents and approved shop drawings.
- B. Set items straight, level, plumb and aligned with adjacent construction.

3.02 - INSTALLATION

- A. Install all items per manufacturers' instructions, ADA, OSHA and ANSI regulations, and per approved shop drawings.
- B. Prior to finishing, grind all welds smooth. Prime all welds.
- C. Furnish all flanges, brackets and fittings shown or required, including anchorage embedded devices.
- D. Apply primer and paint finish to all non-finished steel items included in this section.

3.03 – ACCESSORIES

- A. Install stair treads, and nosings per manufacturer's instructions.
- B. Embed cast aluminum stair nosing at each tread at time of concrete placement. Walking surface of nosings shall be flush with the walking surface of the concrete treads.

3.04 - ERECTION TOLERANCES

- A. Maximum Variation from Plumb: 1/4 inch per story, non-cumulative.
- B. Maximum Offset from True Alignment and Elevation: 1/4 inch.

END OF SECTION

PART 1 - GENERAL**1.01 – SECTION INCLUDES**

- A. All labor, materials, equipment and services necessary to furnish and install interior and exterior aluminum handrails and guardrails, posts, toe plates, balusters, anchors, and fittings.
- B. Furnishing and installation of all adhesive anchors.

1.02 – RELATED WORK

- A. Section 03300 - Concrete

1.03 - REFERENCES

- A. ASTM B221 - Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes.
- B. ASTM B241 - Aluminum-Alloy Seamless Pipe and Seamless Extruded Tube.
- C. ASTM B483 - Aluminum and Aluminum-Alloy Drawn Tubes For General Purpose Applications.
- D. ASTM E935 - Test Methods for Performance of Permanent Metal Handrailing Systems and Rails for Buildings.
- E. ASTM E985 - Permanent Metal Handrailing Systems and Rails for Buildings.
- F. ASTM F593 – Specification for Stainless Steel Bolts, Hex Cap Screws and Studs.
- G. ASTM F594 – Specification for Stainless Steel Nuts.

1.04 - SUBMITTALS

- A. Field measure for the interior railings after the process equipment has been installed and after all other components, including those items installed under other prime construction contracts, are installed. The shop drawings submitted by the manufacturer shall demonstrate field verification of the physical sizes and actual locations of the process equipment and other components as installed.
- B. Field measure for the exterior railings after stairs, platforms and all abutting work are in place, including those items installed under other prime construction contracts. The shop drawings submitted by the manufacturer shall demonstrate field verification of the stairs, platforms, and other components as installed.

- C. Shop Drawings shall clearly indicate removable sections and interchangeable sections of railing.
- D. Submit:
 - 1. Design calculations demonstrating compliance with requirements of paragraph 1.05, items E, F & G of this Section.
 - 2. Profiles, sizes, connection attachments, and accessories for railings.
 - 3. Catalog cuts of all railings.
 - 4. Detail of toe plate anchorage.
 - 5. Catalog cuts for anchorage hardware. Indicate size and type of anchorage hardware.
 - 6. Samples of all components, bases, toe plate, mounting brackets and pipe.
 - 7. Storage, handling and installation instructions.
- E. Warranty Certificate prepared in accordance with the requirements contained herein.
- F. Certifications:
 - 1. Manufacturer shall provide written documentation certifying that they have ten (10) years experience in the design, manufacture, and installation of the railing systems being installed under this Contract.
 - 2. Provide written documentation certifying that installer has five (5) years experience in the installation of the railing systems being installed under this Contract.

1.05 - QUALITY ASSURANCE

- A. A manufacturer shall furnish all railing system components and be responsible for the development, design, fabrication, delivery and assembly of the railing system.
- B. The railing system shall not be shop fabricated by the Contractor.
- C. Consideration will only be given to Manufacturers who can demonstrate that their railing system complies with these Specifications. The Manufacturer must successfully demonstrate to the Architect/Engineer that they have had a minimum of ten (10) years of successful and documented experience in the design, manufacture, and installation of railing systems of the size, quality, performance and reliability specified.
- D. All railings, posts, balusters, mounting brackets, and fittings shall resist a singular concentrated lateral force of two hundred (200) lbs. in any direction at any point along the top without loosening, damage or misalignment.

- E. All railings, posts, balusters, mounting brackets, and fittings shall resist lateral force of fifty (50) lbs per linear foot at any point along the top rail, in any direction without damage or misalignment.
- F. Intermediate rails, posts, balusters, filler panels, etc. shall resist a horizontal force of fifty (50) lbs. on an area not to exceed one (1) square foot including openings and space between rails.
- G. To the maximum extent possible, identical sections of railing shall be interchangeable.
- H. All railings, posts, balusters, mounting brackets, and fittings shall conform to the requirements in ASTM E985.
- I. Toe plates shall conform to OSHA standards.

1.06 - DELIVERY, STORAGE AND HANDLING

- A. Comply with the requirements of Section 01650 - Product Delivery, Storage and Handling.
- B. The manufacturer shall coordinate the loading of the railing with the Contractor such that the railing to be installed first is located at the bottom of the shipment.
- C. All railing shall be shipped with plastic sleeves that shall be removed by the Contractor after the installation is completed.
- D. All handrailing components shall be blocked off above grade or walking surface, and shall remain covered until such time as the installation begins.

1.07 - WARRANTY

- A. Provide a Warranty Certificate typed on company letterhead and signed by an authorized officer of the supplier. A notary public in the state in which the company headquarters is located shall witness the signature. The Warranty Certificate shall be for all components of the railing system. The Certificate must warrant that the railing system installation shall be free from defects in design, materials, and workmanship for a period of one (1) year commencing on the date of issuance of the Certificate of Substantial Completion for the project.

PART 2 – PRODUCTS

2.01 – MANUFACTURERS

- A. Julius Blum & Company, Inc., or approved equal.

2.02 – MATERIALS

- A. Post spacing for interior railings shall be a maximum of four (4) feet on-center.
- B. Post spacing for exterior railings shall be a maximum of six (6) feet on-center, or as indicated on construction drawings, whichever is less.
- C. Openings between balusters, rails, etc. shall not exceed 4 inches.
- D. Dimensions and sizes for the railing system shall be as shown on the drawings.
- E. Posts and railings shall be a minimum of 1-¹/₂ inch outside diameter and a maximum of 1-7/8 inch outside diameter. Schedule 40 aluminum pipe alloy 6063-832, ASTM B241, ASTM B221 or ASTM B429.
- F. Toe plates shall be installed at all interior locations and they shall be shipped loose in stock lengths with pre-manufactured corners for field installation.
- G. Toe plates shall be a minimum four (4) inches high and shall be an extrusion that attaches to the posts with clamps that allow for expansion and contraction between the posts.
- H. Railings shall be made of pipes joined together with cast or machined aluminum component fittings. Components that are pop-riveted or glued at the joints shall not be acceptable. All components shall be mechanically fastened with stainless steel hardware.
- I. Posts shall not interrupt the continuation of the top rail at any point along the railing, including corners and end terminations. The top surface of the top railing shall be smooth and shall not be interrupted by projected fittings.
- J. Railings shall be installed using stainless steel bolts, size as required by the manufacturer. All bolts shall be stainless steel type in conformance with ASTM F593 and F594.
- K. Openings in the railings shall be guarded by 3/8 inch heavy duty chain and spring loaded clasp, manufactured by Campbell or approved equal with stainless steel hardware for easy removal.
- L. Finish shall be Aluminum Association M10-C22-A41 (215-R1).
- M. Aluminum surfaces in contact with concrete, grout, or dissimilar metals shall be protected with a coat of bituminous paint, Mylar isolators, or other approved materials. The coating shall be factory applied.

2.03 - FABRICATION

- A. Fit and shop assemble components in largest practical sizes for delivery to the site.

- B. Fabricate components with joints tightly fitted and secured. Provide spigots and sleeves to accommodate site assembly and installation
- C. Provide anchors and mounting brackets required for connecting railings to the surrounding construction.
- D. Install aluminum shims to compensate for unevenness in surfaces. Railing shall be straight and true.
- E. Exposed mechanical fasteners shall be flush countersunk; unobtrusively located; consistent with design of railings, except where specifically noted otherwise.
- F. Drill condensate drainage holes at bottom of members at locations that will not encourage water intrusion.
- G. Grind exposed joints flush and smooth with adjacent finish surface. Exposed joints shall be butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- H. Accurately form components to each other and to surrounding construction.
- I. Accommodate for expansion and contraction of members and structures without damage to connections or members.

PART 3 - EXECUTION

3.01 - GENERAL

- A. Verify that field conditions are acceptable and are ready to receive work.

3.02 - INSTALLATION

- A. Install railing systems in accordance with the manufacturer's written instructions.
- B. Posts shall be installed plumb and rails shall be installed level. All components shall be accurately fitted, free from distortion and defects.
- C. Clean and strip aluminum where site welding is required.
- D. Supply items required to be embedded in concrete or placed in partitions with setting templates, for each appropriate section.
- E. Anchor railings with mounting brackets supplied by the manufacturer.

- F. Assemble with spigots and sleeves to accommodate tight joints where shown on the drawings.
- G. Remove plastic wrap from pipe after installation.
- H. Polish railing system in accordance with the requirements contained in Section 01740.

3.03 - SITE TOLERANCES

- A. The maximum variation from plumb shall be one quarter ($\frac{1}{4}$) inch, non-cumulative.
- B. The maximum offset from true alignment shall be one quarter ($\frac{1}{4}$) inch.

END OF SECTION

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Access doors.
- B. Ladder up post safety post

1.02 - SUBMITTALS

- A. Submit under provisions of Section 01330.
- B. Indicate on shop drawings plan layout, construction details and required clearances.

PART 2 - PRODUCTS**2.01 – MANUFACTURERS**

- A. HALLIDAY PRODUCTS, Orlando, FL.
- B. BILCO COMPANY, New Haven, CT
- C. U. S. F. Fabrication Inc.

2.02 – ACCESS DOORS

- A. Fabricate frames of 1/4-inch thick aluminum channel with anchor flange round the perimeter.
- B. Fabricate door leaf of 1/4-inch aluminum diamond plate reinforced with aluminum stiffeners as required to withstand live load indicated in schedule
- C. Hinges: Heavy duty, bolted to underside of door.
- D. Doors shall open to 90° and lock automatically in that position. Provide stainless steel pins compression spring operators for easy operation. Provide a vinyl grip handle to release the cover for closing. Doors shall not protrude into the channel frame when open for hatch #2. Doors shall close flush with frame and rest on built in neoprene cushion/gasket.
- E. Equip doors with a stainless steel slam lock. Provide two (2) removable square key wrenches.
- F. Hardware and safety chain: 316 stainless steel.
- G. Factory Finish: Mill finish with bituminous coating applied to exterior of frame.

- H. Provide "fall through" protective grating panel for all hatches.
 - 1. Secondary protective grating panel shall be 1-1/2-in. "I" bar aluminum grating.
 - 2. Grating panel color and finish shall be Safety Orange powder- coating.
 - 3. Grating panel shall be two part, hinged and shall be supplied with positive latch to maintain unit in an upright position. Panel shall be hinged to open in the same direction of the access door(s) to limit obstruction of the opening.
 - 4. A 6-in. viewing area shall be provided on each lateral unhinged side of grating panel, for visual observation and limited maintenance procedures.
- I. On 300 lbs. psf load rating access covers, only, grating support ledges shall incorporate nut rail feature supplied with minimum of four (4) stainless steel spring nuts for mounting pump brackets and/or cable holders.
- J. A padlock hasp for owner-supplied padlock shall be provided.
- K. Guarantee access doors against defects in material and workmanship for a period of five (5) years.
- L. Contractor shall field verify all existing dimensions and layout information prior to submittal approval and installation.

PART 3 - EXECUTION

3.01 - INSTALLATION

- A. Install access doors in accordance with manufacturer's instructions.
- B. Pipe channel frame drain away from inside of structure.

3.02 - SCHEDULE

- C. Refer to Access Hatch Table on plan sheets for size.

END OF SECTION

PART 1 - GENERAL**1.01 - DESCRIPTION**

- A. This Section covers the requirements for supplying all labor, materials, equipment and services necessary to paint all required surfaces for a domestic wastewater treatment system.
- B. The work of this Section includes painting all of the applicable work items that were installed or constructed as work of Contract HPS.
- C. The following items shall be painted:
 - 1. Ferrous metals.
 - 2. Pipe hangers and supports.
 - 3. Small diameter pipes, fittings and valves regardless of pipe material.
 - 4. Exposed process pipes, valves, and fittings (large diameter piping) except stainless steel.
 - 5. Miscellaneous mechanical and electrical equipment as specified herein.
 - 6. Other surfaces specified in the Painting Schedule 09910-1 as modified below in paragraph 1.01 (F).
- D. In addition, products specified to be painted in other Technical Specification Sections.
- E. Items not scheduled for painting includes:
 - 1. Buried concrete walls and other surfaces.
 - 2. Anodized aluminum surfaces and grating.
 - 3. Motors and equipment, such as pumps, motors (furnished in final coats by the factory).
 - 4. Stainless steel.
 - 5. Pre-finished surfaces.
- F. Manufacturers of acceptable paint shall be Tnemec East, Inc. of Wilmington, MA. The requirements listed in these specifications are based on paint provided by Tnemec East, Inc. and are provided as a basis of the bid.

- G. Comply with the requirements contained in the following Sections as it relates to work of this Section:

Section 01310 - Project Management and Coordination

Section 01330 - Submittals

Section 01450 - Quality Control

Section 01650 - Product Delivery, Storage and Handling

Section 05500 - Metal Fabrications

1.02 - REFERENCES

- A. New York State Department of Environmental Conservation for VOC Compliance.
- B. The Society for Protective Coatings (SSPC) Volume 2
 - 1. Chapter 2 - Surface Preparation
 - 2. Chapter 5 - Paint Application Specifications

1.03 - QUALITY ASSURANCE

- A. The paint shall be furnished by one single Supplier (Paint Manufacturer).
- B. Consideration will only be given to Suppliers who can demonstrate that their paint system 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.
- C. The brand name products specified were chosen based on past performance, and constitute a standard for quality and performance for the specific purpose for which they are intended. Products other than that specified will be considered for use under the provisions set forth as follows:
 - 1. The named products constitute the "Base Bid" system. All bidders are advised to provide "Base Bid" pricing since the magnitude of the expenses involved with engineering redesign or modifications may be difficult to determine during the bidding period. Refer to Section 01620 - Product Options regarding product substitutions.

2. If an alternate paint system is proposed, the Supplier shall prepare and submit to the Engineer three (3) copies of the "Evaluation Documentation" as listed below. The information shall be in a form that is neat, clear, precise, legible and computer drafted and prepared so as to allow the Engineer to evaluate the proposed equipment. The "Evaluation Documentation" shall be hand delivered directly to the Engineer at least twenty (20) calendar days prior to the date set for the bid opening. The pre-bid "Evaluation Documentation" shall consist of the following:
 - a. Data substantiated by certified tests, conducted at no expense to the Owner, to demonstrate that the quality of the proposed product is equal to the requirements contained herein for each paint listed in the attached schedule.
 - b. Technical data sheets for the proposed products and manufacturer's standard color chart showing availability of all coatings listed in the attached schedule.
 - c. Two (2) paper chip samples, illustrating range of colors available for each surface-finishing product listed in the attached schedule.
 - d. Descriptive technical information for the proposed product(s) highlighted to show the differences between the proposed the specified product. Descriptive technical information shall include volume solids, dry film thickness, curing time, storage temperature, coverage rates, pot life, and surface preparation requirements.
 - e. List of facilities showing facility name, active contact name and telephone number, years in service, design conditions and parameters and design engineer's name and current telephone number of the company.
 - f. The Supplier shall state if the proposed products are in compliance with each and all Sections of the Specifications. Any variance from the specified system shall be listed and a description of each variance must be in letter form.
- D. Facsimile transmissions will not be accepted.
- E. Failure to submit the above listed information twenty (20) calendar days prior to the date set for the bid opening shall be cause for non-evaluation and the paint system will not be considered for the project.
- F. The Engineer will issue an addendum of approved products prior to the date set for the bid opening.

- G. The acceptance of products prior to the bid date does not relieve the Contractor of his/her responsibility regarding the performance or ability to meet the requirements of the Contract Documents.

1.04 - WARRANTY

- A. Provide a warranty certificate typed on paint applicator company letterhead and signed by an officer of the paint applicator. The certificate shall be witnessed by a notary public in the state in which the company headquarters is located.
- B. Provide guarantee from the applicator that the paint system shall be free from any defect for a period of two (2) years commencing on the date of substantial completion.
- C. During the guarantee period, if the paint system fails to perform or shows signs of a defective application, the applicator shall repaint such defective surfaces free of any and all charges. The cost of labor and all other expenses resulting from the repainting shall be borne solely by the paint applicator. The application of the paint system shall be covered under the Contractor's maintenance bond.

1.05 - DELIVERY, STORAGE AND HANDLING

- A. Comply with the requirements contained in Section 01650 - Product Delivery, Storage and Handling.
- B. Deliver products to site in sealed and labeled containers; inspect to verify acceptability. Deliver application instructions to the Engineer.
- 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 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.
- E. Cover all building openings to achieve specified temperatures. Furnish and install temporary heaters and electric feed to maintain room temperatures. The use of propane heaters will be allowed when approved by the Engineer.

1.06 - SUBMITTALS

- A. Comply with the requirements contained in Section 01330 - Submittals. Submit the following documents:
 - 1. Technical data sheets for each paint specified.
 - 2. Color charts showing availability of each paint specified in the attached schedule.
 - 3. Two (2) paper chip samples, illustrating range of colors available for each paint specified in the schedule.

PART 2 - PRODUCTS**2.01 – MANUFACTURER**

- A. Tnemec, Inc., or approved equal.

2.02 – PAINT MATERIAL

- A. Refer to the attached schedule for a listing of the appropriate surfaces for each paint material. The following are the types of materials that shall be used:

1.	Epoxoline	Hi-Build Polyamidoamine cured epoxy
2.	Endura-Shield III	Hi-Build Aliphatic Polyurethane
3.	H.B. Tneme-Tufcoat	High Build Water Base Acrylic Epoxy
- B. Colors shall be as selected by the Engineer.

2.03 - MIXING

- A. Mixing or tinting shall be done at the factory.
- B. Site mixing shall be prohibited.

2.04 - APPLICATION EQUIPMENT

- A. Coatings application equipment are not required to be new, but they shall be adequate and commensurate for the work and workmanship required herein.

2.05 - ACCESSORY MATERIALS

- A. Provide all required ladders, scaffolding, drop cloths, maskings, scrapers, tools, sandpaper, dusters, cleaning solvents, and miscellaneous equipment as required to perform the work and achieve the results specified herein.

PART 3 - EXECUTION**3.01 - ENVIRONMENTAL REQUIREMENTS**

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.
- C. 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.
- D. 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.
- E. Provide and maintain application temperatures for all finishes.

3.02 - EXAMINATION

- 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 heavy-duty vacuum cleaning equipment.
- B. Adequate illumination and ventilation shall be provided in all areas where painting operations are in progress.
- C. Verify the surfaces are ready to receive the work as required by the product manufacturer.
- D. 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.
- E. The commencing of work in a specific area only shall be construed as acceptance of the surfaces, and thereafter the Contractor's applicator shall be fully responsible for satisfactory work as required herein.

- F. Test shop applied primer for compatibility with subsequent cover materials.
- G. 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.
- H. Beginning of work means the installer accepts existing surface conditions.
- I. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the maximums:

3.03 - PREPARATION - GENERAL

- A. Prepare surfaces as specified in the attached schedule. Surface preparation of steel shall be in accordance with SSPC - Chapter 2 - Surface Preparation Specifications.
- B. Galvanized surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.
- C. Uncoated ferrous surfaces: Remove scale by wire brushing and wash clean with solvent. Apply treatment of phosphoric acid solution. Prime paint after repairs.
- D. 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.
- E. Surface appurtenances: If allowed by the Engineer, 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.
- F. Surfaces: Correct defects and clean surfaces, which affect work of this Section. Remove or repair existing coatings that exhibit surface defects.
- G. Follow manufacturer's recommendations for preparing surfaces to be primed and painted.
- H. Clean and sand surfaces to be painted.
- I. Mask, cover, or remove surfaces to be protected from paint. Protect electrical and mechanical equipment and systems not to be painted.
- J. Do not paint over UL Labels, manufacturer installed equipment nameplates, factory installed nameplates and equipment identification plates.

- K. Clean and remove scale, oil or grease from ferrous metal surfaces.

3.04 - APPLICATION

- A. Apply paint in accordance with SSPC - Chapter 5 - Paint Application Specifications.
- B. 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.
- C. All paints shall be new stock, delivered to the site unopened. Prepare surfaces properly for receiving paint; protect adjacent surfaces not to be painted.
- D. Use of sprays may be permissible, upon prior approval by Engineer.
- E. All work shall be carefully done by skilled painters. 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.
- F. Apply products in accordance with manufacturer's instructions.
- G. Do not apply finish coats until paintable sealant is applied.
- H. Do not apply sealant or primer until surfaces are properly prepared.
- I. Spray, roller and/or brush may be used as appropriate for the various conditions, but the specified dry film thicknesses must be provided.
- J. Thicknesses listed in the Schedule for High Build Coatings can be obtained in one coat by spray, but not necessarily by brush or roller.
- K. The specified DFT shall hold precedence over whatever recommendations are made for other supplier's products.
- L. Minimum air and surface temperature for application of epoxy coatings shall be maintained at 55 degrees F. unless otherwise noted on the manufacturer's product data sheet.
- M. Minimum air and surface temperature for 100% solids by volume epoxy coatings, such as 280 Tneme-Glaze, etc. shall be 70 degrees F. Optimum temperature of unopened 100% solids epoxy shall be 75 degrees F. Minimum temperature of unopened 100 solids epoxy shall be 60 degree F.

- N. Heat shall be supplied by equipment that delivers clean, warm air into the space to be coated. Heat shall not be supplied by devices that give off exhaust fumes such as carbon dioxide or carbon monoxide into the area to be coated. The purpose of this requirement is to prevent the coatings from yellowing during application and cure.
- O. Sand surfaces lightly between coats to achieve required finish.
- P. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
- Q. Where clear finishes are required, tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.
 - 1. Prime concealed surfaces of interior and exterior woodwork with primer paint.
 - 2. Apply materials to obtain:
 - 3. Owner's satisfaction and approval.
 - 4. Smooth uniform appearance.
 - 5. Complete coverage.
 - 6. Match with approved color sample.
 - 7. Work free of runs, sags and skips.
- R. Sharp, clean edges where finishes or colors change.
- S. Surfaces free of defects and damage at time of acceptance.
- T. Sand metal between coats.
- U. Paint PVC pipe in accordance with recommendations of the paint manufacturer and apply primer.

3.05 - FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT

- A. Paint shop primed equipment.
- B. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

- C. Prime and paint insulated and exposed process pipes, fittings, valves, hangers, brackets, collars and supports, except where items are shop finished.
- D. Paint both sides and edges of plywood backboards of electrical and telephone equipment before installing equipment.
- E. Color code equipment, piping, conduit, and exposed ductwork in accordance with other Sections, as shown or noted on the Drawings or as directed by the Engineer.

3.06 - ACCEPTANCE OF COATINGS

- A. The appearance of all coatings shall be subject to comparison to the paper chip samples described in Section 1.07 - Submittals. Acceptance of finish shall be made by the Engineer based on these comparisons.

3.07 - CLEAN UP

- A. Comply with the requirements contained in Section 01740 - Cleaning.
- 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.

PAINTS - SCHEDULE 09910-1

- A. **FERROUS METALS, INTERIOR, NON-SUBMERGED (INCLUDING, BUT NOT LIMITED TO, STRUCTURAL STEEL, MISCELLANEOUS STEEL AND PROCESS DUCTILE IRON PIPING, VALVES AND FITTINGS)**
 - 1. Surface Preparation - SSPC-SP6, Commercial Blast Cleaning, 2-mil anchor pattern.
 - 2. Shop Primer - V69 Epoxoline Hi-Build Apple Red, 3-5 mils DFT
 - 3. Field Touch Up- V69 Epoxoline, 3-5 mils in finish color.
 - 4. Finish - V69 Epoxoline, Hi-Build (to color), 4-6 mils DFT, or 2 coats @ 2-3 mils by brush and/or roller.
 - 5. Notes:

- a. Color code process pipes then apply mechanical identification.
- b. Coordinate the work such that the prime coat specified for process piping - See Section 15145.
- c. Paint piping before insulation is installed. Paint all air pipe insulation in addition to painting all piping.

B. FERROUS METALS, INTERIOR AND EXTERIOR, SUBMERGED OR INTERMITTENTLY SUBMERGED IN LIQUIDS (RAW SEWAGE OR POTABLE WATER APPLICATIONS).

1. Surface Preparation - SSPC-SP10, Near White Metal blast cleaning, 1-2 mil anchor pattern.
2. Shop Primer - V69 Epoxoline, Apple Red 3-5 mils DFT (20 Pota-Pox, Beige 3-5 mils DFT for Potable Water)
3. Touch Up - V69 Epoxoline, Apple Red 3-5 mils DFT, or 20 Pota-Pox Beige for potable water. (All primed surfaces shall be abraded if finish is not applied within 30 days).
4. Finish - V69 Epoxoline (to color) 2 coats 4-6 mils DFT per coat.
5. Notes:
 - a. Includes, but is not limited to, process piping, valves, and fittings.

C. FERROUS METALS, EXTERIOR, NON-SUBMERGED

1. Surface Preparation - SSPC-SP6 Commercial Blast cleaning, 1-2 mil anchor pattern
2. Shop Primer - V69 Epoxoline, Hi-Build, Apple Red, 3-5 mils DFT
3. Field Primer and Touch Up - V69 Epoxoline (to color) 2.0 to 3.0 mils DFT
4. Field Finish - 73 Endura-Shield III, 2.0 to 3.0 mils DFT
5. Notes: Includes process piping, valves, and fittings.

D. PIPE AND DUCT INSULATION - CLOTH MATERIALS ONLY

Surface Preparation - Remove all foreign matter.

Primer - 113/114 H.B. Tneme-Tufcoat, coats (to color), 2-3 mils per coat.

END OF SECTION

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Flanged and mechanical joint plug and check valves for large diameter process piping.
- B. Valve actuators.
- C. All valves installed in pipelines where the pipe is specified or shown to be any diameter of ductile iron, regardless of end connection style, shall be cast iron body style valve.
- D. For the purposes of this specification, large diameter piping shall be considered pipe with a diameter equal to or greater than 3 inches nominal diameter.

1.02 – RELATED SECTIONS

- A. Section 11316 - Submersible Sewage Pumps
- B. Section 15145 – Large Piping and Fittings

1.03 – REFERENCES

- A. ANSI B16.1 – Cast Iron Pipe Flanges and Flanged Fittings
- B. ANSI-B31.1 – Power Piping
- C. ASTM A48 – Gray Iron Castings
- D. ASTM A126 – Gray Iron Castings for Valves, Flanges and Pipe Fittings
- E. ASTM A312 – Seamless & Welded Austenitic Stainless Steel Pipe
- F. ASTM A351 – Austenitic Gray Iron Castings
- G. ASTM A436 – Austenitic Gray Iron Castings
- H. ASTM A536 – Ductile Iron Castings
- I. ASTM A743 – Castings, Iron Chromium, Iron-Chromium-Nickel, Corrosion Resistant for General Application
- J. ASTM A744 – Specifications for Castings, Iron-Chromium-Nickel, Corrosion Resistant for Severe Service

- K. ANSI/AWWA C606 – Grooved and Shouldered Joints
- L. AWWA C504 - Standard for Rubber Seated Butterfly Valves
- M. AWWA C507 – Ball Valves, 6 in. through 48 in.
- N. AWWA C508 - Swing - Check Valves for Water Works Service, 2 in. through 24 in.
- O. AWWA C509 – Resilient Seated Gate Valves for Water Supply
- P. AWWA C540 – Power Actuating Devices for Valves and Service Gates
- Q. AWWA C800 - Underground Service Line Valves and Fittings

1.04 - SUBMITTALS

- A. The Contractor shall submit separate valve schedules for each valve type (or style) that shall form the index of the shop drawing submittal. Each valve schedule shall provide the following information in tabular form and the Engineer reserves the right not to review the submittal until such time as all of the specified information is provided without claims for delay:
 - 1. Shop drawing reference number
 - 2. Manufacturer's valve tag designation
 - 3. Abbreviated process piping application as shown on Contract Drawing PD-1, if shown.
 - 4. Quantity
 - 5. Diameter
 - 6. End connection
 - 7. Packing
 - 8. Actuator type
 - 9. Accessories
 - 10. List of AWWA, ANSI, and ASTM applicable standards
 - 11. Body material
 - 12. Stem material

13. Gasket material to be used with the valve (if applicable)
- B. The remaining shop drawing submittal package shall include the following and be submitted in accordance with the requirements contained in Section 01330:
1. Dimensional prints valves and actuators.
 2. Valve specifications including materials of construction and features of design.
 3. Shop drawings for extension rods and guides indicating diameter, length, and material.
 4. Drawings for installation and support of guides.
 5. Catalog cuts for valve boxes with cover casting indicated.
 6. Painting system catalog cuts.
- C. Installation, operations and maintenance instructions for each type valve prepared in accordance with the requirements contained in Section 01782.
- D. A Warranty Certificate shall be provided from each valve manufacturer.

1.05 - QUALITY ASSURANCE

- A. Manufacturer's name and pressure rating shall be cast on the valve body.
- B. All exposed valves shall be flanged joints.

1.06 - DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, protect, and handle products under the provisions of Section 01650.
- B. Completely follow the manufacturer's recommended short and long term storage procedures. Partial payment requests for valves delivered to the site, but not yet installed, will not be processed if valve deliveries and storage requirements of the manufacturer are not followed.
- C. Deliver and store valves in shipping containers with labeling in place until the time that the valve is to be installed.

1.07 - WARRANTY

- A. The manufacturer shall warranty all valve components to be free from defects in design, materials and workmanship for a period of one (1) year commencing on the date the valve was placed into permanent and consistent operation.
- B. 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 contractor will be responsible for 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.

PART 2 - PRODUCTS**2.01 – PLUG VALVES**

- A. Exposed and Buried Valves – Flanged / Mechanical Joint Ends:
 - 1. Valves shall be of the non-lubricated eccentric type equipped with resilient faced, balanced plugs and shall be furnished with end connections as specified below.
 - 2. Port area for valves less than 6-inch diameter shall be at least 80% of full pipe area. Port areas of 6 inch and larger valves shall be at least 100% of full pipe area.
 - 3. Valve bodies shall be of ASTM A126, Class B, and cast iron. All exposed nuts, bolts, springs, washers, etc., shall be stainless steel. Resilient plug facings shall be of Nitrile Butadiene suitable for use with septic sewage (hydrogen sulfide).
 - 4. Valves shall be furnished with corrosive resistant seats. Seats in 3 inch diameter and larger valves shall have a welded-in overlay of high nickel content on all surfaces containing the plug face.
 - 5. Valves shall be furnished with replaceable, permanently lubricated, stainless steel sleeve-type bearings in the upper and lower journals.
 - 6. Valve pressure ratings shall be as follows and shall be established by hydrostatic tests as specified by ANSI Standard B16.1. Pressure ratings shall be 175 psi for valves through 12-inch diameter, 150 psi for valves in sizes 14 inch through 36 inch diameter. Valves shall provide drip-tight shutoff up to the full pressure ratings. Valves shall be capable of providing drip-tight shutoff up to the full valve rating with pressure in either direction.

7. Valve shaft seals, bearings and seats shall comply with applicable portions of AWWA C504 and C507.
8. Valve actuator shall operate valve at a pressure differential up to 50 psi.
9. Exposed: Flanged joint, 4-inch diameter gear actuator with handwheel.
10. Manufacturer: Dezurik

PART 3 - EXECUTION

3.01 - INSTALLATION

- A. 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.
- B. Support exposed valves as specified in Section 15060 and in accordance with the manufacturer's recommendations.

3.02 - INSTALLATION

- A. Inspection, Handling and Storage:
 1. Valves and boxes found to be either defective or damaged shall be rejected and immediately removed from the job site.
 2. Handling - 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. Valves and boxes shall not be dropped.
 3. Storage - Valves, floor stands, 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.
- B. Plug valves shall be installed with the pressure side correctly placed.
- C. Set valves in a plumb or level position, as applicable.
- D. Install check valves for proper direction of flow.

- 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. Paint all cast iron valves in accordance with Section 09910 – Paints. Do not paint stainless steel valves.
- G. All flanged valves shall be furnished and installed with a style 128-flange adapter by Dresser Industries, Inc. or equal.

END OF SECTION

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Work of this Section includes specifications for the adequate support of exposed piping. Pipe hangers shall be meant to include pipe support systems.
- B. Where product specifications are provided they are intended to provide a standard of quality.
- C. The Drawings show the layout, sizes, elevations, and general arrangement of piping, valves, primary instrumentation elements, and process equipment. Pipe support systems shall be selected, configured, and installed by the Contractor in order to comply with the requirements contained herein. The Contractor shall install pipe support systems consisting of hangers, supports, clamps, U-bolts, brackets, bracings, attachments, and structural shapes to adequately support piping from building components, tank walls, decking, walkways, slabs, or fabricated structural assemblies specifically designed for this purpose. All piping supports and hardware shall be fabricated and erected of stainless steel as specified herein.

1.02 - REFERENCES / QUALITY ASSURANCE

- A. Comply with the following in designing and installing pipe support systems:
 - 1. MSS SP58 - Pipe Hangers and Supports - Materials, Design and Manufacturer.
 - 2. MSS SP69 - Pipe Hangers and Supports - Selection and Application
 - 3. MSS SP89 - Pipe Hangers and Supports - Fabrication and Installation Practice
- B. Terminology used in this Section is defined in MSS SP-90.
- C. All interior and exterior pipe support systems that are located within tanks, reactors, basins, wet wells, channels, pits, chambers, pipe galleries, rooms, buildings, either exposed, submerged, partially submerged, intermittently submerged or never submerged shall be 304L stainless steel as a minimum.
- D. Below grade pipe support systems shall be as specified for underground pipe.

1.03 - SUBMITTALS

- A. Comply with the requirements contained in Section 01330 - Submittals.
- B. Submit the following:
 - 1. Product data and installation instructions.
 - 2. Pipe hanger and support catalog cuts showing manufacturer's figure number, size, materials of construction, and features for each type of support.

3. Provide catalog cuts for all types of stainless steel pipe support.
4. Provide details of each size knee brace and indicate materials of construction and the proposed locations.

PART 2 - PRODUCTS

2.01 - MANUFACTURERS

- A. Anvil International or approved equal.

2.02 - MATERIALS

- A. Stainless steel supports and hangers shall be used at locations specified in paragraph 1.02 (C) above.
- B. Anvil International figure 260 MSS Type 1, with adjustable clevis hangers for non-insulated pipe 2 through 24-inch diameter.
- C. Anvil International figure 260 adjustable wrought clevis hangers, with Figure 167, MSS Type 40 galvanized insulation protection shields sized for supporting insulation having a strength of 4 psi, at 8-foot intervals. Support piping on outside of insulation. Size hangers so that pipe insulation passes through them without interruption. Use these for:
 1. Insulated steel pipe $\frac{1}{2}$ through 24-inch diameter.
 2. Insulated galvanized steel pipe $\frac{1}{2}$ through 24-inch diameter.
 3. Insulated copper pipe $\frac{1}{2}$ through 8-inch o.d.
 4. Insulated PVC pipe with no longitudinal movement.
- D. Anvil International Figure 104, MSS Type 6, with adjustable swivel ring, split ring type for:
 1. Non-insulated steel pipe, galvanized steel pipe, and copper pipe $\frac{1}{2}$ through 1-1/2-inch diameter.
 2. Non-insulated cast iron soil pipe up through 8-inch diameter.
- E. Anvil International Figure CT-99C, MSS Type 9, with adjustable wrought tubing ring hanger, either plastic covered for:
 1. Non-insulated copper tubing with no longitudinal movement.
 2. Non-insulated PVC pipe, $\frac{1}{2}$ through 4-inch diameter, with no longitudinal movement.
- F. Anvil International Figure 171, MSS Type 41 with pipe roller, and Anvil International Figure 167, MSS Type 40 galvanized insulation protection shields (sized for supporting insulation having a compressive strength of 4 psi, at 8-foot intervals). Support piping on outside of insulation. Size

hangers so that pipe insulation passes through them without interruption. Use these for:

1. Insulated copper pipe, $\frac{1}{2}$ through $2\frac{1}{8}$ -inch diameter, having longitudinal movement.
 2. Insulated steel pipe, 1 through 30-inch diameter, having longitudinal movement.
- G. Anvil International Figure CT-121C, MSS Type 8, riser clamps (at floor slab penetrations) to support:
1. Copper pipe risers.
 2. PVC pipe risers.
- H. Anvil International Figure 261, MSS Type 8, riser clamps (at floor slab penetrations) to support steel pipe risers.
- I. Anvil International or Anvil-Strut Trapeze Hangers: Where three or more lines of pipe run parallel, support them with stainless steel trapeze hangers and stainless steel hardware.
- J. Concrete Inserts: Anvil International Figure 288, MSS Type 18, universal concrete inserts, adequately sized and correctly positioned to support full load, operating systems.
- K. C-Clamps: Anvil International Figure 86, MSS Type 23. Use these for attaching hangers to steel beams. Welding hanger rods to steel members is not permitted. Provide retaining clip for C-Clamps.
- L. Malleable Beam Clamps: Anvil International Figure 229, MSS Type 30. Use these for attaching hangers to bar joists. Provide retaining clip for all beam clamps.
- M. Floor supports: Steel, adjustable pipe support, adjustable height, locknut, nipple, floor flange and baseplate; Standon Model S92 or S89 or equal.
- N. Hanger Rods: Stainless steel threaded both ends or continuous thread. Only stainless steel threaded rod shall be used on the project. Diameter shall be as required to adequately support the load except where otherwise shown on the Drawings.

PART 3 - EXECUTION

3.01 - EXAMINATION

- A. Examine substrate and conditions under which supports and anchors are to be installed. Do not proceed with the installation until satisfactory conditions have been corrected by reinforcing the substrate.

3.02 - INSTALLATION OF HANGERS AND SUPPORTS

- A. General: Install hangers, supports, clamps, and attachments to support piping properly from building structure; comply with MSS SP-69 and SP-89. Arrange for grouping of parallel runs of

horizontal piping supported together on field-fabricated, heavy-duty trapeze hangers where possible. Install supports with maximum spacing complying with MSS SP-69. Where piping of various sizes is supported together by trapeze hangers, space hangers for smallest pipe size or install intermediate supports for smaller diameter pipe as specified above for individual pipe hangers.

- B. Install building attachments to wood joists or to structural steel. Space attachment within maximum piping span length indicated in MSS SP-69. Install additional attachments at concentrated loads, including valves, flanges, guides, strainers, expansion joints, and at changes in direction of piping.
- C. Install hangers and supports complete with necessary bolts, rods, nuts, washers, and other accessories.
- D. Field-Fabricated, Heavy-Duty Steel Trapezes: Fabricate from steel shapes selected for loads required; weld steel in accordance with AWS D-1.1.
- E. Install hangers and supports to allow controlled movement of piping systems, to permit freedom of movement between pipe anchors, and to facilitate action of expansion joints, expansion loops, expansion bends and similar units.
- F. Load Distribution: Install hangers and supports so that piping live and dead loading and stresses from movement will not be transmitted to connected equipment.
- G. Pipe Slopes: Install hangers and supports to provide indicated pipe slopes, and so that maximum pipe deflections allowed by ASME B31.9 Building Services Piping Code is not exceeded.
- H. Insulated Piping: Comply with the following installation requirements.
 - 1. Clamps: Attach clamps, including spacers, to piping with clamps projecting through insulation; do not exceed pipe stresses allowed by ASME B31.9.
 - 2. Saddles: Install protection saddles MSS Type 39 where insulation without vapor barrier is indicated. Fill interior voids with segments of insulation that match adjoining pipe insulation.
 - 3. Shields: Install protective shields MSS Type 40 on cold water piping that has vapor barrier.
 - 4. Shields shall span an arc of 180 degrees and shall have dimensions in inches not less than the following:

NPS	LENGTH	THICKNESS
1/4 through 3-1/2	12	0.048
4	12	0.060

5&6	18	0.060
8 through 14	24	0.075
16 through 24	24	0.105

5. Pipes 8 inches and larger shall have wood inserts.
6. Insert material shall be at least as long as the protective shield.
7. Thermal Hanger Shields: Install where indicated, with insulation of same thickness as piping.

3.03 - INSTALLATION OF ANCHORS

- A. Install anchors at proper locations to prevent stresses from exceeding those permitted by ASME B31.9 and to prevent transfer of loading and stresses to connected equipment.
- B. Fabricate and install anchors by welding steel shapes, plates, and bars to piping and to structure. Comply with ASME B31.9 and with AWS Standards D1.1.
- C. Anchor Spacing: Install anchors at ends of principal pipe runs, at intermediate points in pipe runs between expansion loops and bends. Make provisions for preset of anchors as required to accommodate both expansion and contraction of piping.

3.04 - INSTALLATION OF PIPE ALIGNMENT GUIDES

- A. Install pipe alignment guides on piping that adjoins expansion joints and elsewhere as required.
- B. Anchor to building substrate.

3.05 - EQUIPMENT SUPPORTS

- A. Fabricate structural steel stands to suspend equipment from structure above or support equipment above floor. Structural steel members shall be used where lateral support is required.
- B. Grouting: Form and place non-shrink grout for piping pier supports, thrust blocking, submersible pump discharge elbows, and equipment base plates. Shim to obtain level and plumb before placing grout.

3.06 - METAL FABRICATION

- A. Cut, drill, and fit miscellaneous metal fabrications for pipe anchors and equipment supports. Install and align fabricated anchors in indicated locations.
- B. Fit exposed connections together to form hairline joints. Field weld connections that cannot be shop welded because of shipping size limitations.

- C. Field Welding: Comply with AWS D1.1 for procedures of manual shielded metal-arc welding, appearance and quality of welds made, methods used in correcting welding work, and the following:
1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 2. Obtain fusion without undercut or overlap.
 3. Remove welding flux immediately.
 4. Finish welds at exposed connections so that no roughness shows after finishing, and so that contours welded surfaces to match adjacent contours.

3.07 - ADJUSTING

- A. Hanger Adjustment: Adjust hangers to distribute loads equally on attachments and to achieve indicated slope of pipe.

3.08 - SCHEDULE

PIPE SIZE	MAX. HANGER SPACING	DIAMETER
Inches (mm)	Feet (m)	Inches (mm)
1/2 to 1-1/4 (12 to 32)	6 (1.8)	3/8 (9)
1-1/2 to 2 (38 to 50)	10 (3)	3/8 (9)
2-1/2 to 3 (62 to 75)	10 (3)	1/2 (13)
4 to 6 (100 to 150)	10 (3)	5/8 (15)

Hanger spacing based on copper and steel pipe without valves or other equipment. Increased load due to valve and equipment shall require closer spacing of hangers. Maximum hanger spacing shall be 4 feet for PVC pipe.

Maximum hanger spacing shall be 2 feet, 8 inches for PE and PB pipe.

Maximum hanger spacing for cast iron pipe less than 10 feet in length shall be 5 feet.

END OF SECTION

NO TEXT ON THIS PAGE

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Small piping, valves and accessories

1.02 - REFERENCES

- A. Section 01410 - Quality Control: Requirements for references and standards.
- B. AGA Z21.22 - Relief Valves and Automatic Gas Shutoff Devices for Hot Water Supply Systems.
- C. ASME B16.3 - Malleable Iron Threaded Fittings.
- D. ASME B16.18 - Cast Copper Alloy Solder Joint Pressure Fittings.
- E. ASME B16.22 - Wrought Copper and Bronze Solder Joint Pressure Fittings.
- F. ASME B16.23 - Cast Copper Alloy Solder Joint Drainage Fittings - DWV.
- G. ASME B16.29 - Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings - DWV.
- H. ASME-B31.1 – Power Piping.
- I. ASME B31.2 - Fuel Gas Piping.
- J. ASME B31.9 - Building Service Piping.
- K. ASME SEC IV - Construction of Heating Boilers.
- L. ASME SEC IX - Welding and Brazing Qualifications.
- M. ASTM A53 - Pipe, Steel, Black and Hot-Dipped Zinc Coated, Welded and Seamless.
- N. ASTM A234/A234M - Pipe Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and Elevated Temperatures.
- O. ASTM B32 - Solder Metal.
- P. ASTM B42 - Seamless Copper Pipe.
- Q. ASTM B88 - Seamless Copper Water Tube.

- R. MSS SP-80 - Bronze Gate, Globe, Angle and Check Valves.
- S. NFPA 54 - National Fuel Gas Code.

1.03 - SUBMITTALS

- A. Submit under provisions of Section 01330:
 - 1. Product literature.
 - 2. Dimensional data.
 - 3. Materials of construction specifications.

1.04 - QUALITY ASSURANCE

- A. Perform Work in accordance with State of New York and Town code.
- B. Valves: Manufacturer's name and pressure rating marked on valve body.
- C. Welding Materials and Procedures: Conform to ASME SEC IX and applicable state labor regulations.
- D. Welders Certification: In accordance with ASME SEC IX.
- E. Identify pipe with marking including size, ASTM material classification, ASTM specification, potable water certification, water pressure rating.

1.05 - REGULATORY REQUIREMENTS

- A. Perform Work in accordance with the State of New York and the Town code.

1.06 - DELIVERY, STORAGE, AND PROTECTION

- A. Section 01650 - Material and Equipment: Transport, handle, store, and protect products.
- B. Accept valves on site in shipping containers with labeling in place. Inspect for damage.
- C. Provide temporary protective coating on cast iron and steel valves.
- D. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.

- E. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the work, and isolating parts of completed system.

1.07 - ENVIRONMENTAL REQUIREMENTS

- A. Section 01650 - Material and Equipment: Environmental conditions affecting products on site.
- B. Do not install underground piping when bedding is wet or frozen.

PART 2 - PRODUCTS

2.01 - COPPER PIPING & ACCESSORIES

- A. Small Copper Piping: for potable water shall be Type "K" hard drawn copper tubing, conforming to ASTM B42, with fittings per ANSI B-16.22. All underground sampling piping shall be soft annealed Type "K" ANSI H-23.1, fittings ANSI A-40.2.
- B. Check Valves: Swing check renewable BUNA-N disc, all bronze, Stockham Figure B-319 or equal threaded end or Figure B-309 solder end, rated 250 to 300 psi non-shock water.
- C. Ball Valves: Renewable reinforced Teflon seats, adjustable packing gland, non-blowout stem with run port opening. Ball valves shall be Stockham Figure S-216 or equal, with threaded ends.
- D. Dielectric Connections: EPCO Sales, Inc. or "V:Line" Lochinvar Co. or equal dielectric couplers. Use couplers at junction of dissimilar metal piping systems. Do not use steel or cast iron fittings in copper piping systems. Brass fittings may be used for dielectric locations.
- E. Pressure connections to flow and pressure transmitters, switches, recorders and indicating gauges shall be equipped with snubbers.

2.02 - PVC PIPING & ACCESSORIES

- A. PVC Piping: Polyvinyl chloride, Class 1245-B, Schedule 80, and shall conform to ASTM D2241, D1784, and D1785. Pipe shall be as manufactured by A.M. Beyers Company or equal. Fittings for PVC piping shall be solvent welded and shall be of the same schedule approved for use by the pipe manufacturer. Pipe shall bear the trademark of the manufacturer.
- B. Ball Valves: True union PVC, Type 1, Grade 1, cell classification conforming to ASTM D1784. Valve shall allow for disassembly on the downstream side of the piping system while maintaining a watertight condition on the upstream-pressurized line. PVC ball valves shall be Tru-Block True Union as manufactured by Chemtrol; Safe Block True Union as manufactured by Hayward Industrial Products, Inc. or equal.

- C. Check valves: Ball type true union, PVC, Type 1, Grade 1, cell classification conforming to ASTM D1784. Free oscillation of ball in guide ribs shall facilitate full port flow with minimum turbulence and chatter. Valves shall operate in the horizontal or vertical position. PVC check valves shall be True Check as manufactured by Hayward Industrial Products, Inc., True Union as manufactured by Chemtrol or equal.
- D. Strainers: Y type, of size indicated, PVC body with 40 mesh cylindrical stainless steel screen, as manufactured by Hayward Co., Wallace & Tiernan or equal.
- E. Unions shall be UL listed O-ring unions with Teflon gaskets by Hayward Co. or equal.
- F. Wetted parts of PVC piping, valves and accessories shall be compatible with treatment chemicals.

2.03 - STEEL PIPE AND ACCESSORIES

- A. Butt-welded, electric resistance welded, or seamless black steel pipe, ANSI 836.10, ASTM A120, Grade "B" or "A" or ASTM A53, A106, or A134 Schedule 40.
- B. Flanges, fittings, unions and similar items: Commercially available products marked in accordance with MSS-SP-25 marking on small size of odd shaped products may be omitted provided they are listed in the sequence so allowed by MSS-SP-25, but such products shall bear the manufacturer's name and trademark.
- C. Valves and strainers: Iron body with all wetted parts compatible with 50% caustic solution. Ball valves shall have lockable features.
- D. Fittings 2 inches and smaller: Threaded, standard cast iron.
- E. Galvanized steel pipe fittings: Same as above, except galvanized coated. Provide drainage pattern type fittings for exterior gas service piping.
- F. Unions: Cast iron with bronze to iron ground joint rated at 150 lbs.
- G. Threads and dimensions: ANSI B1.1 and B18.2
- H. Thread lubricant: Crane "Formula 425", or equal. Teflon tape may be used.
- I. Gaskets: Full face, 1/8-inch thick neoprene rubber.

2.04 - ACCESSORIES

- A. Sleeves: Schedule 10 or 40 steel pipe or 26 gauge galvanized sheet metal.

2.05 - NATURAL GAS PIPING, ABOVE GRADE

- A. Steel Pipe: ASTM A53 Schedule 40 black.
 - 1. Fittings: ASME B16.3, malleable iron, or ASTM A234/A234M, forged steel welding type.
 - 2. Joints: NFPA 54, threaded for pressures less than seven inches W.C. or welded to ANSI B31.2 for pressure greater than seven inches W.C. or four inches and larger pipe diameter.
- B. Above grade outdoor threaded piping and fittings shall be galvanized.
- C. Above grade outdoor welded piping and fittings shall be painted or provided with a coating and taping system in accordance with utility company requirements.

2.06 - NATURAL GAS PIPING, BELOW GRADE

- A. Steel Pipe: ASTM A106 Schedule 40.
 - 1. Fittings: ASTM A234, forged steel welding type, with AWWA C105 polyethylene jacket or double layer, half-lapped 10 mil polyethylene tape.
 - 2. Joints: ANSI B31.2
 - 3. Corrosion Protection: Magnesium anodes, 17 pound.

2.07 - GAS COCKS

- A. Up to two inches: 150 psig WOG, bronze body, bronze tapered plug, non-lubricated, Teflon packing, threaded.

PART 3 - EXECUTION

3.01 - INSTALLATION

- A. Joints between PVC and iron pipe shall be made with screwed fittings or screwed companion flanges.
- B. Install pipes so that expansion and contraction will not cause undue stress or strain to pipes or equipment. Provide offsets and expansion joints.

- C. Provide flanges and unions throughout the pipe systems to make installation and removal of piping and equipment convenient. Make provisions for servicing and removal of equipment without dismantling piping.
- D. Small PVC Piping Installation: Pipe and fittings in vicinity of treatment equipment and at ends of runs shall have screw type joints. In all other locations, solvent welded slip type joints will be acceptable.
- E. Threaded joints where specified shall be made using standard hand or machine pipe threaded 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.
- F. Protective pads or 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.
- G. Joints shall be made up using Teflon base compounds placed on the pipe threads. Do not place compound on threads of fittings.
- H. Wicking will not be permitted.
- I. Install PVC pipe in such a manner that it is not forced out of line by pipe supports, hangers, or other supporting members.
- J. Pipe hangers shall be clevis or strap type as specified in Section .
- K. For anchoring pipe, use metal compression type hangers padded with a compressible insert band. All fittings, except couplings, shall be supported and valves shall be braced to resist torque during valve manipulation. All piping shall be free of traps and graded to permit complete drainage.
- L. Copper piping: All 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.
- M. Install corporation stops at locations where branch yard hydrants or water services are being tapped from existing water lines.
- N. Locate shutoff and control valves for easy access and operation. Where valves are located in enclosed spaces, provide access doors.

- O. Install one 17 pound magnesium anode for every 100 feet of underground gas piping. Wire lead from anode shall be attached to bare steel area of pipe using a thermile weld kit using a #18 Green Cap cartridge specifically manufactured for attachment to Schedule 40 pipe. Anode ingot shall be buried approximately 2 feet to the side and below the centerline at a location near the center of the section of pipe being protected.
- P. Provide support for utility meters in accordance with utility company requirements.
- Q. Provide plug valves in natural gas systems for shut-off service.

3.02 - FIELD QUALITY CONTROL

- A. Test small piping for pressure and leakage, in accordance with AWWA C600. Check joints for leakage while under air pressure by swabbing, utilizing soap and water solution, and leaks found shall be repaired and rechecked.
- B. Pressure of air during testing shall be at least 50% higher than normal working pressure. Furnish all labor, materials, and equipment necessary to accomplish all testing and repairs.
- C. Pressure test gas piping in accordance with utility company requirements.
- D. Before piping is concealed, recheck it for leaks.
- E. Rework or replace defective and leaking joints, and joints that are otherwise unsatisfactory. Peening, caulking and doping are not permitted.

END OF SECTION

NO TEXT ON THIS PAGE

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Work of this Section includes all labor, materials, and equipment necessary to furnish and install process piping under pressure.
- B. Work includes exposed and underground piping as shown on the Drawings. Piping for submerged service is specified herein.
- C. BID NOTES (Grooved Piping Option):
 - 1. Included in the as-bid price, and at the Contractor's option, groove ended ductile pipe and fittings may be used in lieu of flanged ductile iron pipe and fittings, with the following provisions or except as stated herein.
 - 2. Equipment with flanged outlets and inlets, pumps, constant head boxes, valves, flow meters, and other in-line process equipment, shown on the Drawings as flanged, shall remain flanged.
 - 3. Provide and install flanged by groove ended pipe adapters for all plug, check, and butterfly valves to make groove ended joints to flanged fitting and equipment. Groove ended valves will be permitted on this project.
 - 4. Provide a flanged by groove ended spool piece to make joints for equipment, pumps, constant head boxes, flow meters, and other in-line equipment. Spool piece length shall be at least equal to five (5) times the pipe diameter. Adapters will not be permitted in this instance.
 - 5. Where the specifications call for flanged pipe as being packaged with system equipment; this pipe shall remain as flanged.
 - 6. Groove ended pipe will be permitted for use on compressed air lines.
 - 7. Joint restraint using rodding, specified on the Drawings, need not be provided for groove ended pipe and fittings.
 - 8. Concrete thrust blocking, pipe restraining fittings and support piers, where shown for exposed pipe, shall be installed for either piping system.
 - 9. All costs associated with installing piping shall be included in the bid price.

1.02 - 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 for Water.
- 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 C600-93 - 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.
- J. AWWA C606-87 – Grooved and Shouldered Joints.

1.03 - SUBMITTALS

- A. Submit information in accordance with Section 01330.
- B. Prepare a schedule for each service classification specified herein listing the pipe, fitting, lining, coating and joint type proposed for the project.
- C. Provide data on pipe material, coatings, linings, pipe fittings, dimensions and accessories. Provide manufacturer's catalog information.
- D. Piping shop drawings shall be provided. Field measurement then fabrication of pipe will not be permitted. All exposed pipe shall be delivered to the site cut to exact layout dimensions.
- E. Manufacturer's installation instructions for each pipe type.
- F. Foundry Records and Tests: Written transcripts of the test results shall be delivered directly to the Engineer within one week of the shipment of pipe with the date of the tests as close to the date of

manufacture as practical. For ductile iron pipe, written transcripts shall be furnished directly to the Engineer in accordance with applicable sections of AWWA C151 and ANSI A21.51:

Transcripts & Certification:	51-5.2
Group Tests Required:	Hydrostatic Test (51-9) Tensile Test (51-12.1) Impact Test (51-12.2) Low Temperature Impact Test (51-13)
Number of Specific Group Tests Required in Addition to General Certification:	One (1) per pipe size per 2,000 linear feet of pipe.

1.04 - QUALITY ASSURANCE

- A. Ductile iron pipe manufacturer shall be a member of the Ductile Iron Pipe Research Association.
- B. Pipe shall be marked with the manufacturer's name, classification, or nominal thickness and "DI" or "Ductile Iron".

1.05 - DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, protect, and handle products in accordance with manufacturer's instructions.
- B. Protect products from entry of foreign materials.

1.06 - ENVIRONMENTAL REQUIREMENTS

- A. Do not install piping when bedding is wet or frozen.

PART 2 - PRODUCTS

2.01 - DUCTILE IRON PIPE AND FITTINGS – BURIED AND EXPOSED

- A. Pipe shall be centrifugally cast with primary graphite in nodular form or spherulitic and conform to AWWA C151.
- B. All buried and exposed (dry and submerged service) shall be thickness Class 53.
- C. Grooved end ductile iron pipe shall conform to AWWA C606. All pipe shall be manufactured to rigid groove dimensions.

- D. All buried and exposed pipe and fittings shall be cement lined in accordance with AWWA C104, double thickness, minimum $\frac{1}{8}$ " for pipe sizes 4-12", minimum $\frac{3}{16}$ " for pipe sizes larger than 12" and standard thickness for fittings.
- E. All buried pipe and fittings shall be provided with bituminous seal coat in accordance with AWWA C104, inside and out.
- F. All exposed (dry and immersion service) pipe and fittings shall be provided with an interior seal coat in accordance with AWWA C104. The exterior of all exposed pipe and fittings shall be factory primed using a high solids epoxy system with a shop coat thickness of 3.0-8.0 mils DFT. The primer shall be manufactured by Tnemec Company or equal and be red oxide in color. Field paint exposed pipe (dry and immersion service) as specified in Section 09910.
- G. Fittings: Comply with AWWA C110 for center-to-center end dimensions.
 - 1. Buried: All buried fitting and buried valve joints shall be mechanically restrained and be provided with thrust blocking as detailed on the Drawings. Mechanical joint restraint shall be incorporated into the design of the follower gland. The restraining mechanism shall consist of individually actuated wedges. The joint restraint ring shall be made of 60-42-10 ductile iron conforming to ASTM A536-84. The restraint shall be series 1100 Megalug by Ebba Iron or equal.
 - 2. Exposed (Water, Sewage, and Air Service – Dry or Immersion):
 - a. Flanged fittings shall match those of Class 125 flanges in accordance with ANSI B16.1 with $\frac{1}{8}$ -inch full-face plain rubber SBR (Styrene Butadiene Copolymer) gaskets for sewage and water service. Gaskets for air service shall be EPDM (Ethylene Propylene Diene Monomer) with a temperature capability of 250 deg. F.
 - b. Grooved fittings shall comply with AWWA C606 rigid radius grooving dimensions. Fittings shall be ductile conforming to ASTM A-536.
- H. Joints:
 - 1. Exposed Piping:
 - a. Flanged – As specified above for fittings.
 - b. Grooved - Couplings shall be Victaulic Style 31 or equal, cast of ductile iron conforming to ASTM A-536 with alkyd-phenolic primer coating with a synthetic

rubber gasket suitable for the intended service. Gasket shall be specially compounded to conform to ductile iron pipe surfaces with a short center leg that shall bridge the pipe ends offering an initial seal on the leading edge of the pipe ends.

- I. Buried Piping: AWWA C111 push on joint with stainless steel locking segments vulcanized into rubber ring gasket, Flex-Ring[®] by American Ductile Iron Pipe or FieldLok[®] by U.S. Pipe or equal.
- J. Exposed and Buried Service Bolts and Nuts: Nuts and bolts shall be alloy steel conforming to the physical properties of ASTM A563. Bolts shall conform to ANSI B18.2.1. Nuts shall conform to ANSI B18.2.2. Bolts and nuts for grooved pipe shall be heat-treated plated carbon steel, track head, conforming to the physical properties of ASTM A183. Paint exposed and buried bolts and nuts in accordance with Section 09910.
- K. Submerged Service Bolts and Nuts: Type 304 stainless steel conforming to ASTM A-193. All piping bolts and nuts located in any tank, vault, well, chamber, or any other structure that treats, stores or conveys water or sewage shall be considered a submerged (immersion) service even if it is not physically located below the water level. The Contractor shall not paint these nuts and bolts. Mask the exposed threads prior to pipe painting. All bolts and nuts in any process tank, regardless if it is located above water level shall meet the requirements of this paragraph.
- L. Lubricant for Joints: Shall have no deteriorating effects on gasket or pipe material and shall be supplied by the pipe manufacturer or joint manufacturer in sufficient quantity.
- M. Manufacturer: American Ductile Iron Pipe, U.S. Pipe & Foundry Co. or equal.
- N. Flanged Adapters: Dresser Industries, Inc., Style 127 or equal for plain end steel or cast iron pipe with all bolts, rings, gaskets and accessories. Flanged adapters shall be Victaulic Style 307 or equal for grooved end pipe.
- O. Couplings: Dresser Industries, Inc., Style 38 or equal for plain end steel or cast iron pipe with all bolts, rings, gaskets and accessories.
- P. Restrained Joint Fittings: Ford Meter Box Co., Inc., UNI-FLANGE "Block Buster" series 13100, 1400 & 1500 for PVC , ductile iron, and steel piping.

PART 3 - EXECUTION

3.01 - BURIED PIPE INSTALLATION - GENERAL

- A. Install pipe in accordance with the manufacturer's written instructions and in accordance with applicable AWWA and ANSI standards.

- B. Comply with the excavation, backfill, compaction, and dewatering requirements contained in Division 2 of these specifications for installation of buried pipe.
- C. Keep buried piping clean as it is being installed by plugging the open end. Do not allow foreign material, such as soil and groundwater, from entering the pipe. If directed by the Engineer, the Contractor shall water flush installed pipe to remove foreign material. Water used to flush pipe shall be trucked to the site by the Contractor. Use of site water will not be allowed. The Owner will not pay for water usage in this regard.
- D. Maintain the excavation free of water during the progress of the work. No pipes shall be installed in water nor shall any joints be made in water. All slides or cave-ins of trenches or cuts shall be remedied prior to the work continuing.
- E. Commence pipe laying at the lowest point, with the bell or socket end pointing in the direction of flow.
- F. Use the manufacturer's approved equipment for cutting pipe to length.
- G. Thoroughly clean pipe and fitting interiors, joint surfaces, and gaskets prior to them being placed in the trench for installation. Maintain all materials clean during the prosecution of the work.
- H. Carefully lower pipes and fittings into the trench using industry recognized rigging standards and techniques. Every joint shall be made in the trench.
- I. All adjustments to the line and grade of pipe laid in earth foundation shall be done by scraping away or filling in the earth under the barrel of the pipe, and not by blocking or wedging. Where the excavation has been carried too deep, but not in excess of six (6) inches, the Contractor may replace with suitable material and mechanically compact to provide a firm foundation. Wherever, the excavations have been carried to a depth in excess of six (6) inches, the Engineer may order stone or gravel refill without additional compensation. In all cases, the trench under the joint shall be excavated to permit an even bearing for the barrel of the pipe.
- J. When unsuitable materials are encountered, the Engineer may direct the Contractor to continue the excavation below the required elevation and the trench filled with suitable material. This work will be paid for as "Extra Work".

3.02 - BURIED PIPE/FITTING INSTALLATION – MECHANICAL/RESTRAINED JOINT

- A. Comply with the manufacturer's written instructions for installing pipe, fittings and retainer.

- B. Clean the socket and plain end. All surfaces with which the gasket comes in contact shall be thoroughly wired brushed just prior to assembly. All loose rust, mud, frozen material, sand, gravel, and other foreign material shall be removed.
- C. Wipe the gasket clean and install the gasket. Take care that no gasket loops or bulges protrude into the path of the entering pipe spigot. In temperatures below 32 degrees F, warm gaskets before installation.
- D. Using a clean brush, apply a liberal amount of lubricant completely over the end of the pipe, the spigot radius, and the outer surface of the pipe up to the assembly stripe. Also, apply lubricant completely over the exposed surface of the gasket.
- E. Install the bevel end of the pipe into the socket. Take care that the plain end is centrally located in the socket and push the pipe home. The joint deflection may then be set.
- F. When tightening bolts on mechanical joint fittings, the gland shall be brought up to the fitting flange evenly, maintaining approximately the same distance between the gland and the face of the flange at all points around. This shall be done by partially tightening the bottom bolt first, then the top bolt, next the bolts at either side, and last the remaining bolts. Repeat this process until the proper joint tightness is achieved and the nut is sheared off. Overstressing the bolts to compensate for the poor installation will not be permitted.
- G. Complete the installation by applying a single coat of bitumastic to the entire surface of the retainer.

3.03 - EXPOSED PIPING

- A. Flanged: 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.
- B. Grooved:
 - 1. Pipe ends shall be clean and free from indentations, projections, and roll marks in the area from pipe end to groove for proper gasket sealing.
 - 2. A thin uniform coat of lubricant, provided by the joint manufacturer, shall be applied to the gasket, coupling or housing using a clean brush.

3. The gasket and coupling housing shall be installed as contained in the manufacturer's written instructions.
- C. Install flanged adapters and couplings in accordance with manufacturer's installation instructions.

3.04 - RECHECKING AND REPAIRING

- A. Pressure test all exposed and underground pipe in accordance with the requirements contained in Division 1. Before piping is concealed, recheck for leaks.
- B. Rework or replace defective and leaking joints, and joints that are otherwise unsatisfactory. Peening, caulking and doping are not permitted.

3.05 - FIELD QUALITY CONTROL

- A. Conduct pressure testing in accordance with AWWA C600 and Division 1 requirements.
- B. Blow out all dirt, debris and foreign material in all aeration process piping before placing the aeration system diffusers on-line. Do not use water to flush out material. The use of the supplied air compressors may be used if approved by the Engineer.

END OF SECTION

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Pipe penetration seals.

PART 2 - PRODUCTS**2.01 - MANUFACTURERS**

- A. Thunderline Corp. LINK-SEAL 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. Bolts and nuts shall be Type 18-8 stainless steel.
- 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.
- B. 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.
- B. Install non-shrink grout as detailed on the Drawings.

END OF SECTION

NO TEXT ON THIS PAGE

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Centrifugal exhaust fans.

1.02 - PERFORMANCE

- A. ACMA Seal for Certified Air and Sound Performance.
- B. UL listed and labeled.

1.03 - SUBMITTALS

- A. Submit product data on all fans and accessories.
 - 1. Provide fan curves with specified operating point clearly plotted.
 - 2. Submit sound power levels for both fan inlet and outlet at rated capacity.

PART 2 - PRODUCTS**2.01 - MANUFACTURERS**

- B. Greenheck
- C. Penn Ventilator
- D. Cook

2.02 - PRODUCTS

- A. Explosion-Proof fresh air supply fan shall be Series SFB by GREENHECK or approved equal.
- B. Performance: All fans performance shall be AMCA certified for both sound and air performance.
- C. Wheel shall be centrifugal forward curved, constructed of galvanized and shall include an aluminum wheel cone carefully matched
- D. Explosion Proof 1/4 Hp 115 volt single phase motor shall be heavy duty ball bearing type, carefully matched to fan load, and furnished at specified voltage, phase and enclosure. Drive frame assembly shall be constructed of heavy gauge steel. Motors and drives shall be mounted on vibration isolators, out of the airstream. Fresh air for motor cooling shall be drawn into the

motor compartment through a large space between the fan shroud and the motor cover. Motors and drives shall be readily accessible for maintenance.

- E. Precision ground and polished fan shafts shall be mounted in permanently sealed, lubricated pillow block ball bearings. Bearings shall be selected for minimum L (10) of 100,000 hours at maximum catalogued operating speed. Drives shall be sized for a minimum of 150% of driven horsepower. Pulleys shall be of the cast type, keyed and securely attached to the wheel and motor shafts.
- F. Motor pulleys shall be adjustable for final system balancing. A disconnect switch shall be factory installed and wired from the fan motor to a junction box installed within the motor compartment.
- G. Motor shall be spark resistant.
- H. Outdoor application with gray colored zinc rich paint coating.
- I. Provide with stainless steel shaft, inlet guard, companion flange, weatherhood, hinged access door, and neoprene isolators.
- J. Fan shall supply 460 cfm with a 0.5-inch static pressure, Model SFB-09.

2.04 - START-UP, TESTING, DEMONSTRATION

- A. Weatherhood: completely cover the motor drive compartments; protecting the shaft, bearings, motor and drive components from moisture and other adverse weather conditions. Weatherhoods are vented to provide sufficient motor cooling, designed to meet OSHA guidelines and are easily removed for service access.
- B. Companion Flange: connect to inlet flange and then attach to the ductwork.

2.04 - START-UP, TESTING, DEMONSTRATION

- C. Start-up fans after checkout to insure proper alignment and phased electrical connections.
- D. Test fans individually and as part of system.
- E. Ensure fans are properly interlocked with supply fans and with control system.
- F. Demonstrate operation to Owner and instruct maintenance personnel in operation of equipment.

END OF SECTION

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Provide a complete electrical installation including all labor, equipment, materials, machinery, tools, transportation, procurement of all necessary permits, certificates, and other incidental services, to provide a satisfactorily operating electrical installation.
- B. Perform all operations necessary to install, equip, adjust, and place into satisfactory operation all electrical equipment. Connect the various elements of the project to form a complete and properly operating system.
- C. The principal items of electrical work include, but are not necessarily limited to the following:
 - 1. Furnishing and pulling all cables and conductors, furnishing and installing all conduit grounding and related fittings for completing the installation of all electrically operated equipment, including electrical equipment provided by the Owner for installation by the Contractor.
 - 2. Furnishing and installing all switches, conduit, grounding and related fittings as well as conductors and cables for completing the installation of all electrically operated equipment, controls, safety devices, alarms, instrumentation, heating, ventilating and air conditioning equipment.
 - 3. Furnishing and installing all lighting fixtures including conduit, wiring, receptacles, switches, and lamps as required to complete these installations. Structural steel supports and frames for mounting and supporting all pullboxes, junction boxes, transformers, panelboards, switches and similar equipment required.
 - 4. Furnishing and installing transformers.
 - 5. Furnishing and installing panelboards.
 - 6. Short circuit and relay coordination study and adjustment of all protective and metering devices for the electrical system.

1.02 - RELATED WORK

- A. Concrete slabs, foundations, pads, and miscellaneous metal work required for equipment furnished under this Contract.
- B. Flashing and sealing of conduits through outside and interior walls.

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 general conditions of the Contract.

- B. Electrical equipment provided under this Contract shall be turned over in a sustained and proper 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. NFPA-820: Fire Protection in Wastewater Treatment and Collection Facilities
 - 4. New York State Energy Code
 - 5. New York State Building Code
 - 6. New York State Administrative Code
 - 7. Town of Riverhead.
 - 8. Long Island Power Authority rules and regulations.
 - 9. I.S.A.: Instrument Society of America
 - 10. U.L.: Underwriters Laboratories.
 - 11. N.E.M.A.: National Electrical Manufacturers Association
 - 12. O.S.H.A.: Occupational Safety and Health Administration
 - 13. A.N.S.I.: American National Standards Institute
 - 14. J.I.C.: Joint Industrial Council
 - 15. I.E.E.E.: Institute of Electrical and Electronic Engineers.
 - 16. F.M.: Factory Mutual.
 - 17. Telephone Utility Company

1.05 - EXISTING CONDITIONS AND RELOCATIONS

- A. It is anticipated that several branch circuit conduits and/or lights may have to be routed, extended, relocated or temporarily removed and replaced, to permit the installation or removal of equipment by other trades under this scope of work. Review all demolition drawings and allow for the rerouting or relocation of wiring systems and devices to remain that must be relocated or rerouted. This Contractor shall allow for and accomplish these rework items to suit field requirements and

conditions.

- B. When working with existing equipment or wiring systems care shall be taken to avoid damage, and shutdown of process equipment. Prior to working in an area, examine existing conditions and review conditions with the Engineer prior to altering existing systems.
- C. Where new construction involves connecting to or using existing equipment, include all work and materials required to adapt, extend or rework the prevailing existing "As Is" condition, to the new work. Should an existing condition prove to be grossly deteriorated or inadequate for modification, such condition shall be reported to the Engineer for a remedy.
- D. Where existing empty conduits are to be used for new wiring systems, they shall be assumed to be in poor condition requiring prior "make ready" work before using. A wire brush reamer shall be pulled through prior to wiring and, if necessary, water accumulations shall be pumped or blown out.

1.06 - ELEMENTARY WIRING DIAGRAMS AND POINT- TO-POINT FIELD WIRING DIAGRAMS

- A. Prior to the manufacture of equipment to be furnished under this Contract, submit for approval complete elementary, internal and interconnecting wiring diagrams for all switchgear, branch motor protection, and circuit breaker distribution panels required under this Contract. The elementary diagrams shall completely describe the circuit in which the component is to be used and shall be drawn using standard JIC/NEMA electrical symbols and ANSI C37.2 device function numbers. The diagrams shall be CADD drafted.
- B. Point-to-point field wiring diagrams are required for all equipment furnished as work of this Contract. Point-to-point field wiring diagrams shall be complete and shall contain all details including all items provided under other construction contracts and sections. As a minimum, all diagrams shall indicate:
 - 1. Color-coding and wire numbers.
 - 2. Wire sizes and insulation types.
 - 3. Designation of conduit in which wiring is to be run.
 - 4. Panel terminal strip numbers.
 - 5. Location, functional name and manufacturer's designation of items to which wiring is to be connected, including all items provided under other sections and construction contracts.
 - 6. Include diagrams for controls and power. Power diagrams to include interconnections with switchgear, motor control centers, panelboards, motors control panels, and field devices.
- C. Use shop drawings of equipment furnished under other sections to prepare point-to-point field

wiring diagrams.

PART 2 - PRODUCTS

2.01 - MATERIALS AND EQUIPMENT

- A. All materials and equipment used in the work shall be new and be UL listed and labeled.

PART 3 - EXECUTION

3.01 - COORDINATION

- A. Examine specifications, Contract Drawings, the project site, and existing electrical system to become thoroughly familiar with items that require electrical connections and coordination. Electrical drawings are diagrammatic and shall not be scaled.
- B. Notify the Engineer of any deviations or special conditions necessary for the installation of work. The Engineer prior to installation will resolve interferences between work of various contractors. 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.
- C. Install equipment in accordance with manufacturer's recommendation. Where conflicts occur between Contract Documents and these recommendations, request a clarification from the Engineer before proceeding 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.
- E. Contractor shall be provided with approved shop drawings for all equipment that is to be provided by the Owner to the Contractor for installation for the Contractor's use in coordinating & performing the required wiring and termination work.

3.02 - CUTTING AND PATCHING

- A. Repair or replace routine damage caused by cutting in performance of work under this contract.
- 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 shall be core drilled with drill designed for this purpose. All openings, sleeves, and holes in slabs shall be properly sealed, fire proofed and waterproofed.

- D. Repairs shall be performed with materials that match existing materials and to be installed in accordance with appropriate sections of these specifications.

3.03 - CONCRETE SLABS, FOUNDATIONS AND PADS & MISCELLANEOUS METALS

- A. Concrete slabs, foundations and pads required for the emergency generator facility and other equipment furnished under this Contract shall be constructed in accordance with the details shown on the Drawings and as specified in Section 03300 – Concrete.

3.04 - 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 16060 – Grounding and Bonding of these specifications. Test information to include ampere readings of all panel circuit breakers, and isolation resistance reading of motors and transformers.

3.05 - IDENTIFICATION OF EQUIPMENT

- A. Identify equipment in accordance with the details on the Drawings and the requirements contained in Section 16075 – Electrical Identification.

3.06 - INSTALLATION

- A. Carefully move and replace 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.
- C. Mounting of equipment to handrails shall not be permitted. All local devices, such as disconnect switches, receptacles, transmitters, and local control stations shall be frame mounted and be self-supporting.

END OF SECTION

NO TEXT ON THIS PAGE

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Electrical demolition.

1.02 - RELATED SECTIONS

- A. Section 01110 - Summary of Work

1.03 - SUBMITTALS

- A. Submit under provisions of Section 01330.
- B. Shop Drawings: Indicate demolition and removal sequence and location of salvageable items; location and construction of temporary work.

1.04 - REGULATORY REQUIREMENTS

- A. Conform to applicable code for demolition work, safety of structure and dust control.
- B. Obtain required permits from authorities.
- C. Notify affected utility companies before starting work and comply with their requirements.
- D. Do not close or obstruct egress width to exits.
- E. Do not turn off electric equipment without authorization from Owner.
- F. Conform to procedures applicable when discovering hazardous or contaminated materials.
- G. Obtain a utilities mark-out of buried underground utilities for telephone, electric, gas, sewer and water.

1.05 - SCHEDULING

- A. Schedule Work to coincide with new construction.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

3.01 - EXAMINATION

- A. Verify field circuiting arrangements.
- B. Verify that abandoned wiring and equipment serve only abandoned facilities.

- C. Demolition drawings are based on casual field observation. Report discrepancies to the Engineer before disturbing existing installation.
- D. Beginning of demolition means installer accepts existing conditions.

3.02 - PREPARATION

- A. Coordinate utility service outages with Utility Company.
- B. Provide power, wiring and connections to maintain all existing power, and control systems in service during construction. When work must be performed on energized equipment or circuits use personnel experienced in such operations.

3.03 - DEMOLITION AND EXTENSION OF EXISTING ELECTRICAL WORK

- A. Remove, relocate, and extend existing installations to accommodate new construction, as indicated on drawings.
- B. Remove abandoned wiring, as indicated on drawings, back to source of supply.
- C. Remove all abandoned conduit. Cut conduit flush with walls and floors, and patch surfaces.
- D. Disconnect abandoned outlets and remove devices. Remove abandoned outlets if conduit servicing them is abandoned and removed. Provide blank cover for abandoned outlets which are not removed.
- E. Repair adjacent construction and finishes damaged during demolition and extension work.
- F. Provide caps and filler plates/plugs for all openings in equipment and enclosures after removal of conduits.
- G. Maintain access to existing electrical installations which remain active. Modify installation or provide access panel as appropriate.
- H. Remove demolished materials from site as work progresses.
- I. Completely remove all existing circuits in existing building not scheduled to remain. Include new circuit breakers, conductors and conduits sized in accordance with NEC.
- J. Completely remove and dispose of all electrical power, control, and telemetry feeds including conduits, conductors, boxes and supports not scheduled to remain after new construction is tested and operational.
- K. Maintain circuit continuity.

3.04 - CLEANING AND REPAIR

- A. Clean and repair existing materials and equipment which remain or are to be reused.

- B. Remove temporary work.

END OF SECTION

NO TEXT ON THIS PAGE

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.
- E. Fittings: Grounding connections to equipment shall be bolted. Bolted type connectors shall consist of corrosion resistant copper alloy with silicone bronze bolts, nuts and lockwashers.

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 Utility 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 in accordance with electric utility 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: Transformers shall be grounded and grounding conductors and conduits shall be 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. Temporary electric service for construction.

1.02 - REFERENCES

- A. ANSI/NFPA 70 - National Electric Code.

1.03 - SUBMITTALS

- A. Submit under provisions of Section 01330.
- B. Shop Drawings: Indicate locations where temporary electric service will be located and routed.

1.04 - REGULATORY REQUIREMENTS

- A. Obtain required permits from authorities.
- B. Notify affected utility companies before starting work and comply with their requirements.
- C. Do not close or obstruct egress width to exits.
- D. Do not turn off electric equipment without authorization from Owner and Engineer. Provide 72 hours advance notification.

PART 2 - PRODUCTS**2.01 - TEMPORARY ELECTRIC SERVICE**

- A. Temporary service shall be available during the entire contract period and during all phases of work, day and night for the Hangar pump station.
- B. Temporary service shall be installed and maintained per NEC, OSHA, N.Y. State Uniform Building Code and LIPA requirements.
- C. The temporary electrical service shall be sized correctly for all of the new and existing loads.
- D. All existing equipment shall be protected against damage caused by the installation, operation and removal of the temporary service. Any equipment or items damaged shall be replace at no cost to the Owner.
- E. Provide temporary lighting for Ball Field Pump Station. Minimum foot candle for temporary lighting: 20 F.C., measured at floor surface. The Contractor shall set up light to minimize glare.
- F. Provide wiring, utility poles, metering equipment, distribution panel and other equipment for temporary light and power. Contractor shall pay all fees required for temporary service and complete all required applications. Contractor shall pay all application and construction fees

required for temporary service and complete all required applications. Contractor shall pay for all electrical consumption for temporary service.

- G. Wiring for temporary light, controls and power shall include a distribution panel for 3 wire, 120/240 volt, 100 AMP services. Feeders in building shall have branch circuits of #12 conductors minimum. Contractor shall pay all application and construction fees required for temporary service and complete all required applications
- H. Provide 20 amp branch circuits with fused ground type receptacle outlet for single phase power.
- I. Provide lamps and fuses, including replacements required.
- J. Provide new materials for temporary light and power.
- K. Provide ground fault protection (such as portable plug-in type ground fault circuit interrupters) on single phase 20 amp receptacle outlets.
- L. Provide receptacle outlets, portable cord connectors and attachment plugs with standard NEMA configurations.
- M. Install all temporary light and power materials in accordance with National Electrical Code.
- N. Upon completion of the project, remove all temporary electric light and power work and restore all affected finishes, connections and sitework.

PART 3 - EXECUTION

3.01 - EXAMINATION

- A. Verify existing system voltage characteristics and match to existing system voltage characteristics.
- B. Verify that the temporary service is sized to accommodate all loads.
- C. Determine locations and routings for temporary electric wires, cables and conduits with Engineer and Owner.

3.02 - TEMPORARY POWER

- A. Temporary wiring and power shall be installed so as not to be a hazard and shall be protected from damage. Separate circuits shall be provided for light and power. Overcurrent protective devices and switches shall be provided. All equipment, tools, metal cabinets and boxes shall be grounded.
- B. Disable existing power only to make final connections or when new service is to be installed.
- C. Remove and dispose of all temporary power and control feeds after receiving written approval from engineer. Restore all finishes to original specified conditions.

END OF SECTION

NO TEXT ON THIS PAGE

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. System of supporting devices and hangers for support or bracing for conduit, electrical equipment, fixtures, panelboards, outlet boxes, junction boxes and cabinets.
- B. All exposed hardware, hangers, supports, rods, frames, angles, channels, brackets, and any other system, regardless of application, location, or purpose shall be stainless steel.
- C. Mounting of electrical devices to handrailing shall not be permitted. All local disconnect switches, pull boxes, transmitters, panels, and junction boxes shall be frame mounted.
- D. Hardware used to anchor supports to concrete or masonry shall be stainless steel.
- E. Conduit sleeves set in concrete shall be carbon steel with bitumastic coating, inside and outside.
- F. Minimum size of threaded rod shall be ¼-inch diameter. All threaded rod shall be type 316 stainless steel.
- G. Definitions:
 - 1. Exterior locations shall be locations defined as exposed to outside conditions, located outdoors, located within process tanks, channels, wells, pits and the like.
 - 2. Interior locations shall be areas located within buildings, lean-to structures or the like.
 - 3. Exposed locations are locations that are not concealed within walls and slabs.
- H. Under this Section, the Contractor shall provide all labor, equipment and material necessary to furnish, and install supporting devices complete, in place, as shown on the Contract Drawings, specified herein and approved by the Engineer.
- I. In general, the supporting devices included under this Section shall include, but not be limited to the following:
 - 1. Channels, fittings, and brackets
 - 2. Conduit supports
 - 3. Concrete inserts
 - 4. Beam clamps and hanger rod or threaded rod supports

1.02 - RELATED SECTIONS

- A. Section 16132 – Boxes and Troughs
- B. Section 16134 - Conduit
- C. Section 16470 – Panelboards

1.03 - REFERENCES

- A. ANSI/NFPA 70 - National Electric Code.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc.

1.04 - SUBMITTALS

- A. The Contractor shall submit product catalog cuts in accordance with the requirements contained in Section 01330 – Submittals.

PART 2 – PRODUCTS**2.01 - GENERAL**

- A. The following sections describe typical supporting devices such as channels, fittings, and brackets. Not all possible components are listed. The Contractor shall furnish and install all required items based on the specification of products listed below.

2.02 - CHANNELS, FITTINGS AND BRACKETS

- A. Channels shall be type 316 stainless steel. Channels shall have a minimum thickness of 12 gauge. The cross sectional width dimension shall be 1-1/2" minimum. The depth shall be as required to satisfy load requirements.
- B. Attachment holes, when required, shall be factory punched on hole centers approximately equal to the cross sectional width and shall be 9/16" in diameter.
- C. Fittings and brackets shall have 9/16" diameter holes on centers identical to the channel or as required to align with the channel holes. Fittings and brackets shall have the same width as the channel and shall be 1/4" thick minimum. All fittings and brackets shall be type 316 stainless steel. Fittings and brackets shall mate properly with the channel.

2.03 - CONDUIT SUPPORTS

- A. All conduit supports shall securely attach the conduit to the structure or to the channel as required.

2.04 - CONCRETE INSERTS

- A. Concrete inserts shall be continuous slot or spot type, as required. Concrete inserts shall be 12 gauge steel.
- B. Concrete insert finish shall have an electro-plated zinc finish in accordance with ASTM B633.

2.05 - BEAM CLAMPS AND HANGER ROD SUPPORTS

- A. Beam clamps, threaded rod, and hanger rod supports shall be type 316 stainless steel regardless of location.

2.06 - HARDWARE AND THREADED COMPONENTS

- A. Hardware and threaded components shall include all miscellaneous items to complete the assembly of the support system. This includes nuts, bolts, springs, washers, etc.
- B. All hardware, regardless of the location, shall be type 316 stainless steel.

2.07 - MANUFACTURERS

- A. The equipment described in the proceeding paragraphs is to form a complete support system associated with a single manufacturer, as different manufacturers have slight variations in dimensions, parts, etc. It is the intention of these specifications that all required parts be furnished and installed for a complete support system.
- B. Manufacturers for the supporting devices shall be as follows: ALSTRUT, B-LINE, or KINDORF.

PART 3 - EXECUTION

3.01 - INSTALLATION

- A. General:
 - 1. The Contractor shall furnish and install all required supporting devices required to properly mount and secure all electrical equipment furnished under this Contract.
 - 2. All supporting devices shall be installed level, parallel and perpendicular to building walls and floors, such that the support system is installed in a neat and professional manner.
 - 3. Actual designs of the support system shall be the responsibility of the Contractor. The Contractor shall submit support design details to the Engineer for approval before proceeding with fabrication if requested by the Engineer.
 - 4. Wherever equipment to be supported exceeds 50 pounds in weight, a Professional Engineer registered in the State of New York shall prepare a design for the proposed support system for Engineer's receipt.
 - 5. In all instances, the Contractor shall furnish and install the proper sized rods, channels, fittings, brackets, etc. necessary to adequately support the equipment. Minimum support equipment sizes shall be as specified in this Specification Section.
 - 6. All holes in hung ceilings for support rods and other equipment shall be made adjacent to

bars where possible, to facilitate removal of ceiling panels.

B. Channels, Fittings and Brackets Support System:

1. The Contractor shall furnish and install channels, fittings, brackets and related hardware for mounting, supporting and installing all electrical equipment furnished under this Contract and for devices furnished by others for installation under this Contract.
2. The support system shall be rigidly bolted together and braced to make a substantial supporting framework.
3. All frameworks that support operator devices, such as control stations, shall be fabricated such that the top of the equipment to be mounted is four (4) feet above finished floor.
4. Final mounting heights shall be as approved by the Engineer.

C. Conduit Supports: All exposed conduits shall be supported with a conduit support system consisting of channels, nuts, bolts and screws, threaded rod, conduit straps and anchors, as required. Each conduit shall be properly supported every six (6) feet, maximum.

D. Concrete and Masonry Inserts:

1. The Contractor shall furnish and install all anchor bolts, masonry inserts and similar devices, as required, for proper installation of support equipment furnished under this Contract.
2. The Contractor shall install leveling channels in concrete housekeeping pads.

E. Beam Clamps and Hanger Rod Support:

1. All equipment fastenings to steel columns, beams and trusses shall be by beam clamps.
2. In lieu of beam clamps, equipment may be welded to steel structures, subject to Engineer approval.
3. No holes shall be drilled in any steel columns, beams, and trusses.
4. Hanger rod supports shall be installed such that threaded rod is parallel and perpendicular to building walls and floors.

END OF SECTION

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Work of this Section includes the following:
 - 1. Nameplates and labels
 - 2. Wire and cable markers
 - 3. Conduit markers
 - 4. Underground warning tape
 - 5. Reflective tape
- B. The Prime Electrical Contractor shall install conduit markers immediately after it has been installed. Conduit markers shall be installed on all exposed and buried conduits. Conduits in duct banks or embedded in concrete shall not be marked.
- C. Wire and cable markers shall be installed immediately after the wire has been pulled through the conduit and before termination.
- D. The conduit and wire installation shall not be considered complete until the conduit and wire/cable has been properly identified. An amount equal to 50% of the scheduled value for the conduit and/or cable installation shall be withheld until the identification has been installed.
- E. Furnish and install nameplates for equipment furnished and installed as work of this Contract.
- F. Reflective tape shall be installed on all exterior junction boxes and pull boxes. A 6-inch long strip of tape shall be installed on the front door of the box. The strip shall be centered on the front door, and placed in the vertical position.

1.02 - REFERENCES

- A. ANSI/NFPA 70 - National Electrical Code
- B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

1.03 - SUBMITTALS

- A. Submit under provisions of Section 01330 - Submittals.
- B. Product Data: Provide catalog data for nameplates, labels, markers, and warning tape.
- 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.

PART 2 - PRODUCTS**2.01 - HIGH VOLTAGE SIGNS**

- A. High voltage signs shall be 20 gauge steel with baked enamel finish. Finish shall be industry standard of red, white and black graphics. Signs shall be 10 inches by 14 inches with the following exceptions:
 - 1. Use 7-inch by 10-inch signs where this is the largest size that can be applied.
 - 2. Use 14-inch by 20-inch signs where needed for adequate vision.
- B. High voltage signs shall read; "DANGER - HIGH VOLTAGE".
- C. High voltage sign mounting screws shall be stainless steel.

2.02 - EQUIPMENT NAMEPLATES

- A. Electrical equipment nameplates shall be laminated plastic with black letters on a white background. Nameplates shall be 2-inches by 6-inches, unless a larger size is required to adequately display the required information. The Engineer shall approve all nameplates. Nameplates for electrical equipment such as MCC's, panelboards, switchgears, etc. shall have the following information:
 - 1. Equipment name and number
 - 2. Voltage
 - 3. Phases and number of wires
- B. Typical nameplate is as follows: "MCC No. 2A - 480Y/277V - 3 PH, 4W"
- C. All control pullboxes and junction boxes shall have a nameplate similar to the following: "SBR TANKS CONTROL CONDUITS PULL STATION"
- D. Nameplates for all electrical equipment shall have similar and additional information as required for proper identification.
- E. Nameplate mounting screws shall be stainless steel. Adhesives shall not be used.

2.03 - WIRE MARKERS

- A. Manufacturers:
 - 1. 3M ELECTRICAL SPECIALTY DIV., Product Scotch Code.
 - 2. THOMAS & BETTS CORP., Product E-Z Code.
- 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. The Contractor shall tag all wires as follows:
1. Power and Lighting Circuits: Branch circuit or feeder number as indicated on the Contract Drawings.
 2. Control Circuits: Control wire number as indicated on the interconnection point-to-point diagrams required to be furnished as work of Section 16010 – General Electrical Requirements.

2.04 - CONDUIT MARKERS

- A. Manufacturers: THOMAS & BETTS CORP or equal.
- 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.

2.05 – UNDERGROUND WARNING TAPE

- A. Metal detectable type with APWA color-coding. Heavy-duty polyethylene with a minimum total thickness of 5-mil. Tape resistant to alkalis, acids and other destructive elements.
- B. Tape shall be 6 inches wide with the words "Caution – Electric Line Buried Below" repeated every 16-36 inches.
- C. For buried telephone lines, orange in color, minimum 6 inches wide with the words "Caution – Telephone Line Buried Below" repeated every 16-36 inches.
- D. Conform to OSHA regulation 1926.956 (c)(1).
- E. Manufacturers: Lab Safety Supply

2.06 – REFLECTIVE STRIPED TAPE

- A. Vinyl plastic backing, yellow/black, 2-inches wide.
- B. Manufacturers: Lab Safety Supply

PART 3 - EXECUTION

3.01 - PREPARATION

- A. Degrease and clean surfaces to receive nameplates and labels.

3.02 - APPLICATION

- A. Install all nameplate and labels parallel to equipment lines. Center labels on door front.
- B. Secure nameplates to all equipment using stainless steel screws.
- C. Secure nameplate to inside surface of door on every panelboard that is recessed in finished locations.
- D. Apply conduit markers at 20-foot (6 m) intervals.
- E. Install underground warning tape 6 inches below grade located above every underground conduit, ductbank, and direct burial line.
- F. Install high voltage sign at every device equal to or greater than 480 volts as directed by the Engineer.

3.03 - ELECTRICAL EQUIPMENT IDENTIFICATION

- A. The Contractor shall identify every existing circuit in all existing and new distribution panels, switchboards and disconnect switches.
- B. Label all circuits identifying the load served including all individual circuit breakers.
- C. Label all new and existing circuit breakers and switches used for new and existing feeder and branch circuits. Label all equipment as "spare" for removed electrical equipment.

END OF SECTION

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Under this Section, the Contractor shall provide all labor, equipment and material necessary to furnish, install, and test the wires and cables complete, in place, as shown on the Contract Drawings, specified herein and approved by the Engineer.
- 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
 - 2. 600V lighting and receptacle cable
 - 3. Instrumentation wires
- C. All conductors to be continuous from origin to panel or equipment termination without splices. Where splices and taps are necessary or are required, notify the Engineer prior to installation.
- D. All splices shall be in made in stainless steel terminal boxes unless otherwise indicated.

1.02 - RELATED SECTIONS

- A. Section 16075 – Electrical Identification
- B. Section 16132 – Boxes and Troughs
- C. Section 16134 - Conduit
- D. Section 16136 - Flexible Liquid-Tight Metal Conduit

1.03 – QUALITY ASSURANCE

- A. Qualifications of Manufacturers:
 - 1. 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.
 - 2. Contractor shall submit the following information pertaining to the manufacturer(s):
 - a. Complete literature, performance, and technical data describing the proposed equipment and listing of items made by the manufacturer.
 - b. Location of closest service office from which this equipment shall be serviced.
 - c. Location of closest parts inventory for item installation.
 - 3. Field Testing:

- a. Wires and cables shall be tested before being connected to motors, devices or terminal blocks.
 - b. 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.
 - c. All tests shall be made by and at the expense of the Contractor who shall supply all testing equipment.
4. Continuity Tests:
- a. All cables, wires and shields shall be tested for continuity. Testing for continuity shall be by test light or buzzer.
5. Insulation-Resistance Tests:
- a. 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.
 - b. 300V instrumentation signal cable shall be tested from conductor to conductor, conductor to ground, and conductor to shield using a digital volt-ohm meter. The resistance value shall be 10 megohms or greater.

1.04 - REFERENCES

- A. ANSI/NFPA 70 - National Electric Code.
- B. NECA Standard of Installations.

1.05 - SUBMITTALS

- A. Submit product data under provisions of Section 01330.

1.06 - COORDINATION

- A. Coordination:
 - 1. The Contractor shall coordinate wire and cable required with the equipment being furnished by others for the satisfactory operation of the equipment or system.
 - 2. The Contractor shall review installation procedures under other sections and contracts and coordinate them with the work specified herein.

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. Conductor sizes are based on copper at 75°C.
- C. 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.
- D. Field verify destination location to determine cable routing.
- E. 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. For all conductors No. 8 AWG and larger, provide ANSI/NFPA 70, Type THW, or THWN.
- 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 - 300 VOLT INSTRUMENTATION SIGNAL CABLE - FOR INDOOR USE

- A. Indoor Application:
 - 1. The 300-volt instrumentation signal cable for indoor use shall consist of single or multiple twisted pairs or triads of coated, stranded copper conductors with polyvinyl chloride (PVC) insulation and nylon jacket. Each individual pair or triad of wires shall have an

aluminum/polyester tape shield with a tinned copper drain wire. For multiple pair or triad cables, an overall aluminum/polyester tape shield with a tinned copper drain wire shall enclose the individual wire assemblies. The overall jacket shall be PVC. Cables shall have a 105EC rating.

2. The conductors shall be annealed, tin-coated copper with Class B stranding per ASTM B-8. Minimum size conductor shall be AWG No. 16.
3. The insulation shall be PVC. The insulation thickness shall be 15 mils.
4. Individual Conductor Insulation: The jacket over each individual wire shall be nylon and shall have a thickness of 4 mils.
5. The shield for each individual pair or triad shall be an aluminum/polyester tape. The shield shall be 1.35 mils thick and shall be overlapped to provide 100% coverage. The shield shall also contain a 7-strand tinned copper drain wire which shall be a maximum of two sizes smaller than the conductors. All individual shields shall be completely isolated from each other.
6. The overall shield for multiple pair or triad cables shall be an aluminum/polyester tape. The shield shall be 2.35 mils thick and shall be overlapped to provide 100% coverage. The shield shall also contain a 7-strand tinned copper drain wire which shall be the same size as the conductors.
7. The overall jacket shall be PVC and shall meet the requirements of UL 13.
8. The jacket thickness shall be as follows:

Wire Size	No. of Pairs	No. of Triads	Jacket Thickness
16 AWG	1	--	35 Mils
16 AWG	2,4	--	50 Mils
16 AWG	8,10,12 --		60 Mils
16 AWG	--	1	35 Mils
16 AWG	--	2,4	50 Mils
16 AWG	--	8	60 Mils
16 AWG	--	12	70 Mils

9. Manufacturers and their products shall be equal to:

- a. Cablec APVIC
- b. Okonite A Type P-OS and Type SP-OS
- c. Belden

B. In Underground Ducts and Outdoor Use in Conduits:

1. The 300-volt instrumentation signal cable for outdoor use in conduits shall consist of single or multiple twisted pairs or triads of coated, stranded copper conductors with polyvinyl chloride (PVC) insulation and nylon jacket. Each individual pair or triad of wires shall have an aluminum/polyester tape shield with a tinned copper drain wire. For multiple pair or triad cables, an overall aluminum/polyester tape shield with a tinned copper drain wire shall enclose the individual wire assemblies. The overall jacket shall be chlorinated polyethylene (CPE). Cables shall have a 105EC rating.
2. The conductors shall be annealed, tin-coated copper with Class B stranding per ASTM B-8. Minimum size conductor shall be AWG No. 16.
3. The insulation shall be PVC. The insulation thickness shall be 15 mils.
4. The jacket over each individual wire shall be nylon and shall have a thickness of 4 mils.
5. The shield for each individual pair or triad shall be an aluminum/polyester tape. The shield shall be 1.35 mils thick and shall be overlapped to provide 100% coverage. The shield shall also contain a 7-strand tinned copper drain wire which shall be a maximum of two sizes smaller than the conductors. All individual shields shall be completely isolated from each other.
6. The overall shield for multiple pair or triad cables shall be an aluminum/polyester tape. The shield shall be 2.35 mils thick and shall be overlapped to provide 100% coverage. The shield shall also contain a 7-strand tinned copper drain wire which shall be the same size as the conductors.
7. The overall jacket shall be CPE and shall meet the requirements of UL 13.
8. The jacket thickness shall be as follows:

Wire Size	No. of Pairs	No. of Triads	Jacket Thickness
16 AWG	1,2	--	35 Mils
16 AWG	4	--	50 Mils
16 AWG	8,10,12	--	60 Mils

16 AWG	--	1	35 Mils
16 AWG	--	2,4	50 Mils
16 AWG	--	8	60 Mils
16 AWG	--	12	70 Mils

9. Manufacturers and their products shall be as follows:

- a. Cablec APZIC
- b. Okonite AOkobon Type P-OS and Type SP-OS

2.03 - 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. The cables and wires shall be installed as shown on the Contract Drawings. 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, manhole and handhole systems. If splices are required, the Contractor shall obtain approval in writing from the Engineer prior to splicing.
 - 3. All low voltage cable shall be installed in metallic conduit.
- 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. Wire for instrumentation circuits shall not be smaller than No. 16 AWG. 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. The actual number of wires installed for each circuit shall, in no case, be less than the number required; however, the Contractor shall add as many wires as may be required for control and indication of the actual equipment selected for installation at no additional cost to the Owner.
- 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. Cable Installation: All interior cable shall be run in metallic conduit.
- G. 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.
- H. Training of Cable: The Contractor shall 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.
- I. 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.

- J. 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 40EF 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.

K. Color Coding:

1. Conductor jacket shall be color coded as follows:

AC Power

480V/277 and above

Phase A - Brown

Phase B - Orange

Phase C - Yellow

Neutral - White

208Y/120V System

Phase A - Blue

Phase B - Black

Phase C - Red

Neutral – White

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. Instrumentation Signal

Pairs	Triads
Black and White	Black, Red and White

5. Equipment Ground - GREEN

L. Instrumentation Cable Installation:

1. The Contractor shall install all cable or conductors used for instrumentation wiring (4-20 mdc, etc.) in a grounded metal raceway.
2. The use of asbestos cement or plastic conduit will not be permitted.
3. Analog signal wires shall exclusively occupy these conduits.
4. Where instrumentation cables are installed in panels, etc., the Contractor shall arrange wiring to provide maximum clearance between cables and other conductors.
5. Instrumentation cables shall not be installed in same bundle with conductors of other circuits.
6. Grounding of cable shield shall be accomplished at one point only, unless otherwise required by instrumentation systems manufacturer.
7. Special instrument cable shall be as specified or recommended by the vendor of the equipment or instruments requiring such wiring.
8. Installation, storage, terminations, etc., shall be per manufacturer's recommendations.

3.02 - IDENTIFICATION

- A. Identify wire and cable under provisions of Section 16075.
- B. Identify each conductor with its circuit number.

3.03 - FIELD QUALITY CONTROL

- A. Perform field inspection and testing under provisions of Section 01450.
- 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. Verify continuity of each branch circuit conductor.

END OF SECTION

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. In general, the boxes included under this Section shall include, but not be limited to the following:
 - 1. Outlet, switch, and device boxes
 - 2. Junction boxes (with and without terminals)
 - 3. Pull boxes

1.02 - RELATED SECTIONS

- A. Section 16070 – Supporting Devices
- B. Section 16134 - Conduit

1.03 - REFERENCES

- A. NECA - Standard of Installation.
- B. ANSI/NEMA OS1 - Sheet-Steel Outlet Boxes, Device Boxes, Covers and Box Supports
- C. NEMA FB1 - Fittings and Supports for Conduit and Cable Assemblies
- D. ANSI/NFPA 70 - National Electric Code
- E. NEMA 250 - Enclosures for Electrical Equipment (1000 volts maximum)

PART 2 - PRODUCTS**2.01 - BOXES**

- A. General Purpose:
 - 1. General purpose outlet, switch and device boxes shall be constructed of stamped sheet steel. Minimum box size shall be 4" x 4" x 2-1/8".
 - 2. Box sizes shall have standard industry and manufacturer dimensions. Gangable boxes are not allowed. Conduit knockouts are allowed on these boxes.
 - 3. Box covers, partitions, screws, etc. shall be of the same material as the box, and shall be furnished and installed as required for a complete installation.
 - 4. General purpose outlet, switch and device boxes shall be as manufactured by: Appleton Electric Company, Raco, Steel City, or approved equal
 - 5. Masonry boxes shall be as in paragraph 2.01 (A) (1) but shall be constructed specifically for installation in masonry block or tile walls.

B. Cast Boxes (Non-Explosion Proof):

1. Cast outlet, switch and device boxes shall be constructed of copper-free aluminum or malleable iron, shall have an epoxy powder or zinc electroplate with aluminum enamel coat finish, threaded hubs and integral mounting lugs.
 - a. Covers shall be malleable iron or aluminum. Screws shall be stainless steel. Neoprene or rubber gaskets shall be provided for all boxes.
2. PVC coated cast outlet, switch and device boxes shall be constructed as in 1. above except boxes and covers shall be PVC coated.
 - a. Cast box manufacturers and their particular products shall be as follows:
 - (1) Appleton Electric Company, "Type FS & FD"
 - (2) Crouse-Hinds, "Type FS & FD"
 - (3) O-Z/Gedney, "Type FS & FD"
 - (4) Or approved equal
3. Covers for cast boxes shall mate with the device installed as required and shall match the environment, that is, PVC coated, non-corrosive, weatherproof, etc.
 - a. Cover manufacturers and their particular products shall be as follows:
 - (1) Appleton Electric Company, "Type FSK"
 - (2) Crouse-Hinds, "Type DS, S and WLR"
 - (3) O-Z/Gedney, "Type FS-1 and FS-2"
 - (4) Or approved equal
4. Above model types do not exclude cover types not shown, but in general will be the types used in the majority of applications. Special applications may require covers not shown above.

C. Explosion Proof Boxes:

1. Explosion proof outlet, switch, and device boxes shall be cast type with threaded hubs. Bodies and covers shall be iron with zinc electroplate finish or copper-free aluminum with epoxy powder coat finish. Screws shall be stainless steel. Boxes shall be PVC coated where required.
2. Boxes, covers and devices in explosion proof areas are many times provided by manufacturers as a complete unit in either factory sealed or non-sealed models. The quantity and type required shall be as shown on the Contract Drawings and as needed for a complete installation.

3. The switches, receptacles and devices mounted within these boxes shall be as specified in other sections of this Specification.
4. The box/cover/device manufacturers shall be as follows:
 - a. Appleton Electric Co.; "EDS, EFS, EPS and GUSC Series"
 - b. Crouse-Hinds; "EDS, EFD, EFS, FSPC and GUSC Series"
 - c. O-Z/Gedney; "EFS and EFD Series"

2.02 - JUNCTION AND PULL BOXES

A. General Purpose:

1. General-purpose junction and pull boxes shall be constructed of stamped sheet steel. Minimum box size shall be 4" x 4" x 2-1/8". Box sizes shall have standard industry and manufacturer dimensions. Gangable boxes are not allowed. Conduit knockouts are allowed on these boxes.
 - a. Box covers, partitions, screws, etc. shall be of the same material as the box and shall be furnished and installed as required for a complete installation.
 - b. General purpose junction, pull and terminal boxes shall be as manufactured by: Appleton Electric Company, Raco, Steel City, or equal.
2. Masonry boxes shall be as specified above, but shall be constructed specifically for installation in masonry block walls.

B. NEMA 1 Boxes:

1. NEMA 1 boxes shall be used when stamped steel boxes are not available in the sizes required. NEMA 1 boxes shall be sized as shown on the Contract Drawings or, if not specifically dimensioned, as required per NEC requirements.
2. Boxes shall be constructed of steel without conduit knockouts. Boxes shall be constructed as follows:

Maximum Dimension	USS Gauge
Up to 24 inches	No. 16
Greater than 24 up to 36 inches	No. 14
Greater than 36 inches	No. 12

3. Box covers with weights of 10 pounds or greater shall have two (2) handles welded to the cover. Boxes may also be furnished with a door instead of a cover. If provided with a

door, box door shall open 180E and shall have quarter turn or flush handle latches.

4. Box covers, doors, screws, partitions, etc., shall be of the same material as the box and shall be furnished and installed as required for a complete installation.
5. Boxes shall have ANSI 61 gray polyester powder finish inside and out.

C. NEMA 12 Boxes:

1. NEMA 12 boxes shall be sized as shown on the Contract Drawings or, if not specifically dimensioned, as required per NEC requirements.
2. Boxes shall be constructed of steel without conduit knockouts and shall be gasketed.
3. Boxes shall be constructed as follows:

Maximum Dimension	USS Gauge
Up to 24 inches	No. 16
Greater than 24 up to 36 inches	No. 14
Greater than 36 inches	No. 12

4. Box covers with weights of 10 pounds or greater shall have two (2) handles welded to the cover. Boxes may also be furnished with a door instead of a cover. If provided with a door, box door shall open 180E and shall have door clamps. Door shall be continuously hinged.
5. Boxes shall have ANSI 61 gray polyester powder finish inside and out.

D. NEMA 4 Boxes:

1. Cast junction and pull boxes shall be malleable iron or copper free aluminum with threaded hubs and integral mounting lugs. Copper-free aluminum boxes shall have an aluminum enamel finish. Malleable iron boxes shall have a zinc electroplate and aluminum enamel finish or epoxy powder coat. Finishes shall be applied after all machining.
 - a. Covers shall be of the same material and finish as the box. All screws shall be stainless steel. All covers shall come with rubber or neoprene gasket. PVC coated boxes and covers shall be provided where required.
 - b. Manufacturers and their particular products shall be as follows:
 - (1) Appleton Electric Co.; "GS, JB and SEH Series"
 - (2) Crouse-Hinds; "ARB, GRF, GS, VGR and VXF Series"

- c. It is the intention of these specifications to limit the use of cast junction and pull boxes to the types listed above. These types of boxes are generally used for lighting, receptacle, fire alarms, etc. type of circuits which usually have a conduit size of 1" or smaller. Where larger size pull or junction boxes are required in NEMA 4 areas, boxes as described below shall be used.
 - 2. Non-Cast type NEMA 4 junction and pull boxes shall be sized as shown on the Contract Drawings or, if not specifically dimensioned, as required for NEC requirements.
 - a. Boxes shall be constructed of steel without conduit knockouts and shall be gasketed. Boxes shall be continuously welded.
 - b. Boxes shall have doors which open 180E, have stainless steel clamps and stainless steel continuous hinge.
- E. NEMA 4X Boxes:
- 1. 304 Stainless Steel-
 - a. NEMA 4X junction and pull boxes shall be constructed of 304 stainless steel.
 - b. Boxes shall be continuously welded with no holes or knockouts. Boxes shall have seamless foam-in-place gasket, body stiffeners where required, stainless steel door clamps and continuous hinge.
 - c. Box doors and all exterior hardware shall be 304 stainless steel.
 - d. Boxes shall be unpainted. Boxes shall have smooth brushed finish.
 - 2. Fiberglass-
 - a. Junction and pull boxes shall be fiberglass reinforced with sealed seams and no knockouts. Boxes shall have seamless foam-in-place gasket.
 - b. Box doors shall be fiberglass-reinforced with fiberglass-reinforced polyester hinges and quick-release latches.
 - c. Fiberglass boxes shall have gray exteriors and gray or white interiors.
 - d. Fiberglass junction and pull boxes shall be Hoffman, Type GQRLP or approved equal.
- F. Explosion Proof Boxes:
- 1. Explosion proof junction and pull boxes shall be constructed of cast iron or cast aluminum with covers or doors of same material. Screws and bolts shall be stainless steel. Boxes shall be PVC coated where required.
 - a. Boxes shall be rated for use in the hazardous area it is to be installed in

- b. Boxes shall be sized as shown on the Contract Drawings or, if not specifically dimensioned, as required per NEC requirements.
 - c. Boxes, covers and doors shall have a polymer enamel finish.
- 2. PVC coated cast explosion proof boxes shall be as specified above except boxes, covers and doors shall be PVC coated. All boxes shall contain a neoprene gasket.
 - a. Cast explosion proof box manufacturers shall be as follows:
 - (1) Appleton Electric Co.; "DER, EJB, EXB, GUB and JBE Series"
 - (2) Crouse-Hinds; "DHE, EJB, EJH, and GU Series"
 - (3) O-Z Gedney; "IG, OFB and YG Series"
- G. Terminal Boxes:
 - 1. Terminal boxes shall be identical to junction and pull boxes specified above for the following: NEMA 1 Boxes, NEMA 12 Boxes, NEMA 4 Boxes, NEMA 4X Boxes, Explosion Proof Boxes, or approved equal
 - 2. In addition to the above description, each terminal box shall have a steel panel with terminal blocks installed on mounting studs within the box.
 - 3. The steel panel shall be painted with white enamel and shall be at least one USS gauge size thicker than the box thickness.
 - 4. The terminal blocks shall be screw type, rated 600V, 20A minimum. Terminal blocks shall be phenolic, accept up to a #10 AWG wire and have a marking strip.
- H. Pull/Splice Box: Outdoor
 - 1. Outdoor pull/splice boxes shall be Nema 4X stainless steel as manufactured by Hoffman or approved equal.
 - 2. Free-standing site pull/splice boxes above ground shall be mounted on a concrete pad.
 - 3. Pull/Splice boxes shall have stainless steel support and accessories.
 - 4. Where splice box size is not indicated, size to permit pulling, racking, and splicing of cables as per NEC.

2.03 - WIRE TROUGH

- A. Wire trough shall be manufactured by SQUARE D or equal.
- B. Wire trough shall be completely enclosed with removable sealed front cover.

- C. Construction: Less than 8-inch square shall not be used. All wire troughs shall be 14-gauge.
- D. Finish: ANSI-49 epoxy paint applied by cathodic electro-deposition paint process over a corrosion resistant phosphate preparation or stainless steel, as indicated in the schedule shown in paragraph 3.01 herein.
- E. UL listed.

PART 3 - EXECUTION

3.01 - INSTALLATION

- A. General:
 - 1. Mount all boxes rigidly and securely to the building structure or to supporting devices, which are rigidly and securely supported to the building structure. Boxes shall not be supported from suspended ceiling systems.
 - 2. All boxes and supports, regardless of the location, shall be fastened with 304 stainless steel bolts and expansion shields on concrete or brick, with 304 stainless steel toggle bolts on hollow masonry units, and with stainless steel machine screws or welded studs on steelwork.
 - 3. Mount boxes with sides parallel or perpendicular to walls or equipment, such that the box is installed in a neat and professional manner.
 - 4. Install all boxes such that wiring within them is accessible.
 - 5. Install blanking devices or threaded plugs in all unused holes.
 - 6. Install all boxes concealed in finished walls when possible.
 - 7. Set boxes so that front edges are flush with finished surfaces.
- B. Locations and Sizes:
 - 1. Box locations shown on the Contract Drawings are approximate. Box sizes shall be as dimensioned on the Contract Drawings, or, if not specifically dimensioned, as required by the NEC. Additional boxes required but not specifically shown shall be furnished and installed under this Contract.
 - 2. The equivalent number of 90 degree bends in a single conduit run is limited to the following:
 - a. Runs in excess of 300 feet - 0
 - b. Runs of 300 feet to 201 feet - 1
 - c. Runs of 200 feet to 101 feet - 2

- d. Runs of 100 feet and less - 3
- 3. Boxes shall be furnished and installed wherever necessary to satisfy the above criteria.
- 4. All box sizes and locations shall be confirmed by the Contractor with the Engineer prior to installation.
- C. Grounding:
 - 1. All boxes shall be grounded in accordance with NEC requirements.
 - 2. The use of two (2) locknuts and a grounding bushing will be required at all conduit terminations where hub type fittings are not required. Conduit grounding bushings within boxes shall be bonded together with jumper cables where box size or number of conduits warrants their use per NEC requirements.
- D. Terminal Boxes: In addition to all box requirements described above, terminal boxes shall have terminal blocks for boxes that contain control or signal wires which must be interconnected. Approximately 20 percent space terminals shall be provided (minimum of two [2]). Terminals shall be lettered or numbered to conform to the wiring diagrams.

SCHEDULE 16132-1 BOX & TROUGH SCHEDULE

- A. Box Classification For Calverton Pump Stations:
 - 1. Cast: surface Mounted on Masonry walls in the Hangar pump station.
 - 2. NEMA 1: Not used.
 - 3. NEMA 12: Not used.
 - 4. NEMA 4: Not used.
 - 5. NEMA 4X Stainless Steel: Used in areas subject to weather, sunlight, humidity, moisture, or other areas defined by the Engineer. The following areas fall under this classification: All interior and exterior locations, unless otherwise specified.
 - 6. NEMA 4X Fiberglass: Not Used.
 - 7. PVC Coated Boxes: Not used.
- B. Identification: All pull boxes, junction boxes, and terminal boxes shall have a nameplate attached, which properly identifies the box. Nameplates shall be installed as specified in Section 16075 - Identification.

END OF SECTION

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Conduit.
- B. In general, the conduit system included under this Section shall include, but not be limited to the following:
 - 1. Rigid hot dipped galvanized steel (RGS) conduits
 - 2. PVC coated rigid hot dipped galvanized steel conduits
 - 3. PVC conduits
- C. Conduit fittings: Conduits to be mechanically and electrically continuous from one electrical device to another.

1.02 - RELATED SECTIONS

- A. Section 16060 – Grounding and Bonding
- B. Section 16070 – Supporting Devices
- C. Section 16075 - Electrical Identification
- D. Section 16121 – Low Voltage Cable
- E. Section 16136 – Flexible Liquid – Tight Metal Conduit

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. NEMA RN 1 – Polyvinyl Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit.

1.04 - SUBMITTALS

- A. Submit product data under provisions of Section 01330.
- B. Manufacturers specifications and other data required demonstrating compliance with the specific requirements.
- C. Materials list showing all items to be furnished and installed under this Section.

- D. Complete shop drawings of all work of this Section showing dimensions and locations of all items including supporting structures and clearance requirements.
- E. Submit two (2) samples of each type conduit, 2 feet in length.
- F. Submit sample of expansion/deflection fitting.

1.05 - DELIVERY, STORAGE AND HANDLING

- A. Deliver and store all products in accordance with the manufacturers recommendation, as approved by the Engineer, with all labels and seals intact and legible.
- B. Provide off-site storage and protection when site does not permit on-site storage or protection.
- C. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- D. Arrange storage of products to permit access for inspection. Periodically inspect to assure products are undamaged and are maintained under specified conditions.
- E. In case of damage to a product during transportation, handling or storage, the Contractor shall immediately make all repairs and replacements necessary to the approval of the Engineer and at no additional cost to the Owner.
- F. Protect conduit from corrosion and entrance of debris by storing above grade. Provide appropriate covering.
- G. Each length of conduit shall be shipped with one coupling on one end, a threaded protector at the other end.

1.06 - 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.
- I. Provide explosion proof fittings and equipment for Class 1 Division 1 locations.

2.02 – PVC COATED STEEL CONDUIT

- A. Plastic coated steel conduits and fittings shall consist of rigid galvanized steel conduit as described above except covered with bonded 40 mil nominal thickness PVC jacket in accordance with NEMA Standard RN-1 and a 2 mil urethane interior coating. Conduit shall be Robroy Industries "Plasti-Bond", Occidental Coating Company "OCAL-BLUE", or Perma-Cote Industries "Supreme".
- B. The conduit shall be coated on the interior and exterior.

2.03 – PVC CONDUIT

- A. PVC Conduit shall be manufactured by Wheatland, Triangle Republic or approved equal.
- B. Description. NEMA TC-2; Schedule 80 PVC
- C. Fittings and conduit bodies: NEMA TC3.
- D. PVC conduit shall be used for direct buried secondary service power feeds from LIPA transformers, duct banks, telephone service and the interior of the pump station only.
- E. All schedule 80 direct buried conduit shall be provided with a 4-inch thick, 4000 psi concrete protection pad poured 6-inches above the buried conduits. Electrical marking tape shall be placed directly on top of the concrete pad in addition to the required marking tape placed below the finished grade.

2.04 – HAZARDOUS LOCATION FITTINGS CLASS I, DIV. I

- A. Conduit Unions: Class 1, Div. 1 Types UNF and UNY as manufactured by O-Z/Gedney or approved equal.
- B. Sealing Fittings: Class 1, Div. 1 types EYA and EYAM as manufactured by O-Z or approved equal.
- C. Sealing Hub: Class 1, Div. 1 type EYHSG with Sealing Gasket and Locknut as manufactured by O-Z/Gedney or approved equal.
- D. Explosion proof sealing compound systems for fittings and hubs shall consist of a fiber material (to form a dam for the sealing material) and the sealing compound itself. Both the fiber and sealing compound shall be rated for use in the classified area and shall be compatible with the fitting or hub being sealed.
 - 1. Manufacturers and their particular products shall be as follows:
 - a. Appleton Electric Co., "Kwiko Sealing Cement & Fiber Filler"
 - b. Crouse-Hinds, "Chico A Sealing Compound & Chico X Fiber"
 - c. O-Z/Gedney, "Type EYC and Type EYF"
- E. Conduit Fittings:
 - 1. Conduit fittings shall be furnished and installed as required and shall include unions, threaded hubs, nipples, enlargers, reducers, couplings, locknuts, bushings, etc. All fittings shall be steel with zinc electroplate finish or malleable iron with zinc electroplate finish. All fittings shall have insulated throats (where applicable).
 - 2. Conduit fittings shall be manufactured by the following: Appleton Electric Company, Crouse-Hinds, O-Z/Gedney
- F. Expansion couplings for use in conduit runs shall be the expansion/deflection type. Expansion couplings shall have iron or bronze ends, neoprene sleeves, stainless steel bands and tinned flexible copper braid bonding jumper. Couplings shall be watertight, corrosion resistant and concrete tight.
 - 1. Manufacturers and their particular products shall be as follows: Appleton Electric Company; "Type DF", Crouse-Hinds; "Type XD", O-Z/Gedney; "Type DX".
 - 2. For explosive areas, expansion unions shall be utilized. Expansion unions shall be steel with zinc electroplate finish and have copper or bronze grounding spring or jumper.
 - a. Manufacturers and their particular products shall be as follows:
 - 1) Appleton Electric Company; "Type UN"
 - 2) Crouse-Hinds; "Type UN"
 - 3) O-Z/Gedney; "Type UN"

- G. Grounding Bushings: Grounding bushings shall be insulated, shall be constructed of malleable iron or steel with zinc plated finish, and shall have a tin plated copper saddle. Insulating material shall have a 150E rating. Grounding bushing shall be O-Z/Gedney, "Type BLG", or approved equal.
- H. Liquid-tight Fittings: Liquid-tight fittings shall be furnished and installed wherever liquid-tight conduit is used. Liquid-tight fittings shall be constructed of steel or malleable iron. Fittings shall be zinc coated. Fittings shall be liquid, rain and oil tight. Sealing rings shall be neoprene. All throats shall be insulated. Liquid-tight fittings shall be Appleton Electric Company, "Type ST"; O-Z/Gedney "Type 4Q", or approved equal.
- I. Explosion-Proof Fittings: Explosion-proof fittings shall be constructed as described above except fittings shall be listed for use in classified areas.
1. Manufacturers and their particular products shall be as follows:
 - a. Appleton Electric Co., "Types BR, EC, EL, ES, EX, EY, and PLG"
 - b. Crouse-Hinds, "Types EC, EL, ES, EY, PLG and RE"
 - c. O-Z/Gedney, "Types EC, EL, EY, PLG, RB and RE"
 - d. The above products are meant as a guide and products from the above manufacturers not specifically mentioned do not exclude their use, if they comply with these specifications.
- J. PVC Coated Fittings: PVC coated fittings shall be as described in the paragraphs above except the fittings shall be PVC coated.
- K. Conductive Compound: Conductive compound shall be a grease metallic type and shall be Thomas & Betts, "KOPR-SHIELD", or equal.
- L. Conduit Bodies:
1. Conduit bodies shall be cast type with threaded hubs and shall be made of copper-free aluminum or malleable iron. Copper-free aluminum bodies shall have an aluminum enamel finish. Malleable iron bodies shall have a zinc electroplate and aluminum enamel finish. Finishes shall be applied after all machining has been completed.
 2. Conduit body covers shall be of the same material and finish as the conduit body. All screws shall be stainless steel. All covers shall come with rubber or neoprene gaskets.
 3. Manufacturers and their particular products shall be as follows:
 - a. Appleton Electric Company; "Form 35 and Form 85"
 - b. Crouse-Hinds; "Mark 9"
 - c. O-Z/Gedney; "Malleable iron/copper-free aluminum conduit bodies"

M. Mogul Conduit Bodies:

1. All conduit bodies 2" and larger and where physically necessary, shall be of the "mogul" type. Mogul type conduit bodies shall conform to the specifications above as to materials, finish, covers, etc.
2. Manufacturers and their particular products shall be as follows:
 - a. Appleton Electric Company; "Mogul Unilets"
 - b. Crouse-Hinds; "Mogul Conduit Outlet Bodies"

N. Explosion-Proof Conduit Bodies:

1. Explosion-proof conduit bodies shall be constructed as indicated, except the conduit bodies shall be listed for use in the particular classified area.
2. Manufacturers and their particular products shall be as follows:
 - a. Appleton Electric Company; "CPU, ELB, ER, GU and GR Series"
 - b. Crouse-Hinds; "CPS, EAB, GU and OE Series"
 - c. O-Z/Gedney; "GU and LBH Series"
 - d. The above products are meant as a guide and products from the above manufacturers not specifically mentioned do not exclude their use, if they comply with these specifications.

PART 3 - EXECUTION**3.01 - INSTALLATION**

- A. Except as shown on the Contract Drawings, the minimum size conduit permitted is $\frac{3}{4}$ inch.
 1. Each length of conduit installed shall be free from blisters and other defects. Each piece installed shall be cut square, taper reamed, and a coat of sealing compound applied to threads. Threads on conduits shall be painted with a conducting compound prior to assembly. Conduit connections shall be screwed tight with only incomplete threads exposed. All conduit joints shall be made with standard couplings and the ends of the conduit shall butt tightly into the couplings. In exposed work only, where standard couplings cannot be used, only Erickson couplings are permitted, or as otherwise acceptable to the Engineer.
 2. Conduit threaded in the field shall have standard sizes and lengths. Conduit joints shall be cut square, threaded, reamed smooth, and drawn up tight so conduit ends will butt in

couplings, connectors, and fittings.

3. Secure conduits to all boxes and cabinets with double locknuts and bushings so system will be electrically continuous from service to all outlets.
 4. Install conduit in accordance with NECA Standard of Installation.
 5. Cap ends of conduits to prevent entrance of water and other foreign material during construction.
 6. Complete all conduit systems before pulling conductors.
- B. Support conduits under provisions of Section 16070, unless specifically described herein.
1. Provide cable supports in conduits rising vertically in accordance with the National Electric Code.
 2. Provide No. 12 AWG copper pull wires or 250-lb tested polyethylene line in all empty conduits. Steel wire not acceptable as pull wire. Provide two foot slack at each end.
 3. Install conduit to preserve fire resistance rating of partitions and other elements.
- C. Ground and bond conduit under provisions of Section 16060.
- D. Where neither length of conduit can be rotated, ERICKSON couplings Series 676 shall be used.
- E. Provide steel, or malleable iron nylon insulated bullet hub, Series 370-379, complete with recessed sealing "O" ring, in areas:
1. Where enclosed and gasketed fixtures and weatherproof devices are specified;
 2. Where rigid conduit enters a sheet metal enclosure, junction box and outlet box, and not terminated in a threaded hub.
 3. Do not use die cast material.
- F. Where exposed 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.
1. 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.

2. Factory bent elbows or field bent elbows with approved tools may be used. Heating of conduit to facilitate bending is prohibited.
 3. Install exposed conduit either parallel or perpendicular to structural members, unless impractical. Group conduit wherever possible. Conduit shall be attached to structural components with approved supports spaced a maximum of six (6) feet apart and shall form a neat rigid installation. Conduit supported from building walls shall be installed with at least $\frac{1}{4}$ -inch clearance from the walls to prevent the accumulation of dirt and moisture behind the conduit.
- G. Conduit and/or conduit fittings shall not be welded together or to any steel structure; however, conduit supports may be welded to flanges of steel beams and columns in accordance with approved welding techniques and engineering practice in locations acceptable to the Owner.
- H. All conduits extending through the floor behind panels or into control centers or similar equipment shall extend a minimum of 6 inches above the floor elevations, with no couplings at floor elevation.
- I. All exposed conduits rising above finished floor elevation, excluding those encompassed by an equipment pad, shall be provided with a 4-inch high curb. Three (3) inches of cover shall be provided horizontally around the conduit.
1. Conduit installed in concrete or masonry walls shall be so arranged that a minimum of 3-inches of covering be obtained. Spacings between conduits shall be sufficient to permit a complete filling with concrete or mortar without voids.
 2. Install conduit runs in such location as to avoid steam or hot water pipes. Provide a minimum separation of 12 inches where conduit crosses or parallels hot water or steam pipes.
- J. Install conduits containing instrumentation cable to provide the following clearances: Conduits installed parallel to conductors energized at 480 volts shall have a clearance of 18 inches and 208/120 volts shall have a clearance of 12 inches.
- K. Conduits installed at right angles to conductors energized at 480 Volts or 120/208 Volts shall have a clearance of six (6) inches.
- L. Where practicable, conduits containing instrumentation cable shall cross raceway-containing

conductors of other systems at right angles.

- M. The cutting of walls or floors for conduit shall be kept to a minimum. Where such cutting is necessary, care shall be taken so as not to weaken the walls or floor involved. Beams or other structural supports shall not be cut under any condition.
- N. Protect conduit immediately after installation by installing flat non-corrosive metallic discs and steel bushings, designed for this purpose, at each end. Discs shall not be removed until it is necessary to clean the conduit and pull wire and cable. Before wire or cable is pulled, insulated bushings shall be installed at each end of the conduit.
- O. Conduit installation shall be arranged to minimize cleaning. No horizontal runs of conduit will be permitted on brick or masonry walls.
- P. When installing PVC coated rigid galvanized steel conduit use only a vise approved for PVC coated conduit. The use of a chain vise will not be permitted. Where PVC coated rigid galvanized steel conduit and fittings are specified, PVC coating damaged during transportation, loading, installation, etc. or cut during threading shall be repaired with the same type of covering obtained from and in accordance with the manufacturers recommendations.
- Q. Connections from rigid conduit to motors, limit switches, solenoid valves, level controls, etc. and all devices subject to vibration shall be made with short lengths of liquidtight flexible metal conduit. These lengths shall be provided with appropriate connectors with devices that will provide an excellent electrical connection between equipment and the rigid conduit for the flow of ground current.
- R. Conduit Bodies and Fittings:
 - 1. Install conduit bodies and fittings as necessary and where required, to complete the electrical conduit system. Conduit bodies and fittings shall also be installed wherever a pull point is necessary to keep the number of 90° bends in a conduit run to the maximum specified previously.
 - 2. Paint the threads of all conduit bodies and fittings with a conductive compound prior to assembly.
 - 3. Where all-thread nipples are used between fittings and electrical equipment, install nipples such that no threads are exposed.
 - 4. All conduit bodies and fittings shall be compatible in the environment installed.

5. Seal fittings in explosion-proof areas where required in accordance with the NEC.
 6. The use of two (2) locknuts and a grounding bushing will be required at all conduit terminations where hub type fittings are not required.
 7. Provide weatherproof insulated throat Meyers hubs on all conduit entries to boxes and devices without integral hubs.
- S. Expansion Fittings: Install Expansion fittings in conduit runs wherever conduit crosses structural expansion joints, wherever conduits are attached between the two (2) separate structures, and wherever a conduit run is 100 feet or more in a single straight length.
- T. Grounding Bushings: Install grounding bushings wherever conduits enter equipment or enclosures without integral hubs. All grounding bushings within an enclosure or piece of equipment shall be bonded together with a ground cable.
- U. Support conduit using lay-in adjustable hangers, clevis hangers, and split hangers.
1. Group related conduits and support using conduit rack. Provide space on each rack for 25 percent additional conduits.
 2. Do not support conduit with wire or perforated pipe straps. Remove wire used for temporary supports.
 3. Do not attach conduit to ceiling support wires.
 4. Arrange conduit to maintain headroom and present neat appearance.
 5. Avoid moisture traps; provide junction box with drain fitting or breather at low points in conduit system.
- V. Conduits for submersible pump seal leak and motor over temperature control wires shall be installed in separate conduits than the power conductors for the pump.
- W. Accurately record actual routing of all conduits.
- X. Do not use dissimilar strap or clamp support. Provide dielectric tape, fittings, straps, and bushings where dissimilar metals are used.

CONDUIT SCHEDULE (UNLESS SHOWN OTHERWISE)

<u>Environment/Location</u>	<u>Conduit System Type</u>
Embedded in Concrete or Masonry	PVC-Schedule 80
Electric Utility Secondary Service	PVC-Schedule 80
Telephone Service	PVC-Schedule 80
Class I, Group D locations	PVC coated RGS
Penetrations entering / exiting concrete slabs	PVC coated RGS
All exterior Exposed Conduit	PVC coated RGS
All other interior exposed not Class I, Group D	PVC-Schedule 80

END OF SECTION

NO TEXT ON THIS PAGE

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Flexible liquid-tight conduit system for the termination points at equipment that may possibly vibrate, such as motors and mechanical equipment.
- B. Conduit Use - Flexible Liquid-tight Conduit:
 - 1. Connecting motors and other equipment subject to vibration, maximum length - 3 feet.
 - 2. Passing through building expansion joints.

1.02 - RELATED SECTIONS

- A. Section 16070 – Supporting Devices
- B. Section 16121 – Low Voltage Cable
- C. Section 16134 - Conduit

1.03 - REFERENCES

- A. ANSI/NFPA 70 - National Electric Code
- B. NECA Standard of Installation
- C. ANSI/NEMA FB 1 - Fittings

1.04 - SUBMITTALS

- A. Submit product data under provisions of Section 01330.

1.05 - REGULATORY REQUIREMENTS

- A. Furnish products listed and classified by Underwriters Laboratories, Inc.

PART 2 - PRODUCTS**2.01 - FLEXIBLE LIQUID-TIGHT 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 equal.

PART 3 - EXECUTION

3.01 - INSTALLATION

- A. Conduits shall be 3/4-inch minimum size.
- B. 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.
- C. 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.
- D. Install a copper jumper across all flexible conduit including motors, fixtures, controls and other utilization equipment.
- E. Install liquid-tight flexible conduit in such a manner as to prevent liquids from running on surface toward fittings.
- F. Allow sufficient slack conduit to reduce the effect of vibration.
- G. Complete all conduit systems before pulling the conductors.
- H. Support in accordance with requirements of National Electric Code.

END OF SECTION

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Under this Section, the Contractor shall provide all labor, equipment and material necessary to furnish, install and test wiring devices, complete, in place, as shown on the Contract Drawings, specified herein and approved by the Engineer.
- B. In general, the wiring devices included under this Section shall include, but not be limited to receptacles and lighting switches.

1.02 - RELATED SECTIONS

- A. Section 16060 – Grounding and Bonding
- B. Section 16132 – Boxes & Troughs
- C. Section 16134 – Conduit

1.03 - REFERENCES

- A. ANSI/NFPA 70 - National Electric Code.
- B. NEMA WD1 - General Purpose Wiring Devices.

1.05 - SUBMITTALS

- A. Submit product data under provisions of Section 01330.
- B. Provide manufacturer's catalog information showing dimensions, colors and configuration.

PART 2 - PRODUCTS**2.01 – SWITCHES**

- A. Due to the large number of possible combinations of devices available, only the most frequently used devices are detailed in the following sections. Where devices are required which are not specified here, the device shall be specified on the Contract Drawings.
- B. Devices shall be furnished with all necessary auxiliary items, as required, for a proper installation and operation. This shall include items such as screws, gaskets, protective boots, explosion proof seals, etc. These items shall be furnished and installed if specified or not.

2.02 - RECEPTACLES – GENERAL PURPOSE

- A. Receptacles shall be heavy duty, specification grade, duplex type, 125V, 20A, NEMA WD-1, 2 poles and 3 wires grounding type, unless shown otherwise on the Contract Drawings.

- B. Receptacles shall be back and side wired, have a green ground screw terminal, automatic ground clip, fully enclosed in composition case and nylon face. Receptacles shall also have a wrap around bridge with integral ground contacts and heat resistant base for dimensional stability.
- C. Receptacles shall be brown unless shown otherwise on the Contract Drawings. Where brown receptacles are not available for a particular type, the Contractor shall receive Engineer's approval for alternate color.
- D. All receptacles shall be corrosion resistant, have an isolated ground, and ground fault interrupter.
- E. The receptacles shall be equal to Hubbell, "5362 Series", or approved equal.
- F. Specialty receptacles that have either high amperage or voltage rating, or other configuration, shall be as identified on the Contract Drawings.

2.03 - SWITCHES

- A. Switches shall be heavy duty, specification grade, toggle type, 120/277V, NEMA WD-1, 20A, single pole, unless shown otherwise on the Contract Drawings.
- B. Switches shall be back and side wired, fully enclosed in composition case and shall have rivetless spring contact arm to eliminate stress and weak points. Contacts shall be silver cadmium oxide to eliminate welding. Switches shall have a #8 brass, green ground screw and stainless steel automatic grounding clip.
- C. Switches shall be brown unless shown otherwise on the Contract Drawings. Where brown switches are not available for a particular type, Contractor shall receive Engineer approval for alternate color.
- D. Where indicated on the Contract Drawings, provide switches that are double pole, 3-way, 4-way, key operated, illuminated, etc.
- E. The switches shall be equal to Hubbell, "HBL 1220 Series".
- F. Where 15A and 30A switches are shown, they shall be equal to Hubbell, "HBL 1200 Series" and Hubbell, "HBL 3030 Series".
- G. Specialty switches with other configurations shall be as identified on the Contract Drawings.
- H. Switches - Explosion Proof:
 - 1. Switches shall be 125V, 20A, 120/277V, single pole unless shown otherwise on the Contract Drawings.
 - 2. Switches shall be installed in an aluminum-sealing chamber (when factory sealed) and shall have a malleable iron cover with a front operated handle. The handle shall be lockable in either the "on" or "off" position. The cover shall be compatible with the back box finish, such as epoxy powder coated, as specified in Section 16132.

3. The switch housing shall mount onto an appropriate black box with four (4) stainless steel screws.
4. Where indicated on the Contract Drawings, provide switches that are 2-pole, 3-way or 4-way.
5. The switches shall be equal to Appleton Electric Co., "Types EDS and EFS".

2.04 - DEVICE PLATES

- A. Device plate manufacturers and their particular products shall be as follows: General Electric, "93000 Series", Hubbell, "97000 Series".
- B. Device plates for surface mounted devices shall be sheet steel, aluminum, or malleable iron for non-corrosive/weatherproof devices, and shall be die cast aluminum or malleable iron, with gasketed covers for corrosive/weatherproof devices.
- C. All screws shall be stainless steel.
- D. Corrosive/weatherproof device plates shall match the finish of the device box, such as epoxy powder coated, etc., as specified in Section D-1.11, "Boxes".
- E. The device plates shall be as manufactured by the following: Appleton Electric Co., "Type FSK", Crouse-Hinds, "Types DS and WLR".
- F. Device plates for explosion proof devices are an integral part of the device. The device plate shall be as described in the explosion-proof receptacle and switch paragraphs above.

PART 3 - EXECUTION

3.01 - INSTALLATION

- A. All wiring device locations are approximate. The Contractor shall determine the proper location of wiring devices based on field conditions and equipment requirements. The Contractor shall review wiring device locations with Engineer.
- B. General-purpose receptacles shall be mounted 1'-6" above finished floors (to centerline of receptacle) unless shown otherwise.
- C. Lighting switches shall be mounted 4'-6" above finished floor (to centerline of switch) unless shown otherwise.
- D. Receptacles and switches shall be mounted at different heights, where necessary, due to field conditions or where required by specific equipment.
- E. 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.

- F. Grounding: Install all receptacles in boxes specified under Section 16132 and install a No. 12 green ground wire from device grounding terminal to the outlet box in accordance with the National Electric Code.

3.02 - BOXES

- A. Boxes used for the wiring devices shall conform to the requirements of Section 16132.

3.03 - CIRCUITING

- A. Wiring devices shall be circuited as shown on the Contract Drawings and shall comply with the requirements of the NEC.
- B. All receptacles shall be pigtailed to the supply circuit with #12 AWG wires. Pigtails shall be stranded copper. Pigtail wire colors shall match supply circuit colors. Connection to the supply circuit shall be with UL listed, properly sized wire nuts.

3.04 - DEVICE PLATES

- A. Device plates shall be installed wherever a wiring device is installed. All device plates shall be set true and plumb.
- B. Where multiple devices are mounted in a box, gang plates shall be used. Gang plates shall be one (1) piece. Assembled gang plates shall not be allowed.

3.05 - FIELD QUALITY CONTROL

- A. Inspect each wiring device for defects. Operate each wall switch with circuit energized and verify proper operation. Verify that each receptacle device is energized. Test each receptacle device for proper polarity. Test each GFCI receptacle device for proper operation.

END OF SECTION

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Main CB/current transformer/meter cabinet and meter pan.
- B. Transformer to be mounted on a reinforced concrete pad/pull box.
- C. Secondary conduits, conductors, excavation, concrete and backfill.

1.02 - RELATED SECTIONS

- A. Section 16060 - Grounding

1.03 - REFERENCES

- A. ANSI/NFPA 70 - National Electric Code

1.04 - SUBMITTALS

- A. Submit product data under provisions of Section 01330.

PART 2 - PRODUCTS**2.01 - METERING EQUIPMENT**

- A. Meter pans, meter, current transformers and ground fault circuit protection shall be on LIPA's approved lists of manufacturers and models.
- B. CT Cabinets, Current Transformers and Ground Fault Protection shall be factory installed into a Trans-S meter cabinet as per electric utility specifications.

2.02 - COMBINATION TRANSFORMER PAD/PULL BOX

- A. Combination transformer pad/pull box shall be as per Utility requirements.
- B. Conduit penetrations shall be provided for both primary and secondary penetrations into transformer and into pull box so that minimum ground cover is maintained in accordance with NEC and in accordance with electric utility requirements.

2.03 - PULL BOXES

- A. Provide pull boxes in accordance with electric utility requirements for secondary services.

2.04 - CABLE

- A. Install new primary and secondary service conductors in conduit.

- B. Primary service conductors shall be 15 KV, copper size 1/0, type TR-XLPE with 220 mils insulation thickness as per Utility requirements.
- C. Secondary service conductors shall be copper type XHHW-2 as per Utility requirements.

PART 3 - EXECUTION

3.01 - INSTALLATION

- A. Coordinate secondary service installation with electric utility.
- B. Provide secondary service to incoming service entrance equipment, coordinate service requirements with electric utility prior to commencing work.
- C. All metering equipment shall be installed in utility approved Trans-S meter cabinet.
- D. Contractor shall file application for new electrical service. Contractor shall coordinate with owner for all information related to the new service application.

END OF SECTION

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Work of this Section includes local disconnect switches.

1.02 - RELATED SECTION

- A. Section 16075 - Electrical Identification.
- B. Section 16132 – Boxes & Troughs

1.03 - REFERENCES

- A. NEMA KS-1 - Enclosed Switches.
- B. ANSI/UL 198C - High Intensity Capacity Fuses, Current Limiting Types.
- C. ANSI/UL 198E - Class R Fuses.
- D. FS W-S 865 - Switch, Box (Enclosed), Surface Mounted.

1.04 - SUBMITTALS

- A. Submit product data under provisions of Section 01330.
- B. Submit drawings with dimensions and equipment ratings for voltage, capacity, horsepower, and short circuit current ratings.

PART 2 - PRODUCTS**2.01 - DISCONNECT SWITCHES**

- A. Disconnect switches shall be GENERAL ELECTRIC, heavy-duty Type TH, SQUARE-D Class 3130, CUTLER HAMMER Type DH, Appleton or approved equal.
- B. 75°C conductor ratings.
- C. Quick-break, quick-make, load interrupter enclosed knife switch with externally operable handle interlocked to prevent opening front cover with switch in ON position. Handle lockable in OFF and ON position.
- D. Suitable for use as service entrance equipment where required.
- E. UL listed for Class R 200,000 RMS amps, symmetrical IC.
- F. Class R fusing kit.
- G. Enclosures: All disconnect on the project shall be NEMA 4X stainless steel.

2.02 - FUSES

- A. Fuses shall be Littlefuse KLNK Class RK1 or equal.
- B. Fuses shall be rated for 250 volts AC.
- C. Interrupting Rating: 200,000 RMS amps.

2.03 – CLASSIFIED AREA DISCONNECT SWITCHES

- A. Appleton EDS Series.
- B. Enclosure: Copper-free aluminum with epoxy powder coating inside and outside.
- C. Handle shaft, bushing, and exposed hardware shall be stainless steel.

PART 3 - EXECUTION**3.01 - INSTALLATION**

- A. General:
 - 1. Mount equipment rigidly and securely to the building structure or to supporting devices, which are rigidly and securely supported to the building structure.
 - 2. All equipment shall be fastened with bolts and expansion shields on concrete or brick, with toggle bolts or hollow masonry units, and with machine screws or welded studs on steel rack.
 - 3. All mounting hardware shall be stainless steel.
 - 4. Mount equipment with sides parallel or perpendicular to walls or equipment, such that the local control station is installed in a neat and professional manner.
 - 5. Install all equipment such that door swing is not hampered.
- B. Grounding:
 - 1. All disconnect switches shall be grounded in accordance with NEC requirements.
 - 2. The use of two (2) locknuts and a grounding bushing will be required at all conduit terminations where hub type fittings are not required.
- C. Wires:
 - 1. The wires within the equipment shall be neatly harnessed to prevent the door damaging the wires and to prevent the wires hampering the door operation.

2. All wires shall have identification markers on each end.
3. Marker numbers shall match the terminal block numbers.

END OF SECTION

NO TEXT ON THIS PAGE

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Distribution panelboards.

1.02 - RELATED SECTIONS

- A. Section 16060 – Grounding and Bonding
- B. Section 16070 - Supporting Devices
- C. Section 16075 - Electrical Identification

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 - Panelboards.
- E. NEMA PB1.1 - Instructions for Safe Installation, Operation and Maintenance of Panelboards 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 01330.
- 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. Panelboards shall be manufactured by Siemens.
- B. Approved equal.

2.02 - PANELBOARD REQUIREMENTS

- A. Provide panelboards of circuit breaker, dead-front safety type, UL labeled, and meeting all applicable requirements of the National Electrical Manufacturers Association.

- B. Provide panelboards 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 panelboards 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.

2.03 – MOLDED CASE CIRCUIT BREAKERS

- A. Install molded case circuit breakers for Main Circuit Breaker, Generator Circuit Breaker and Panel Circuit Breakers.
- B. Molded Case Circuit Breaker:
 - 1. Manufacturer: SIEMENS
 - a. 150 Amp, 3 Pole Type HFD6.
 - 2. AIC Rating: 65,000
 - 3. Thermal magnetic with interchangeable trip
- C. Enclosure
 - 1. Manufacturer: SIEMENS
 - 2. Rating: NEMA 1 (for interior use) or NEMA 4X Stainless Steel (for exterior use)
 - 3. External Throw
 - 4. Suitable for Service Entrance Equipment (where applicable).

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 16170.
- B. Install all circuits using a common neutral 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 panelboard 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 panelboards in accordance with NEMA PB 1.1.
- E. Install panelboards plumb.
- F. Height: 6 feet (2 m) to top of panelboard.
- G. Provide typed circuit directory for each branch circuit panelboard. **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 16075.

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

NO TEXT ON THIS PAGE

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Interior and exterior luminaries and accessories.
- B. Emergency lighting and units.

1.02 - 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.

1.03 - SUBMITTALS

- A. Submit product data under provisions of Section 01330.
- 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.

1.04 - REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc.

1.05 - STORAGE

- A. Store all lamps and fixtures indoors and in their original packages until they are to be installed. Do not leave fixtures or lamps outdoors for any period in time.
- B. Tarp light poles until they are to be installed.

PART 2 - PRODUCTS**2.01 - LIGHTING UNITS**

- A. The Contractor shall furnish and install lighting units as specified, listed in schedule(s), and as shown on the Contract Drawings.
- B. Provide electronic energy saving ballasts where such options are available.

PART 3 - EXECUTION

3.01 - INSTALLATION

- A. Install fixtures in accordance with manufacturer's instructions.
- B. Use only stainless steel mounting hardware regardless of location.
- C. 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.
- D. Joints in fixture wiring shall be made using wire nuts, pre-insulated Scotch locks, or other approved mechanical means of connection.
- E. Adjustable type fixtures shall be adjusted by the Contractor to illuminate special areas designated and selected by the Engineer.
- F. 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.
- G. Coordinate fixture locations to clear diffusers, ductwork, piping, beams, monorails, vents, and other ceiling mounted equipment. Coordinate the locations of all fixtures with the Engineer and other prime contractors to avoid conflicts. The work of other trades govern the location of light fixtures.
- H. 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.
- I. Relamp light fixtures that have failed at completion of project then turn over spare lamps to the Owner.

END OF SECTION

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Under this Section, the Contractor shall provide all labor, equipment, and material necessary to furnish, install and test the manhole system complete, in place, as shown on the Contract Drawings, specified herein and approved by the Engineer.
- B. In general, the manhole system included under this Section shall include, but not be limited to the following:
 - 1. Excavation and backfilling (including compaction)
 - 2. Manholes

1.02 - RELATED SECTIONS

- A. Section 02315 – Excavation
- B. Section 02316 - Backfilling
- C. Section 03300 - Concrete
- D. Section 16060 – Grounding and Bonding
- E. Section 16075 – Electrical Identification.
- F. Section 16121 – Low Voltage Cable
- G. Section 16134 - Conduit

1.03 - COORDINATION

- A. The Contractor shall review installation procedures under other sections and contracts and coordinate them with the work specified herein.
- B. The Contractor shall 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.
- C. The Contractor shall bring all manholes to final grade prior to final grading and/or paving. Coordinate final grade elevations with the General Contractor.

1.04 - QUALITY ASSURANCE

- A. In all cases where a device or part of the equipment is referred to in this Section in the singular, it is intended that such references shall apply to as many such devices as are required to complete the installation.

- B. The Contractor shall comply with the applicable provisions of the utility company requirements.
- C. All structures shall be installed using level control based off of the datum established for the project. The Contractor shall employ surveyors to stake and assist in setting below grade structures that are to be installed in paved areas.

1.05 - SUBMITTALS

- A. Comply with the requirements contained in Section 01330. Submit product information for all materials, products, and appurtenances specified herein. Provide precast concrete shop drawings. Indicate the waterproofing material and provide catalog cuts of the system.
- B. Submit a material analysis for gravel specified herein.

PART 2 - PRODUCTS

2.01 - GENERAL

- A. The manhole system shall consist of the material specified herein, as specified in other divisions and sections of the specification, and as shown on the Contract Drawings.
- B. Where the manhole system involves the utility company, the utility company requirements shall be adhered to in regards to material used and its installation.

2.02 - MANHOLES AND HANDHOLES

- A. Provide H-20 Cast-Iron Traffic Load Cover. Cover shall have 3" high logo "Electric".
- B. Provide pull boxes as per LIPA specifications.
 - 1. All pull boxes 600 Volts and below shall be - LIPA approved Type B-3-6.
 - 2. All pull boxes for primary service shall be LIPA approved type TS.
 - 3. Provide pull boxes and additional required pull boxes for pulling wire service as required and per NEC requirements.

PART 3 - EXECUTION

3.01 - PREPARATION

- A. The Contractor shall excavate for all manholes as shown on the Contract Drawings, and as specified in Section 02315.
- B. Excavation shall be executed down to the proper level for installation manholes. Backfilling of low spots with earth fill will not be permitted unless thoroughly compacted in accordance with Section 02316.

3.02 - INSTALLATION

A. Manholes:

1. The Contractor shall furnish and install concrete manholes with metal frames and covers of size and location as shown on the Contract Drawings.
2. All manholes shall be built on, or placed over a six-inch (6") layer of well-tamped gravel. The Electrical Contractor shall import all gravel to the site.
3. Conduit shall enter at approximately right angles to the walls, except as may otherwise be shown on the contract Drawings.
4. The Contractor shall install all manholes in accordance with the Contract Drawings, which show detailed installation requirements for grounding, painting, waterproofing, and backfilling.

3.03 - BACKFILLING

A. General:

1. The Contractor shall backfill for all as specified in Section 02316. Restore disturbed soil to the extent required by the Engineer so as to minimize disruption to onsite construction activities.
2. Install electrical underground warning tape approximately 6-inches above top of compacted fill as specified in Section 16075.

END OF SECTION

NO TEXT ON THIS PAGE

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Surge protection device.

1.02 - STANDARDS

- A. The specified suppressor shall be designed, manufactured, tested and installed in compliance with:
 - 1. American National Standards Institute and Institute of Electrical and Electronic Engineers (ANSI/IEEE C62.11, C62.41 and C62.45).
 - 2. Federal Information Processing Standards Publication 94 (FIP PUB 94).
 - 3. National Electrical Manufacturer Association (NEMA LS-1).
 - 4. National Fire Protection Association (NFPA 20, 70, 75 and 78).
 - 5. Underwriters Laboratories (UL 1449).
 - 6. CAN/C22.2 No. 8-M1986; CSA Electrical Certification Notice No. 516.
 - 7. The system individual units shall be UL listed under UL 1449 Standard for Transient Voltage Surge Suppressions (TVSS) and the surge ratings shall be permanently affixed to the TVSS.

PART 2 - PRODUCTS**2.01 - MANUFACTURERS**

- A. MCG ELECTRONICS, INC., Deer Park, New York.
- B. Approved equal.

2.02 - MANUFACTURED UNITS

- A. Surge suppression shall be series Surge Free Model No. 160MXT.

2.03 – SYSTEM REQUIREMENTS

- A. The specified surge protective device shall provide effective high energy surge diversion for application ANSI/IEEE C62.41-1991 Location Category C3 environments. Testing per ANSI/IEEE C62.45-1992 using ANSI/IEEE C62.41 Category C3 waveforms and amplitudes. UL 1449 listing. The specified surge protective device shall provide:
 - 1. 160,000 transient amps, per phase of surge protection.
 - 2. Peak surge current ratings must be independently tested and verified.

3. All mode protection, L-N, L-G, L-L, N-G.
4. Integral disconnect with safety dead front.
5. Each MOV protected from over-current, thermal overload and monitored individually.
6. Audible fault alarm with silence switch.
7. Event counter, indication of time and date of last event (battery backup for time and date).
8. Remote alarm relay contacts (surge protected), Form C.
9. Micro-Z low impedance installation cable.
10. Twenty year warranty on entire system.
11. LIFETIME "NO NONSENSE" WARRANTY ON FIELD REPLACEABLE POWER MODULES AND FUSES.

B. Environmental Requirements:

1. Magnetic Fields: Connection shall be made using low impedance Micro-Z cabling provided with the suppressor for maximum magnetic field cancellation. Unit shall be shunt-installed with no series connected elements.
2. Operating Temperature: Operating temperature range shall be -40° to $+71^{\circ}$ C (-40° to $+160^{\circ}$ F).
3. Storage Temperature: Storage temperature range shall be -40° to $+85^{\circ}$ C.
4. Relative Humidity: Operation shall be reliable in an environment with 0% to 95% non-condensing relative humidity.
5. Operating Altitude: The system shall be capable of operation up to an altitude of 13,000 feet above sea level.
6. Operating Voltage: Maximum continuous operating voltage shall be no less than 125% and no greater than 140% of the nominal rated line voltage.
7. Power Frequency: The power frequency range shall be 47 to 440 Hertz.

C. Electrical Requirements:

1. Unit Operating Voltage Requirements:

Voltage	Description	Joules 8/20us	Vpeak L-N 20kV, 10kA	Vpeak L-N 6kV, 500A
120/208 VAC	3phase, 4W + gnd, wye	11,000	550V	500V

2. Unit shall be installed in parallel with the protected equipment. No series connected protective elements shall be used.
3. The maximum surge current capacity per phase of the specified system, based on the standard IEEE 8/20 microsecond waveform, shall be at least: 1 Event at 160 kA. The surge life (8/20us) shall be at least 10,000 @ 6 kA occurrences. The transient suppression capability shall be bi-directional and suppress both positive and negative impulses.
4. The suppressor shall be capable of interrupting a 100 kA, short circuit current delivered from the AC power line. The interrupt capability must be confirmed and documented by a recognized independent testing laboratory.
5. The suppressor shall be designed so as to minimize the internal surge path impedance. Direct point-to-point internal wiring is inherently inductive and not acceptable. Connection to the power service shall be constructed for best performance.
6. Equipment shall be as manufactured by MCG Electronics, Inc.: Model: 160MXT-Family or engineering department approved equal with supporting test data.

D. Protection System Components:

1. Replaceable modules: The suppressor shall be constructed using field replaceable protection modules. The suppressor shall have individually fused and monitored 40mm Metal Oxide Varistors (MOV's), including neutral to ground protection mode. Each module will provide multiple redundant protection, with one module per each phase and each MOV individually fused. The status of each module shall be locally monitored with a red LED to indicate specific module fault condition. The transient I_{peak} rating of the fuse shall be coordinated with the I_{peak} handling capability of the MOV so that the surge path capability is not limited by the series fusing. In addition, each MOV shall incorporate a thermal disconnect means to remove a shorted MOV safely from the protection system.
2. Self-Diagnostics: Red and green solid state LED indicators shall be provided on the hinged front cover to indicate protection status. An illuminated green LED indicates power is present at the protector on all phases, and an illuminated red LED shall indicate protection reduced and/or when protection is lost. In addition to front panel LED's a required internal status indication of phase and neutral to ground module to provide power and fault indicators in the event of even loss a single fuse or MOV. Relay operation shall be in a fail-safe operating mode (i.e., continuously energized so that power failure, reduced protection, or a break in the remote monitoring line will cause a fault indication at the remote monitor).
3. Remote Alarm Capability: Relay alarm contacts shall be provided for remote alarm monitoring capability of unit status. Form C normally open and normally closed contacts shall be provided with voltage and current limiting protection.

4. Audible Alarm: The specified system shall be equipped with an audible alarm which shall be activated when any one or more of the modules has a reduced protection condition. A mute option shall be provided for the audible alarm.
5. Advanced Diagnostic LED Display: A front panel, microprocessor controlled LED display, in the form of a bar graph, will indicate the protection status of each MOV on each phase including neutral to ground. A event counter will display number of suppressed transient events with a time and date stamp.
6. Integral Disconnect: Unit shall be provided with dead front disconnect to remove power from protector for maintenance access. The disconnect should not be accessed from the front panel unless the unit meets the minimum clamp voltage requirements.
7. NEMA 4 Enclosure: 14 gauge steel, with stainless steel hardware.

PART 3 – EXECUTION

3.01 – INSTALLATION AND MAINTENANCE

- A. The unit shall be installed as shown on contract drawings, in accordance with the manufacturer's printed instruction to maintain warranty. All local and national codes must be observed.
- B. Units shall be installed as close as possible to the load side lugs of the transfer switch to which it is connected using low impedance Micro-Z cabling.
- C. A 3-pole disconnect shall be provided to insure safety of maintenance personnel.

3.02 – TWENTY YEAR WARRANTY

- A. Manufacturer to provide twenty (20) year warranty to cover repair or replacement with a new device. Manufacturer to provide no cost replacement of fused protection modules for the life of the suppressor.

END OF SECTION