

# Project Manual and Specifications

## **Riverside Drive Recreation Field Improvements**

**Prepared for the  
Town of Andover, Connecticut**

Funded in Part by a Grant Through the

SMALL TOWN ECONOMIC ASSISTANCE PROGRAM

Constructed in Cooperation with the  
State of Connecticut  
Dannel P. Malloy, Governor

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# INVITATION TO BID

## INVITATION TO BID

Sealed bids for furnishing all labor, materials, tools, services and equipment necessary to complete the “**RIVERSIDE DRIVE RECREATION FIELD IMPROVEMENTS**” will be received at the Andover office of the Town Clerk, Town Hall, 17 School Road, Andover, Connecticut 06232, until 2:00 PM on June 20, 2016 at which time they will be publicly opened and read aloud at the Andover Town Hall. Bids received after the time of Bid Opening will be returned unopened.

The Project consists of the reconstruction and improvements to the Town recreation fields located at the intersection of Riverside Drive and Long Hill Road. The work described herein includes furnishing, installing and incorporating all materials and equipment into the project as well as performing or providing all labor, supervision, equipment and services unless otherwise noted within the bid documents.

Bid Documents are available digitally only and can be found on the Town of Andover website: <http://andoverconnecticut.org/>. Neither the Owner nor Engineer will be responsible for full or partial sets of Bid Documents obtained from any other source.

A satisfactory Bid Bond, in an amount equal to ten percent (10%) of the base bid, shall be submitted with each bid. The Bid Bond shall be made payable to Town of Andover and shall be properly executed by the Bidder and acceptable sureties. All bonds must be from sureties registered in the State of Connecticut. Contractors will also have to submit with the bid proposal all attachments stated within the bid documents under Required Documents – List of Bid Requirements.

The successful bidder will be required to furnish and pay for 100% Performance and Labor & Material Payment Bonds. The successful bidder must have the minimum insurance coverage stated within the bid documents under Bonding and Insurance Requirements. The State of Connecticut and the Town of Andover shall be listed as an additional insured on all insurance certificates.

Bids, to receive consideration, must be in the hands of the authorized representative no later than the day and hour mentioned above. No Bidder may withdraw their bid within 60 days after the actual date of bid opening thereof. Should there be reason why the contract cannot be awarded within the specific period, this time may be extended by mutual agreement between the Town and the designated, qualified low Bidder.

The Town of Andover reserves the right to accept or reject any or all options, bids or proposals, in whole or in part, to award any item, group of items, or total bid; to waive any informality in the bids or part thereof, and to accept any bid deemed to be in the best interest of the Town of Andover.

The Town of Andover is an Affirmative Action/Equal Opportunity Employer. Small/Minority/Women's Business Enterprises are encouraged to apply

Dated this 19th day of May 2016  
Robert Burbank, First Selectman, Town of Andover

**REQUIRED DOCUMENTS – LIST OF BID REQUIREMENTS**

## REQUIRED DOCUMENTS - LIST OF BID REQUIREMENTS

**Each bid package shall include one set of the following forms and documents:**

- Bid Form
- Bid Bond
- Certification of Bidder Regarding Equal Employment Opportunity
- Proposed Subcontractors
- Proposed Suppliers
- Statement of Bidder's Qualifications
- Certificate as to Corporate Principal
- Non-Discrimination in Employment
- Non-collusion Affidavit of Prime Bidder
- CHRO Contract Compliance Regulations Notification to Bidders
- Bidder Contract Compliance Reports
  - Part I – Bidder Information
  - Part II – Bidder Nondiscrimination Policies and Procedures
  - Part III – Bidder Subcontracting Practices
  - PART IV – Workforce Analysis
  - PART V – Bidder Hiring and Recruitment Practices
- Contractors Minority Business Enterprises Utilization Form
- Affidavit Minority Business Enterprises
- Certificate of Compliance with CT General Statute Sec 31-57b
- CT Dept. of Labor Contractor's Wage Certification Form
- Contractor's License
- Contractor's Insurance Certificate

### LIST OF REQUIRED DOCUMENTS AT CONTRACT SIGNING

Performance, Labor, and Materials Payment Bonds

### LIST OF REQUIRED DOCUMENTS PRIOR TO JOB COMPLETION

Original Weekly Certified Payrolls from General Contractor and all Subcontractors

Original Statement of Compliance submitted with each weekly Certified Payrolls

“Completion document” (card, document, certificate or other written record issued by federal OSHA or by the Federal Mine Safety and Health Administration) as defined by Conn. State Agencies Regs. § 31-53b-1(2) must be attached to Certified Payroll

Apprentice Certificates

Subcontractor License(s), Apprentice Certificate(s) and Insurance Certificate(s)

Lien Waivers from General Contractor, All Subcontractors and Major Suppliers

Certificate of Substantial Completion

**FIVE PERCENT (5%) RETAINAGE WILL NOT  
BE RELEASED UNTIL ALL REQUIRED  
DOCUMENTS ARE SUBMITTED**

# **BONDING AND INSURANCE REQUIREMENTS**

## BONDING AND INSURANCE REQUIREMENTS

A local unit of government receiving a grant from the State of Connecticut which requires contracting for construction of facility improvement shall follow its own requirements relating to bid guarantees, performance bonds, and payment bonds, except for contracts or subcontracts exceeding \$50,000.00. The State of Connecticut, CLA Engineers, Inc. and the Town of Andover shall be listed as an additional insured. The "Hold Harmless" endorsement of the insurance shall include the interest of the municipality and the State of Connecticut. The Contractor and Subcontractors and other interests shall be so named. This policy shall insure against all risks of physical damaged except as modified by the Contract Documents and subject to the normal all risk exclusions.

- a. A bid guarantee from each bidder equivalent to ten percent (10%) of the bid price. The "bid guarantee" shall consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the bidder will, upon acceptance of his/her bid, execute such contractual documents as may be required within the time specified.
- b. A performance bond on the part of the contractor for one hundred percent (100%) of the contract price. A "performance bond" is one executed in connection with a contract to secure fulfillment of all the contractor's obligations under such contract.
- c. A payment bond on the part of the contractor for one hundred percent (100%) of the contract price. A "payment bond" is one executed in connection with a contract to assure payment as required by law of all persons supplying labor and material in the execution of the work provided for in the contract.
- d. Commercial General Liability. Including Contractual Liability Insurance, providing for a total limit of One Million Dollars (\$1,000,000) for all damages arising out of bodily injuries to or death of all persons in any one accident or occurrence, and for all damages arising out of injury to or destruction of property in any one accident or occurrence, and subject to that limit per accident, a total (or aggregate) limit of Two Million Dollars (\$2,000,000) for all damages arising out of bodily injuries to or death of all persons in all accidents or occurrences and out of injury to or destruction of property during the policy period.
- e. Commercial Auto Liability. The operation of all motor vehicles, including those hired or borrowed, used in connection with this Agreement shall be covered by Automobile Liability Insurance providing for a total limit of One Million Dollars (\$1,000,000) for all damages arising out of bodily injuries to or death of all persons in any one accident or occurrence, and for all damages arising out of injury to or destruction of property in any one accident or occurrence. In cases where an insurance policy shows an aggregate limit as part of the automobile liability coverage, the aggregate limit must be at least Two Million Dollars (\$2,000,000).

- f. Contractor's Protective Liability. The contractor shall be covered under Contractor's Protective Liability insurance with a minimum coverage amount of \$1,000,000.
- g. Worker's Compensation & Employer's Liability. (Note: when lead based and/or asbestos abatement work is undertaken, direct & indirect damages arising from these activities must be covered.) The contractor shall be covered under Worker's Compensation & Employer's Liability insurance with the following minimum coverage amounts: Bodily injury by accident, \$1,000,000/accident; Bodily injury by disease, \$1,000,000/employee; Bodily injury by disease, \$1,000,000 policy limit or \$100,000/\$500,000/\$100,000 when not involving hazardous material abatement.
- h. Certificates of Insurance for all subcontractors' Workers Compensation & Employer's Liability. (Note: when lead based and/or asbestos abatement work is undertaken, direct & indirect damages arising from these activities must be covered.) The contractor shall provide certificates of insurance for Worker's Compensation & Employer's Liability insurance with the following minimum coverage amounts: Bodily injury by accident, \$1,000,000/accident; Bodily injury by disease, \$1,000,000/employee; Bodily injury by disease, \$1,000,000 policy limit or \$100,000/\$500,000/\$100,000 when not involving hazardous material abatement.

# INFORMATION TO BIDDERS

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## ARTICLE 1 RECEIPT AND OPENING OF BIDS

Sealed bids for the ***Riverside Drive Recreation Field Improvements*** project will be received at the office of the Town Clerk, Town Hall, Andover, Connecticut, at the time specified in the advertisement for bids, then publicly opened and read aloud.

The envelopes containing the bids must be sealed and designated as “***Riverside Drive Recreation Field Improvements***”.

The Owner may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities in or reject any and all bids. Conditional or qualified bids will not be accepted. Any bid received after the time and date specified shall not be considered. Should there be reasons why the contract cannot be awarded within the specified period the time may be extended by mutual agreement between the Owner and the bidder.

## ARTICLE 2 PREPARATION OF BID

Each Bid must be submitted on the prescribed form. All blank spaces for bid prices must be filled in, in ink or typewritten, both in words and figures. All bids must be prepared in conformity with and shall be based on and submitted subject to all requirements of the Specifications and Drawings together with all Addenda thereto.

## ARTICLE 3 TELEGRAPHIC MODIFICATION

Any bidder may modify his bid by telegraphic communication at any time prior to the scheduled closing time for receipt of bids, provided such telegraphic communication is received by the Owner prior to the closing time, and provided further, the Owner is satisfied that a written confirmation of the telegraphic modification over the signature of the bidder was mailed and postmarked prior to the closing time. The telegraphic communication should not reveal the bid price but should provide the addition or subtraction or other modifications so that the final prices or items will not be known by the Owner until the sealed bid is opened. If written confirmation is not received within two days from the closing time, no consideration will be given to the telegraphic modifications.

## ARTICLE 4 CORRECTIONS

Erasures or other changes in the bid must be explained or noted over the signature of the bidder.

## ARTICLE 5 WITHDRAWAL OF BIDS

Bids may be withdrawn personally or on written or telegraphic request dispatched by the bidder in time for delivery in the normal course of business prior to the time fixed for the opening, provided that written confirmation of any telegraphic withdrawal over the signature of the bidder is placed in the mail and postmarked prior to the time set for the opening of the bids. Negligence

on the part of the bidder in preparing his bid confers no right of withdrawal or modification of his bid after such bid has been opened.

#### ARTICLE 6 QUALIFICATIONS OF THE BIDDER

The Owner may make such investigations as he deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligations of the Contract and to complete the work contemplated therein. Conditional bids will not be accepted.

**Grass Athletic Field Construction:** Bidders shall provide record and references for themselves and/or for subcontractors for the construction of a minimum of 5 similar natural grass athletic field construction projects satisfactorily completed within the last 10 years and shall be thoroughly qualified to perform the described work.

#### ARTICLE 7 OBLIGATIONS OF THE BIDDER

Bidders must satisfy themselves by personal examination at the site of the proposed work, by review of the Drawings and Specifications including Addenda, and by additional means as they may prefer, as to the actual conditions, requirements, and limits of the proposed work, and as to the accuracy of the information and statements herein contained, and the submission of any bid will be accepted by the Owner as satisfactory proof that the bidder has satisfied himself in these respects. The bidder shall not at any time after the submission of a bid dispute or complain of such statements or information, nor, assert that there was any misunderstanding in regard to the nature, or amount of work to be done. The failure or omission of any bidder to examine any form, instrument or document shall in no way relieve the bidder of his obligation to furnish all materials except those materials furnished by the Owner and labor necessary to carry out the provisions of the Contract Documents and to complete the contemplated work for the considerations set forth in his bid, if his bid is accepted.

#### ARTICLE 8 CONDITIONS OF WORK

Insofar as possible, the Contractor, in carrying out his work, must employ such methods or means as will not cause any interruption of or interference with traffic, with the use of existing facilities and utilities, with the use of municipally or State or privately owned lands, or with the work being performed by others. The Contractor must satisfy himself by his own investigation and research as to the nature and location of the work, the general and local conditions, including but not restricted to those bearing upon the transportation, disposal, handling and storage of materials, water, electric power, roads, means of access, the construction and making of connections of the work to existing facilities and utilities, or other similar conditions at the site, the character of equipment and facilities needed preliminary to and during the prosecution of the work, requirements of owners and controlling authorities having jurisdiction over the various

lands, existing structures, facilities and utilities, and all other conditions affecting the work to be done and labor and materials needed.

#### ARTICLE 9 INFORMATION SUPPLIED TO BIDDERS

The Owner shall provide to bidders prior to bidding, all information which is pertinent to, and delineates and describes, the land owned and rights-of-way acquired or to be acquired.

The Contract Documents contain the provisions required for the construction of the project. Information obtained from any officer, agent, or employee of the Owner or any other person shall not affect the risks or obligations assumed by the Contractor or relieve him from fulfilling any of the conditions of the Contract.

#### ARTICLE 10 BID SECURITY

Each bid must be accompanied by a bid bond prepared on the form of bid bond attached hereto, duly executed by the bidder as principal and having as surety thereon a surety company approved by the Owner and from securities listed on the most recent IRS Circular 570, in the amount of **10 percent** of the bid. Such bid bonds will be returned to all but the three lowest bidders within five days after the opening of bids, and the remaining checks or bid bonds will be returned promptly after the Owner and the accepted bidder have executed the contract; or if no award has been made within 60 days after the date of the opening of the bids, upon demand of the bidder at any time thereafter, so long as he has not been notified of the acceptance of his bid. The bid bond of the successful bidder will be retained until the payment bond and performance bond have been executed and approved, after which it will be returned.

#### ARTICLE 11 METHOD OF AWARD-LOWEST QUALIFIED BIDDER

If, at the time this Contract is to be awarded, the lowest bid submitted by a responsible bidder does not exceed the amount of funds then estimated by the Owner as available to finance the Contract, the Contract will be awarded on the lowest bid by a responsible bidder, availability of bidder and bidder considered best suited to the Owner's needs in the Owner's opinion. If such bid exceeds such amount, the Owner expressly reserves the right to increase or decrease any class, item, or part of the work, and this reservation includes the omission of any such item, items, class, or part of the work as may be decided by the Owner at unit prices submitted by the bidder to bring the Contract within available funds; or the Owner may reject all bids. In determining the lowest qualified bidder the total price bid as outlined in the Bid Form will be used.

The term "lowest responsible bidder" shall mean the bidder whose bid is the lowest of those bidders possessing the skill, ability and integrity necessary for the faithful performance of the work; who shall certify that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work.

The low bidder shall supply the names and addresses of major material suppliers and subcontractors when requested to do so by the Owner.

## ARTICLE 12 EXECUTION OF THE AGREEMENT

A Contract in the form set forth hereinafter will be required to be executed by the successful bidder and the Owner. The attention of all bidders, therefore, is called to the form of the Agreement and the provisions thereof. The party to whom the Contract is awarded will be required to obtain the performance bond and payment bond and insurance certificates within ten (10) calendar days from the date when the Notice of Award is delivered to the bidder. The Notice of Award shall be accompanied by the necessary Agreement and bond forms. The Contractor shall furnish a performance bond and a payment bond, each in the amount of 100 percent of the Contract Price, with a corporate surety approved by the Owner, as security for faithful performance of the Contract.

The Bidder, ten (10) days after notification of award shall have three (3) copies of the Performance Bond, Payment bond, Insurance Certificates, Save harmless endorsement and Agreement ready for a contract signing with the Owner at the Owner's place of business, at which time a pre-construction conference shall be held.

## ARTICLE 13 LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT

The successful bidder, upon his failure or refusal to execute and deliver the Contract and bonds required within 5 days after he has received notice of the acceptance of his bid, shall forfeit to the Owner, as liquidated damages for such failure or refusal the surety deposited with his bid.

## ARTICLE 14 NOTICE TO PROCEED

The Notice to Proceed shall be issued within five (5) days of the execution of the Agreement by the Owner. Should there be reasons why the Notice to Proceed cannot be issued within such period; the time may be extended by mutual agreement between the Owner and Contractor.

## ARTICLE 15 TIME OF COMPLETION AND LIQUIDATED DAMAGES

### Time Completion

The bidder must agree to commence work on or before the date specified in the written Notice to Proceed of the Owner and to fully complete the total project as outlined below:

The Owner shall provide Notice to Proceed on or before: **July 15, 2016**  
Should the Owner not provide the Notice to Proceed by the date specified, the following completion dates will be modified accordingly.

### Field Construction:

The Contractor must complete all work within the stone dust walking track perimeter on or before: **October 15, 2016**

### Completion:

The Contractor must fully complete the total project on or before: **November 15, 2016**

### Liquidated Damages

Contractor and Owner recognize that time is of the essence and that Owner will suffer financial loss if the Work is not completed within the times specified above, plus any extensions thereof allowed in accordance with the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay Owner:

**\$500.00** for each day that expires after the date of Field Construction completion stated above until the Field Construction work is substantially complete.

**\$500.00** for each day that expires after the date of Completion stated above until the Work is substantially complete.

### ARTICLE 16 POWER OF ATTORNEY

Attorneys-in-fact who sign bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

### ARTICLE 17 ADDENDA AND INTERPRETATIONS

No interpretation of the meaning of the Drawings, Specifications, or other prebid documents will be made to any bidder orally. Every request for such interpretation should be in writing, addressed to: CLA Engineers, Inc., 317 Main Street, Norwich, CT 06360. In order to be given consideration, such request must be made at least 5 days prior to the date fixed for the opening of bids. Any and all interpretations and any supplemental instructions will be in the form of written Addenda to the Specifications, which, if issued, will be *posted on the Town of Andover Website*, not later than three (3) days prior to the date fixed for the opening of bids.

**Potential Bidders are responsible for checking the Town of Andover website at <http://andoverconnecticut.org/> for any addendums and updates regarding this Bid.**

All Addenda so issued shall become a part of the Contract Documents.

### ARTICLE 18 UNCERTAINTY OF QUANTITIES

The quantities listed in the bid (proposal) are approximate and are given only for use in comparing bids and to indicate approximately the total amount of the Contract; and the Owner does not expressly or by implication represent that the actual amounts of work will even approximately correspond therewith, but does call particular attention to the uncertainty of the quantities of the work involved which cannot be predicted in advance. The work under certain items may be materially greater or less than that given in the bid, as may be necessary in the judgment of the Owner to complete the work contemplated in the Contract.

Under the Contract, the Owner reserves the right to increase or decrease the approximate quantities for, or to omit entirely, any of the items as listed in the bid.

Only such quantities of the respective items of work actually performed and accepted will be paid for. An increase or decrease in the quantity for any item shall not be regarded as grounds for an increase or decrease in the bid prices.

#### ARTICLE 19 ITEMS NOT LISTED IN THE BID

Appurtenant items of work shown on the Drawings or specified or required to complete the work but not listed separately under the list of items in the bid shall be included in the cost of payment under the various applicable bid items of work and no separate payment will be made for such items. It shall be the responsibility of the Contractor to verify any missing or incomplete items.

#### ARTICLE 20 BALANCED BIDDING

Minus bidding on any item or items of the Specifications is prohibited. Bids should be made on each separate item of work shown in the bid (Proposal) with reasonable relation to the probable cost of doing the work included in such item and the right is reserved to reject wholly any bid in case any item or items thereof are obviously unbalanced or appear to the Owner to be so unbalanced as to affect or to be liable to affect adversely any interests of the Owner. The attention of the bidder is called to the fact that unbalancing of bids may adversely affect the Contractor if certain portions of the work are increased or decreased as provided in the Contract Documents.

#### ARTICLE 21 PRICES

Bidders shall state the proposed price for the work by which the bids will be compared. This price is to cover all of the expenses incidental to the completion of the work in full conformity with the Contract, the Specifications, and the Drawings. The price or prices proposed shall be stated both in words and in figures, and any bid not so stated shall be rejected.

In the event there is a discrepancy between the unit prices and the extended totals, the unit prices shall govern. In the event that there is a discrepancy between the unit prices written in words and the unit prices written in figures, the unit prices written in words shall govern. No bid will be accepted which does not contain a unit or lump sum price for every item contained in the bid form.

#### ARTICLE 22 NONDISCRIMINATION

The Contractor agrees and warrants that in the performance of this contract he will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, sex, mental retardation or physical disability, including, but not limited to, blindness, unless it is shown by such contractor that such disability prevents performance of the work involved in any manner prohibited by the

laws of the United States or of the State of Connecticut, and further agrees to provide the Commission on Human Rights and Opportunities with such information requested by the Commission concerning the employment practices and procedures of the Contractor as relate to the provisions of this section.

#### ARTICLE 23 EMPLOYMENT OF LABOR

The wages paid to mechanics, laborers or workmen employed upon the work herein contracted to be done shall be at a rate equal to the rate of wages prevailing for the same work in the same trade or occupation in the ANDOVER area as determined by the labor Commissioner of the State of Connecticut. See Section 31.53 of the General Statutes of the State of Connecticut, Revision of 195S, as amended.

Public Act 79-325 passes by the 1979 Legislature covers exemptions from Section 31.53 of the General Statutes. Under the new exemptions, effective October 1985, the regulations that the prevailing wage must be paid for work performed by contractors and subcontractors in connection with work on public facilities will not apply:

To public work alterations, repair, refinishing projects with total cost of less than \$100,000.

To public works new construction with a total cost of less than \$400,000.

**All Bidders are informed that the project is considered as ALTERATION work.**

All Bidders are advised to inform themselves and to comply with the requirements of Federal, State and local laws governing the employment of labor.

The Contractor shall provide certified payroll sheets to the Owner which includes all employees involved with the project for each payroll period during the course of the project.

#### ARTICLE 24 LAWS AND REGULATIONS

The Bidder's attention is directed to the fact that all applicable federal and state laws and municipal ordinances for the construction, reconstruction, alteration, remodeling, repair or demolition of public works and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the Contract throughout, and they will be deemed to be included in the Contract the same as though herein written out in full.

#### ARTICLE 25 PAYMENT FOR DRAWINGS AND SPECIFICATIONS

See Advertisement for Bids

## ARTICLE 26 CONSTRUCTION SCHEDULE

Prior to start of work the Contractor will be required to submit a construction schedule showing the order in which he proposes to carry on the work, including dates at which he will start and finish various parts of the work conforming to major divisions of the specifications.

## ARTICLE 27 TAXES

The Town of Andover is considered exempt from the payment of Federal excise taxes, Connecticut Sales Taxes, etc. and such taxes shall be identified separately or excluded from the bid prices.

## ARTICLE 28 NON-RESIDENT CONTRACTORS

Connecticut General Statute §12-430(7) requires that:

When a non-resident contractor enters into a contract they must post a 5% cash or guarantee bond for the total amount with the Commissioner of Revenue Services;

**or**

Any person dealing with a non-resident contractor without first obtaining a certificate of compliance must deduct 5% from the amount payable to the non-resident contractor and submit it to the state.

If the requirements are not met, the general contractor will be liable for all Connecticut taxes imposed.

All questions shall be directed to the State of Connecticut Department of Revenue Services Discovery Unit at 860-541-3280.

## ARTICLE 29 OCCUPATIONAL SAFETY & HEALTH REGULATORY COMPLIANCE

Successful bidders must demonstrate compliance with the applicable safety and health acts including without limitation, 29CFR 1910.146 "Permit Required Confined Spaces". "Sub-part P - Excavations" Part 1926 [Amended], Sections 1926.650, 651 and 652.

The contractor is responsible for ensuring OSHA compliance, and his responsibility includes supervising and monitoring work site conditions for OSHA compliance. If the contractor uses subcontractors the contractor is responsible for ensuring that the subcontractors fulfill their obligations with respect to employee safety, particularly including those which affect the entire site.

The Owner shall consider OSHA violations(s) over the past five years in determining the ability of the Contractor to comply with OSHA requirements and in determining whether contractor is a responsible bidder.

If there has been an OSHA violation within the past five (5) years (measured from the date of the bid), the contractor shall provide copies of the citation(s), all documents regarding final determination of such citations including settlement any explanation(s) of such violation(s).

#### ARTICLE 30 PROVISIONAL ITEMS

Provisional items are delineated in the bid form. Quantities for provisional items may or may not be used in whole or in part at the discretion of the Owner. This shall in no way affect the established contract unit prices. All bid unit prices for provisional items shall be added to establish the total bid amount.

#### ARTICLE 31 BORINGS AND SUBSURFACE DATA

Soil auger tests have been performed in the field area. The locations and logs of these soil auger tests are shown on the Drawings.

No additional subsurface test boring information is available for this Contract.

Neither the OWNER nor the ENGINEER guarantees the accuracy of any subsurface information provided in the Contract Documents which the OWNER or others have obtained. The OWNER/ENGINEER do not make any representations as to the soil conditions, the kind or condition of the soil to be encountered in the prosecution of the work or the foundation materials to be encountered.

# BID PROPOSAL FORMS

# BID FORM

## TOWN OF ANDOVER RIVERSIDE DRIVE RECREATION FIELD IMPROVEMENTS

TO: First Selectman  
Town of Andover  
17 School Road  
Andover, CT 06232

FROM: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The undersigned, having familiarized (himself, itself, themselves) with the existing conditions on the Project Site affecting the cost of the work, and with the Contract Documents for the *Riverside Drive Recreation Field Improvements* hereby proposes to furnish all supervision, technical personnel, labor, materials, equipment, tools, appurtenances, services, materials not supplied by the Owner, and anything else necessary, including utility and transportation services required to perform and complete this Contract, all in accordance with the Contract Documents, at and for the unit prices for work in place for the following work items.

**The quantity of the units shown below is given for the purpose of determining the Award. The Owner reserves the right to increase or decrease these quantities. Payment to the Contractor will be based on completed measured quantities of these work items.**

**Unit prices (if applicable) are to be written in both words and figures. In case of discrepancy, the unit price shown in words will govern.**

### **BASE BID**

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<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>AMOUNT</u>
1.	Stone Dust Walking Track	9,100	S.F.	_____	_____

UNIT PRICE IN WORDS: \_\_\_\_\_  
\_\_\_\_\_

2.	Timber Guide Rail	800	L.F.	_____	_____
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UNIT PRICE IN WORDS: \_\_\_\_\_  
\_\_\_\_\_

3. Chain Link Fence & Gates 680 L.F. \_\_\_\_\_

UNIT PRICE IN WORDS: \_\_\_\_\_

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4. Recreation Field Improvements:

All work shown on the Contract Drawings and included in the Technical Specifications including but not limited to:

- A. Installation & maintenance of all erosion and sedimentation control measures for all phases of construction.
- B. Maintenance and protection of traffic for all phases of construction.
- C. Furnish, install, and adjust temporary construction fencing as needed throughout construction.
- D. Furnish and install the Project Sign as required by the funding agency.
- E. All clearing, grubbing, demolition, and disposal.
- F. Construction stake-out and layout.
- G. Stripping and stockpiling of all topsoil for reuse on the site or reverse tilling the site to meet the proposed grades and requirements specified herein.
- H. Providing gravel fill or exporting material as needed and regrading for the recreation fields as shown on the Contract Drawings.
- I. Furnish and install barrier gates and boulder barriers.
- J. Furnish and install drainage culvert.
- K. Furnish and install electrical conduit and handholes within the stone dust track perimeter for future use.
- L. Final grading, topsoil install, seeding, mulching and restoration of the disturbed areas.
- M. Final clean-up, removal of all Contractor equipment, tools, and materials, removal and disposal of all erosion and sedimentation controls measures for all portions of the work.
- N. Flood Contingency Documents and Planning: Provide the Owner and Engineer a written flood contingency plan for approval prior to the start of construction.
- O. All work incidental to the construction and not specifically paid for under other items.

LUMP SUM PRICE: \_\_\_\_\_

LUMP SUM PRICE IN WORDS: \_\_\_\_\_

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5. Gravel Parking Lot Construction:

All work shown on the Contract Drawings and included in the Technical Specifications associated with the *Resurfacing of the Existing Gravel Parking lot along Long Hill Road* including but not limited to:

- A. Maintenance of the gravel parking lot as needed during the recreation field construction.
- B. Furnish and install new rolled gravel surfacing including excavating and disposing of the existing material as needed, grading, and compacting.
- C. Furnish and install the paved handicap access spaces, painted pavement markings, and signing.
- D. Furnish and install the paved entrance apron.
- E. Furnish and install timber guide rail between Long Hill Road and the parking lot.
- F. Furnish and install the depressed filter strip, pervious topsoil mix, and plantings
- G. Final grading, topsoil install, seeding, mulching and restoration of the disturbed areas around the perimeter of the parking lot.

LUMP SUM PRICE: \_\_\_\_\_

LUMP SUM PRICE IN WORDS: \_\_\_\_\_

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6. Irrigation System:

All work shown on the Contract Drawings and included in the Technical Specifications associated with the proposed *Irrigation System* including but not limited to:

- A. All scheduling and coordination with other work on the site.
- B. Furnish and install all storage tanks, pump station, pressure tanks, control systems, sprinkler heads, valves, valve boxes, concrete pads, couplings, piping, wiring, bedding materials, and all other work incidental to providing a fully functioning irrigation system.
- C. Calibration of the system to provide for the application rate and maximum withdrawal rates as specified in the Contract Documents.
- D. Operation and maintenance of the system until the winter shutdown.
- E. Shutdown and winterize the system.

LUMP SUM PRICE: \_\_\_\_\_

LUMP SUM PRICE IN WORDS: \_\_\_\_\_

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7. Electrical Service and Panelboard:

All work shown on the Contract Drawings and included in the Technical Specifications associated with the proposed *Electrical Service and Panelboard* including but not limited to:

- A. All scheduling and coordination with other work on the site.
- B. Design, size, furnish and install the electrical service drop, conduits, wiring, meter, panelboard, backer board, posts, foundations, permits and all other work incidental to providing a new fully functioning electrical service and panelboard for the complete project.

LUMP SUM PRICE: \_\_\_\_\_

LUMP SUM PRICE IN WORDS: \_\_\_\_\_

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8. Well and Water Service:

All work shown on the Contract Drawings and included in the Technical Specifications associated with the proposed *Well and Water Service* including but not limited to:

- A. All scheduling and coordination with other work on the site.
- B. Well drilling permit.
- C. Abandonment of the existing well.
- D. Furnish and install a 8-inch diameter water supply well suitable for potable water and irrigation to a depth of 100 VF.
- E. Furnish and install steel well casing
- F. Furnish and install watertight well cap, pitless adapter, piping, and well pump.
- G. Well development.
- H. Testing required by the Department of Public Health for potable water wells.
- I. 8 hour pump test.
- J. Furnish and install any temporary pumps, piping or other appurtenances necessary for the well testing.
- K. Furnish and install all controls, conduits, and wiring.
- L. Furnish and install all service piping, valves, couplings or other work and materials incidental to the reconnection of the existing water service piping and the connection to the proposed irrigation system.

LUMP SUM PRICE: \_\_\_\_\_

LUMP SUM PRICE IN WORDS: \_\_\_\_\_

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9. Provisional Item – Well in Excess of 100 VF:  
 All costs associated with drilling, casing, and installing the proposed well to a depth in excess of 100 vertical feet (VF)

	<u>QUANTITY</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>AMOUNT</u>
Well in Excess of 100 VF	20	V.F.	_____	_____

UNIT PRICE IN WORDS: \_\_\_\_\_

**TOTAL BASE BID PRICE (SUM OF ALL PARTS):** \_\_\_\_\_

**TOTAL BASE BID PRICE IN WORDS:** \_\_\_\_\_

**ADD ALTERNATES**

The undersigned bidder further proposes and agrees that, should the following alternate be accepted by the Owner, the amount of the Total Bid, as heretofore stated shall be adjusted by the amount of the selected Add Alternate(s).

Unit prices are to be written in both words and figures. In case of discrepancy, the unit price shown in words will govern.

This work shall include the following:

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>AMOUNT</u>
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- 1. Precast Concrete Restroom / Concession Building:**  
 The furnishing and installation of the proposed precast concrete restroom / concession stand building flood proofed to the elevation specified, crushed stone base, water service connection, electrical panel modification, and septic system.

LUMP SUM PRICE: \_\_\_\_\_

LUMP SUM PRICE IN WORDS: \_\_\_\_\_

The low bid will be determined by either of the following:

1. If the Owner elects to choose any of the Alternate items, then the low bidder will be established by adding the selected ALTERNATE AMOUNT from the BASE BID total amount.
2. If the Owner elects NOT to choose the ALTERNATE, then the low bidder will be established by the BASE BID amount only.

This contract is to be awarded to that responsible Bidder whose total bid is the lowest number of dollars for the above items.

If the Contractor should choose to employ manufacturers or suppliers other than those listed on the drawings and specifications, he shall submit a list of said suppliers as part of this proposal. If no list is included in the proposal, it shall be concluded by the Town that the Contractor will use only those suppliers listed on the drawings. An "or equal" supplier shall be included on the submitted list.

Wherever in the plans and specifications, an item of equipment or material is designated by reference to a particular brand, manufacturer or trade name, it is understood that an equal product may be substituted by the bidder or Contractor, under the conditions as stated above.

The bidder must agree to commence work on or before a date to be specified in a written "Notice to Proceed" of the Municipality and to fully complete the project as outlined in the "Information to Bidders". The bidder must agree also to pay liquidated damages as specified in the "Information to Bidders".

The undersigned has checked carefully all the above figures and understands that the OWNER will not be responsible for any errors or omissions on the part of the undersigned in making up this bid.

The Bidder acknowledges the receipt of the following Addenda;

Addendum No. \_\_\_\_\_, dated \_\_\_\_\_

Addendum No. \_\_\_\_\_, dated \_\_\_\_\_

Addendum No. \_\_\_\_\_, dated \_\_\_\_\_

Enclosed is the Bidder's Bond in the amount of ten percent (10%) of the Bid.

Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding.

The bidder agrees that this bid shall be good and may not be withdrawn for a period of 60 calendar days after the scheduled closing time for receiving bids.

Respectfully submitted:

By \_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Business Address)

\_\_\_\_\_  
(Telephone Number)

\_\_\_\_\_  
(Email or Fax)

(SEAL - if bid is by a corporation)

## **BID BOND**

KNOW ALL MEN BY THESE PRESENTS, that we the undersigned, \_\_\_\_\_

\_\_\_\_\_, as PRINCIPAL, and \_\_\_\_\_  
as SURETY are held and firmly bound unto the Town of Andover hereinafter called the  
"OWNER", in the penal sum of Ten Percent of Total Bid Dollars, (\$10% of Total Bid) lawful  
money of the United States, for the payment of which sum well and truly to be made, we bind  
ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally,  
firmly by these Presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted  
the Accompanying Bid, dated \_\_\_\_\_, 20\_\_\_\_, for

\_\_\_\_\_  
TOWN OF ANDOVER

\_\_\_\_\_  
RIVERSIDE DRIVE RECREATION FIELD IMPROVEMENTS

\_\_\_\_\_  
NOW, THEREFORE, if the Principal shall not withdraw said Bid within the period specified  
therein after the opening of the same, or, if no period be specified, within ninety (90) days after  
the said opening, and shall within the period specified therefore, or if no period be specified,  
within ten (10) days after the prescribed forms are presented to him for signature, enter into a  
written Contract with the Owner in accordance with the Bid, as accepted, and give bond with  
good and sufficient surety or sureties, as may be required, for the faithful performance and  
proper fulfillment of such Contract; or in the event of the withdrawal of said Bid within the  
period specified, or the failure to enter into such Contract and give such bond within the time  
specified, the Principal shall pay the Owner the difference between the amount specified in said  
Bid and the Amount for which the Owner may procure the required work or supplies or both, if  
the latter be in excess of the former, then the above obligation shall be void and of no effect,  
otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their several seals this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body. In presence of:

(Individual Principal)

(SEAL)

(Partnership)

(Business Address)

(SEAL)

(Business Address)

Attest:

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

\_\_\_\_\_

(Corporate Principal)

(Business Address)

Affix

By: \_\_\_\_\_  
Corporate Seal

\_\_\_\_\_

Attest:

\_\_\_\_\_

(Corporate Surety)

By: \_\_\_\_\_  
Affix  
Corporate Seal

Countersigned

by \_\_\_\_\_

Attorney-in-Fact, State of \_\_\_\_\_

(Power-of-Attorney for person signing for surety company must be attached to bond.)

**CERTIFICATION OF BIDDER REGARDING  
EQUAL EMPLOYMENT OPPORTUNITY**

PROJECT NUMBER: \_\_\_ - \_\_\_

**GENERAL**

In accordance with Executive Order 11246 (30 F.R. 12319-25), the implementing rules and regulations thereof, and orders of the Secretary of Labor, a Certification regarding Equal Opportunity is required of bidders or prospective contractors and their proposed subcontractors prior to the award of contracts or subcontracts.

**CERTIFICATION OF BIDDER**

Bidder's Name:

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Address:

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Internal Revenue Service Employer Identification Number:

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1. Participation in a previous contract or subcontract:
  - A. Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause  
\_\_\_ Yes     \_\_\_ No
  - B. Compliance reports were required to be filed in connection with such contract or subcontract  
\_\_\_ Yes     \_\_\_ No
  - C. Bidder has filed all compliance reports required by Executive Orders 10925, 11114, 11246, or by regulations of the Equal Employment Opportunity Commission issued pursuant to Title VII of the Civil Rights Act of 1964  
\_\_\_ Yes     \_\_\_ No
  - D. If the answer to item C is "No", please explain in detail on the reverse side of this certification.

2. Dollar Amount of Bid: \$ \_\_\_\_\_

3. Anticipated performance period: \_\_\_\_\_ days.

4. Expected total number of employees who will perform the proposed construction:  
\_\_\_\_\_.

## 5. Non-segregated facilities

### A. Notice to Prospective Federally-Assisted Construction Contractors

1. A certification of Non-segregated Facilities, as required by the May 9, 1967 order (32 F.R. 7439, May 19, 1967) on Elimination of Segregated Facilities, by the Secretary of Labor, must be submitted to the recipient prior to the award of a federally assisted construction contract exceeding \$10,000, which is not exempt from the provisions of the Equal Opportunity Clause.
2. Contractors receiving Federally assisted construction contract awards exceeding \$10,000, which are not exempt from the provisions of the Equal Opportunity clause will be required to provide for the forwarding of the following notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed \$10,000 and are not exempt from the provisions of the Equal Opportunity Clause.

### B. Notice to Prospective Subcontractors of Requirement of Certification of Non-segregated Facilities

1. A Certification of Non-segregated Facilities, as required by the May 9, 1967 order (32 F.R. 7439, May 19, 1967) on Elimination of Segregated Facilities, by the Secretary of Labor, must be submitted prior to the award of a subcontract exceeding \$10,000, which is not exempt from the provisions of the Equal Opportunity Clause.
2. Contractors receiving subcontractor awards exceeding \$10,000, which are not exempt from the provisions of the Equal Opportunity clause will be required to provide for the forwarding of the following notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed \$10,000 and are not exempt from the provisions of the Equal Opportunity Clause.

### C. Certification of Non-Segregated Facilities

The federally-assisted construction contractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally-assisted construction contractor certifies further that he will not maintain or provide for any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally assisted construction contractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term "segregated facilities," means any waiting rooms, work areas, restrooms, and washrooms, restaurants and eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local custom, or otherwise.

The federally assisted construction contractor agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000, which is not exempt from the provisions of the Equal Opportunity Clause, and that he will retain duplicate of such certifications in his files. The contractor will include the original in his Bid Package.

6. Race or ethnic group designation of bidder. Check race or ethnic group on the appropriate line.

Black  Spanish American  Oriental  American Indian  Aleut  
 Eskimo  White (other than Spanish American)  Portuguese

Remarks:

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**Certification:** The information above is true and complete to the best of my knowledge and belief.

\_\_\_\_\_  
Bidder's Name and Title of Signer (please print)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

**Note:** The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001

## PROPOSED SUBCONTRACTORS

THE BIDDER SHALL STATE THE NAMES OF ALL THE SUBCONTRACTORS THAT HE PROPOSES TO USE. ATTACH ADDITIONAL SHEETS IF NEEDED.

If none, write "None" \_\_\_\_\_

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

Proposed Subcontractor, Name \_\_\_\_\_

Address \_\_\_\_\_

---

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

Proposed Subcontractor, Name \_\_\_\_\_

Address \_\_\_\_\_

---

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

Proposed Subcontractor, Name \_\_\_\_\_

Address \_\_\_\_\_

---

\*Insert description of work and subcontractors' names as may be required.

This is to certify that all names of the above-mentioned subcontractors are submitted with full knowledge and consent of the respective parties.

The Bidder warrants that none of the proposed subcontractors have any conflict of interest as respects this contract.

Bidder \_\_\_\_\_  
(Fill in Name)

By \_\_\_\_\_  
(Signature and Title)

## PROPOSED SUPPLIERS

THE BIDDER SHALL STATE THE NAMES OF PROPOSED MATERIAL SUPPLIERS FOR THE PROJECT. ATTACH ADDITIONAL SHEETS IF NEEDED.

If none, write "None" \_\_\_\_\_

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\*Description of Material \_\_\_\_\_

Proposed Supplier, Name \_\_\_\_\_

Address \_\_\_\_\_

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\*Description of Material \_\_\_\_\_

Proposed Supplier, Name \_\_\_\_\_

Address \_\_\_\_\_

---

\*Description of Material \_\_\_\_\_

Proposed Supplier, Name \_\_\_\_\_

Address \_\_\_\_\_

---

\*Insert description of work and suppliers names as may be required.

This is to certify that all names of the above-mentioned suppliers are submitted with full knowledge and consent of the respective parties.

The Bidder warrants that none of the proposed suppliers have any conflict of interest as respects this contract.

Bidder \_\_\_\_\_  
(Fill in Name)

By \_\_\_\_\_  
(Signature and Title)

## STATEMENT OF BIDDER'S QUALIFICATIONS

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. If necessary, questions may be answered on separate attached sheets. The Bidder may submit any additional information he desires.

1. Name of Bidder.
2. Permanent main office address.
3. When organized.
4. If a corporation, where incorporated.
5. How many years have you been engaged in the contracting business under Your present firm or trade name?
6. Contracts on hand: (Schedule these, showing amount of each contract and the appropriate dates of completion.
7. General character of work performed by your company.
8. Have you ever failed to complete any work awarded to you? If so, where and why?
9. Have you ever defaulted on a contract? If so, where and why?
10. List the more important projects recently completed by your company, stating the approximate cost for each, and the month and year completed.
11. List your major equipment available for this contract.
12. Experience in construction work similar in importance to this project. Bidders shall provide record and references for themselves and/or for subcontractors for the construction of a minimum of 5 similar natural grass athletic field construction projects satisfactorily completed within the last 10 years and shall be thoroughly qualified to perform the described work.
13. Background and experience of the principal members of your organization including the officers.
14. Will you, upon request, fill out a confidential detailed financial statement and furnish any other information that may be required by the OWNER?

15. The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the Owner or representative in verification of the recitals comprising this Statement of Bidder's Qualifications.

Dated at \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
(Name of Bidder)

By \_\_\_\_\_

Title \_\_\_\_\_

State of \_\_\_\_\_ )

) ss.

County of \_\_\_\_\_ )

\_\_\_\_\_ being duly sworn deposes and says that he is \_\_\_\_\_  
\_\_\_\_\_ of \_\_\_\_\_  
(name of organization)

and that the answers to the foregoing questions and all statements therein contained are true and correct.

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

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

My Commission expires \_\_\_\_\_ 20\_\_.

**CERTIFICATE AS TO CORPORATE PRINCIPAL**

I, \_\_\_\_\_, certify that I am the Secretary of the corporation named as Principal in the within bond; that \_\_\_\_\_, who signed the said bond on behalf of the Principal was then \_\_\_\_\_ of said corporation; that I know his signature, and his signature thereto is genuine; and that said bond was his duly signed, sealed, and attested to for and in behalf of said corporation by authority of this governing body.

(Corporate Seal)

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



**NON-COLLUSION AFFIDAVIT OF PRIME BIDDER**

State of \_\_\_\_\_ )  
 ) ss.  
County of \_\_\_\_\_ )

\_\_\_\_\_, being first duly sworn, deposes and says that:

- (1) He is (owner, partner, officer, representative or agent) of \_\_\_\_\_, the Bidder that has submitted the attached bid;
- (2) He is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;
- (3) Such Bid is genuine and is not a collusive or sham Bid;
- (4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from Bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix any overhead, profit or cost element of the Bid price or the Bid price of any other Bidder or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the Owner or any person interested in the proposed Contract; and
- (5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(Signed) \_\_\_\_\_

\_\_\_\_\_  
(Title)

Subscribed and sworn to before me  
this \_\_\_\_\_ day of \_\_\_\_\_ 20 \_\_\_\_.

\_\_\_\_\_  
(Title)

My Commission expires \_\_\_\_\_, 20 \_\_\_\_.

**COMMISSION ON HUMAN RIGHTS AND OPPORTUNITIES**  
**CONTRACT COMPLIANCE REGULATIONS**  
**NOTIFICATION TO BIDDERS**

(Revised 09/17/07)

The contract to be awarded is subject to contract compliance requirements mandated by Sections 4a-60 and 4a-60a of the Connecticut General Statutes; and, when the awarding agency is the State, Sections 46a-71(d) and 46a-81i(d) of the Connecticut General Statutes. There are Contract Compliance Regulations codified at Section 46a-68j-21 through 43 of the Regulations of Connecticut State Agencies, which establish a procedure for awarding all contracts covered by Sections 4a-60 and 46a-71(d) of the Connecticut General Statutes.

According to Section 46a-68j-30(9) of the Contract Compliance Regulations, every agency awarding a contract subject to the contract compliance requirements has an obligation to “aggressively solicit the participation of legitimate minority business enterprises as bidders, contractors, subcontractors and suppliers of materials.” “Minority business enterprise” is defined in Section 4a-60 of the Connecticut General Statutes as a business wherein fifty-one percent or more of the capital stock, or assets belong to a person or persons: “(1) Who are active in daily affairs of the enterprise; (2) who have the power to direct the management and policies of the enterprise; and (3) who are members of a minority, as such term is defined in subsection (a) of Section 32-9n.” “Minority” groups are defined in Section 32-9n of the Connecticut General Statutes as “(1) Black Americans...(2) Hispanic Americans...(3) persons who have origins in the Iberian Peninsula...(4) Women...(5) Asian Pacific Americans and Pacific Islanders; (6) American Indians...” An individual with a disability is also a minority business enterprise as provided by Section 4a-60g of the Connecticut General Statutes. The above definitions apply to the contract compliance requirements by virtue of Section 46a-68j-21(11) of the Contract Compliance Regulations.

The awarding agency will consider the following factors when reviewing the bidder’s qualifications under the contract compliance requirements:

- (a) the bidder’s success in implementing an affirmative action plan;
  - (b) the bidder’s success in developing an apprenticeship program complying with Sections 46a-68-1 to 46a-68-17 of the Administrative Regulations of Connecticut State Agencies, inclusive;
  - (c) the bidder’s promise to develop and implement a successful affirmative action plan;
  - (d) the bidder’s submission of employment statistics contained in the “Employment Information Form”, indicating that the composition of its workforce is at or near parity when compared to the racial and sexual composition of the workforce in the relevant labor market area; and
  - (e) the bidder’s promise to set aside a portion of the contract for legitimate minority business enterprises. See section 46a-68j-30(10)(E) of the Contract Compliance Regulations.
-

## INSTRUCTIONS AND OTHER INFORMATION

The following BIDDER CONTRACT COMPLIANCE MONITORING REPORT must be completed in full, signed, and submitted with the bid for this contract. The contract awarding agency and the Commission on Human Rights and Opportunities will use the information contained thereon to determine the bidders compliance to Sections 4a-60 and 4a-60a CONN. GEN. STAT., and Sections 46a-68j-23 of the Regulations of Connecticut State Agencies regarding equal employment opportunity, and the bidder's good faith efforts to include minority business enterprises as subcontractors and suppliers for the work of the contract.

### 1) Definition of Small Contractor

Section 4a-60g CONN. GEN. STAT. Defines a small contractor as a company that has been doing business under the same management and control and has maintained its principal place of business in Connecticut for a one year period immediately prior to its application for certification under this section, had gross revenues not exceeding ten million dollars in the most recently completed fiscal year, and at least fifty-one percent of the ownership of which is held by a person or persons who are active in the daily affairs of the company, and have the power to direct the management and policies of the company, except that a nonprofit corporation shall be construed to be a small contractor if such nonprofit corporation meets the requirements of subparagraphs (A) and (B) of subdivision 4a-60g CONN. GEN. STAT.

### 2) Description of Job Categories (as used in Part IV Bidder Employment Information)

**MANAGEMENT:** Managers plan, organize, direct, and control the major functions of an organization through subordinates who are at the managerial or supervisory level. They make policy decisions and set objectives for the company or departments. They are not usually directly involved in production or providing services. Examples include top executives, public relations managers, managers of operations specialties (such as financial, human resources, or purchasing managers), and construction and engineering managers.

**BUSINESS AND FINANCIAL OPERATIONS:** These occupations include managers and professionals who work with the financial aspects of the business. These occupations include accountants and auditors, purchasing agents, management analysts, labor relations specialists, and budget, credit, and financial analysts.

**MARKETING AND SALES:** Occupations related to the act or process of buying and selling products and/or services such as sales engineer, retail sales workers and sales representatives including wholesale.

**LEGAL OCCUPATIONS:** In-House Counsel who is charged with providing legal advice and services in regards to legal issues that may arise during the course of standard business practices. This category also includes assistive legal occupations such as paralegals, legal assistants.

**COMPUTER SPECIALISTS:** Professionals responsible for the computer operations within a company are grouped in this category. Examples of job titles in this category include computer programmers, software engineers, database administrators, computer scientists, systems analysts, and computer support specialists.

**ARCHITECTURE AND ENGINEERING:** Occupations related to architecture, surveying, engineering, and drafting are included in this category. Some of the job titles in this category include electrical and electronic engineers, surveyors, architects, drafters, mechanical engineers, materials engineers, mapping technicians, and civil engineers.

**OFFICE AND ADMINISTRATIVE SUPPORT:** All clerical-type work is included in this category. These jobs involve the preparing, transcribing, and preserving of written communications and records; collecting accounts; gathering and distributing information; operating office machines and electronic data processing equipment; and distributing mail. Job titles listed in this category include telephone operators, bill and account collectors, customer service representatives, dispatchers, secretaries and administrative assistants, computer operators and clerks (such as payroll, shipping, stock, mail and file).

**BUILDING AND GROUNDS CLEANING AND MAINTENANCE:** This category includes occupations involving landscaping, housekeeping, and janitorial services. Job titles found in this category include supervisors of landscaping or housekeeping, janitors, maids, grounds maintenance workers, and pest control workers.

**CONSTRUCTION AND EXTRACTION:** This category includes construction trades and related occupations. Job titles found in this category include boilermakers, masons (all types), carpenters, construction laborers, electricians, plumbers (and related trades), roofers, sheet metal workers, elevator installers, hazardous materials removal workers, paperhangers, and painters. Paving, surfacing, and tamping equipment operators; drywall and ceiling tile installers; and carpet, floor and tile installers and finishers are also included in this category. First line supervisors, foremen, and helpers in these trades are also grouped in this category.

**INSTALLATION, MAINTENANCE AND REPAIR:** Occupations involving the installation, maintenance, and repair of equipment are included in this group. Examples of job titles found here are heating, ac, and refrigeration mechanics and installers; telecommunication line installers and repairers; heavy vehicle and mobile equipment service technicians and mechanics; small engine mechanics; security and fire alarm systems installers; electric/electronic repair, industrial, utility and transportation equipment; millwrights; riggers; and manufactured building and mobile home installers. First line supervisors, foremen, and helpers for these jobs are also included in the category.

**MATERIAL MOVING WORKERS:** The job titles included in this group are Crane and tower operators; dredge, excavating, and lading machine operators; hoist and winch operators; industrial truck and tractor operators; cleaners of vehicles and equipment; laborers and freight, stock, and material movers, hand; machine feeders and off bearers; packers and packagers, hand; pumping station operators; refuse and recyclable material collectors; and miscellaneous material moving workers.

**PRODUCTION WORKERS:** The job titles included in this category are chemical production machine setters, operators and tenders; crushing/grinding workers; cutting workers; inspectors, testers sorters, samplers, weighers; precious stone/metal workers; painting workers; cementing/gluing machine operators and tenders; etchers/engravers; molders, shapers and casters except for metal and plastic; and production workers.

**Definition of Racial and Ethnic Terms (as used in Part IV Bidder Employment Information)**

White (not of Hispanic Origin) – All persons having origins in any of the original peoples of Europe, North Africa, or the Middle East. Black (not of Hispanic Origin) – All persons having origins in any of the Black racial groups of Africa. Hispanic – All persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race. Asian or Pacific Islander – All persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area includes China, India, Japan, Korea, the Philippine Islands, and Samoa. American Indian or Alaskan Native – All persons having origins in any of the original peoples of North America, and who maintain cultural identification through tribal affiliation or community recognition.

**BIDDER CONTRACT COMPLIANCE MONITORING REPORT**  
**PART I – BIDDER INFORMATION**

Company Name \_\_\_\_\_

Street Address \_\_\_\_\_

City & State \_\_\_\_\_

Chief Executive \_\_\_\_\_

Bidder Federal Employer Identification Number \_\_\_\_\_

Or Social Security Number \_\_\_\_\_

Major Business Activity (Brief description) \_\_\_\_\_

\_\_\_\_\_

Bidder Identification (response optional/definitions on page 1)

- Bidder is a small contractor. Yes \_\_\_\_\_ No \_\_\_\_\_

- Bidder is a minority business enterprise. Yes \_\_\_\_\_ No \_\_\_\_\_

(If yes, check ownership category)

Black \_\_\_\_\_ Hispanic \_\_\_\_\_ Asian American \_\_\_\_\_ American Indian/Alaskan Native \_\_\_\_\_

Iberian Peninsula \_\_\_\_\_ Individual(s) with a Physical Disability \_\_\_\_\_ Female \_\_\_\_\_

Bidder Parent Company (If any)

- Bidder is certified as above by State of CT. Yes \_\_\_\_\_ No \_\_\_\_\_

Other Locations in CT \_\_\_\_\_

(If any) – DAS Certification Number \_\_\_\_\_

## PART II – BIDDER NONDISCRIMINATION POLICIES AND PROCEDURES

1. Does your company have a written Affirmative Action/Equal Employment Opportunity statement posted on company bulletin boards? Yes \_\_\_\_\_ No \_\_\_\_\_
2. Does your company have the state-mandated sexual harassment prevention in the workplace policy posted on company bulletin boards? Yes \_\_\_\_\_ No \_\_\_\_\_
3. Do you notify all recruitment sources in writing of your company's Affirmative Action/Equal Employment Opportunity employment policy? Yes \_\_\_\_\_ No \_\_\_\_\_
4. Do your company advertisements contain a written statement that you are an Affirmative Action/Equal Opportunity Employer? Yes \_\_\_\_\_ No \_\_\_\_\_
5. Do you notify the CT State Employment Service of all employment openings with your company? Yes \_\_\_\_\_ No \_\_\_\_\_
6. Does your company have a collective bargaining agreement with workers?  
Yes \_\_\_\_\_ No \_\_\_\_\_
  - 6a. If yes, do the collective bargaining agreements contain non-discrimination clauses covering all workers? Yes \_\_\_\_\_ No \_\_\_\_\_
  - 6b. Have you notified each union in writing of your commitments under the nondiscrimination requirements of contracts with the State of CT? Yes \_\_\_\_\_ No \_\_\_\_\_
7. Do all of your company contracts and purchase orders contain non-discrimination statements as required by Sections 4a-60 & 4a-60a Conn. Gen. Stat.?
8. Do you, upon request, provide reasonable accommodation to employees, or applicants for employment, who have physical or mental disability? Yes \_\_\_\_\_ No \_\_\_\_\_
9. Does your company have a mandatory retirement age for all employees?  
Yes \_\_\_\_\_ No \_\_\_\_\_
10. If your company has 50 or more employees, have you provided at least two (2) hours of sexual harassment training to all of your supervisors? Yes \_\_\_\_\_ No \_\_\_\_\_ N/A \_\_\_\_\_
11. If your company has apprenticeship programs, do they meet the Affirmative Action/Equal Employment Opportunity requirements of the apprenticeship standards of the CT Dept. of Labor? Yes \_\_\_\_\_ No \_\_\_\_\_ N/A \_\_\_\_\_
12. Does your company have a written Affirmative Action Plan? Yes \_\_\_\_\_ No \_\_\_\_\_  
If no, please explain. \_\_\_\_\_  
\_\_\_\_\_
13. Is there a person in your company who is responsible for equal employment opportunity?  
Yes \_\_\_\_\_ No \_\_\_\_\_ If yes, give name and phone number. \_\_\_\_\_

**PART III – BIDDER SUBCONTRACTING PRACTICES**

1. Will the work of this contract include subcontractors or suppliers? Yes \_\_\_\_\_ No \_\_\_\_\_

1a. If yes, please list all subcontractors and suppliers and report if they are a small contractor and/or a minority business enterprise (defined on page 1 / use additional sheet if necessary)

1b. Will the work of this contract require additional subcontractors or supplier other than those identified in 1a. above? Yes \_\_\_\_\_ No \_\_\_\_\_

**PART IV – BIDDER EMPLOYMENT INFORMATION**

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

JOB Categories	OVERALL Totals	WHITE (Non-Hispanic)	BLACK (Non-Hispanic)	HISPANIC	ASIAN OR PACIFIC ISLANDER	AMERICAN INDIAN OR ALASKAN NATIVE
	Male/Female	Male/Female	Male/Female	Male/Female	Male/Female	Male/Female
Management						
Business & Financial Ops						
Marketing &* Sales						
Legal Occupations						
Computer Specialist						
Architecture/Engineering						
Office & Admin Support						
Bldg/Grounds/Cleaning/Maintenance						
Material Moving Workers						
Production Occupations						
TOTALS ABOVE						
TOTALS ONE YEAR AGO						
FORMAL ON THE JOB TRAINEES (ENTER FIGURES FOR THE SAME CATEGORY AS ARE SHOWN ABOVE)						

APPRENTICES						
TRAINEES						

\*NOTE: JOB CATEGORIES CAN BE CHANGED OR ADDED TO (EX. SALES CAN BE ADDED OR REPLACE A CATEGORY NOT USED IN YOUR COMPANY)

**PART V – BIDDER HIRING AND RECRUITMENT PRACTICES**

1. Which of the following recruitment sources are used by you?  
(Check yes or no, and report percent used)

SOURCE	YES	NO	% of applicants provided by source
State Employment Service			
Private Employment Agencies			
Schools and Colleges			
Newspaper Advertisement			
Walk-Ins			
Present Employees			
Labor Organizations			
Minority/Community Organizations			
Others (please identify)			

2. Check (X) any of the below listed requirements that you use as a hiring qualification.

- |  |  |
|--|--|
| <input type="checkbox"/> Work Experience         | <input type="checkbox"/> Ability to Speak or Write English |
| <input type="checkbox"/> Written Tests           | <input type="checkbox"/> High School Diploma               |
| <input type="checkbox"/> College Degree          | <input type="checkbox"/> Union Membership                  |
| <input type="checkbox"/> Personal Recommendation | <input type="checkbox"/> Height or Weight                  |
| <input type="checkbox"/> Car Ownership           | <input type="checkbox"/> Arrest Record                     |
| <input type="checkbox"/> Wage Garnishments       |  |

3. Describe below any other practices or actions that you take which show that you hire, train, and promote employees without discrimination

Certifications (Read this form and check your statements on it CAREFULLY before signing). I certify that the statements made by me on this BIDDER CONTRACT COMPLIANCE MONITORING REPORT are complete and true to the best of my knowledge and belief, and are made in good faith. I understand that if I knowingly make any misstatements of facts, I am subject to be declared in non-compliance with Section 4a-60, 4a-60a, and related sections of the CONN. GEN. STAT.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
Telephone

## CONTRACTOR'S MINORITY BUSINESS ENTERPRISES UTILIZATION FORM

---

NAME AND ADDRESS OF AWARDING AGENCY: \_\_\_\_\_ NAME AND ADDRESS OF CONTRACTOR: \_\_\_\_\_

---

PROJECT NO. \_\_\_\_\_

DATE AWARDED \_\_\_\_\_

DATE BID OPENED \_\_\_\_\_

---

**NOTICE TO CONTRACTORS:** Under Section 4-114a-5 of the Contract Compliance Regulations, contractors are required to make GOOD FAITH EFFORTS to employ Minority Business Enterprises (MBEs) as subcontractors and suppliers of materials on all projects subject to compliance requirements. The contract, which is referenced above, is subject to contract compliance requirements.

**INSTRUCTIONS:** List the name and addresses of all MBEs you have selected as subcontractors and suppliers of materials for this project. If the MBEs selected as subcontractors and suppliers of materials meet the criteria for MBEs set out in Section 4-114a of the Connecticut General Statutes, contractors **MUST COMPLETE** the attached affidavit. If such businesses are not currently registered with the Department of Administrative Services and if the contractor wishes the Commission on Human Rights and Opportunities (CHRP) to consider favorable the selection of the unregistered MBE in the evaluation of the contractor's good faith efforts, contractors **MUST** complete the attached affidavit. In either case, the affidavit must be filled out in triplicate, with the original sent to the CHRO, Contract Compliance Unit, 90 Washington Street, Hartford, CT 06106; one copy sent to the Awarding Agency; one copy retained by contractor. If the Contractor does not wish the CHRO to consider selection of an unregistered MBE in its evaluation of the contractor's good faith efforts, no affidavit need be made.

(Attach additional pages if necessary using same headings)

NAME AND ADDRESS OF MBE SUBCONTRACTOR(S) OR SUPPLIER(S) OF MATERIALS	Check here if MBE(s) qualify under Section 4-114a of the C.G.S.	Check here if MBE is unregistered but wants to be considered for good faith efforts.
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

---

This form developed pursuant to Section 4-114a-5 of the Contract Compliance Regulations.

**AFFIDAVIT**

I, \_\_\_\_\_, acting on behalf of \_\_\_\_\_,  
(Name of person signing certification) (Contractor)

of which I am the \_\_\_\_\_, certify and affirm:  
(Title)

\_\_\_\_\_ Check if provision applicable:

THAT the following Minority Business subcontractors and/or suppliers of materials that

\_\_\_\_\_ has hired for Contract No. \_\_\_\_\_  
(Contractor)

with \_\_\_\_\_, meet the criteria for Minority Business  
(Awarding Agency)

Enterprises that qualify under current statutory requirements.

List of names of registered MBEs:

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

\_\_\_\_\_ Check if provision applicable:

THAT \_\_\_\_\_ has hired the following Minority Business subcontractors or  
(Contractor)

suppliers of materials for Contract No. \_\_\_\_\_ with \_\_\_\_\_,  
(Awarding Agency)

that are not registered with the Department of Administrative Services, but which should be considered by the Connecticut Commission on Human Rights and Opportunities when evaluating the \_\_\_\_\_ good faith efforts:

\_\_\_\_\_ (Contractor)

List of names of unregistered MBEs:

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

I further certify and affirm that I have read and understand the contract compliance requirements codified at Section 4a-60 and Section 46a-71(d) of the Connecticut General Statutes.

I further certify and affirm that I have read and understand the Contract Compliance Regulations codified at Section 4a-60-1 and the following Regulations of Connecticut State Agencies.

I understand that false statements made herein are punishable at law.

\_\_\_\_\_  
(Name of Corporation or Firm)

\_\_\_\_\_  
(Signature and Title of Official Making the Affidavit)

Subscribed and sworn to before me, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_

\_\_\_\_\_  
Notary Public/Commissioner of Superior Court

My Commission Expires \_\_\_\_\_

**CERTIFICATE**

Of Compliance With

Connecticut General Statute Section 31-57b

\*\*\*\*\*

I hereby certify that all of the statements herein contained below have been examined by me, and to the best of my knowledge and belief are true and correct.

The \_\_\_\_\_ **has / has not** (*circle one*) been cited for three or more willful or serious violations of any occupational safety and health act or of any standard, order or regulation promulgated pursuant to such act, during the three year period preceding the bid, provided such violations were cited in accordance with the provisions of any state occupational safety and health act of 1970, and not abated within the time fixed by the citation and such citation has not been set aside following the appeal to the appropriate agency or court having jurisdiction or **has / has not** (*circle one*) received one or more criminal convictions related to the injury or death of any employee in the three year period preceding the bid.

The list of violations (if applicable) is attached.

\_\_\_\_\_  
Name of Firm, Organization or Corporation

Signed:

\_\_\_\_\_  
Name Seal

Title:

\_\_\_\_\_

Date:

\_\_\_\_\_

State of \_\_\_\_\_ )

) ss:

A.D., 20\_\_\_\_\_

County of \_\_\_\_\_ )

Sworn to and personally appeared before me for the above, \_\_\_\_\_, Signer and Sealer of the foregoing instrument and acknowledged the same to be the free act and deed of \_\_\_\_\_, and his/her free act and deed as \_\_\_\_\_.

My Commission expires:

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

Project No(s): \_\_\_\_\_

**Sec. 31-57b. Awarding of contracts to occupational safety and health law violators prohibited.** No contract shall be awarded by the state or any of its political subdivisions to any person or firm or any firm, corporation, partnership or association in which such persons or firms have an interest (1) which has been cited for three or more willful or serious violations of any occupational safety and health act or of any standard, order or regulation promulgated pursuant to such act, during the three-year period preceding the bid, provided such violations were cited in accordance with the provisions of any state occupational safety and health act or the Occupational Safety and Health Act of 1970, and not abated within the time fixed by the citation and such citation has not been set aside following appeal to the appropriate agency or court having jurisdiction or (2) which has received one or more criminal convictions related to the injury or death of any employee in the three-year period preceding the bid. Any person who knowingly provides false information concerning the information required pursuant to this section shall be assessed a civil penalty of not less than five hundred dollars nor more than five thousand dollars and shall be disqualified from bidding on or participating in a contract with the state or any of its political subdivisions for five years from the date of the final determination that the information is false. Any political subdivision or any agency receiving false information pursuant to this section shall notify the Commissioner of Administrative Services and, upon receipt of such notice, the commissioner shall conduct a hearing in accordance with the provisions of chapter 54. Upon a determination that false information was provided, the commissioner shall impose a civil penalty in accordance with the provisions of this section. Such civil penalty shall be paid to the Treasurer or to an official of the political subdivision, as the case may be. Any civil penalty imposed pursuant to this section may be collected in a civil proceeding by any official of a political subdivision authorized to institute civil actions or, in the case of the state, by the attorney general, upon complaint of the Commissioner of Administrative Services.

**GENERAL CONTRACTOR FINAL AFFIDAVIT WAIVER OF LIEN**

**Job Name:** \_\_\_\_\_

**State Of:** \_\_\_\_\_

**County Of:** \_\_\_\_\_

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

**To Whom It May Concern:**

I. We the undersigned, been fully sworn and having entered into an agreement with

\_\_\_\_\_ for \_\_\_\_\_  
Contracting agency work/materials

on the construction of \_\_\_\_\_

on the premises of the Owner \_\_\_\_\_

at said project \_\_\_\_\_

state that all labor, material and services contracted for have been fully paid and indebtedness discharged to the date of this affidavit unless otherwise noted in section II of this document.

II. Furthermore, for and in consideration of \$\_\_\_\_\_ the undersigned does hereby waiver release and relinquish any and all claims of right of lien, which the undersigned may now have upon the premises above described for labor, materials and/or services.

III. Liability to the State of CT for sales and/or use tax, where applicable, has been discharged.

\_\_\_\_\_  
Firm's Name

\_\_\_\_\_  
Authorized Signature

State of Connecticut:  
County of: \_\_\_\_\_

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

Subscribed and sworn to before me, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Notary Public Signature  
My Commission Expires: \_\_\_\_\_

**SUBCONTRACTOR/SUPPLIER FINAL AFFIDAVIT WAIVER OF LIEN**

**Job Name:** \_\_\_\_\_

**State Of:** \_\_\_\_\_

**County Of:** \_\_\_\_\_

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

**To Whom It May Concern:**

I. We the undersigned, been fully sworn and having entered into an agreement with \_\_\_\_\_ for \_\_\_\_\_ subcontractor/supplier work/materials on the construction of \_\_\_\_\_ on the premises of the Owner \_\_\_\_\_ at said project \_\_\_\_\_,

state that all labor, material and services contracted for have been fully paid and indebtedness discharged to the date of this affidavit unless otherwise noted in section II of this document.

II. Furthermore, for and in consideration of \$ \_\_\_\_\_ the undersigned does hereby waiver release and relinquish any and all claims of right of lien, which the undersigned may now have upon the premises above described for labor, materials and/or services.

III. Liability to the State of CT for sales and/or use tax, where applicable, has been discharged.

\_\_\_\_\_  
Firm's Name

\_\_\_\_\_  
Authorized Signature

State of Connecticut:  
County of: \_\_\_\_\_

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

Subscribed and sworn to before me, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Notary Public Signature  
My Commission Expires: \_\_\_\_\_

# AGREEMENT AND BOND FORMS

## AGREEMENT

THIS AGREEMENT, made this \_\_\_ th day of \_\_\_\_\_, by and between the Town of Andover, hereinafter called "OWNER" and \_\_\_\_\_

\_\_\_\_\_ doing business as (an individual) or (a corporation) hereinafter called the "CONTRACTOR".

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned;

1. The CONTRACTOR will commence and complete the **Riverside Drive Recreation Field Improvements**.
2. The CONTRACTOR will furnish all of the material not supplied by Owner, supplies, tools, equipment, labor and other services necessary for the construction and completion of the PROJECT described herein.
3. The CONTRACTOR will commence the work required by the CONTRACT DOCUMENTS WITHIN 10 calendar days after the date of the NOTICE TO PROCEED. The Contractor must complete all work within the stone dust walking track perimeter on or before **October 15, 2016** unless the period for completion is extended otherwise by the CONTRACT DOCUMENTS. The Contractor must fully complete the total project on or before **November 15, 2016** unless the period for completion is extended otherwise by the CONTRACT DOCUMENTS.
4. The CONTRACTOR agrees to perform all the work described in the CONTRACT DOCUMENTS and comply with the terms therein for the amount of \$ \_\_\_\_\_ as shown in the Bid schedule.
5. The CONTRACTOR agrees the sum of 5% of progress pay estimates will be retained until final acceptance of the PROJECT further the sum of 2% of the total PROJECT will be retained for a period of ninety days from final acceptance of the work.
6. The term "CONTRACT DOCUMENTS" means and includes the following:
  - Invitation to Bid
  - Information to Bidders
  - Bid Proposal
  - Bid Bond
  - Proposed Subcontractors
  - Proposed Suppliers
  - Statement of Bidders Qualifications
  - Certificate as to Corporate Principal

- Nondiscrimination in Employment
- Non-Collusion Affidavit of Prime Bidder
- Contract Agreement
- Form of Payment Bond
- Form of Performance Bond
- General Conditions
- Special Conditions
- Technical Specifications
- Drawings prepared by CLA Engineers, Inc.
- Specifications prepared by CLA Engineers, Inc.
- Addenda:
  - No. \_\_\_\_\_, dated \_\_\_\_\_
  - No. \_\_\_\_\_, dated \_\_\_\_\_
  - No. \_\_\_\_\_, dated \_\_\_\_\_
  - No. \_\_\_\_\_, dated \_\_\_\_\_

7. The OWNER will pay the CONTRACTOR in the manner and at such times as set forth in the General Conditions such amounts as required by the CONTRACT DOCUMENTS.
  
8. This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns. IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in (3 copies) each which shall be deemed an original on the date first above written.

OWNER: \_\_\_\_\_

CORPORATE SEAL:

BY \_\_\_\_\_  
(Title)

ATTEST \_\_\_\_\_

CONTRACTOR: \_\_\_\_\_

CORPORATE SEAL:

BY \_\_\_\_\_  
(Title)

ATTEST \_\_\_\_\_

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: That we \_\_\_\_\_  
(Name of Contractor)

\_\_\_\_\_ a \_\_\_\_\_  
(Corporation, Partnership, or Individual)

hereinafter called "Principal" and \_\_\_\_\_  
(Surety)

of, \_\_\_\_\_ State of \_\_\_\_\_ hereinafter called the

"Surety", are held and firmly bound unto The Town Of Andover, hereinafter called "Owner",  
(Owner)

in the penal sum of \_\_\_\_\_ Dollars  
(\$ \_\_\_\_\_) in lawful money of the United States, for the payment made, we  
bind ourselves, and successors, jointly presents of which sum well and truly to be our heirs,  
executors, administrators and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that Whereas, the Principal entered  
into a certain contract with the Owner, dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_,  
a copy of which is hereto attached and made a part hereof for the construction of:

TOWN OF ANDOVER

RIVERSIDE DRIVE RECREATION FIELD IMPROVEMENTS

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties,  
all the undertakings, covenants, terms, conditions, and agreements of said contract during the  
original term thereof, and any extensions thereof which may be granted by the Owner, with or  
without notice to the Surety, and if he shall satisfy all claims and demands incurred under such  
contract, and shall fully indemnify and save harmless the Owner from all costs and damages  
which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all  
outlay and expense which the Owner may incur in making good any default, then this obligation  
shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder of the specifications accompanying the same shall in any wise affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work of to the specifications.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary thereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in six (6) counterparts, each one of which shall be deemed an original, this the \_\_\_\_ day of \_\_\_\_, 20\_\_.

ATTEST:

\_\_\_\_\_  
(Principal) Secretary  
(SEAL)

\_\_\_\_\_  
Witness as to Principal

\_\_\_\_\_  
(Address-Zip Code)

\_\_\_\_\_  
Principal  
By \_\_\_\_\_ (s)

\_\_\_\_\_  
(Address-Zip Code)

\_\_\_\_\_  
Surety

ATTEST:

\_\_\_\_\_  
(Surety) Secretary  
(SEAL)

\_\_\_\_\_  
Witness as to Surety

\_\_\_\_\_  
(Address-Zip Code)

By \_\_\_\_\_  
Attorney-in-Fact

\_\_\_\_\_  
(Address-Zip Code)

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is Partnership, all partners should execute bond.

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: That we \_\_\_\_\_  
(Name of Contractor)

\_\_\_\_\_ a \_\_\_\_\_  
(Corporation, Partnership, or Individual)

hereinafter called "Principal" and \_\_\_\_\_  
(Surety)

of, \_\_\_\_\_ State of \_\_\_\_\_ hereinafter called the

"Surety", are held and firmly bound unto The Town of Andover hereinafter called "Owner",  
(Owner)

in the penal sum of \_\_\_\_\_ Dollars  
(\$ \_\_\_\_\_) in lawful money of the United States, for the payment made, we  
bind ourselves, and successors, jointly presents of which sum well and truly to be our heirs,  
executors, administrators and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that Whereas, the Principal entered  
into a certain contract with the Owner, dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, a copy  
of which is hereto attached and made a part hereof for the construction of:

TOWN OF ANDOVER

RIVERSIDE DRIVE RECREATION FIELD IMPROVEMENTS

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties,  
all the undertakings, covenants, terms, conditions, and agreements of said contract during the  
original term thereof, and any extensions thereof which may be granted by the Owner, with or  
without notice to the Surety, and if he shall satisfy all claims and demands incurred under such  
contract, and shall fully indemnify and save harmless the Owner from all costs and damages  
which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all  
outlay and expense which the Owner may incur in making good any default, then this obligation  
shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder of the specifications accompanying the same shall in any wise affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work of to the specifications.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in six (6) counterparts, each one of which shall be deemed an original, this the \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

ATTEST:

\_\_\_\_\_  
(Principal) Secretary  
(SEAL)

\_\_\_\_\_  
Witness as to Principal

\_\_\_\_\_  
(Address-Zip Code)

ATTEST:

\_\_\_\_\_  
(Surety) Secretary  
(SEAL)

\_\_\_\_\_  
Witness as to Surety

\_\_\_\_\_  
(Address-Zip Code)

\_\_\_\_\_  
Principal  
By \_\_\_\_\_ (s)

\_\_\_\_\_  
(Address-Zip Code)

\_\_\_\_\_  
Surety

By \_\_\_\_\_  
Attorney-in-Fact

\_\_\_\_\_  
(Address-Zip Code)

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is Partnership, all partners should execute bond.

# GENERAL CONDITIONS

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## ARTICLE 1 CONTRACT AND CONTRACT DOCUMENTS

The drawings, plans, specifications, and addenda enumerated in Article 1 of the General Conditions, Special Conditions, the Advertisement for Bid, the Information for Bidders, and the Bid Proposal as accepted by the OWNER, shall be binding upon the parties to this Agreement as if fully set forth therein. Whenever the term Contract Documents is used it shall mean and include the drawings, specifications and addenda. The OWNER shall interpret his own requirements. In case of conflict or inconsistency between the provisions of the signed portions of the Contract Documents and those of the specifications, the provisions of the signed portions shall govern.

## ARTICLE 2 DEFINITIONS

The following terms as used in this contract are defined as follows:

- A. Owner - The Owner of the project is the *Town of Andover*.
- B. Contractor - The term "Contractor" as hereinafter used shall refer to the General Contractor for this job.
- C. Owner's Representative - The term "Owner's Representative" as hereinafter used shall refer to any engineer or inspector whom the Owner may designate to inspect, test or oversee the work herein specified.
- D. Contract - Wherever the term "contract" is used in the General Conditions, it shall mean the actual bid form, specifications, Plans, General Conditions, Special Conditions and formal purchase order issued to successful bidder.

The rights and obligations of the CONTRACTOR under this contract shall include, but not be limited to the following:

## ARTICLE 3 REPRESENTATIONS OF THE CONTRACTOR

The Contractor represents and warrants:

- a. That he is financially solvent and that he is experienced and competent to perform the type of work required under this contract and that he is able to furnish the plant, materials, supplies, or equipment that may be necessary to perform the work as specified.
- b. That he is familiar with all Federal, State and municipal laws, ordinances, orders, and regulations which may in any way effect the project work, or the employment of persons thereon, including but not limited to any special acts relating to the work or to the project of which it is a part.

- c. That such temporary and permanent work required by the contract documents to be done by him will be satisfactorily constructed and can be used for the purpose for which it was intended and that such construction will not injure any person or damage property.
- d. That he has carefully examined the drawings, specifications, and addenda, if any, and the site of the work and that from his own investigations, he has satisfied himself as to the nature and location of the work, the character of equipment and other facilities needed for the performance of the work, the general and local conditions, and all other items that may affect the work.
- e. That he is aware of the hazards involved in the work and the danger to life and property both evident and inherent and that he will conduct the work in a careful and safe manner without-injury to persons or property.

#### ARTICLE 4 CONTRACT SECURITY

The Contractor shall furnish a Performance Bond and Payment Bond in amounts equal to at least one hundred percent (100%) of the contract price as security for the faithful performance of the Contract, and for the payment of all persons performing labor on the project under this contract and furnishing materials, equipment and all other incidentals in connection with this contract. The Surety on such a bond shall be from securities listed on the most recent IRS Circular 570, satisfactory to the Owner and the cost of the same shall be paid by the Contractor. prior to the starting of any work, the bonds must be approved by the Owner and be in the Owner's hands. The bonds must be from a surety company licensed and approved to do business in the State of Connecticut.

#### ARTICLE 5 CONTRACTOR'S OBLIGATIONS

The Contractor shall perform all work in a good workmanlike manner, and in accordance with the plans and specifications and any supplements thereto, and according to any directions or orders given by the Owner unless otherwise stipulated. He shall furnish all supplies, materials, except those supplies and materials furnished by the Owner, facilities, equipment, tools and anything else necessary or proper to perform and complete the work required by this contract. He shall furnish, erect, maintain, and remove any construction plant or temporary work as may be required. He alone shall be responsible for the safety, efficiency-, and adequacy of his plant, appliances, and methods and for any damage which may result from their failure or their improper construction maintenance, or operation. The Contractor shall observe, comply with, and be subject to all terms, conditions, requirements, and limitations of the contract and specifications and shall do, carry on, and complete the entire work to the satisfaction of the Owner.

The Contractor shall be solely responsible for all the work and shall provide all precautionary measures necessary for preventing injury to persons or damage to property. All injury or damage of whatever nature resulting from the work or resulting to persons, property, or the work during its progress, from whatever cause, shall be the responsibility of the Contractor.

The Contractor shall hold the Owner and Engineer, or their duly authorized agents, harmless and defend and indemnify them against damages or claims for damages due to injuries to persons or property arising out of the execution of the project work, and for damages to materials furnished for the work, for infringement of inventions, patents, and patent rights used in doing the work, and for any act, omission, or instance of neglect by the Contractor, his agents, employees, or subcontractors.

The Contractor shall bear all losses resulting to him, including but not limited to losses sustained on account of the character, quality, or quantity of any part of the work, or all parts of the work, or because the nature of the conditions in or on the project site are different from what was estimated or indicted, or on account of the weather, elements, or other causes.

#### ARTICLE 6 SUPERINTENDENCE BY THE CONTRACTOR

The Contractor shall give the work the constant attention necessary to facilitate the progress thereof and shall cooperate with the Owner in every possible way.

At the site of the work, the Contractor shall, at all times, employ a suitably experienced construction superintendent who shall have full authority to act for the Contractor. It is understood that the employment of such representative shall be acceptable to the Owner and shall be such a person as can be continued in the capacity for the duration of the contract, unless he ceases to be on the Contractor's payroll.

#### ARTICLE 7 CONSTRUCTION SCHEDULE AND PERIODIC ESTIMATES

Within five (5) days after the date of "Notice to Proceed" the Contractor shall deliver to the Owner an estimated construction progress schedule in a form satisfactory to the Owner, showing the proposed dates of commencement and completion of each of the various subdivisions of work required under the contract documents and the anticipated amount of each monthly payment that will become due the Contractor in accordance with the progress schedule. The Contractor shall also furnish the Owner: 1. a detailed estimate, giving a complete breakdown of the contract price; and 2. periodic itemized estimates of the work done for the purpose of making partial payments thereon.

#### ARTICLE 8 USE OF PREMISES AND REMOVAL OF DEBRIS

The Contractor undertakes, at his own expense:

- a. To take every precaution against injuries to persons or damage to property.

- b. To store his apparatus, materials, equipment, and supplies in such orderly fashion at the site of the work as will not unduly interfere with the progress of his work or any others.
- c. To place upon the work or any part thereof, only such loads as are consistent with the safety of that portion of the work.
- d. To clean frequently all refuse, scrap, and debris caused by his operations, and to dispose of same away from the site, so that the work site is maintained in a neat, workmanlike appearance.
- e. To effect all cutting, fitting, or patching of his work required to make the same conform to the drawings and specifications, and except with the consent of the Owner, not to cut or otherwise alter the work of any other contractor.
- f. Before final payment, to remove all surplus materials false work, temporary structures, including foundations thereof, plants of any description, and debris of any nature resulting from his operations and to dispose of same away from the site, so that the site is left in a neat, orderly, and workmanlike condition.

#### ARTICLE 9 GENERAL WARRANTY

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

The Contractor shall remedy any defects in the work and pay for any damage to other work resulting therefrom, which shall appear within a period of one year (1) from the date of final acceptance of the work, unless a longer period is specified by the Owner. The Owner will give final notice of observed defects with reasonable promptness.

#### ARTICLE 10 PROTECTION OF WORK AND PROPERTY - EMERGENCY

- a. The Contractor shall at all times safely guard the Owner's property from injury or loss in connection with this contract. He shall at all times safely guard and protect his own work, and that of adjacent property, from damage. The Contractor shall replace or make good any such damage, loss, or injury at no additional expense to the Owner.
- b. In case of an emergency which threatens loss or injury of property, and/or safety of life the Contractor will be allowed to act, without previous instructions from the Owner, in a diligent manner. He shall notify the Owner immediately thereafter. Any

claim for compensation by the Contractor due to such extra work shall be promptly submitted to the Owner for approval.

- c. Where the Contractor has not taken action but has notified the Owner of an emergency threatening injury to persons or damage to the work or to any adjoining property, he shall act as instructed or authorized by the Owner.
- d. The amount of reimbursement claimed by the Contractor on account of any emergency action shall be determined in the manner provided elsewhere in the contract documents.

#### ARTICLE 11 WEATHER CONDITIONS

In the event of temporary suspension of the work or during inclement weather, or whenever the Owner shall direct, the Contractor shall, and shall cause his subcontractors to protect carefully his and their work and materials against damage or injury from the weather. If, in the opinion of the Owner, any work or materials are damaged or injured by reason of failure to protect them on the part of the Contractor, or any of his subcontractors, or otherwise damaged or injured by the Contractor's negligence, or are found to be defective, such materials or work shall be removed and replaced at the expense of the Contractor.

#### ARTICLE 12 THE OWNER'S AUTHORITY

The Owner shall give all orders and directions contemplated under this contract and specifications relative to the execution of the work. The Owner shall determine the amount, quality, acceptability, and fitness of the several kinds of work and materials which are to be paid for under this contract and shall decide all questions which may arise in relation to said work and the construction thereof. The Owner's estimates and decisions shall be final and conclusive, except as herein otherwise expressly provided. In case any question shall arise between the parties hereto relative to said contract or specifications, the determination or decision of the Owner shall be a condition precedent to the right of the Contractor to receive any money or payment for work under this contract affected by such questions. The Owner shall decide 'the meaning and intent of any portion of the specifications and of any plans or drawings where the same may be found to be obscure or be in dispute. Any differences or conflicts in regard to their work which may arise between the Contractor and other contractors performing work for the Owner, shall be adjusted and determined by the Owner.

#### ARTICLE 13 ALL WORK SUBJECT TO CONTROL BY THE OWNER

- a. In the performance of the work, the Contractor shall abide by all orders, directions, and requirements of the Owner, and shall perform all work to the satisfaction of the Owner, and at such times and places, by such methods, and in such manner and sequence as he may require. The Owner shall determine the amounts, quality, acceptability, and fitness of all parts of the work. The Owner shall interpret the

- drawings, specifications, contract documents, all other documents, and the extra work orders. The Owner shall also decide all other questions in connection with the work. The Contractor shall employ no plant, equipment, materials, methods or men to which the Owner objects and shall remove no plant, materials, or equipment or other facilities from the work site without the Owner's permission. Upon request the Owner will confirm in writing any oral order, direction, requirement, or determination.
- b. Inspectors shall be authorized to inspect all work done and materials furnished. Such inspection may extend to all parts of the work and to the preparation or manufacture of the materials to be used. The presence or absence of an inspector shall not relieve the Contractor from any requirements of the contract. In case of any dispute arising between the Contractor and the inspector as to materials furnished or the manner in which the work is being executed, the inspector shall have the authority to reject material or suspend work until the question has been decided by the Owner. The inspector shall not be authorized to revoke, alter, enlarge, relax, or release any requirement of these specifications, nor to approve or accept any portion of the work, nor to issue instructions contrary to the drawings 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 Owner, or the Engineers in any way, nor releasing the Contractor from the fulfillment of the terms of the contract.

#### ARTICLE 14 THE OWNER'S CONTROL NOT LIMITED

The enumeration in this contract of particular instances in which the opinion, judgment, discretion, or determination of the Owner 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 so governed and performed.

#### ARTICLE 15 RIGHT OF THE OWNER TO TERMINATE THE CONTRACT

In the event that any of the provisions of this contract are violated by the Contractor, or any of his subcontractors, the Owner may serve written notice upon the Contractor and the Surety of its intention to terminate the contract, such notice to contain the reasons for such intention to terminate the contract. If within ten days (10) such violation or delay shall not cease and satisfactory arrangement of correction made, the contract shall, at the expiration of the ten days, cease and immediately serve notice thereof upon the Surety and the Contractor, and the Surety shall have the power to take over and perform the contract, provided, however, that if the Surety does not commence performing thereof within ten days (10) from the date of mailing to such Surety of Notice of termination, the Owner may take over the work and prosecute the same to completion by contract or force account at the expense of the Contractor, and the Contractor and his Surety shall be liable to the Owner for any excess cost occasioned the Owner thereby.

## ARTICLE 16 INTERPRETATION OF THE DRAWINGS AND SPECIFICATIONS

Except for the Contractor's executed set, all drawings and specifications are the property of the Owner. The Owner will furnish the Contractor, without charge, three (3) sets of the drawings and specifications. Additional sets will be furnished upon request, at actual cost of reproduction. Such drawings and specifications are not to be used on other work and those sets in usable condition shall be returned to the Owner upon request at the completion or cessation of the work or termination of the contract.

The Contractor shall keep one (1) copy of the drawings and specifications at the work site at all times and shall give the Owner and their representatives access thereto. Anything on the drawings and not mentioned in the specifications, or anything in the specifications that is not shown on the drawings shall have the same force and effect as if mentioned in both. In case of conflict or inconsistency between the drawings and the specifications, the specifications shall take precedence. Any discrepancy in the figures and the drawings shall be immediately submitted to the Owner for decision and the decision of the Owner shall be final. In case of differences between small and large scale drawings, the larger scale drawings shall take precedence .

## ARTICLE 17 INSPECTION

The authorized representatives and agents of the Owner shall be permitted to inspect all work materials, payrolls, records of personnel, invoices for materials, and other relevant data and records.

## ARTICLE 18 REPORTS, RECORDS AND DATA

The Contractor and each of his subcontractors, shall submit to the Owner such schedules of quantities, and costs, progress schedules, payrolls, reports, estimates, records, and other data as the Owner may request concerning the work Performed or to be performed under this contract.

## ARTICLE 19 RIGHTS-OF-WAY AND SUSPENSION OF WORK

Land and rights-of-way for the purpose of this contract shall be furnished by the Owner to the extent shown on the drawings; the Owner will use due diligence in acquiring said lands and rights-of-way as speedily as possible.

If however, lands or rights-of-way cannot be obtained before work on the project begins, the Contractor shall begin his work upon such land or rights-of-way as have been previously acquired by the Owner, and no claims for damages whatsoever will be allowed by reason of the delay in obtaining the remaining land and rights-of-way. Should the Owner be prevented or enjoined from proceeding with the work, or from authorizing its prosecution, either before or after the commencement by reason of litigation, or by reason of its inability to procure the lands

or rights-of-way for the said work, the Contractor shall not be entitled to make or assert a claim for damages by reason of the said delay, or to withdraw from the contract except by consent of the Owner. Time for completion of work will be extended to such time as the Owner determines will compensate for the time lost by such delay, such determination to be set forth in writing.

#### ARTICLE 20 SUBCONTRACTORS

The Contractors may utilize the services of specialty subcontractors on those parts of the work which, under normal contracting practices, are performed by specialty subcontractors.

The Contractor shall not award work to any subcontractor other than those listed in his bid, without the prior written approval of the Owner, which approval will not be given until the Contractor submits a written statement concerning the proposed award to the subcontractor, which statement shall contain such information as the Owner may require.

The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work, to bind the subcontractors to the contract documents insofar as applicable to the subcontract work and to give the Contractor under any provisions of the contract documents.

Nothing contained in this contract shall create any contractual relationship between the Owner and any subcontractor.

#### ARTICLE 21 ASSIGNMENTS

The Contractor shall not assign the whole or any part of this contract or any monies due or to become due hereunder without the written consent of the Owner. In case the Contractor assigns all or part of any monies due or to become due under this contract, the instrument of assignment shall contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any monies due or to become due to the Contractor shall be subject to prior claims of all persons, firms, or corporations for services rendered or materials supplied for the performance of the work called for in this contract.

#### ARTICLE 22 MUTUAL RESPONSIBILITY OF CONTRACTORS

If, through acts of neglect on the part of the Contractor, any other contractor or any subcontractor shall suffer loss or damage to the work, the Contractor agrees to settle with such other contractor or subcontractor by agreement or arbitration. If such other contractor or subcontractor shall assert any claim against the Owner on account of any damage alleged to have been sustained, the Owner shall notify the Contractor who shall indemnify and save harmless the Owner against any such claim.

## ARTICLE 23 SEPARATE CONTRACTS

The Owner reserves the right to let other contracts in connection with the construction of the contemplated work of the project, or contiguous projects of the Owner. The Contractor, therefore, will afford to any such other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work, will properly connect and coordinate his work with theirs, and will not commit or permit any act which will interfere with the performance of their work.

The Contractor shall coordinate his operations with those of other contractors. Cooperation will be required in the arrangement for storage of materials and in the detailed execution of the work. Failure by the Contractor to keep informed on the progress of the work, or failure to give notice of the lack of progress or defective workmanship by others, shall be construed as acceptance by him of the status of the work as being satisfactory for proper coordination with and performance of his own work.

## ARTICLE 24 SAFETY AND HEALTH REGULATIONS

These contract documents, and the joint and several phases of construction hereby contemplated, are to be governed, at all times, by the applicable provisions of the Federal law(s) including but not limited to the following:

1. Williams-Steiger Occupational Safety and Health Act, 1970, Public Law 92-596;
2. Part 1910 of the Occupational Safety and Health Standards, Chapter XVII of Title 29, Code of Federal Regulations.
3. This project is subject to all of the Safety and Health Regulations (CFR 29, Part 1926 and all subsequent amendments) as promulgated by the U.S. Department of Labor on June 24, 1974.

In the event of any inconsistencies between the above laws and regulations and the provisions of these contract documents, the laws and regulations shall prevail.

## ARTICLE 25 SHOP OR SETTING DRAWINGS

- a. The Contractor shall submit promptly to the Owner six (6) copies of each shop or setting drawing prepared in accordance with a schedule predetermined by the Contractor. After examination of such drawings by the Owner, and the return thereof, if resubmission is required the Contractor shall make such corrections to the drawings as have been indicated and shall furnish the Owner with six (6) corrected copies. Regardless of corrections made in or approval given to such drawings by the Owner, the Contractor will, nevertheless, be responsible for the accuracy of such drawings

and for their conformity to the drawings and specifications, unless he notifies the Owner in writing of any deviations at the time he furnishes the drawings.

- b. Shop drawings of all fabricated work shall be submitted to the Owner for approval and no work shall be fabricated by the Contractor save at his own risk until approval has been given by the Owner.
- c. The Contractor shall submit all shop and setting drawings on dates sufficiently in advance of requirements to enable the Owner ample time for reviewing the same, including time for correcting, resubmission and reviewing if necessary, and no claim for delay will be granted the Contractor by reason of his failure in this respect.
- d. All shop drawings submitted must bear the stamp of the Contractor as evidence that the drawings have been checked by him. Any drawings submitted without this stamp of approval will not be considered and will be returned to the Contractor for resubmissions. If the shop drawings show deviations from the requirements of the contract documents because of standard shop practice or other reason, the Contractor shall make specific mention of such variation in his letter of transmittal to the Owner, in order that if acceptable, suitable action may be taken for proper adjustment; otherwise the Contractor will not be relieved of the responsibility for executing the work in accordance with the contract documents even though the shop drawings have been approved.
- e. Where shop drawings are submitted by the Contractor that indicate a departure from the contract which the Owner deems to be a minor adjustment in his interest and not involving a change in the contract price or extension of time, the Owner may approve the drawings but the approval will contain in substance, the following:

"The modification shown on the attached drawings is approved in the interest of the Owner to effect an improvement for the project and is ordered with the understanding that it does not involve any change in the contract price or an extension of time; that it is subject generally to all contract stipulations and covenants; and that it is without prejudice to any rights of the Owner under the contract and bond or bonds."
- f. The approval of the shop drawings will be general and shall not relieve the Contractor from the responsibility for adherence to the contract, nor shall it relieve him of the responsibility for any error which may exist.
- g. The Contractor agrees to hold the Engineer and the Owner harmless and defend them against damages or claims for damages arising out of injury to others or property of third persons which result from errors on shop, working, or setting drawings whether or not they have been approved by the Engineer and/or the Owner.

## ARTICLE 26 ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS

The Contractor will be furnished additional instructions and detail drawings as necessary to carry out the work included in the contract. The additional drawings and instructions thus supplied to the Contractor will coordinate with the contract documents and will be so prepared that they can be reasonably interpreted as part thereof. The Contractor shall carry out the work in accordance with the additional detail drawings and instructions. The Contractor and the Owner will prepare jointly a schedule fixing the respective dates for the submission of shop drawings, the beginning of manufacture, testing, and installation of materials, supplies, and equipment, and the completion of the various parts of the work; each schedule to be subject to change from time to time in accordance with the progress of the work.

## ARTICLE 27 MATERIALS, SERVICES AND FACILITIES

It is understood that, except as otherwise specifically stated in the contract documents, the Contractor shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, superintendence, temporary construction of every nature, and all other services and facilities of every nature whatsoever, necessary to protect, execute, complete, and deliver the work within the specified time.

It is necessary for some work to be performed after regular hours, on Saturdays, Sundays, or legal holidays as designated by the Owner. Any work necessary to be performed after regular hours, on Saturdays, Sundays, or legal holidays shall be performed by the Contractor without additional expense to the Owner.

## ARTICLE 28 CONTRACTOR'S TITLE TO MATERIALS

No material, supplies, or equipment for the work shall be purchased by the Contractor or any subcontractor, subject to any chattel mortgage or under a conditional sale or other agreement by which an interest therein or in any part thereof is retained by the seller or supplier. The Contractor warrants good title to all material, supplies, and equipment installed or incorporated in the work and further warrants upon completion of all work, to deliver the premises, together with all improvements and appurtenances constructed or placed thereon by him, to the Owner free from any claims, liens, or charges, or encumbrances and further agrees that neither he nor any person, firm, or corporation furnishing any material or labor for any work covered by this contract shall have the right to a lien upon the premises or any improvement or appurtenance thereon.

## ARTICLE 29 INSPECTION AND TESTING OF MATERIALS

All materials and equipment used in the construction of the project shall be new and of current manufacture. Testing will be done in accordance with accepted standards and as directed by the Owner; the laboratory or inspection agency shall be selected by the Owner. Except as specified elsewhere in these specifications, the Owner will pay for laboratory inspection.

All materials and workmanship shall be subject to inspection, examination, and testing by the Owner at any and all times during manufacture and/or construction and at any and all places where such manufacture and or construction is carried on, to establish conformance with these specifications and suitability for uses intended. Without additional charge the Contractor shall furnish promptly all reasonable facilities, labor, and materials necessary to make tests so required safe and convenient; he shall also furnish any mill, factory, or other such tests based on the Standards and Tentative Standards of the American Society for Testing Materials as required by the Owner.

#### ARTICLE 30 BRAND OR EQUAL CLAUSE

Recipients must incorporate in their specifications a clear and accurate description of the technical requirements for the material, product or service to be procured. Such description shall not, in competitive procurements, contain features which unduly restrict competition. The description shall include a statement of the qualitative nature of the material, product or service to be procured and, when necessary, shall set forth those minimum essential characteristics and standards to which it must conform if it is to satisfy its intended use. Detailed product specifications shall be avoided if at all possible when it is impractical or uneconomical to make a clear and accurate description of the technical requirements, a "brand name or equal" description approved by the Owner may be used as a means to define the performance or other salient requirements of a procurement. The specific features of the named brand which must be met by offerors shall be clearly stated.

#### ARTICLE 31 PATENTS

- a. The Contractor shall hold and save the Owner harmless from liability of any nature or kind, including cost and expenses for, or on account of, any patented or unpatented invention, process, article, or appliance manufactured or used in the- contract, including its use by the Owner.
- b. License and/or royalty fees for the use of a process which is authorized by the Owner must be reasonable, and paid to the holder of the patent, or his authorized agent, directly by the Contractor.
- c. If the Contractor uses any design, device, or material covered by letters, patent, or copyright, he shall provide for such use by suitable agreement with the owner of such patent or copyrighted design, device, or material.
- d. It is mutually agreed and understood that, without exception, the contract prices shall include all royalties, license fees or costs arising out of the use of such process, design, device or materials in any way involved in the work. The Contractor and/or his Surety shall indemnify and save the Engineer and the Owner harmless from all claims for infringement by reason of use of such patented material, device or design,

in connection with the work under this contract, and shall indemnify the Engineer and the Owner for any cost, expense or damage which it may be obligated to pay for reason of such infringement at any time during the prosecution of the work.

## ARTICLE 32 CONTRACTOR'S BOND AND INSURANCE

Each Bidder must be able to enter into contract, covering the work, within 10 days from the acceptance of his proposal.

The successful bidder must, within 10 days from the date of acceptance of his proposal, furnish and file with the Owner, a corporate performance bond and payment bond or equivalent security, guaranteeing, completion of the job in accordance with the proposal. This bond or equivalent security shall be for 100% of the amount of the contract. The cost of a bond is to be figured as part of the cost of the job. The Surety Company must be one licensed to do business in the State of Connecticut, from securities listed on the most recent IRS Circular 570 and must be satisfactory to the Owner.

The successful bidder must, within 10 days from the date of acceptance of his proposal, file with the Owner, Workmen's Compensation, Comprehensive General Liability, Comprehensive Auto Liability, Certificates of Insurance satisfactory to the Owner, in compliance with the law, and in the following form and amount:

### **Required bond and insurance coverage's and amounts are outlined in the Bonding and Insurance Requirements section of this Project Manual**

The Contractor shall purchase and maintain, until final payment, property insurance upon the Work at the site in an amount equal to the total bid price for the completed construction. This insurance shall include the interests of Owner, Contractor, Subcontractors, Engineer and Engineer's consultants in the Work, shall insure against the perils of fire and extended coverage, shall include "all risk" insurance for physical loss and damage including theft, vandalism, and malicious mischief, collapse and water damage, and shall include damages, losses and expenses rising out of or resulting from any insured loss or incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers, architects, attorneys and other professionals). This insurance shall be provided on the completed value form. If not covered under the "all risk" insurance or otherwise provided in these General Conditions, Contractor shall purchase and maintain similar property insurance on portion of the Work stored on and off the site or in transit when such portions of the Work are to be included in an Application for Payment.

**The Town of Andover (Owner), the State of Connecticut and CLA Engineers, Inc. (Engineer) shall be named as additional insured on the above coverages.**

If subcontractors are employed, same limits as named above shall apply and the certificate of insurance must be filed with the Owner.

No contract shall be binding upon the Owner until such bond shall have been given and until Comprehensive General Liability, Comprehensive General Auto Liability and Workmen's Compensation policy certificates indicated-above have been filed with the Owner and approved as to form and sufficiency by the Owner. The insurance policy certificate provided by the successful bidder and all subcontractors shall carry a statement by the insurance company that the Owner will receive at least ten (10) days notice prior to cancellation of any portion of the policies or any modifications in the insurance coverage that may affect the Owner's interest. The cost of all insurance coverage shall be included in the price of the contract cost.

The insurance company must be licensed to do business in the State of Connecticut and must be satisfactory to the Owner. THE OWNER, THE STATE OF CONNECTICUT AND CLA ENGINEERS, INC. MUST BE NAMED AS ADDITIONAL INSURED

### ARTICLE 33 REPRESENTATIONS OF CONTRACTOR

The Contractor represents and warrants that he is financially solvent and that he is experienced and competent to perform the type of work outlined in the specifications and drawings and that he has carefully examined the drawings and specifications along with addendum (or addenda), if any, and the site of the work, and that from his own investigations, he has satisfied himself as to the nature and location of the work, the character, quality and quantity of surface and sub-surface materials likely to be encountered, the character of equipment and other facilities needed for the performance of the work, the general and local conditions and all other materials which may in any way affect the work or its performance and that he is aware of the hazards involved in the work and the danger to life and property both evident and inherent and that he will conduct the work in a careful and safe manner without injury to persons or property. He further warrants that any injury to persons or property resulting from the work shall be the sole responsibility of the Contractor.

### ARTICLE 34 INDEMNITY OF OWNER BY CONTRACTOR

The Contractor shall indemnify and save harmless the Owner against any and all damages to property or injuries to or death of any person or persons, including property and employees or agents of the Owner, and shall defend, indemnify and save harmless the Owner from any and all claims, demands, suits, actions or proceedings of any kind or nature including workmen's compensation claims, of or by anyone whomsoever, in any way resulting from or arising out of the operations in connection herewith, including operations of subcontractors and acts or omissions of employees or agents of Contractor or his subcontractors. Insurance coverage specified herein and in any special conditions constitutes the minimum requirements and said requirements shall in no way lessen or limit the liability of Contractor under the terms of the contract. The Contractor shall procure and maintain, at his own cost and expense, any additional kinds and amounts of insurance which, in his own judgment, may be necessary for his proper protection in the prosecution of the work. The Contractor agrees to well and truly save and indemnify and keep harmless, the Owner against all liability, judgments, costs and expenses

which may in any wise come against the Owner or which may in any wise result from carelessness, omission or neglect of the Contractor or his agents, employees or workmen in any way arising or resulting from the operation in connection herewith, including all liability to the Owner resulting from the failure to erect or maintain sufficient railing or fence as required by Section 13a111, Connecticut General Statutes, and against all liability from defects claimed to be in violation of Section 13a-149, Connecticut General Statutes. Any additional cost of this save harmless insurance coverage shall be included in the price of the contract.

#### ARTICLE 35 TERMINATION FOR CONVENIENCE

The Owner hereby reserves the right to terminate the performance of this contract for any reason the Owner deems appropriate. The Owner will pay all actual costs to date of termination, however, the Contractor shall not be entitled to any profit on furnished or unearned work.

#### ARTICLE 36 COMPETENT HELP TO BE EMPLOYED

The Contractor shall employ experienced foreman, craftsmen and other workmen competent in the work in which they are to be engaged. All work shall be accomplished by able, skilled and competent personnel. If any person employed on the work by the Contractor shall appear to be incompetent or unreliable in any way, he shall be discharged immediately upon the request of the Owner and shall not -again be employed on the work.

#### ARTICLE 37 SPIRITUOUS LIQUORS AND DRUGS

The Contractor shall neither permit nor suffer the introduction or use of -spirituous liquors upon the work embraced in this contract. Dope or drugs of any kind unless ordered by a physician are prohibited. Any employee found using spirituous liquors, dope or drugs of any kind unless ordered by a physician shall be immediately discharged.

#### ARTICLE 38 PROHIBITING EMPLOYEE DISCRIMINATION BY CONTRACTOR

The Contractor agrees and warrants that in the performance of this contract he will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religion, national origin, sex, or physical disability, including, but not limited to, blindness, unless it is shown by such Contractor that such disability prevents performance of the work involved in any manner prohibited by the laws of the United States or of the State of Connecticut, and further agrees to provide the commission on human rights and opportunities with such information requested by the commission concerning the employment practices and procedures of the Contractor as relate to the provisions of this section.

#### ARTICLE 39 CLAIMS FOR EXTRA WORK

After the contract has been signed, no claims for extra work will be honored. unless authorized in writing by the Owner.

## ARTICLE 40 WORK CHANGES

The Owner may make changes in the scope of the work required to be performed by the Contractor under the Contract by making additions thereto, or by omitting work therefrom, without invalidating the Contract, and without relieving or releasing the Contractor from any of his obligations under the Contract or any guarantee given by him pursuant to the Contract provisions, and without affecting the validity of the guaranty bonds, and without relieving or releasing the surety or sureties of said bonds. All such work shall be executed under the terms of the original Contract unless it is expressly provided otherwise.

Except for the purpose of affording protection against any emergency endangering life or property, the Contractor shall make no change in the materials used or in the specified manner of constructing and/or installing the improvements or supply additional labor, services or materials beyond that actually required for the execution of the Contract, unless in pursuance of a written order from the owner authorizing the Contractor to proceed with the change. No claim for an adjustment of the Contract price will be valid unless so ordered. Upon request the Contractor shall supply the Owner with a detailed proposal for the changes showing quantities of, and unit prices for his work and that of any subcontractor involved. No such change order shall be considered, however, unless approved by the Owner and their duly authorized representatives prior to its issuance. Upon receipt of the written order the Contractor shall proceed with the work as and when directed. The amount of compensation to be paid to the Contract for extra or additional work so ordered shall be determined as follows:

- (1) By such applicable Unit Price, if any, as set forth in the Agreement, or
- (2) If no such Unit Prices are so set forth, or if the total net change increases or decreases the total Contract price more than 25 percent (25%) then by a Lump Sum mutually agreed upon by the Owner and the Contractor, and establish as follows:

For work to be performed under a Lump Sum agreement the Contractor may apply a 15% allowance for overhead and profit against the net cost of work actually to be performed by him except that in the event the change in work to be performed by him results in a net omission then no percentage for overhead and profit shall be allowed.

The Contractor is permitted a 5% allowance to be applied against the net cost to a subcontractor for work actually performed by the subcontractor, but on any change involving more than one subcontractor, their net costs and/or net omission shall be combined as one before consideration is given to the application of the 5% for the Contractor's overhead and profit, and, in the event the Contractor shows a net omission for the changes as it affects the work actually to be performed by him, he is permitted only the 5% applied to the amount (if any) by which the net cost to the subcontractor exceeds the net omission by the Contractor.

For work to be performed by a subcontractor the cost to the Owner may include the net cost to the subcontractor plus an allowance of an amount not to exceed 15% of the net cost for the subcontractor's overhead and profit, except that in the event that the change in work results in a net omission for the subcontractor there shall be no application of the 15% overhead and profit.

Net cost to the Contractor and/or subcontractor shall be that defined in sub-section (3) of this article, but in every case taxes imposed by law upon labor employed at the site shall be excluded; and all credits (which in the case of the Contractor shall include net omissions by the subcontractor) shall be deducted before the percentage can be applied.

For the purposes of applying the provisions of the article, the Owner will not recognize other than a direct subcontractor of the Contractor nor permit the aggregate allowance to exceed 20% as applied above, to the net cost of work performed by any subcontractor.

- (3) If no such unit prices are set forth and if the parties cannot agree upon a lump sum, then the Owner may at his option either: 1) order the work to be done and compensated for in the following manner: by the actual net cost in money to the Contractor of the materials, the wages of applied labor, insurance, taxes imposed by law on labor employed on the work, plus such rental for equipment (other than tools) required and approved for such additional work. After excluding taxes imposed by law upon labor employed on the work, the Contractor shall receive 15% of the actual net cost outlined above as compensation for all other items of profit and costs or expenses including administration, overhead, superintendent, materials used in temporary structures, allowances (including provision for overhead and profit) made by the Contractor to subcontractors, additional premiums upon performance bond of the Contractor and the use of small tools; or (2) the Owner may order that item or portion of work omitted without invalidating any of the terms thereof, and there shall be deducted from the contract price the value as estimated by the Engineer of the labor and material omitted from the contract, if any be omitted.

#### ARTICLE 41 OWNER'S RIGHT TO DO WORK

If the Contractor should neglect to prosecute the work properly or fail to perform any provision of this contract, the Owner, after five (5) days written notice to the Contractor may, without prejudice to any other remedy he may have, make good such deficiencies and may deduct the cost thereof from the payment, then or thereafter due the Contractor.

#### ARTICLE 42 PAYMENTS

Payment for the work will be made when the work outlined in the specifications is completed or in accordance with the terms stated herein. Invoices shall be prepared in prescribed form by the Contractor and shall be submitted to the Owner's Superintendent in triplicate for checking and certifications.



#### ARTICLE 48 LIENS

The final payment for the work will not be made until the Owner is satisfied that no liens have, or can be placed for material or labor on this work. If required by the Owner, waivers of liens may be required. If the Contractor, or any subcontractor refuses to furnish a release or waiver of liens, they may furnish a bond satisfactory to the Owner to indemnify the Owner against any liens.

#### ARTICLE 49 PROGRESS PAYMENTS

The CONTRACTOR may submit periodically, but not more than once each month, a Request for Payment for work done. The CONTRACTOR shall furnish the OWNER all reasonable facilities required for obtaining the necessary information relative to the progress and execution of the work.

Within fifteen (15) days of submission of any Request for Payment by the CONTRACTOR, the OWNER shall:

- a. Approve the Request for Payment as submitted, or
- b. Approve such other amount as he shall decide is due the CONTRACTOR, informing and CONTRACTOR in writing of his reasons for approving the amended amount, or
- c. Withhold the Request for Payment, informing the CONTRACTOR in writing of his reasons for withholding it.

Within thirty (30) days from the date of approval of the Request for Payment the OWNER will:

- a. Pay the Request for Payment as approved less a five percent (5%) retainage, until substantial completion of the project, at which time the retainage will be reduced to two percent (2%) until final completion.
- b. Withhold payment in whole or in part on an approved Request for Payment to the extent necessary to protect himself from loss on account of any of the following causes discovered provided he informs the CONTRACTOR in writing of his reasons for withholding payment in whole or in part:
  1. Defective work.
  2. Evidence indicating the probable filing of claims by other parties against the CONTRACTOR.

3. Failure of the CONTRACTOR to make payments to Subcontractors, material suppliers or labor.
4. Damage to another Contractor.

#### ARTICLE 50 GENERAL GUARANTEE

The Contractor shall guarantee his work for a period of one (1) year after the date of the Owner's Superintendent's final inspection and acceptance as evidenced by final payment. he shall during that period repair promptly, at his own cost and expense all breaks, failures or defects which develop in his work as a result of faulty material or workmanship. The performance bond shall remain in effect through the guarantee period.

#### ARTICLE 51 FINAL INSPECTION AND ACCEPTANCE

Upon receipt of written notice from the Contractor that his work is complete, the Owner's Superintendent will make a final inspection and will notify the Contractor of all instances in which the work fails to comply with the specifications as well as any defects which he may discover. The Contractor shall thereupon immediately rebuild, alter and restore the work so that it will comply with the specifications and he shall remedy any defects at his own cost and expense and to the satisfaction of the Owner's Superintendent. Upon the completion of such alterations or repairs the Owner's Superintendent will issue his certificate of final acceptance of work. The issuance of such certificate of final acceptance by the Owner's Superintendent shall not prevent the Owner from recovering damages at any subsequent time for work found to be actually defective.

#### ARTICLE 52 FINAL PAYMENT

The acceptance by the Contractor of payment for the final invoice, made after the Owner's Superintendent's certification of final acceptance as provided for in these General Conditions, shall release the Owner and every agent of the Owner from all further claims or liabilities to the Contractor of whatever nature, except for the remaining sum or sums of money withheld under the provisions of the contract.

#### ARTICLE 53 CORRECTION OF FAULTY WORK AFTER FINAL PAYMENT

The approval of the final Request for Payment by the Owner and the making of the final payment by the Owner to the Contractor shall NOT relieve and Contractor of the responsibility for faulty materials or workmanship. The Owner shall promptly give notice to faulty materials or workmanship and the Contractor shall promptly replace any such defects discovered within two years from the date of written acceptance of the work. The Owner shall decide all questions arising under this paragraph.

ARTICLE 54 USE OF “HE”, “HIS” OR “HIM”

Whenever in these specifications the masculine words, “he”, “his”, or “him” are used pertaining to the Contractor, Owner, Engineer or any other entity or person it shall be for brevity, and in no way is any sexual discrimination intended.

**SPECIAL CONDITIONS**

## INDEX TO SPECIAL CONDITIONS

ARTICLE	TITLE
1.	GENERAL
2.	CONTRACTOR TO CHECK DIMENSIONS AND SCHEDULES
3.	PROTECTION OF TREES
4.	SEQUENCE OF WORK
5.	STREETS AND SIDEWALKS TO BE KEPT OPEN
6.	LIGHTS, BARRIERS, WATCHMEN AND INDEMNITY
7.	NIGHT WORK
8.	BUS LINE INTERFERENCE
9.	DIFFERING SITE CONDITIONS
10.	DISPOSAL OF MATERIALS
11.	LENGTH OF TRENCH TO BE OPENED
12.	INTERFERENCE WITH EXISTING STRUCTURES
13.	FINISHING AND CLEANING UP
14.	CLEAN UP AT CONTRACTOR'S EXPENSE
15.	RIGHTS OF ACCESS
16.	EXISTING UTILITIES
17.	PLANK CROSSING
18.	CLEANING FINISHED WORK
19.	DUST CONTROL
20.	FIRE PROTECTION AND PREVENTION
21.	WORK BY OTHERS
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26.	CONTRACTOR TO LAY OUT HIS OWN WORK
27.	COOPERATION WITH UTILITIES
28.	WORK IN STATE HIGHWAY
29.	BLASTING
30.	EMERGENCY TELEPHONE NUMBERS

## ARTICLE 1 GENERAL

- (a) The Owner and the Contractor agree that the following special conditions shall apply to the work to be performed under this Contract and that such provisions shall supersede any conflicting provisions of this Contract.
- (b) The rights and remedies of the Owner provided for in these clauses are in addition to any other rights and remedies provided by law and under this Contract.

## ARTICLE 2 CONTRACTOR TO CHECK DIMENSIONS AND SCHEDULES

The Contractor will be required to check all dimensions and quantities shown on the drawings or schedules given to him by the Owner, and shall notify the Owner of all errors therein which he may discover by examining and checking the same. The Contractor shall not take advantage of any error or omissions in these specifications, drawings, or schedules. The Owner will furnish all instructions should such error or omissions be discovered, and the Contractor shall carry out such instructions as if originally specified.

## ARTICLE 3 PROTECTION OF TREES

The Contractor shall take special care to preserve and protect from injury all trees located along the lines of construction, and no such trees shall be cut down, trimmed, or otherwise cut without permission from the Owner.

## ARTICLE 4 SEQUENCE OF THE WORK

The Contractor shall be required to prosecute his work in accordance with a schedule prepared by him in advance, in accordance with additional requirements specified herein and approved by the Owner. This scheduling shall state the methods and shall forecast the times of doing each portion of the work. Before beginning any portion of the work, the Contractor shall give the Owner advance notice and ample time for making necessary preparation.

## ARTICLE 5 STREETS AND SIDEWALKS TO BE KEPT OPEN

The Contractor shall at all times keep the streets and highways in which he may be working open for pedestrian and vehicular traffic. If in the opinion of the Owner, the interest of abutters and the public requires it, the Contractor shall bridge or construct planking across trenches at street crossings and roads or private ways. The Contractor shall conduct his work in such a manner as the Owner may direct from time to time. No sidewalk shall be obstructed where it is possible to avoid it.

The Contractor shall provide all necessary fire crossings at principal intersections or ways usually traveled by fire apparatus with provisions for the apparatus so it can travel along the line of the pipe installations.

## ARTICLE 6 LIGHTS, BARRIERS, WATCHMEN, AND INDEMNITY

The Contractor shall erect and maintain such barriers, lighting, warning lights, danger warning signals, and signs that will prevent accidents during the construction work and protect the work and insure the safety of personnel and the public at all times and places; the Contractor shall indemnify and protect the Owner and the Engineer in every respect from injury or damage whatsoever caused by any act of neglect by the contractor or his subcontractors, or their servants or agents, including any claims arising out of failure to erect and maintain sufficient railing or fence as required by Section 13A-111 Connecticut General Statutes from claims or defect in violation of 12A-14q Connecticut General Statutes.

The fact that the Department of Public Works may retain control of the premises, or that it or its agents may take action to erect or maintain railings or fences shall not relieve the Contractor's obligations hereunder.

In addition to the above, when and as necessary, or when required by the Owner, the Contractor shall post sign and employ watchmen or flagmen for the direction of traffic at the site and for excluding at all times unauthorized persons from the work site.

The Contractor shall be responsible for excluding at all times from the land within the easement areas, all persons not directly connected with the work.

## ARTICLE 7 NIGHTWORK

Nightwork, or work on Saturdays, Sundays, or legal holidays requiring the presence of an engineer or inspector, will not be permitted except as designated by the Owner in case of an emergency. Should it be necessary for the Owner to operate an organization for continuous nightwork or for emergency nightwork, the lighting, safety and other facilities which are deemed necessary shall be provided by the Contractor. Compensation for this work shall be considered as having been included in the prices stipulated for the appropriate items of work as listed in the bid, and no extra compensation will be paid by the Owner.

## ARTICLE 8 BUS LINE INTERFERENCE

Whenever it may be necessary to interfere with any bus lines, notice shall be given to the corporation owning the same, and reasonable time will be given to said corporation to arrange the schedule for operation of the bus line, as it may be necessary.

## ARTICLE 9 DIFFERING SITE CONDITIONS

- (a) The Contractor shall promptly and before such conditions are disturbed, notify the Owner in writing of: (1) sub-surface or latent physical conditions at the site differing materially from those indicated in this contract, or (2) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered

- and generally recognized as inhering in work of the character provided for in this contract. The Owner shall promptly investigate the conditions, and if he finds that such conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the work under this contract, whether or not changed as a result of such conditions, an equitable adjustment shall be made and the contract modified in writing accordingly.
- (b) No claim of the Contractor under this clause shall be allowed unless the Contractor has given the notice required in (a) above; provided, however, the time prescribed therefore may be extended by the Owner.
- (c) No claim by the Contractor for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

#### ARTICLE 10 DISPOSAL OF MATERIALS

The materials used in the construction of the work, shall be disposed away from the site in such manner so that will not endanger persons or the work, and so that free access may be had at any time to all hydrants and gates in the vicinity of the work. The materials shall be kept trimmed up so that as little inconvenience as possible to the public or adjoining tenants is caused.

#### ARTICLE 11 LENGTH OF TRENCH TO BE OPENED

The length of trench opened at any time from the point where ground is being broken to complete backfill and also the amount of space in the streets or public and private lands occupied by equipment or supplies, shall not exceed the length or space considered reasonably necessary and expedient by the Owner. In determining the length of the open trench or spaces for equipment, material, and supplies and other necessities, the Owner will consider the nature of the lands or streets where work is being done, types and methods of construction and equipment being used, inconvenience to the public or to private parties, possible dangers and other matters. All work must be constructed with a minimum of inconvenience and danger to all parties concerned.

Whenever the trench obstructs pedestrians and vehicular traffic, or any public or private property, the Contractor shall take such means as is necessary to maintain such traffic and access. Until such time as the work may have attained sufficient strength to support backfill, or if for any reason it is not expedient to backfill the trench immediately, the Contractor shall construct and maintain suitable plank crossings and bridge crossings to carry essential traffic in or to the street or property in question, as specified or directed.

Suitable lights, signs, and such required items to direct traffic shall be furnished and maintained by the Contractor.

The Contractor shall keep streets free from obstructions, debris, and all other materials. The Owner may, at any time, order the removal of any such material from the work area - and should the Contractor fail to do so within 24 hours after such notice of removal of the same, the Owner may cause the material, debris, or other matter to be removed by some other such persons as he may employ, at the Contractor's expense. The cost thereof may be deducted from any payments due the Contractor under this contract. In special cases where public safety demands, the Owner may remove such materials without prior notice.

#### ARTICLE 12 INTERFERENCE WITH EXISTING STRUCTURES

Whenever it may be necessary to cross or interfere with existing culverts, drains, sewers, water pipes, fixtures, guardrails, fences, gas pipes, or other structures needing special care, due notice shall be given to the Owner, and the work shall be done according to his directions. Whenever required, all-objects shall be strengthened to meet any additional stress that the work herein specified may impose upon it, and any damage caused shall be thoroughly repaired. If so directed by the Owner, the location of any existing structure shall be changed to meet the requirements of the new work.

The Contractor shall be responsible for all broken mains or utilities encountered during the progress of the work and shall repair and be responsible for correcting all damages to the Owner. The Contractor shall contact the proper utility or authority to correct or make any changes due to utilities or other obstructions during the Project but the entire responsibility and expense shall be with the Contractor.

All damaged items of work or items required to be removed and replaced due to construction shall be replaced or repaired by the Contractor to the complete satisfaction of the property Owner and/or the Owner, and at no additional expense to the Owner.

#### ARTICLE 13 FINISHING AND CLEANING UP

In completing his operations, the Contractor shall immediately remove all surplus material, tools, and other property belonging to him, leaving the entire street or surroundings free and clean and in good order, at no additional expense to the Owner. The Contractor shall exercise special care in keeping the rights-of-way and private lands upon which work is performed free and clean of all debris, and shall remove all tools and other property when they are not in use.

#### ARTICLE 14 CLEAN UP AT THE CONTRACTOR'S EXPENSE

In case the Contractor fails or neglects to promptly remove all surplus materials, tools, and incidentals after backfilling, leaving the street or surrounding area clean and free of debris, and do the required repaving when ordered, the Owner may, after 24 hours notice, cause the work to be done and the cost thereof deducted from any payment due to the Contractor.

#### ARTICLE 15 RIGHTS OF ACCESS

Nothing herein contained or shown on the drawings shall be construed as giving the Contractor exclusive occupancy of the work area. The Owner or any other contractors employed by him, the various utility companies, - contractors or subcontractors employed by State or Federal agencies, or any other agencies involved in the general- project or upon public rights-of-way, may enter upon or cross the area of work or occupy portions of the area as is directed or necessary. When the territory of one contract is the convenient means of access to the other, the Contractor shall arrange his work in such a manner as to permit such access to the other and prevent unnecessary delay to the work as a whole.

#### ARTICLE 16 EXISTING UTILITIES OR CONNECTIONS

The location of existing underground pipes, conduits, and structures as shown has been collected from the best available sources and the Owner together with his agents, does not imply or guarantee the data and information in connection with underground pipes, conduits, structures, and such other parts, as to their completeness, nor their locations as indicated. The contractor shall assume that there are existing water, gas, and other utility connections to each and every building enroute, whether they appear on the drawings or not. Any expense and/or delay occasioned by utilities and structures or damage thereto, including those not shown, shall be the responsibility of the Contractor, at no additional expense to the Owner.

Before proceeding with construction operations, the Contractor shall make such supplemental investigations, including exploratory excavations by hand digging, as he deems necessary to uncover and determine the exact locations of utilities and structures and shall have no claims for damages due to encountering subsurface structures or utilities in locations other than those shown on the drawings, or which are made known to the Contractor prior to construction operations. The Contractor shall be responsible and liable for all damages to existing utilities and structures.

#### ARTICLE 17 PLANK CROSSINGS

As required or directed by the Owner, the Contractor shall install in selected locations suitable plank crossings, substantially built and reinforced to sustain vehicular traffic across excavations. No separate payment will be made for this work, the cost of which shall be included in the prices stipulated for the appropriate items in the work as listed in the bid.

#### ARTICLE 18 CLEANING FINISHED WORK

After the work is completed, the pipes, manholes, and structures shall be carefully cleaned free of debris and dirt, broken masonry, and mortar, and left in first class condition, ready to use. All temporary or excess materials shall be disposed of off-site and the work left broom clean, to the satisfaction of the Owner.

#### ARTICLE 19 DUST CONTROL

The Contractor shall exercise every precaution and means to prevent and control dust arising out of all construction operations from becoming a nuisance to abutting property owners or surrounding neighborhoods. Pavements adjoining the pipe trench shall be kept' broomed off and washed clean of excess materials wherever and whenever directed. Repeated daily dust control treatment shall be provided to satisfactorily prevent the spread of dust until permanent pavement repairs are made and until earth stockpiles have been removed, and all construction operations that might cause dust have been completed. No extra payment will be made for dust control measures, compensation shall be considered to be included in the prices stipulated for the appropriate items as listed in the bid.

#### ARTICLE 20 FIRE PREVENTION AND PROTECTION

All State and municipal rules and regulations with respect to fire prevention, fire-resistant construction, and fire protection shall be strictly adhered to and all work and facilities necessary therefor shall be provided and maintained by the Contractor in an approved manner.

All fire protection equipment such as water tanks, hoses, pumps, extinguishers, and other materials, and apparatus, shall be provided for the protection of the contract work, temporary work, and adjacent property. Trained personnel experienced in the operation of all fire protection equipment and apparatus shall be available on the site whenever work is in progress, and at such other times as may be necessary for the safety of the public and the work.

#### ARTICLE 21 WORK BY OTHERS

The Owner reserves the right to do any other work which may be connected with, or become a part of, or be adjacent to the work embraced by this contract, at any time, by contract or otherwise. The Contractor shall not interfere with the work of such others as the Owner may employ, and shall execute his own work in such a manner as to aid in the execution of the work of others as may be required. No backfilling of trenches or excavations will be permitted until such work by the Owner is completed.

#### ARTICLE 22 FIRE AND POLICE NOTIFICATION

If it becomes necessary at any time to temporarily barricade a street or cause detours to be put up, or rerouting of traffic, the Fire and Police Departments, SEAT, Board of Education, and American Ambulance shall be notified by the Contractor, and their consent obtained before any such action is initiated.

#### ARTICLE 23 TEMPORARY POWER

The Contractor shall make all the necessary arrangements with the power company for providing temporary electric power for his use. All unauthorized sources of power, such as from neighboring homes, shall be prohibited.

#### ARTICLE 24 FAILURE TO REPAIR

Any emergency arising from the interruption of electric, gas, water, telephone, sewer and cable service due to the activities of the Contractor, shall be repaired by the Contractor as quickly as is possible.

If and when, in the opinion of the Owner, the Contractor is not initiating repair work as expeditiously as possible upon notification to do so, the Owner may, at his own option, make the necessary repairs using his own forces or those of others. The cost of such repairs shall be subtracted from the payments due to the Contractor.

#### ARTICLE 25 TRAFFIC CONTROL

- A. The Contractor shall schedule and perform his work so as to cause minimum interference to traffic and to safeguard all highways and traffic therein, and to cause absolutely no interference to fire and emergency vehicles. Construction equipment and materials shall be located as to not endanger the work or obstruct traffic.
- B. Every reasonable means shall be made to reduce, to a minimum, interference with and inconvenience to business concerns on account of the construction work.
- C. The Contractor shall provide and maintain all signs, barricades, and traffic control equipment that may be required for the satisfactory performance of providing traffic control.

#### ARTICLE 26 CONTRACTOR TO LAY OUT HIS OWN WORK

The Owner will establish such general reference points as in his judgment will enable the Contractor to proceed with the work. The Contractor, at his own expense, shall provide all materials and equipment and such qualified helpers as the Owner may require for setting the general reference points and shall protect and preserve all stakes, benches, and other markers used to identify the reference points. The Contractor shall lay out all the Contract work from the above and shall be responsible for the accuracy of all lines, grades, and measurements. He will be required to employ at no extra expense to the Owner, a Connecticut registered land surveyor or registered professional engineer who shall perform all layout work for the construction of the Contract work, including all lines, grades, and measurements.

ARTICLE 27 - COOPERATION WITH UTILITIES

The Contractor shall coordinate his operations with the Owners of all underground or overhead utility lines within the project area.

The Contractor shall be liable for all damages or claims received or sustained by any persons, corporations or property in consequence of damage to the existing utilities, their appurtenances, or other facilities caused directly or indirectly by the operations of the Contractor.

ARTICLE 28 - WORK IN STATE HIGHWAY

Not Applicable

ARTICLE 29 - BLASTING

Blasting shall not be permitted as part of this project.

ARTICLE 30 - EMERGENCY TELEPHONE NUMBER

The CONTRACTOR is required to provide the OWNER with a telephone number which can be used during emergencies, 24 hours per day, seven days per week, to reach the CONTRACTOR.

# TECHNICAL SPECIFICATIONS

## INDEX TO TECHNICAL SPECIFICATIONS

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Section 33210	Water Supply Well
Section 40100	Precast Concrete Building

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

- A. The Drawings and general provisions of the Contract, including General and Special Conditions, apply to this Section.

### 1.2 DEFINITIONS

- A. Form 816 refers to "State of Connecticut, Department of Transportation, State Highway Department, Standard Specifications for Roads, Bridges, and Incidental Construction – Supplemented Form 816, July 2015" and all supplements and amendments thereto. The word "Engineer" appearing in Form 816 shall be construed to mean Architect or Engineer. Articles dealing with Method of Measurement and Basis of Payment are inapplicable to this Contract.
- B. AASHTO means the latest standards and supplements thereto of the American Association of State Highway and Transportation Officials.
- C. ASTM means the latest standards and supplements thereto of the American society of Testing and Materials.
- D. ANSI means the latest standards and supplements thereto of the American National Standards Institute.
- E. ENGINEER refers to the designated representative of the Owner.

### 1.3 ORDER OF CONSTRUCTION

- A. Adapt all site work to the progress and order of construction of the work under this Contract. Carry out each section of work in such an order as the Engineer may direct.
- B. Schedule work to install any sub-surface site work before beginning the sub-grades for paved areas.
- C. Submit schedule for review and acceptance by the Engineer and Owner.

### 1.4 SPECIAL REQUIREMENTS

- A. Verify and confirm all existing conditions and location of underground utilities in the field. No claim for extra compensation or for an extension of time will be allowed due to conditions inconsistent with the drawings and specification.

- B. Restore any and all areas outside the contract limit lines that are disturbed during the progress of work as directed by the Engineer at the Contractor's expense.
- C. Maintain existing roads passable for vehicles at all times. Access into the site is required by the Owner and shall be maintained by the Contractor.
- D. Construction Phasing Diagrams: The Contractor will provide construction phasing diagrams for proper execution of site work for approval by the Owner and Engineer. Contractor shall strictly follow the phasing diagrams.
- E. All erosion and sedimentation control shall conform to "Connecticut Guidelines for Soil Erosion and Sediment Control;" by the Connecticut Council on Soil and Water Conservation, 2002.
- F. Maintain access for emergency services to all parts of the site at all times.
- G. Protect all streets, roads and sidewalks and maintain reasonably clear of dirt or other debris that is due to construction. Apply water as necessary for dust control.
- H. Warning: Contact "Call Before You Dig" at 811 at least 48 hours before any digging.
- I. Coordinate work with the other Contractors onsite for other construction. Cooperate with such Contractor to ensure the steady progress of all work.
- J. Contractor to layout locations, lines, and grades of all site work using established permanent benchmarks. Maintain and protect established bounds and benchmarks and replace any which are destroyed or disturbed.
- K. In the event the Owner, or the Owner and the Contractor jointly are required to obtain any permits the Contractor shall familiarize himself with the conditions of said permits and shall be held to comply with all requirements of the permits and all specifications attached thereto, as if the permits were held solely by the Contractor.
- L. Whenever inspection, flagmen or other costs are incurred as a condition to the obtaining of permits, the Contractor shall be responsible for payment of said expenses. These costs shall be assumed to be included in the Contract unit prices.

#### 1.5 EXAMINATION OF SITE

- A. Data contained in Contract Documents (site survey, elevations, etc.) represents the best information available. There is no guarantee, implied or otherwise, as to the accuracy or completeness of the information shown. Contractor shall be constantly on the alert for unknown, abandoned or miss-located utilities and for changing soil or subsurface conditions.

- B. Prior to the start of construction the Contractor shall contact “Call Before You Dig” at 811, to locate and mark the existing underground utilities in the work area
- C. The Contractor shall examine carefully the site at which the work is to be performed, to satisfy himself as to the conditions to be encountered in the execution of the work.
- D. Any conditions at the site of the contemplated work which are obvious and apparent upon examination of the site which were not indicated on the plans, but which the performance of the work called for by the plans and specifications would require the removal or correction thereof, shall be removed or corrected by the Contractor at no additional cost to the Owner.

## 1.6 PROTECTION

- A. The Contractor shall execute the operations under his division in such a manner that no damage or injury occurs to the public, adjoining and adjacent property, structures, streets, paving, sewers, water, electric and any other pipes, mains, conduits, overhead or underground lines, utility and any and all property. Should any damage or injury be caused by the Contractor or by work under this contract, he shall make good such damage and assume all financial and other responsibility for injury. Damaged streets or paving excludes that necessary for installing new pipelines; however, such required damage shall be restored to the original condition existing before commencement of work under this contract.
- B. The above shall also include the protection of all existing water mains, fire lines, utility poles, sanitary and storm sewers, culverts, and all other existing underground utilities which will remain in use within the boundary of the site and work areas.
- C. Monuments, benchmarks and other reference features shall be protected. Should these be disturbed in any manner, they shall be replaced, but only in accordance with the written instructions of the Owner’s representative.

END OF SECTION

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

- A. The Drawings and general provisions of the Contract, including General and Supplementary Conditions, and General Requirements apply to work specified in this Section.

### 1.2 DESCRIPTION OF WORK

- A. Work Included: Providing all site preparation as shown on the Drawings, and as specified, including, but not limited to the following:
  - 1. Installation and maintenance of construction fence and tree protection fence and removal when no longer required.
  - 2. Protection of existing trees designated to remain.
  - 3. Clearing and grubbing turf, trees and shrubs designated to be removed.
  - 4. Selective clearing and thinning.
  - 5. Stripping and stockpiling existing topsoil.
  - 6. Demolition and Debris removal.
  - 7. Furnish and install temporary and permanent erosion and sedimentation control measures and anti-tracking pad/construction entrance.

### 1.3 JOB CONDITIONS

- A. Peripheral: areas outside of the work area shall not be disturbed or used for storing materials.
- B. Any Damage: to existing plant material or other improvements is the responsibility of the Contractor and shall be repaired or replaced immediately.
- C. Topsoil Stockpile Area: must be approved by the Owner prior to placement of topsoil stockpiles.

## PART 2 - PRODUCTS

### 2.1 FILTER BARRIERS

- A. Filter fabric fence shall conform to the requirements of the Form 816, Section 7.55.02. Silt fence: Fabric sedimentation barrier of "Silt Fence with Belt" manufactured by Mirafi, Inc., P.O. Box 240967, Charlotte, North Carolina or equal approved by the Engineer.

- B. Hay bales shall conform to the requirements of Form 816, Article 2.18.02. Hay bales of standard size; hay or straw, having no loose or decomposed baling twine. Stakes shall be 2 inches x 3 feet-0 inches long, pointed on one end.

## 2.2 FILTER FABRIC

- A. Filter fabric shall conform to section 7.55.02 of Form 816.

## 2.3 CRUSHED STONE

- A. Crushed stone for anti-tracking pads, berms, check dams, hay bale de-watering areas and other erosion and sedimentation control measures shall conform to section M.02.01-1 of Form 816.

## 2.4 SLOPE STABILIZATION

- A. Slope Stabilization Matting shall be North American Green Bionet C125BN or equal approved by the Engineer.

## 2.5 TREE PROTECTION FENCE

- A. Shall be: 4'-0" high 'Safety Barricade' fencing, model UX4050 as manufactured by Tensar Corporation, Morrow, GA, and distributed by Contech Construction Products, Cheshire, CT or approved equal.

1. Color: Orange, height 4'-0"
2. Top tension rope: 3/8" braided nylon/polypropylene rope.
3. Posts: Heavy gauge steel posts 6'0" long, suitable for driving.

## 2.6 CONSTRUCTION OR TEMPORARY FENCE

- A. Shall be: 4'-0" high 'Safety Barricade' fenceing, model UX4050 as manufactured by Tensar Corporation, Morrow, GA, and distributed by Contech Construction Products, Cheshire, CT or approved equal.

1. Color: Orange, height 4'-0"
2. Top tension rope: 3/8" braided nylon/polypropylene rope.
3. Use temporary supports to anchor fence – to be reviewed and approved by the Owner or Engineer.

## PART 3 - EXECUTION

### 3.1 EROSION AND SEDIMENTATION CONTROL

- A. Before construction begins, install silt fence sedimentation barrier, hay bales, stone berms and check dams and wood chip berms where shown on the drawings, around drainage structures, and as required by field conditions, or Local Authorities.
- B. Conform to details on the drawings for silt fence sedimentation barrier: use stakes supplied by the fence manufacturer; follow installation instructions. Hay bales shall be held in place by minimum 2 stakes driven through each bale.
- C. Maintain by restaking, adjustment or replacement, as required. Remove excessive buildup of silt.
- D. Before construction begins, provide anti-tracking pad/construction entrance where shown on the drawings.
- E. Remove and replace anti-tracking pad if contaminated.
- F. Provide water bars on excavated travel ways as shown on the plans.
- G. Provide stone check dams and inlet sedimentation control devices at all catch basin inlets.
- H. Provide hay bale check dams at culvert outlets and within grass swales as shown on the plans.
- I. Provide de-watering area as shown on the plans for any necessary de-watering activities.
- J. Provide slope stabilization matting where shown or specified on the plans.
- K. Conform to "Connecticut Guidelines for Soil Erosion and Sediment Control," by the Connecticut Council on Soil and Water Conservation, 2002.
- L. Erosion and sedimentation control measures to be maintained until final landscaping has been established, the site is stabilized, and approval granted by the Owner and Engineer.
- M. Remove and dispose of siltation control materials legally, off-site after site stabilization and no further chance for any erosion.

### 3.2 CONSTRUCTION FENCE/TREE PROTECTION FENCE

- A. Review all limits of fencing, sedimentation control and other construction barriers with the Owner's Representative prior to installation.
- B. Install tree protection fencing around all trees to remain and as indicated on the drawings.
  - 1. Post Burial Depth: 2,0" so that the top of fence is flush with post. Space posts 6'0" on center.
  - 2. Fencing fabric: shall be attached to posts as per the manufacturer's recommendations. Provide top tension line and weave through the top edge of fence fabric. Secure to terminal posts. Maintain until completion of work.
- C. Install construction fence as shown on the drawings.
- D. Maintain, restore and repair all fencing until removal.
- E. Do not remove any fencing until the completion of the Contract or as approved.

### 3.3 PROTECTION OF THE EXISTING SHRUBS/TREES

- A. General: Protect all existing trees and shrubs designated to remain unless the Owner's representative evaluates in the field for tree to be removed.
- B. Repair immediately any damage done to tree crowns or root systems.
  - 1. Cutting shall be performed by a licensed arborist approved by the Owner and Engineer.

### 3.4 CLEARING AND GRUBBING

- A. General: Remove all trees and shrubs in areas of construction as designated on the drawings including cutting, grubbing, removing and disposing of trees, brush, stumps, roots and rubbish. Drawings indicate trees to be removed and approximate limits of existing vegetation to remain.
- B. Conform with Article 2.01.03 of CTDOT form 816.
- C. No burying of materials on-site is permitted. Remove and legally dispose of all cleared and chipped materials off-site. Remove stumps to a depth of 24" below graded surface only where grubbing operations are permitted. Typical limit of clearing is the limit of grading/edge of sedimentation system, Do not conduct and activities/disturbance outside of the designated construction area without specific approval of the Owner's representative. Remove designated miscellaneous improvements/items as noted. Treat all flush cut stumps with stump treatment in

accordance with the manufacturer's recommendations immediately after cutting with suitable spray equipment. Avoid overspray onto adjacent surfaces or remaining vegetation.

### 3.5 SELECTIVE CLEARING AND THINNING

- A. Comply with Article 9.52.03 of CTDOT Form 816.
- B. Selectively prune designated branches and limbs on all remaining vegetation. Remove poorly formed, diseased, crossing and overlapping branches as designated. All selective clearing work to be performed by a certified Arborist licensed in the State of Connecticut. Remove and dispose of all material off-site in a satisfactory manner. All work shall conform to National Arborist Association Class II Standards.
- C. Eradicate all poison ivy within the limits of work.
- D. Remove existing pavements, walls, curbing, and foundations, as shown on the drawings. Protect stone walls, foundations, ruins, and other existing improvements that are scheduled to remain or are outside of outside of the work area.
- E. All trees scheduled to be removed shall be visibly flagged by the Contractor at least five days prior to the cutting of such trees.
- F. The Owner's representative will inspect the identified trees and verify the limits of clearing and thinning prior to the Contractor proceeding with his cutting operation.
- G. Selectively clear and prune branches as required to install improvements adjacent to existing vegetation.

### 3.6 STRIPPING AND STOCKPILING TOPSOIL

- A. General: Topsoil is defined as friable loam surface soil. Satisfactory topsoil is reasonably free of subsoil, clay lumps, stones, and other objects over 2" in diameter, and without weed, roots and other objectionable material as defined by Article M13.01 of form 816.
- B. Strip topsoil in a manner to prevent intermingling with the underlying subsoil, demolition debris, or other objectionable material.
  - 1. Prepare the areas of existing loam so as to provide clump free topsoil. Use a sod cutting rototiller, screen the topsoil, or use another method as approved.
  - 2. Where trees are indicated to be left standing, hold topsoil stripping a sufficient distance away to prevent damage to the root system.

- C. Stockpile topsoil in storage piles constructed to freely drain surface water, as approved by the Owner's representative.
- D. Topsoil stockpiles shall be immediately seeded as outlined on the plans to prevent erosion.
- E. Upon completion of the project: any excess topsoil, if present, shall be removed and disposed of offsite by the Contractor

### 3.7 REVERSE TILLING SOIL

- A. Existing site soils shall be reverse tilled to a minimum depth of 12”.
- B. Reverse-till rotary tiller shall have sufficient horse power, weight, and tine design to function at the required depth.
- C. The reverse tilling operation shall leave behind no clay clumps or root balls in excess of 2” in diameter. Multiple passes with the reverse tiller may be required to accomplish the required gradation.

### 3.8 DEMOLITION AND DEBRIS REMOVAL

- A. Remove all downed trees, tree branches, litter, river flotsam, and all other miscellaneous debris from the ground surface within the work area.
- B. Remove and dispose of all wood posts, landscape appurtenances, or other products and materials called out on the plans to be removed or demolished.
- C. All material or debris to be removed or demolished shall be removed and disposed of legally offsite.

### 3.9 DISPOSAL

- A. All cleared and grubbed material, existing improvements designated for removal and disposal, debris removed, remain the property of the Contractor and shall be disposed of legally off-site by the Contractor.
- B. No burning or burying on-site will be allowed.

END OF SECTION

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

- A. The Drawings and general provisions of the Contract, including General and Supplementary Conditions, and General Requirements apply to work specified in this Section.

### 1.2 SECTION INCLUDES

- A. Site earthwork as shown on the Drawings and as specified herein shall include, but is not necessarily limited to, the following:
  - 1. Site grading, filling and compacting to the indicated elevations and contours, including general excavations and backfilling site improvements.
  - 2. Provide satisfactory fill materials as required to achieve indicated finished grade.
  - 3. Remove all excess and unsuitable material.
  - 4. Subgrade preparation and compaction.
  - 5. Provide controlled fill under pavements, structures and other improvements as detailed.

### 1.3 SUBMITTALS

- A. Certified sieve/mechanical analysis are required to be provided by the Contractor of all off-site borrow materials and of any on-site materials proposed for use as controlled fill. Analysis shall include 200 sieve hydrometer wash as per ASTM D422 to isolate specific percentages of any silt and clay.
- B. Compaction test results.

### 1.4 QUALITY ASSURANCE

- A. Standards: as defined in State of Connecticut, Department of Transportation Standard Specifications Form 816 (DOT 816).
- B. Any materials which do not meet the description for Fill Materials shall not be used as fill, and shall be disposed of legally off-site, or as directed by the Owner's Representative.

### 1.5 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Keep different types of fill and excavation materials well separated to insure proper positioning of various materials.

## 1.6 PROJECT CONDITIONS

- A. Dust Control: Use water or other approved means necessary to control dust on and near the construction areas caused by the Contractor's performance of work. **The use of calcium chloride for dust control shall be prohibited.**
- B. Protect all existing improvements, utilities, and pavements designated to remain.
- C. Call Before You Dig: Contractor shall contact Call Before You Dig at 811 prior to commencing any earthwork operations.
- D. Protect excavations by shoring, sheeting, bracing, underpinning, pumping or other methods as required to prevent cave-ins or loose dirt from entering excavations. Barricade excavation. Post warning lights at work adjacent to public streets and walks. Adhere to all applicable laws and regulations.
- E. The Contractor shall acquaint himself with the located utilities. Protect all utilities designated to remain within the area of work. Any damage to existing facilities by reason of his performance of the work under this contract will be his responsibility and repaired at his expense in conformance with the applicable utility company, municipal and state requirements. Maintain existing systems in operation as required during installation of new work.
- F. Protect All Benchmarks, monuments, and property boundary markers. Replace if destroyed by the Contractor's operations.
- G. Do not proceed with any rock excavation until authorized by the Owner. Rock is defined herein as boulders measuring 2.0 cubic yards or more in volume; solid rock, ledge rock or rock hard cementitious deposits that require blasting or rippers to break up, prior to its removal when encountered within the limits of excavation. Any parts of stone, brick or concrete pavements and parts of cemented or masonry structures measuring 2.0 cubic yards or more that require blasting for removal will be included as rock when encountered within the limits of excavation.

## PART 2 - PRODUCTS

- 2.1 CONTROLLED FILL: 3/8-inch crushed stone or granular material conforming to CTDOT Form 816, Section M.02 and the following gradation:

<u>Square Mesh Sieve</u>	<u>% Passing (by Weight)</u>
3½ - inch	100
¾ - inch	50-100
No. 4	25-75

The fraction passing the No. 4 sieve shall have less than 15% passing the No. 200 sieve

- 2.2 GENERAL FILL: Material used for general filling outside of limits of pavement, structures, and other improvements shall be approved material, obtained from off-site sources or from on-site excavation. General fill material shall be clean, free of clay and organic material and capable of achieving the specified compaction.
- 2.3 BORROW: Borrow used for the formation of embankments shall conform to CTDOT Form 816, Section 2.07 and Article 2.02.03 for performance.
- 2.4 TRENCH BEDDING AND BACKFILL MATERIALS: Conform to the requirements of the individual utility specification and the details shown on the Contract Drawings.
- 2.5 CRUSHED STONE: 3/8" crushed stone, conforming to CTDOT Form 816, M.03.01-1, gradation No. 8.

## PART 3 - EXECUTION

### 3.1 GENERAL

- A. Make site excavation and fill operations to the lines and grades indicated on the plans and conduct the work so as to cause a minimum disturbance to adjacent areas.
- B. Do not fill when earth is frozen or in wet condition. Do not excavate to full depth in freezing temperature unless structures or footings are immediately installed.
- C. Areas to be filled shall be free of water, debris, refuse and compressible or decayable materials. Before placing any fill remove all topsoil, loose silty soils, existing fills, structures and all organic, excessively wet and other unsuitable materials.
- D. Provide a minimum 6-inch layer of 3/8" crushed stone capillary barrier as an initial layer over wet subgrades. The stone shall be compacted by 5 passes of a vibratory compactor with a static weight of at least 2 tons and a minimum dynamic force of 4 tons.

### 3.2 DEWATERING

- A. Provide all required channeling, piping and pumping necessary to keep excavated areas clear of standing water. Maintain site drainage at all times.
- B. Direct outfall to temporary settling basins. Prevent erosion or siltation of adjacent areas. Conform to Erosion and Sedimentation Control requirements.
- C. At the completion of dewatering activities, remove temporary facilities and restore any damaged areas.

### 3.3 COMPACTION REQUIREMENTS

- A. In fill areas, compact subsoil to at least 93% of modified optimum density.
- B. Compact all backfill and controlled fill beneath structures and under pavements to at least 95% modified optimum density in accordance with ASTM D-1557.
- C. Compact fill 2.5-feet or more below finished landscape area grades to at least 90% modified optimum density.
- D. Compact processed stone bases to at least 97% of the modified optimum density.
- E. Compact bituminous concrete to at least 94% of the Marshall Value.

### 3.4 PREPARATION FOR PAVEMENTS AND STRUCTURES IN EARTH CUTS OR FILLS

- A. Clear and grub in undisturbed areas.
- B. Remove topsoil, organic deposits and existing fills from beneath fill areas.
- C. Compact natural subgrade surface to at least 93% of modified optimum density. Remove subsoil which cannot be compacted to achieve this density.
- D. Remove wet subsoils to permit acceptable compaction of fills. Provide capillary water barrier.
- E. Provide 12-inch minimum subbase consisting of controlled fill or class A material.

### 3.6 SUBGRADE PREPARATION

- A. Prepare the subgrade by removing all unsuitable material and backfilling with controlled fill.

- B. After compacting, the subgrade shall be true to the required line and grade. Maintain the subgrade surface to permit proper drainage. Protect the completed subgrade from damage.
- C. Subgrade must be approved by the Owner and Engineer prior to the application of any pavement base materials.
- D. Preparation of subgrades for lawns is specified in Section 02920.

### 3.7 EMBANKMENT FORMATION

- A. The formation of embankments shall conform to the requirements of Article 2.02.03 of DOT From 816.
- B. The prepared foundation for embankments shall be carefully shaped to the required cross-section and compacted as specified.
- C. Embankments shall be formed using controlled fill.
- D. The embankment materials shall be spread uniformly upon the required grade, in courses not to exceed the specified thickness after compaction. Embankment formation shall extend horizontally outside pavements and structures for a distance equal to at least the depth of the fill.
- E. After each course has been placed, its entire area shall be compacted with equipment specifically manufactured for that purpose. Compaction shall be continued until the entire course is uniformly compacted to not less than 95% of the dry density for that material when tested in accordance with ASTM D-1557.
- F. Each layer shall be compacted at optimum moisture content. No subsequent layer shall be placed until the specified compaction is obtained for the previous layer.
- G. Embankment formation to at least 3-feet below proposed finished pavement grades shall be controlled fill; compacted layers not exceeding 10-inches and compacted to at least 95% of the modified optimum density.
- H. During wet periods, provide an initial 4-inch deep layer of 3/8-inch crushed stone on the natural subgrade beneath class B material.
- I. The existing on-site soils must be placed in layers of 10-inches or less and compacted to at least 95% of the modified optimum density. This may be used in embankments at 3-feet or more below finished grade.

### 3.8 TRENCH EXCAVATION AND BACKFILLING

- A. Unless otherwise specified, conform to CTDOT Form 816, Article 2.05.03 and Article 10.01.03, as applicable.
- B. Trench to the minimum width necessary for proper installation of the utility, with sides as nearly vertical as possible. Accurately grade the bottom to provide uniform bearing for the utility.
- C. Provide bedding as required.

### 3.9 ROCK EXCAVATION

- A. Remove and legally dispose of, or crush on-site, rock if encountered, as defined below when encountered.
  - 1. All solid rock, pavements, or structures that require breaking by hand power tools (jackhammers, etc.) prior to removal.
  - 2. Boulders, pavements, or structures measuring 2 cubic yard or more that require breaking for removal.
- B. Blasting shall not be permitted.
- C. Excavate rock within the following limits. No payment will be made for rock removal beyond these lines.
  - 1. 1 foot-0 inches beyond face of structures and footings, in a vertical a mane as is safe against collapse.
  - 2. 6 inches below bottom of structures and footings.
  - 3. 2 feet-6 inches below finished pavement grades.

### 3.10 DISPOSAL OF EXCESS OR UNSUITABLE MATERIALS

- A. Excess excavation and unsuitable materials shall be legally disposed of off-site by the Contractor. Remove from the site as work progresses. Do not store excess excavation material or permit debris to accumulate on-site.
- B. Remove from the site and dispose of legally all material unsuitable for fill or backfill, unless otherwise specified or directed by the Owner's Representative.

### 3.11 TESTING AND INSPECTION

- A. Compaction testing: The Owner will employ and pay for independent testing laboratory services to perform compaction testing of subgrades, fills and granular materials.

1. Notify the Owner and Laboratory 24 hours prior to the expected time for operations requiring inspection and testing services. Schedule compaction tests for every 4,000 square feet of fills placed 2' deep. (Approximately one test per every 300 cubic yards placed.) If tests indicate that required densities have not been achieved, continue compacting. All retesting in these areas shall be paid for by the Contractor.
  2. Any additional Quality Assurance testing is the prerogative of the owner.
- B. The Contractor shall provide the Owner with sieve analysis of all fill materials brought on-site, and for on-site materials used as fill.

END OF SECTION

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

- A. The Drawings and general provisions of the Contract, including General and Supplementary Conditions, and General Requirements apply to work specified in this Section.

### 1.2 SECTION INCLUDES

- A. Trench excavation and backfill shall include, but is not necessarily limited to, the following:
  - 1. Layout and stake proposed work and set required elevations.
  - 2. Trench excavation, bedding and backfill necessary to install site drainage, structures and other improvements.
  - 3. Remove excavated material unsuitable for fill or backfill for trenches and any excess trench material with legal disposal on site or offsite.

### 1.3 SUBMITTALS

- A. Analysis from approved independent testing laboratory showing that bedding materials, processed aggregate, gravel and stone and aggregate materials comply with specified requirements.
- B. Compaction test results.

### 1.4 DEFINITIONS

- A. Subgrade: The undisturbed earth or the compacted soil layer immediately below granular subbase, drainage fill, or topsoil materials.
- B. Structure: Buildings, foundations, slabs, tanks, curbs, or other man-made stationary features occurring above or below ground surface.
- C. Earth excavation: The removal of all materials other than "rock".
- D. Rock: A boulder of 2 cubic yards or more in volume and rock in definite ledge formation, the removal of which requires the use of mechanical equipment. Rock removed by scarification or ripping method is considered as a separate classification.
- E. Original grade: The grade, which exists at the time of the Contract award.

- F. Rough grade: The completed surface of required excavations greater than 13' in width.
- G. Trench excavation: The removal of material from areas 13 feet or less in its minimal horizontal dimensions and below the elevation of rough grade or original grade, whichever is lower.
- H. "State Specifications": Shall mean "State of Connecticut D.O.T. Standard Specifications for Roads, Bridges and Incidental Construction", Form 816, July 2010, including all supplements and revisions.

## 1.5 PROTECTION

- A. Protect excavations by shoring, bracing, sheet piling, underpinning, or other methods necessary to prevent cave-in or loose soil from falling into excavation. Shoring and bracing shall be entirely independent of footings and foundations and shall not thrust against any portion of the structure.
- B. Underpin adjacent structures that may be damaged by excavation work, including service utilities and pipe chases.
- C. Notify Engineer of unexpected subsurface conditions and discontinue effected work in area until condition is resolved.
- D. Protect bottom of excavations and soil adjacent to and beneath foundations and bottom of trenches against freezing when atmospheric temperature is less than 35 degrees F.
- E. Do not allow water to accumulate in excavations. Remove water to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to stability of subgrades and foundations. Provide and maintain pumps, well points, sumps, suction and discharge lines, and other de-watering system components necessary to convey water away from excavations.

## 1.6 FIELD INSPECTION AND TESTING

- A. The Contractor will retain and pay for an independent soil laboratory to perform inspection and testing of fill and other soil products as deemed necessary.
- B. Work required to correct faulty operation shall be at the Contractor's expense. Retesting will be by the Contractor, and the Contractor shall pay costs.

## PART 2 - PRODUCTS

### 2.1 BACKFILL

- A. Provide material free of organic or perishable material and without stones larger than 3 1/2 inches, with less than 10% by weight passing a No. 200 sieve.
- B. Do not backfill with material, which does not meet the above requirements. Furnish and satisfactorily place material conforming to "Borrow" Section 2.07.01 and 2.07.02 of Form 816.

### 2.2 SAND BEDDING

- A. Sand bedding shall consist of sand or sandy soil, all of which passes a 3/8 inch sieve, and not more than 10% of which passes a No. 200 sieve. Existing material may be used if it complies.

### 2.3 STONE BEDDING

- A. Stone bedding shall conform to section M.02.02-2 of Form 816, 3/4 inch size.

### 2.4 FILTER FABRIC

- A. Filter fabric shall conform to section M.08.01-26 of Form 816.

### 2.5 GRAVEL FILL

- A. Gravel fill shall conform to section M.02.01 and requirements of material grading A as defined in M.02.06 of Form 816.

## PART 3 - EXECUTION

### 3.1 ENGINEERING AND SURVEY WORK

- A. Contractor to layout all work shown on drawings. Furnish all engineering services required. Provide a registered engineer or licensed surveyor to lay out the initial stakes. Maintain and protect or replace stakes as required. Stake the proposed entrance drives, parking areas, and set finish elevations. Tie in control points so as to permit any portion of the layout to be reestablished without a complete survey.

### 3.2 TRENCH EARTH EXCAVATION AND BACKFILL

- A. Excavate pipes 2 feet beyond the inside diameter. Excavate structures to the widths and depths shown on drawings or as specified. Keep sides as vertical as practical. Comply with State, town and local specifications
- B. Furnish all shoring and bracing necessary for the completion of the work. Keep excavations dry. Do not excavate to full depth in freezing temperature unless pipes, structures, and footings are installed immediately. Where accidental excavations cause material removal below the required grade for proposed pipes and structures, backfill with gravel fill up to the required grade.
- C. Provide storm drainage trenches with continuous slope in direction of flow.
- D. Bedding shall be sand, sandy soil or gravel fill unless otherwise shown on the drawings. Construction methods for bedding and backfilling shall conform to Section 6.51.03 of Form 816.
- E. Backfill in layers not exceeding 12 inches in depth. Conform to Section 2.05.03 of Form 816. Do not backfill against any pipe, structure or footing until permission is given by the Engineer.
- F. Compact to 95% Modified AASHTO laboratory density (ASTM D-1557, Method C.)
- G. If pipes or structures are over fill areas, fill 12 inches higher than the top and compact to density required. Trench to required elevation. Extend fill and compaction at least 2 feet laterally on both sides of proposed pipe or structure

### 3.3 EXCAVATION PROTECTION AND MAINTENANCE

- A. Protect open excavations with fencing, warning lights, and/or other suitable safeguards.
- B. Shore, sheet, or brace excavations and trenches as required to maintain them secure and to protect adjacent existing structures. Remove shoring as the backfilling progresses, but only when banks are safe against caving or collapse.
- C. Provide, maintain, and operate pumps and related equipment, including stand-by equipment, of sufficient capacity to keep excavation free of water at all times, and under any and all contingencies that may arise until the structures attain their full strength. Notify the Engineer and receive approval before discontinuance of pumping. Maintain ground water in bearing strata at a safe level at all times by methods, which prevent loss of fines or other disturbances to the strata. If methods employed have not been adequate and the bearing value of the soil has been reduced, carry out remedial

measures as directed by the Engineer. Keep trenches free of water until trenches have been backfilled.

- D. Dispose of water through temporary pipe lines with outfall as shown on the plans. Prevent erosion of surrounding areas. At completion of de-watering, remove temporary facilities and restore subgrade and any damaged areas.

### 3.4 TRENCH ROCK EXCAVATION

- A. Remove and legally dispose of, off site, rock if encountered, as defined below when encountered.
  - 1. All solid rock, pavements, or structures that require breaking by hand power tools (jackhammers, etc.) prior to removal.
  - 2. Boulders, pavements, or structures measuring 2 cubic yard or more that require breaking for removal.
- B. Blasting if required shall conform to Article 1.07.08 of Form 816.
- C. Excavate rock within the following limits. No payment will be made for rock removal beyond these lines.
  - 1. 1 foot-0 inches beyond face of structures and footings, in a vertical a mane as is safe against collapse.
  - 2. 6 inches below bottom of structures and footings.
  - 3. 2 feet-0 inches beyond inside diameter of pipes in as vertical a plane as is safe against collapse.
  - 4. 1 foot-0 inches below bottom of inside barrel of pipes.

END OF SECTION

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

- A. The Drawings and general provisions of the Contract, including General and Supplementary Conditions, and General Requirements apply to work specified in this Section.

### 1.2 SECTION INCLUDES

- A. Paving, sidewalks and curbs shall include, but is not necessarily limited to, the following:
1. 2-course bituminous concrete pavement.
  2. Painted parking lines, stop bars and symbols.
  3. Rolled gravel parking surface.
  4. Stone dust walking track.

### 1.3 QUALITY ASSURANCE

- A. Materials and methods of construction shall comply with the following standards:
1. American Society for Testing and Materials (ASTM).
  2. American Association of State Highway and Transportation Officials (AASHTO).
  3. Asphalt Institute (AI).
  4. State of Connecticut, Department of Transportation Standard Specification Supplemented Form 816, July 2015.
  5. Manual on Uniform Traffic Control Devices for Streets and Highways, 2009 Edition (MUTCD).
- B. Product Submittals:
1. Bituminous Concrete: Material certificates signed by material producer and Contractor, certifying that material complies with specified requirements.
  2. Paint: Manufacturer's printed specifications and instructions and recommendations for application.
  3. Stone Dust: Sieve analysis and sample material.
  4. Rolled Gravel: Sieve analysis and sample material
  5. Compaction test results.

### 1.4 PROJECT CONDITIONS

- A. Weather Limitations: Install materials only when base is dry and air temperature is 40 degrees F or above and when the temperature has not been below 32 degrees F for twelve hours prior to installation.

- B. Grade Control: Establish and maintain the required lines and grades, including crowns and cross-slopes during construction activities.
- C. Do not install pavements or sidewalks over frozen or saturated base material.
- D. Protect adjacent work from damage, soiling, splattering or staining from construction activities.

## PART 2 – PRODUCTS

- 2.1 PROCESSED STONE AGGREGATE BASE: Processed aggregate consisting of broken stone or coarse aggregate, conforming to Form 816, Article M.05.01.
- 2.2 BITUMINOUS CONCRETE PAVEMENT: Bituminous concrete pavement shall be Class 1 hot mix asphalt, conforming to Form 816, Section M.04.
- 2.3 PAVEMENT MARKINGS: Waterborne pavement marking paint, conforming to Form 816, Section M.07.02.
- 2.4 TACK COAT: CSS-1H cationic emulsion, diluted with water 1 to 1.
- 2.5 STONE DUST: Shall consist of hard, durable, uncoated particles of stone or rock, free from lumps of clay and all deleterious substances. Material shall conform to the following gradation. Contractor shall provide a sample for approval prior to installation.

<u>Square Mesh Sieve</u>	<u>% Passing (by Weight)</u>
¼ - inch	100
No. 10	50-85
No. 40	20-45
No. 200	3-10

- 2.6 ROLLED GRAVEL PARKING SURFACE: Rolled gravel surfacing shall be “Rolled Bank Gravel Surface” or “Traffic Bound Gravel Surface” conforming to Form 816, Article M.02.03.

## PART 3 – EXECUTION

### 3.1 GENERAL EXAMINATION

- A. Verify that the prepared subgrade, as detailed is true to line and grade, and is compacted to the required density. Surface to be smooth, free of irregularities, depressions, or unsuitable material which cannot compact or will become

impervious. Insure proper drainage at all times. If required, form, shape and roll with 10-ton roller or equivalent.

- B. Verify that frames for drainage and utility structures within the work areas are installed or reset to the proper elevations.
- C. Verify that improvements and furnishings within the work areas are installed at their proper elevations.

### 3.2 BITUMINOUS CONCRETE PAVEMENT

#### A. GRAVEL BASE & SUBBASE

1. Spread processed stone base material uniformly using approved spreaders or stone boxes. The thickness of each course shall not be more than 4 inches after compaction. Extend base 8 inches beyond limits of all pavements.
2. Compact base material with vibratory roller to minimum 98% of modified optimum density (ASTM D-1557). Compacting and binding operations shall conform to the requirements of Form 816-2004, Article 3.04.03.

#### B. TWO COURSE BITUMINOUS CONCRETE PAVEMENT

1. Coat the edge or surface of all abutting pavements with tack coat before installing bituminous concrete pavements. Insure that the abutting pavement has a clean, straight, saw cut edge. Limit of pavements to remain shall be parallel or perpendicular to directions of traffic. Feathering of edges and transitions between new and existing pavements is not acceptable.
2. Conform to Article 4.06.03 of CDOT Form 816 including mixing, transporting, placing and compacting bituminous material. Where not curbed, edge of pavement shall be clean and true. Cleanly bevel and tamp all edges of pavement or install screed strips to produce a clean vertical edge. Secure strips to allow for proper compaction against bituminous. Do not remove until pavement is thoroughly compacted. Ravelled edges will not be accepted.
3. Thicknesses after compaction shall conform to the details on the Drawings. Compaction shall conform to CDOT Form 816, Article 4.06.03-5.
4. Protect installed curbs and other improvements during paving operations. Correct any damage due to paving operations. Joints between the bituminous pavement and adjacent curbing shall be tightly compacted, and pavement shall be of equal density to other areas of pavement.
5. Carefully make joints between old and new pavements, and between successive day's work, to ensure a continuous bond between adjoining work. Construct joints to have the same texture, density, and smoothness as other sections of the bituminous concrete course.
6. Perform breakdown, second and finish rolling until the asphalt concrete mixture has been compacted to the required surface density and smoothness. Continue rolling until all roller marks are eliminated. Provide a smooth compacted surface true to thickness and elevations required.

7. After final rolling, do not permit vehicular traffic on the pavement until it has cooled and hardened, and in no case sooner than 8 hours.
8. Remove and replace all defective areas. Remove and replace materials that become mixed with foreign materials. Cut out such areas and fill with fresh not bituminous concrete. Compact by rolling to the required surface density and smoothness. Remove deficient areas for the full depth of the course. Cut sides perpendicular and parallel to the directions of traffic with edges vertical. Apply a tack coat before placing asphalt concrete mixture.

C. TEMPORARY & PERMANENT TRENCH REPAIR

1. Pavement which has been removed for the installation of utilities and appurtenances or other underground installations shall be replaced immediately upon the completion of the trench backfilling and compaction with temporary pavement 2" compacted bituminous concrete, placed on the designated thickness of compacted gravel base in accordance with the limits and to the dimensions shown on the contract drawings, specified herein, or as directed by the Engineer.
2. Temporary pavement shall remain in place until trench settlement is complete for a minimum of 30 days, unless otherwise directed by the Owner.
3. Temporary pavement shall be placed at the end of every work week, or as designated by the owner.
4. Processed gavel base must be installed at the time of temporary paving.
5. Permanent Pavement Replacement shall consist of a two course, four (4") inch compacted thickness bituminous concrete surface course for local roads, constructed on the compacted thickness processed gravel base in the locations and in accordance with the details shown on the Contract drawings or as directed by the Owner.
6. Tack coat shall be applied to the edge of existing pavement where it meets the new pavement.
7. All temporary and permanent pavement trench repair installation shall conform to the provisions of Article 4.06.03 of DOT Form 816 and the requirements of Item "B" of this specification.

3.3 PAVEMENT MARKINGS

- A. Conform to Article 12.09.03 of CDOT Form 816 and the manufacturer's instructions and recommendations for application.
- B. Prior to painting, sweep pavement with power broom supplemented with hand brooms to eliminate loose material and dust.
- C. Lines shall be carefully laid out; edges even and true. Avoid fogging and overspray.
- D. After applying paint, erect suitable barriers to prevent tacking of paint before drying. Retouch and paint all markings which become smeared, discolored, worn,

or otherwise marred before final acceptance of the project. Remove any evidence of smearing of paint.

### 3.4 STONE DUST WALKWAY

#### A. EXAMINATION

1. Verify that the prepared subgrade, as detailed is true to line and grade, and is compacted to the required density. Surface to be smooth, free of irregularities, depressions, or unsuitable material which cannot compact or will become impervious. Insure proper drainage at all times. If required, form, shape and roll with 10-ton roller or equivalent.

#### B. PROCESSED STONE AGGREGATE BASE

1. Spread processed stone base material uniformly using approved spreaders or stone boxes. The thickness of each course shall not be more than 4 inches after compaction. Extend base 8 inches beyond limits of all pavements.
2. Compact base material with vibratory roller to minimum 98% of modified optimum density (ASTM D-1557). Compacting and binding operations shall conform to the requirements of Form 816-2004, Article 3.04.03.
3. Thicknesses after compaction shall conform to the details on the Drawings. Compaction shall conform to CDOT Form 816, Article 4.06.03-5.
4. Protect installed curbs and other improvements during installation operations. Correct any damage due to installation operations.

#### C. STONE DUST SURFACING

1. Lay permeable geotextile filter fabric over compacted processed gravel base. Secure fabric to gravel to avoid movement during stone dust installation.
2. Spread stone dust evenly over filter fabric and compact to the thickness and width as specified on the Contract Drawings.

### 3.5 ROLLED GRAVEL SURFACE

#### A. EXCAVATION

1. Remove all construction debris from the work area and excavate the existing gravel parking lot to the required depth as shown on the Contract Drawings.

#### B. GRADE

1. The existing gravel base material is to remain in place. Grade the existing gravel base and compact with a vibratory roller.

#### C. ROLLED GRAVEL SURFACING

1. Spread rolled gravel surface material uniformly using approved spreaders, boxes, or by hand. The thickness of each course shall not be more than 4 inches after compaction.

2. Compact the rolled gravel surface material with vibratory roller to minimum 98% of modified optimum density (ASTM D-1557). Compacting and binding operations shall conform to the requirements of Form 816, Article 3.04.03.

### 3.8 CLEAN-UP

- A. Perform cleaning during installation of the work and upon completion of the work. Remove from site all excess materials, debris, and equipment. Repair damage resulting from paving or concrete operation.

END OF SECTION

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS:

- A. The Drawings and general provisions of the Contract, including General and Supplementary Conditions, and General Requirements apply to work specified in this Section.

### 1.2 SECTION INCLUDES

- A. Water distribution shall include, but is not necessarily limited to, the following:
  - 1. Provide water service piping and all required fittings as shown on the Contract Drawings
  - 2. Provide valves and valve boxes, curb stops and curb boxes as shown on the Contract Drawings.
  - 3. Provide thrust blocking, joint restraints and any required bends, tees or fittings for a complete operating water system.

## PART 2 - PRODUCTS

All materials specified shall be new and unused and meet the requirements specified herein and as required and approved by the Owner.

- A. Water Service Piping:
  - 1. Copper tubing for water service lines shall be Type K seamless copper tubing. Requirements for copper tubing shall meet the latest revision of ASTM Specification B88.
  - 2. Polyethylene pressure pipe for water services shall meet the requirements of AWWA C901 (Latest Revision). The material must be listed and approved for potable water in accordance with NSF Standard 14 & 61.
  - 3. PVC pressure pipe shall for water services shall be pressure class 200.
- B. Curb stops shall be Mueller Mark II Oriseal Valve No. H-15209 or approved equal.
- C. Curb boxes shall be arch pattern base, Buffalo type curb box with a stationary rod. Box slide type, North American Standard, shall be adjustable from 4' to 5'. Curb box shall be Bingham and Taylor Fig. No. 4901 or approved equal.
- D. Fittings for use with copper piping shall be brass and bronze conforming to American Standards Association Standard B16.18, or B16.22. Copper by copper couplings shall be as manufactured by Mueller Company, or approved equal. Polyethylene fittings shall be rated for 200 psi applications minimum. Polyethylene fittings shall conform to ASTM Standard Specification for Pressure Rated Pipe ASTM-2737.

- E. Connecting sleeves or couplings shall be designed for the specific types of pipe to be joined and shall be rated for 200 psi working pressure minimum.
- F. Precast concrete masonry units shall meet the requirements of ASTM Designation: C139.
- G. Three-quarter inch crushed stone shall meet the gradation requirements specified for Stone and Gravel in Article M.01.01 of the Standard Specification.
- H. Concrete for thrust blocks and pipe encasement shall be as specified in Article M.03.01 - Class "A" of the Standard Specifications.

### PART 3 – EXECUTION

- A. Trench excavation and backfill shall meet the requirements of the trench excavation section of this specification. Pipe bedding shall conform to the Contract Drawings
- B. Polyethylene and PVC pipe shall be installed as detailed and directed, and in full accordance with AWWA C600 and ASTM D 2774, the manufacturer's recommendations, and accepted best practice. Joining of Polyethylene pipe and fittings shall be in conformance with the procedures outlined in PPI TR-33 or other industry standards.
- C. It shall be the responsibility of the Contractor to coordinate his work schedule, where required, with that of the Water Department. At all installations where connection is to be made by gating off sections of main which are normally open, the excavation shall be made the day before work is to start on the installation with all materials on hand. The work shall then be done as quickly as possible so that normal operation of the system will be interrupted a minimum amount of time. Any required operating of valves for this work will be performed by personnel of the water department, and ample notice shall be given to the water department so that a minimum of one day's notice may be given to any user whose service will be discontinued for any reason.
- D. A minimum of 18" shall be maintained between the outer edges of any newly installed water main/water services and existing sanitary sewers and storm drains whenever possible. At sanitary sewer and storm drain crossings, the water pipe shall be centered on the crossing so both joints of the water pipe will be as far from the sewer as possible. If the minimum separating distance cannot be maintained, then at least one of the utilities must be encased in concrete in accordance with the methods indicated on the plans and in the specifications herein.
- E. Proper implements, tools and facilities shall be provided and used by the Contractor for the safe and convenient performance of the work. All pipe, fittings and valves shall be lowered into the trench with a suitable device that will not damage protective coatings and lining. Under no circumstances shall water main material be dropped or dumped into the trench. Any damaged lining, coating or wrapping shall be satisfactorily repaired or replaced.

- F. Every precaution shall be taken to prevent foreign matter from entering the pipe while it is being placed in the line. If the pipe laying crew cannot put the pipe into the trench and in place without getting earth into it, the Engineer may require that before lowering the pipe into the trench, a heavy, tightly woven canvas bag of suitable size be placed over each end and left there until the connection is to be made to the adjacent pipe. At times when work is not in progress, open ends of pipe and fittings shall be securely closed so that no trench water, earth or other substances will enter the pipe or fittings. If necessary, the line shall be swabbed or flushed out to remove all foreign matter prior to testing.
- G. Before joining lengths or push-on joint pipe, the inside of the bell and the outside of the spigot shall be thoroughly cleaned to remove oil, grit excess coating and other foreign matter. No pipe joints shall be covered in any way until the joints have been inspected.
- H. Pipe shall be laid with bell ends being in the direction of laying unless otherwise directed by the Engineer. When pipe is laid on a grade of 10 percent or greater, laying shall start at the bottom and shall proceed upward with the bell ends of the pipe upgrade.
- I. The cutting of pipe for installing valves, fittings or closure pieces shall be done in a neat manner without damage to the pipe or cement lining and so as to leave a smooth end at right angles to the axis of the pipe.
- J. Joining of Polyethylene pipe and fittings shall be in conformance with the procedures outlined PPI TR-33 or other industry standards.
- K. The maximum deflection at ductile iron pipe joints to accommodate changes in horizontal or vertical alignment shall be 80% of AWWA standards or manufacturer's recommendation; whichever is less. Where bends are called for on the plans, a standard bend may be used with any additional deflection required accomplished by deflecting joints on adjacent pipes.
- L. Bends shall be used only at the locations shown on the plans or at other locations approved by the Engineer.
- M. Valves set with a depth to operating nut greater than 6 feet shall be equipped with extension stems providing an operating nut depth of 4.5 feet. Extension stems shall be installed such as to preclude accidental disconnection from the valve, shall stand plumb and shall be supported at the upper end with a centering device attached to the stem or valve box.
- N. Thrust restraint shall be provided at all ductile iron fittings. Restraint for 45 degree ductile iron bends or greater shall be in the form of both cast-in-place concrete thrust blocks and retainer glands. Concrete shall be mixed and placed in accordance with Section 02800. Thrust restraints for shallower bends and other fittings shall be retainer glands.
- O. The Contractor shall provide at no additional cost appropriate facilities for testing, flushing and disinfection the water mains. Such facilities may include, but not be limited to

corporation stops, copper tubing, caps, plugs and thrust restraint. Corporation stops shall be manufactured of solid bronze and all pipe threads shall be in conformance with AWWA C800. All corporation stops shall be model H-10003, or similar as manufactured by Ford, Mueller or approved equal. Any of these facilities which are of a temporary nature shall be removed by the Contractor after use.

## P. WATER SERVICE CONNECTION

1. Curb box sleeves shall be installed around the tops of all curb boxes in areas with portland cement or bituminous concrete surfaces.
2. Copper tubing and polyethylene (P.E.) tubing shall be installed as shown on the plans, and in conformity with accepted best practice.
3. Testing and disinfection of new water services shall be performed as part of this work and shall be described in this specification.

## 1. HYDROSTATIC TESTING

Pressure testing and leakage testing shall be carried out in accordance with the appropriate paragraphs of Section 4 of ANSI/AWWA C600 with the following clarifications and qualifications.

1. Unless otherwise permitted the testing shall be performed after either backfilling or partially backfilling the completed pipelines or sections thereof. Before testing, the Contractor shall submit, in writing, to the Engineer, his proposed method of testing the completed pipeline. Testing shall begin only after approval by the Engineer or the proposed methods. Testing of water mains shall be performed by the Contractor at his expense as witnessed by the Water Department for approval. Any required coordination with the Water Department shall be the responsibility of the Contractor.
2. All new sections of water piping shall be hydrostatically tested at a pressure of 200 pounds per square inch for a period of at least two hours. "Pressurization" and "air removal" shall be accomplished as specified in Section 4.1.2 and 4.1.3 of ANSI/AWWA C600. After the test pressure is applied, any defective pipe, fitting, valve or hydrant discovered in consequence of this pressure test shall become the property of the Contractor and shall be removed from the job site and replaced at the Contractor's expense with sound material. The test shall be repeated until satisfactory to the Owner.
3. A leakage test shall be conducted concurrently with the pressure test. The Contractor shall furnish the gage, pump, connections and all other necessary apparatus and shall furnish the necessary assistance to conduct the test.

4. Leakage shall be defined as the quantity of water that must be supplied into the newly laid pipe, or any valved section thereof, to maintain pressure within 5 psi of the specified test pressure after the air in the pipeline has been expelled and the pipe has been filled with water.
5. No pipe installation will be accepted if the leakage is greater than that determined by the following formula:

$$L = \frac{SD\sqrt{P}}{133,200}$$

Where:           L=Allowable leakage in gallons/hour  
                      S=Length of pipe tested in feet  
                      D=Normal pipe diameter in inches  
                      P=Average test pressure during leakage test in pounds per  
                          square inch, gauge

6. When testing against closed metal-seated valves, an additional leakage per closed valve of 0.0078 gal/hour/inch nominal valve size will be allowed.
7. When hydrants are in the test section, the test shall be made against the closed hydrant valve.
8. If any test of pipe laid discloses leakage greater than that specified above, the Contractor shall, at his own expense, locate and repair the defective materials until the leakage is within the specified allowance.
9. All visible leaks shall be repaired regardless of the amount of leakage.
10. Any temporary thrust restraint required for testing sections of completed water main installation and later removed as directed by the Engineer shall be provided by the Contractor at no additional cost to the Owner.

## 2. DISINFECTION

1. Disinfection shall be carried out in accordance with ANSI/AWWA C65I-92 under the direction of the Owner, using the continuous feed method described in Section 5.2 of this standard. A copy of ANSI/AWWA C65I follows this technical specification. Where appropriate, the Contractor shall follow the disinfection procedures of Section 9. Use of calcium hypochlorite granules prior to flushing will not be required.
2. The Contractor shall submit, to the Owner for prior approval, the type of chlorine to be used, the disinfection experience of the workers, and the procedures and equipment to be used by the Contractor. The Contractor shall be warned that water main disinfection should be only accomplished by specially trained personnel and that the project's water

mains are vital to the safety and well being of the municipality. State Health Department approval of the water main disinfection is to be received by the Contractor in a timely manner so as to quickly place the water mains into service.

3. Mains shall be completely flushed after the hydrostatic test until all evidence of sediment is removed. A hypochlorite solution shall be applied, with a proper regulating device at the beginning of the pipe section to be disinfected, through a corporation stop in the newly laid pipe. Hypochlorites utilized in this work shall meet the requirements of AWWA B300.

Water from the existing distribution system entering the newly laid pipe shall be controlled to flow slowly during the application of hypochlorite. The rate of hypochlorite application shall be in such proportion to the rate of water flowing through the pipe that the treated water entering the newly laid pipe will have a concentration of chlorine residual of 25 parts per million.

4. When disinfecting newly laid water pipe involving more than one valved section, all valves shall be operated while the pipeline is filled with disinfection water. Hydrants and other appurtenances shall also be operated for disinfection.
5. There shall be a retention period of at least 24 hours and preferably more. The nonsporeforming organisms shall be destroyed and the chlorine residual after the retention period and at the extremity of the pipe shall be at least ten parts per million.
6. The Contractor shall be responsible for satisfactory disposal of all flushing water and chlorinated water at no additional expense to the Owner. The Contractor shall give thorough consideration to the impact of highly chlorinated water flushed to the receiving environment. If there is any question that damage may be caused by a chlorinated waste discharge (to fish life, plant life, physical installations, or other downstream water uses of any type), then an adequate amount of reducing agent should be applied by the Contractor to water being disposed of in order to neutralize thoroughly the chlorine residual remaining in the water.
7. After the mains have been flushed clean, samples of the water contained in the mains shall be arranged by the Contractor to be taken by an approved testing laboratory for testing and analysis specified in U. of this section. Only after the analyses of the samples are approved by the Owner shall the mains be made part of the water system. In the event that positive reports of contamination are received, the Contractor shall flush and rechlorinate the mains as many times as may be obtained from corporation cocks with copper gooseneck assemblies installed as directed along the mains to be disinfected. The taking of samples from hoses or fire hydrants will not be allowed. After samples have been collected the gooseneck assembly may be removed and retained for future use.

8. Where connections are to be made between new water mains and existing water mains after disinfection and flushing are completed, new materials shall be swabbed with a suitable hypochlorite solution.

### 3. REQUIRED WATER QUALITY TESTS

1. The Contractor shall be required to take samples and have testing performed by an approved testing laboratory for a minimum of the following items:
  1. Total Coliforms
  2. Volatile Organics (EPA 501-502)
2. The Contractor shall take the required water samples after completion of flushing and disinfection of the water mains as directed by the Owner. The Contractor shall be responsible for coordination and delivery of the samples to the approved testing laboratory. The Contractor shall also bear the costs of all water quality testing and analysis expenses by the approved laboratory. The Owner may also require at his expense additional testing if deemed necessary.

END OF SECTION

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

- A. The Drawings and general provisions of the Contract, including General and Supplementary Conditions, and General Requirements apply to work specified in this Section.

### 1.2 SECTION INCLUDES

Storm and groundwater drainage shall include, but is not necessarily limited to the following:

- A. Furnish and install new storm drainage systems as indicated and as detailed on the drawings.
- B. Clean the systems at the conclusion of the work of this Contract.

### 1.4 SUBMITTALS

- A. Submit shop drawings for culverts, metal for structures and precast units.
- B. As-Built Drawings: Record on a print, all deviations from Contract requirements. Record final and actual sizes, locations, and elevations of all components.

## PART 2 - PRODUCTS

### 2.1 FILTER FABRIC

- A. Filter fabric shall conform to section M.08.01-26 of Form 816.

### 2.2 CRUSHED STONE

- A. Crushed stone shall conform to section M.02.01-1 or M.01.01 of Form 816 for the size and materials specified on the Contract Drawings.

### 2.3 PORTLAND CEMENT CONCRETE

- A. Portland cement concrete shall conform to section M.03.01, class "C" of Form 816.

### 2.4 REINFORCED CONCRETE PIPE (RCP)

- A. RCP shall conform to section M.08.01.6 of Form 816.

### 2.5 HIGH DENSITY POLYETHYLENE PIPE (HDPE)

- A. HDPE shall conform to section M.08.01.25 of Form 816.

### 2.6 POLYVINYL CHLORIDE PIPE (PVC)

- A. PVC shall conform to section M.08.01.28 of Form 816.

2.7 GRAVEL FILL

- A. Gravel fill shall conform to section M.02.01 and the requirements of material grading A as defined in section M.02.06 of Form 816.

PART 3 - EXECUTION

3.1 STORM DRAINAGE LINES & UNDER DRAIN

- A. The installation of culverts shall conform to Section 6.51.03 of Form 816.
- B. Culvert Joints shall be flexible, watertight, rubber-type gaskets. Conform to manufacturer's instructions and recommendation.
- C. Maintain watertight stopper in pipe when pipe-laying is not in progress.

3.2 CLEAN UP

- A. Remove accumulated debris and silt from all new drainage structures and pipes, after completion of work.
- B. Notify the Owner in writing when this work is done.

END OF SECTION

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

- A. The drawings and general provisions of the Contract, including General Conditions and Special Conditions, apply to this Section.

### 1.2 DESCRIPTION OF THE WORK

Sanitary sewers shall include, but are not necessarily limited to the following:

- A. Piping and structures for the septic system including septic tank, leaching galleries, and d-boxes.

### 1.3 SUBMITTALS

- A. Shop drawings for PVC pipe and fittings and all concrete structures. Shop drawings shall be submitted for approval for all material and equipment included in the pump station item.
- B. As-Built Drawings: Record on a print, all deviations from contract requirements. Record final and actual sizes, locations and elevations of all components. At completion of work, transfer information to transparency to show “As-Built” conditions. Provide As-Built transparency to the owner before final acceptance.

## PART 2 - PRODUCTS

### 2.1 GENERAL

- A. All materials listed below must conform to the Connecticut Public Health Code and state and local building code.

### 2.2 PIPE BEDDING

- A. Pipe bedding for gravity sanitary sewer pipe shall consist of ¾” crushed stone conforming to the requirements of Article M.01.01 crushed stone gradation table of the standard specifications, Form 816 and as shown on the plans.

### 2.3 POLYVINYL CHLORIDE (PVC) SEWER PIPE

- A. PVC Sewer Pipe shall be unplasticized polyvinyl chloride plastic gravity sewer pipe integral wall bell and spigot joints. Pipe and fittings shall meet and/or exceed all of the requirements of A.S.T.M. Specifications D 3034, latest revision, SDR 35, Type PSM.

- B. Provisions must be made for contraction and expansion at each joint with a rubber ring. The bell shall consist of an integral wall section stiffened with two PVC retainer rings which securely lock the solid cross section rubber ring into position.
- C. All fittings and accessories shall be as manufactured and furnished by the pipe supplier and have bell and/or spigot configurations identical to that of the pipe.

#### 2.4 CONNECTIONS TO EXISTING SEWER

- A. Connections to existing sewer pipe shall be made using Fernco fittings or approved equal.

#### 2.5 SEPTIC TANK

- A. Septic tank shall be constructed of concrete, shall have the capacity shown on the Contract Drawings and shall be rated for H-20 loading.
- B. Septic tank shall conform to the requirements of section V. Septic Tanks and Grease Interceptor Tanks of the Connecticut Public Health Code, Regulations and Technical Standards for Subsurface Sewage Disposal Systems.

#### 2.6 D-BOX AND SETTLING CHAMBER

- A. D-Boxes and Settling chambers shall be constructed of concrete and shall conform to the dimensions and details shown on the Contract Drawings.
- B. D-Boxes and Settling Chambers shall be rated for H-20 loading.

#### 2.7 CONCRETE LEACHING GALLERY

- A. Precast Concrete leaching galleries shall conform to the dimensions and details shown on the Contract Drawings.
- B. Precast units shall be rated for HS-20 loading.
- C. Precast concrete leaching galleries shall conform to the requirements of Section VIII. Leaching Systems, part D of the Connecticut Public Health Code, Regulations and Technical Standards for Subsurface Sewage Disposal Systems.

## PART 3 - EXECUTION

### 3.1 SEPTIC SYSTEM AND SANITARY SERVICE

- A. Installation of equipment shall conform to manufacturer's recommendations and shall be as directed by the Owner.
- B. Installation of septic tanks, leaching fields and all associated appurtenances must conform to the Connecticut Public Health Code and state and local building code.

### 3.2 TESTING

#### A. Gravity Sewer:

1. The method of exfiltration testing is the use of the pneumatic testing system in conformance with the Low Pressure Air Test for Sanitary Sewers as outlined in the ASCE Proceedings, Volume 90, No. SA2, April 1964 and shall be used for gravity sewer lines.
2. The Contractor shall furnish test plugs, test gauge, stop watch, an air compressor, the personnel for conducting the test under direction of the Engineer.
3. Air shall be slowly supplied to the plugged pipe installation until pressure reaches 4.0 psi. At least two minutes shall be allowed for air pressure stabilization.
4. The rate of air loss shall then be determined by measuring the time interval required for pressure to decrease from 3.5 to 2.5 psig (greater than the average back pressure of any groundwater that may be over the pipe).
5. The pipeline shall be considered acceptable when tested at an average pressure of 3.0 psi if: 1) the total rate of air loss from any section tested in its entirety between manhole and cleanout structure does not exceed 2.0 CFM; or 2) the section under test does not lose air at a rate greater than 0.0030 CFM per square foot of internal pipe surface.
6. In areas where ground water is known to exist above the top of the sewer, the Contractor shall install a one-half inch diameter capped pipe nipple, approximately 10" long, through the manhole wall on top of one of the sewer lines entering the manhole. This shall be done at the time the sewer line is installed. Immediately prior to the performance of the Line Acceptance Test, the ground water shall be determined by removing the pipe cap, blowing air through the pipe nipple into the ground so as to clear it, and then connecting a clear plastic tube to the nipple. The hose shall be held vertically and a measurement of the height in feet of water over the invert of the pipe shall be taken after the water has stopped rising in this plastic tube. The height in feet

- shall be divided by 2.3 to establish the pounds of pressure that will be added to all readings. (For example, if the height of water is 9.2 feet, then the added pressure will be 4 psig. This increases the 3.5 psig to 7.5 psig, and the 2.5 psig to 6.5 psig. The allowable drop of one pound and timing remain the same).
7. The requirements of this specification shall be considered satisfied if the time required in seconds for the pressure to decrease from 3.5 to 2.5 psig (greater than the average back pressure of any ground water that may be over the pipe) is not less than shown in the "Allowable Time Table".

ALLOWABLE TIME TABLE

<u>Pipe Size</u>	<u>(Time)</u>	<u>Minutes</u>	<u>Seconds</u>
6"		2	15
8"		3	57
10"		4	43
12"		5	40
15"		7	5

8. Sewers constructed under the Contract may be tested for infiltration in several separate sections, as these sections may be completed, or as and when the Engineer may direct. After any such section has been tested, the Engineer may, at his discretion, permit house connections to be made with such section of sewers and said sections may be used for drainage or other purpose without waiting until all sewers contemplated under the Contract have been completed and tested.
9. The longest length of the sewer to be tested in section at any one time shall be 1,000 linear feet, unless otherwise specified. Prior to testing, sewer lines will be cleaned.
10. The shortest length of the sewer to be tested in section at any one time shall be 250 linear feet, unless otherwise specified.
11. Should the sections under test fail to meet the requirements, the Contractor shall do all work of locating and repairing leaks and retesting without additional compensation. Gushing or spurting leaks which are evident shall be repaired regardless of whether the leakage is within the specified limits.
12. Where the contractor must connect directly to an existing sewer service, testing of the new sewer main only will be required prior to connection.

END OF SECTION

## PART I – GENERAL

### 1.1 RELATED DOCUMENTS

- A. The General Provisions: of the Contract including General and Supplementary Conditions, and General Requirements apply to work specified in this section.

### 1.2 SECTION INCLUDES

Miscellaneous utilities shall include, but are not necessarily limited to the following:

- A. Provide miscellaneous cast-in-place concrete.
- B. Provide trenching, bedding and backfill for conduits.
- C. Provide conduit, handholes and fittings.

### 1.3 REFERENCES

- A. ANSI/NFPA 70 - National Electrical Code.
- B. NFPA- Life Safety 101: NFPA Codes- All
- C. BOCA- National Building Code
- D. Local codes and Authority Having Jurisdiction

### 1.4 QUALITY ASSURANCE

- A. Materials and methods of construction shall comply with the following standards:
  - 1. American Society for Testing and Materials (ASTM).
  - 2. American Association of State Highway and Transportation Officials (AASHTO).
  - 3. American Concrete Institute (ACI).
  - 4. State of Connecticut, Department of Transportation Standard Specification Supplemented Form 816, July 2015.
  - 5. Codes and Standards: All work under this section shall comply with the applicable requirements of the National Electric Code, local electrical and other codes, laws, regulations and standards including those of all State authorities. Where references are made in law codes regulation and standards, these documents, including the latest revisions and amendments in effect as of the date of bid opening, shall form part of these specifications.
  - 6. Conform to applicable State of Conn Building Codes.
  - 7. Electrical: Conform to NFPA 70.

### 1.5 SUBMITTALS

- A. Shop drawings for conduit and fittings and concrete structures.

- B. Cast-in-place concrete: Manufacturer's product date, test reports, and materials certifications. Submit concrete mix designs for all types of concrete specified. Submit batch slips certifying concrete mix, air content, slump and time of loading.

#### 1.6 EXCAVATION AND BACKFILLING

- A. Excavation and backfill for conduit and lamp pole bases shall conform to the requirements of Section 02211 Trench Excavation & Backfill.

#### 1.7 PROJECT CONDITIONS

- A. Verify underground utility locations prior to beginning work. Adjust locations as necessary.

### PART 2 – PRODUCTS

#### 2.1 GENERAL

- A. Provide only materials that are new and of type and quality specified, or approved equal.
- B. Where Underwriters' Laboratories, Inc. has established standards for such materials, provide only materials bearing the UL label.

#### 2.2 CONDUIT: conduit may be Rigid PVC or Galvanized Steel

- A. Rigid PVC Conduit PVC Conduit shall be schedule 40 piping and shall conform to the requirements of form 816, Section M.15.09.3.
- B. Rigid Galvanized Steel conduit shall conform to the requirements of form 816, Section M.15.09.1.

#### 2.3 CONCRETE PRODUCTS

- A. Cast-in-place concrete, admixtures, reinforcing and all other concrete related products shall conform to the requirements of Section 02510 of these specifications.

#### 2.4 BEDDING MATERIALS AND BACKFILL

- A. Bedding materials and backfill shall conform to the requirements shown on the Contract Drawings.

## PART 3 – EXECUTION

### 3.1 CONDUIT INSTALLATION

- A. Conduit shall be laid and installed as indicated on the Contract plans or otherwise directed. All conduits when in place shall be true to the line and grade specified. Trenching and backfilling of conduit shall conform to the requirements of form 816, Article 10.01 and Section 02211 Trench Excavation & Backfill.
- B. The conduit shall be bedded as detailed on the Contract Drawings and in accordance with these Contract specifications. All underground conduits shall be laid in a trench free of water. The Contractor shall furnish all equipment necessary to keep trenches free of water during the laying of pipe.
- C. For buried conduit, marking tape shall be installed in the trench at the depth and to the requirements set forth in the Article 1.05.15 of Form 816
- D. Schedule 40 PVC Conduit and Galvanized Steel Conduit shall be installed as detailed and directed in full accordance with the manufacturer's recommendations and accepted best practice, with the below listed qualifications and clarifications. The methods employed in performing the work and all equipment, tools and machinery used in handling material and executing any part of the work shall be started and, whenever found unsatisfactory, shall be changed and improved as required by the Owner. All equipment, tools and machinery used shall be maintained in a satisfactory working condition.
- E. It shall be the responsibility of the contractor to ensure that Schedule 40 PVC be installed no less than 30" (thirty inches) below grade or steel piping must be used.
- F. Proper implements, tools and facilities shall be provided and used by the Contractor for safe and convenient performance of the work. All conduit materials shall be lowered into the trench with a suitable device that will not damage the materials. Under no circumstance shall the materials be dropped or dumped into the trench. Any damaged materials shall be satisfactorily repaired or replaced.
- G. Every precaution shall be taken to prevent foreign matter from entering the conduit while it is being placed in the trench. If the crew cannot put the conduit into the trench and in place without getting earth into it, the Owner may require that before lowering the conduit materials into the trench, a heavy tightly woven canvas bag of suitable size be placed over each end and left there until all connections are made. At times when work is not in progress, open ends shall be securely closed so that no trench water, earth or other substances will enter the conduit opening or fittings. If necessary, the line shall be flushed out to remove all foreign matter prior to pulling cable.
- H. The cutting of conduit for installing fittings or closure pieces shall be done in a neat manner without damage to the conduit and so as to leave a smooth end at right angles to the axis of the conduit.
- I. Joining of joints, fittings and accessories shall be provided in accordance with the recommendations of the manufacturer. The contractor shall provide at no additional

- expense to the Owner, all necessary adapters or terminators for use in pulling cables through the conduit.
- J. Bends shall be used only at the locations shown on the plans or at other locations approved by the Utility Company.
  - K. A minimum 3/16" (three sixteenth inch) polypropylene pull string, or approved equal, shall be provided in each conduit within the duct banks.
  - L. Upon completion of the conduit installation, all conduits shall be free from obstructions and burrs.

END OF SECTION

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

- A. The Drawings and general provisions of the Contract, including General and Supplementary Conditions, and General Requirements apply to work specified in this Section.

### 1.2 SECTION INCLUDES

Site improvements shall include, but is not necessarily limited to the following:

- A. Installation of timber guide rail and end anchorages.
- B. Installation of traffic, handicap, and parking signage.
- C. Installation of boulder barriers.
- D. Installation of swing barrier gates.

### 1.3 SUBMITTALS

- A. Contractor shall submit shop drawings for timber guide rails and associated materials to the Engineer for approval prior to the start of construction.
- B. Traffic and handicapped signs: Shop drawings and sign samples for review and material certifications for metals.

## PART 2 – PRODUCTS

### 2.1 GRAVEL FILL

- A. Gravel fill shall conform to section M.02.01 and the requirements of material grading A as defined in section M.02.06 of Form 816.

### 2.2 CRUSHED STONE

- A. Crushed stone shall conform to section M.02.01-1 of Form 816.

### 2.4 TIMBER GUIDE RAIL AND END ANCHORAGES

- A. The type and size of rails and posts shall conform to the materials shown on the Contract Drawings. Materials for this work shall conform to the requirements of Article M.12.13 of Form 816.

### 2.5 TRAFFIC AND PARKING SIGNAGE

- A. Traffic signage and sign posts shall conform to Article 12.08.02 of Form 816 and the details shown on the Contract Drawings.
- B. Sign frames and back plates shall be galvanized, powder coated black and shall have reveals as shown on the Contract Drawings.
- C. Sign posts shall be powder coated black as shown on the contract drawings.

2.6 BOULDERS

A. Boulders shall be the size specified on the Contract Drawings. Boulders excavated from the site may be cleaned and used for the boulder barriers. If suitable boulders are not available on site, the Contractor shall import boulders to the site of the size specified.

2.7 SWING BARRIER GATES

A. Swing barrier gates and post foundations shall conform the details shown on the Contract Drawings.

B. Tubular gate frame shall be constructed of 2½" O.D. galvanized HF40 steel

C. Gate posts shall be constructed of 4" O.D. galvanized HF40 steel.

D. Hinges shall be malleable iron box hinge style.

E. Latch shall be lockable fulcrum style. Each latch shall be furnished with a commercial grade pad lock suitable for outdoor use, Master lock or approved equal. If multiple gates are provided on a site, the pad locks shall be single keyed. Furnish the owner with 2 keys per lock.

F. Gate frame, posts and hardware shall be painted black. Provide 1 coat of primer and 3 coats of black top coat.

PART 3 - EXECUTION

3.1 TIMBER GUARD RAIL

Construction methods shall conform to the requirements of Article 9.10.03 of Form 816.

3.2 TRAFFIC AND PARKING SIGNAGE

A. The installation of new traffic signage shall conform to Article 12.08.03 of the Standard Specifications and the details shown on the Contract Drawings.

3.3 BOULDER BARRIERS

A. Boulders shall be placed in the locations and spacing specified on the plans or as directed by the Owner in the field.

3.4 SWING BARRIER GATES

A. Swing barrier gates shall be placed in the locations and spacing specified on the plans or as directed by the Owner in the field. Installation of the gates and posts shall be in conformance with the Contract Drawings or the manufacturer's recommendations.

B. Install gates plumb, level, and secure for full opening without interference.

- C. Attach hardware by means which will prevent unauthorized removal.
- D. Adjust hardware for smooth operation.

END OF SECTION

## PART I – GENERAL

### 1.1 RELATED DOCUMENTS

- A. The General Provisions: of the Contract including General and Supplementary Conditions, and General Requirements apply to work specified in this section.

### 1.2 SECTION INCLUDES

- A. Aluminized chain link fencing and accessories.
- B. Chain link gates and related hardware.
- C. Tubular barrier gates and related hardware.

### 1.3 REFERENCES

- A. ASTM F 567: Installation of Chain Link Fence
- B. ASTM F 626: Fence Fittings.
- C. ASTM A 491: Aluminum-Coated Steel Chain Link Fence Fabric.
- D. ASTM F 900: Industrial and Commercial Horizontal Swing Gates.
- E. ASTM F 1043: Strength and Protective Coatings on Metal Industrial Chain Link Fence Framework.
- F. ASTM F 1083: Pipe, Steel, Hot-Dipped Zinc Coated (Galvanized) Welded, for Fence Structures.

### 1.4 QUALITY ASSURANCE

- A. Provide fences and gates as complete units produced by a single manufacturer, including necessary erection accessories, fittings, and fastenings.
- B. Installation shall be performed by the manufacturer or by an experienced chain link fence installer approved by the manufacturer.
- C. Provide a rigid, plumb finished fence structure, with fabric tight and tensioned.

### 1.5 SUBMITTALS

- A. Shop Drawings: Layout of fences, gates with dimensions, details and finishes of components, accessories, and post foundations.
- B. Product Data: Manufacturer's catalog cuts indicated material compliance and specified options.

- C. Samples:
  - a. Fabric: 12” square piece of all specified fabrics and coatings.
  - b. Line Post: 8” long section of all scheduled line post sizes and coatings.

## 1.6 PROJECT CONDITIONS

- A. Verify underground utility locations prior to beginning work. Adjust post locations as necessary.

## PART 2 – PRODUCTS

### 2.1 CHAIN LINK FENCE FABRIC

- A. Helically wound and woven to fence heights indicated on the drawings; Core wire strength 80,000 psi.
  - 1. Fences and Gates: 2” diamond mesh with a core wire diameter of 0.148” (9 gauge) and a breakload of 1290 lbf.
  - 2. Aluminum-Coated Steel Fabric: The base metal of the fabric shall be of steel wire having a minimum tensile strength of 80,000 psi (550 megapascals), coated with aluminum alloy applied at the rate of not less than 0.40 ounces/square foot (122 grams/square meter) of uncoated wire surface.
- B. Selvage: knuckled top and bottom.

### 2.2 STEEL FENCE FRAMING AND FITTINGS

- A. Steel pipe –sized as scheduled on the drawings.
- B. All posts, braces, anchors, plates and other devices shall be standard commercial type, hot dip galvanized with zinc on all inner and outer surfaces. The zinc coating shall weigh not less than 2.0 ounces/square foot (610-grams/square meter) when tested in accordance with AASHTO T 65. or shall be in accordance with AASHTO M181, Class 2

### 2.3 ACCESSORIES

- A. Chain link fence accessories: ASTM F 626. Provide items required to complete fence system. Galvanize each ferrous metal item and finish to match framing.
- B. Post Caps: Formed steel, cast malleable iron, or aluminum alloy cap for tubular posts to provide weather tight closure. Provide dome caps for terminal posts. Provide loop caps for line posts to permit passage of top rail.

- C. Top rail and brace ends: Formed steel, malleable or cast iron; for connection of rail and brace to terminal posts.
- D. Top rail sleeves: 6" sleeve allowing for expansion and contraction of top rail.
- E. Wire ties: 9 gauge (0.148" galvanized steel wire for attachment of fabric to line posts. Double wrap 13 gauge (0.092") for rails and braces. Hop ring ties of 12-1/2 gauge (0.0985") for attachment of fabric to tension wire. Shall be double twisted.
- F. Brace and tension bands: Pressed steel.
- G. Tension bars: One piece lengths equal to 2 inches less than full height of fabric, with a minimum cross-section of 3/16" x 3/4". Provide tension bars where chain link fabric meets terminal posts.
- H. Tension wire: Thermally fused vinyl (Permafused) applied to metallic coated steel wire, 7 gauge (0.177") diameter core wire with tensile strength of 75,000 psi.
- I. Truss rods: Steel rods with minimum diameter of 5/16".
- J. Nuts and bolts: galvanized. Field-coat with PVC touch up paint.

#### 2.4 SETTING MATERIALS

- A. Concrete: CDOT Form 816-2004, Article M.03.01; Class "A".
- B. Grout: CDOT Form 816-2004, Article M.03.01-12; Non-shrink, non-staining grout.

#### 2.5 CHAIN LINK SWING GATES

- A. Gate frames: Fabricate chain link swinging gates in accordance with ASTM F 900 using galvanized steel tubular members, 2" square, weighing 2.60 lb/ft. Weld all joints to form a rigid one-piece unit. Provide minimum 1-1/2" square additional horizontal and vertical interior members to ensure proper strength. Gate height to match adjoining fence.
- B. Chain link fabric: shall conform to Part 2.1 of this specification. Install fabric with hook bolts and tension bars at all 4 sides. Attach to gate frame at not more than 15" on center.
- C. Hardware materials: Top dipped galvanized shapes to suit gate size. Field coat moveable parts (e.g. hinges, latch and keeper), with touch up paint, provided by manufacturer, to match adjacent finishes.

- D. Hinges: Structurally capable of supporting gate leaf and allow opening and closing without binding. Non-lift-off type hinge design shall permit gate to swing 180 degrees as indicated on the drawings.
- E. Latch: Forked type capable of retaining gate in closed position with provision for padlock. Latch shall permit operation from either side of gate.

### PART 3 – EXECUTION

#### 3.1 EXECUTION

- A. Verify areas to receive fencing are completed to final grades and elevations.

#### 3.2 CHAIN LINK FENCE FRAMING INSTALLATION

- A. Install chain link fence in accordance with ASTM F 567 and manufacturer's instructions.
- B. Locate terminal post at each fence termination and change in horizontal or vertical direction of 30 degrees or more.
- C. Space line posts uniformly at 10' on center.
- D. Concrete set all terminal and line posts: Drill holes in firm, undisturbed or compacted soil. Holes shall have diameter 4 times greater than outside dimension of post, and depths approximately 6" deeper than post bottom. Excavate deeper as required for adequate support in soft and loose soils, and for posts with heavy lateral loads. Set post bottom below surface to depth as detailed in firm, undisturbed soil. Place concrete around posts in a continuous pour and tamp to consolidate. Stop footing below grade to allow for cover with finished surface material. Trowel finish around post. Slope to direct water away from posts.
- E. If solid ledge rock is encountered, the posts shall be set in holes drill into the rock. Depth of hole shall be 12" minimum for posts with a largest cross section of up to 4". Minimum depth of hole for larger posts shall be three times the largest cross section of the post. Diameter of holes shall be 1/2" greater than the largest cross section of the post. Half-fill the void with grout and force post to bottom of hole and plumb. Thoroughly work additional grout into the hole to eliminate all voids. Crown the grout to shed water.
- F. Check each post for vertical and top alignment, and maintain in position during placement and finishing operations.

- G. Before installing fence components on posts, allow the concrete to attain at least 75% of its 28-day strength. Allow 7 days minimum.
- H. Bracing: Install horizontal pipe brace at mid-height, on each side of terminal posts. Firmly attach with fittings. Install diagonal truss rods at these points. Adjust truss rod, ensuring posts remain plumb.
- I. Top rail: Support the top rail at each post so that a continuous brace from end to end of each stretch of fence is formed. Securely fasten the top rail to the terminal posts and join with sleeves at approximately every 20 feet to allow for expansion and contraction.
- J. Center Rails, for fabric height 12' and over: Install mid rails between posts with fittings and accessories.
- K. Bottom Rails: Install bottom rails as detailed between posts with fittings and accessories.

### 3.3 CHAIN LINK FABRIC INSTALLATION

- A. Fabric: Install fabric on inside of fence where enclosing activity areas. Attach so that fabric remains in tension after pulling force is released. Leave approximately 1" between finish grade and bottom selvage. Attached fabric with wire ties, to line posts at 15" on center and to rails, braces at 24" on center.
- B. Tension bars: Pull fabric taut; thread tension bar through fabric and attach to terminal posts with bands or clips spaced minimum of 15" on center.

### 3.4 ACCESSORIES

- A. Tie wires: Bend ends of wire to eliminate hazard to persons and clothing.
- B. Fasteners: Install nuts on side of fence opposite fabric side for added security.

### 3.5 CHAIN LINK GATE INSTALLATION

- A. Install gates plumb, level, and secure for full opening without interference.
- B. Attach hardware by means which will prevent unauthorized removal.
- C. Adjust hardware for smooth operation.

END OF SECTION

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

- A. The Drawings and general provisions of the Contract, including General and Supplementary Conditions, and General Requirements apply to work specified in this Section.

### 1.2 SECTION INCLUDES

- A. The topsoil, seed, fertilizing, composting and mulching work shall consist of all labor, equipment and services required to complete all of the work called for on the Contract Drawings and these specifications.
- B. Prepare and seed the topsoiled areas and establish a stand of grass to stabilize all disturbed areas, acceptable to the Owner.
- C. Maintain seeded areas until final acceptance by the Owner.

### 1.3 SUBMITTALS

- A. Topsoil test results for approval prior to amending soil and seeding. Contractor shall send soil samples to Logan Labs. LLC, Soil Testing Services, 620 North Main Street P.O. Box 326, Lakeview, OH 43331, Phone: 937-842-6100, Toll Free: 1-888-494-SOIL, Fax: 937-842-2433
- B. Species breakdown for specified seed mixtures. *Special attention shall be paid to the seed mixes specified on the Contract Drawings*

### 1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver seed in original containers showing guaranteed analysis of seed mixture, percentage of pure seed, year of production, net weight, date of packaging, and location of packaging.
- B. Damaged packages are not acceptable.

## PART 2 - PRODUCTS

### 2.1 TOPSOIL

- A. Existing topsoil shall be screened and stockpiled on the site for reuse. Topsoil imported to the site shall conform to Article M13.01 of Form 816.

## 2.2 FERTILIZER

A. Fertilizer shall conform to the requirement of Article M.13.03 of Form 816.

## 2.3 MULCH

A. Mulch shall be hay conforming to the requirements of Article M.13.05.2 or wood fiber mulch conforming to Article M13.05.3 and shall be hay or wood fiber.

## 2.4 COMPOST

A. Compost shall conform to the requirements of Article M.13.06 of Form 816.

## 2.5 SEED

A. Seed for temporary vegetative cover shall be rye grass as specified on the plans.

**B. Seed for all disturbed areas shall be as shown on the Contract Drawings. Special attention shall be paid to the seed mix specified for the playing field areas, basins, and swales.**

## 2.6 EROSION CONTROL MATTING

A. Erosion control matting for slope stabilization shall be North American Green Bionet C125BN or equal approved on the latest CTDOT Qualified Product List.

## PART 3 - EXECUTION

### 3.1 TESTING AND SPREADING TOPSOIL

Test, screen, and spread topsoil on all disturbed areas within the contract limit line upon which construction does not occur.

#### A. STRIP, SCREEN AND RE-INSTALL METHOD

1. Strip existing topsoil, screen and stockpile onsite. Special attention shall be paid to project phasing and stockpile area limitations.
2. Provide subgrade 4 inches below finish grade elevation for lawns or 8 inches below finish grade in playing field areas. Loosen subgrade by disking or scarifying to a depth of 2 inches minimum where compaction has occurred. Clear surface of all stumps, stones, or roots 2 inches in diameter or greater; cable, wire, grade stakes, and any other materials, which might hinder proper tillage or spreading. Obtain approval of the subgrade from the Owner and Engineer before applying topsoil.
3. Spread topsoil uniformly to finish grades. Do not spread or work when topsoil or subgrade are frozen, muddy, or excessively dry. Imported topsoil (if needed) shall

be mixed uniformly into the existing topsoil. Place topsoil only when seeding and/or sodding operations can follow immediate. Seeding and/or sodding must commence within 2 business days after placement of topsoil.

**B. REVERSE TILL METHOD**

1. Reverse till the entire field area to a minimum depth of 12”.
2. Regrade the site to meet the proposed finished grades. Tilled material shall be a minimum of 8” thick over the existing gravel subgrade. Where grades require a cut (excavation), the tilled material shall be removed, gravel subbase regraded, and the tilled material reinstalled to meet the proposed grades.

C. At the Contractor's expense, take a representative 10 samples (minimum) of spread topsoil, borrow topsoil, or tilled material and have the samples tested at a soil testing laboratory. Contractor shall send soil samples to Logan Labs. LLC, Soil Testing Services, 620 North Main Street P.O. Box 326, Lakeview, OH 43331, Phone: 937-842-6100, Toll Free:1-888-494-SOIL, Fax: 937-842-2433. Provide mechanical analysis, percent organic material, pH value and nutrient analysis to determine fertilizer application composition. Topsoil shall conform to the requirements of Article M.13.01 of DOT Form 816.

D. Apply fertilizer in accordance with the Contract Drawings and Section 9.50.03.3 of Form 816. Adjust exact ratio and composition of fertilizer based on soil testing results.

E. For athletic fields, top dress the entire field area (within the stone dust track perimeter) with a minimum of ½” thickness of compost.

F. Remove weeds above 1 inch in height prior to seeding and sodding operations. Do not allow weeds to go to seed. Keep heavy equipment, trucks, etc., off of topsoiled areas. If compaction occurs, scarify to a depth of 4 inches. Maintain finish grades by adding topsoil in eroded or settled areas.

**3.2 RATE OF SEED APPLICATION**

A. The rate of application for each seed mixture shall be as specified on the plans.

**3.3 HYDRAULIC SEEDING**

A. Mix materials with water. Keep in an agitated state so that the materials are uniformly suspended in the water.

B. Spraying equipment shall be so designed that when the solutions are sprayed over an area, the resulting deposits of lime, fertilizer, grass seed, and mulch shall be equal, in quantity to those specified.

- C. Before commencing work, submit to the Engineer a certified statement of the quantities of materials per 100 gallons of water, and the area that this quantity can cover.

### 3.4 MECHANICAL SEEDING

- A. Apply lime and fertilizer evenly at rates determined by topsoil test results and thoroughly incorporate into the upper 4 inches of topsoil.
- B. Rake finished surface smooth.
- C. Sow seed applying half the quantity in one direction and the remaining quantity at right angles to it. Do not sow seed on a windy day, or when the ground is frozen, wet, or otherwise non-tillable.
- D. Cover seed with a thin layer of topsoil by raking or dragging.
- E. Roll with a hand roller not heavier than 300 lbs.
- F. Maintain a moist seedbed at all times. Water seed bed so that the topsoil is wet to a depth of 2 inches. Apply one complete coverage to the seeded area in an 8-hour period.
- G. Protect the seedbed with barricades, where necessary, to keep all traffic off the area.
- H. After the grass has appeared, reseed all areas, which have failed to show a uniform stand of grass.

### 3.5 SLOPE STABILIZATION

- A. All slopes 3H:1V or steeper shall be stabilized per the slope stabilization detail shown on the Contract Drawing.

### 3.6 CLEAN UP

- A. Dispose of excess materials and debris resulting from seeding work off-site.
- B. Leave work areas clean and neat upon completion of the work.

### 3.7 STAND OR TURF GRASS AN MAINTENANCE

- A. The stand of turf grass shall be in conformance with Section 9.50.03.5 of Form 816.
- B. Maintenance Period Required: Immediately after seeding and continue until area is stabilized and final acceptance by the Owner and Engineer.

- C. Perform all reseeding, watering, mowing, weeding and rolling, insect or disease control, re-fertilizing, and repair of washouts if necessary.
- D. Water minimum 3 times per week so that the depth of moisture is minimum 4 inches. Coordinate watering and timing with any proposed irrigation system.
- E. When average height of grass becomes 6 inches, mow to the height of 3 inches. Remove heavy clippings. This shall be performed for minimum of 3 mowings or until acceptance by the Owner.

### 3.8 INSPECTION, ESTABLISHMENT, AND ACCEPTANCE

- A. Submit written notice requesting inspection by the Engineer at least 10 days prior to the anticipated date.
- B. No grass area will be inspected for acceptance prior to the completion of this Contract; minimum 30 days from date of seeding prior to the completion of 3 mowings.
- C. An acceptable seeded grass area shall be in accordance with Section 9.50.03.5 of Form 816
- D. Unacceptable seeded areas shall be reconstructed under the direction of the Engineer.
- E. The Engineer and/or Owner shall be the judge of acceptance.

END OF SECTION

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS:

- A. American Sod Producers Association, Inc. (ASPA): Guideline Specifications for Sodding
- B. American National Standards Institute (ANSI): ANSI Z60. 1 Nursery Stock
- C. Department of Agriculture (DOA) Soil Conservation Service Soil Survey Investigation Report No. 1: Soil Survey Laboratory Methods and Procedures for Collecting Soil Samples

### 1.2 DELIVERY, STORAGE, AND HANDLING:

- A. **PLANT DELIVERY:** When delivered, plants shall have labels stating plant names and sizes; labels shall be legible for at least 60 days. Groups of plants may be labeled by tagging one plant. Protect plants from damage.
- B. **PLANT STORAGE:** Store and protect plants not planted on the day of arrival as follows:
  - 1. Shade and protect plants from wind and direct sunlight.
  - 2. Heel-in bare root plants.
  - 3. Protect balled and burlapped (B&B) plants from freezing and drying out. Provide covering that allows air circulation.
  - 4. Keep plants moist until planted.
- C. **PLANT HANDLING:** Do not drop materials from vehicles.

## PART 2 - PRODUCTS

### PLANTINGS:

- A. **PLANTS:** ANSI Z60. 1. Minimum plant sizes before pruning and with branches in normal position shall be as stated on the drawings, based on the average width or height of the plant specified in ANSI Z60. 1. Plants of the same specified size shall be uniform in size and character of growth. Plants shall be well-branched, well-formed, sound, vigorous, healthy, and free of disease, sunscald, windburn, abrasion, harmful insects or insect eggs, and have healthy, unbroken root systems. Deciduous trees and shrubs shall be symmetrically developed and of uniform growth, with straight boles or stems and no disfigurements. Evergreen trees and shrubs shall have well-developed symmetrical tops with typical spread of branches for each species or variety. Container grown plants shall have sufficient root growth to hold soil intact when removed from containers. Root bound plants are not acceptable.

- B. PLANTING SOIL: Use the excavated material.
- C. FERTILIZER: As recommended in writing, by the plant supplier.
- D. MEMBRANE: Landscape fabric.
- E. GRANULAR FILL: Uniformly graded clean sand, stone, gravel, or stone screenings.
- F. MULCH: Material shown on the drawings, free of noxious weeds, mold, and other deleterious materials.
- G. TRUCK WRAPPING MATERIAL: Double-thickness crinkled paper cemented together with bituminous material, at least 4 inches wide, with stretch factor of 33-1/3 percent.
- H. STAKES: Rough sawn hardwood free of knots, rot, cross grain, bark, long slivers, or other defects that impair strength.
- I. FLAGS: White plastic tape, 6 inches long.
- J. FERTILIZER: Type and formula recommended in writing by the local USDA Soil Conservation Service agent. If you hydroseed, provide controlled release fertilizer composed of prills coated with plastic resin to provide a continuous release of fertilizer for at least 6 months.
- K. MULCH: Air-dry hay or straw free of noxious weeds, mold, and foreign matter detrimental to plants. If you hydroseed, provide specially prepared color-dyed wood cellulose fiber that contains no growth or germination-inhibiting factors.

### PART 3 - EXECUTION

- A. SEASONS AND CONDITIONS: According to the written instructions of the local USDA Soil Conservation Service agent. Do not plant when the ground is frozen or covered with snow.

#### PREPARATION:

- A. LAYOUT: Stake out plant and bed locations and outlines before digging pits or beds. The Contracting Officer's Representative may adjust locations to meet field conditions
- B. EXCAVATION: Protect existing adjacent turf before excavating. When planting beds occur in existing turf areas, remove turf to the depth that removes the entire root

- system. Measure depth of pits from finished grade. Depth of pit shall provide same relation between top of ball and finished grade as existed when plant was grown.
- C. WATERING BASINS: Form with topsoil around each plant, 6 inches deep for trees and 4 inches deep for shrubs.
  - D. PLANTING: Set plants at the depth they were grown, on a 6-inch hand-compacted layer of soil.
  - E. B&B STOCK: Backfill to one-half the depth of the ball, then tamp and water. Carefully remove or fold back excess burlap and tying materials. Backfill and water.
  - F. BARE-ROOT STOCK: Plant so roots are in a natural position. Remove damaged roots with clean cuts. Apply tree wound dressing to cuts larger than 1/2-inch in diameter. Work soil among roots. Tamp, backfill, and water.
  - G. CONTAINER GROWN STOCK: Remove from container without damaging plant. Cut root ball vertically in 2 or 3 places with sharp knife before planting. Backfill, firm the soil around the plant, and water.
  - H. GROUND COVERS AND VINES: Do not remove from flats or containers until immediately before planting. Plant at depth to cover all roots. Immediately sprinkle with water until entire area is soaked. Backfill, firm the soil around the plant, and water.
  - I. FERTILIZING: Fertilize as recommended by the plant supplier. If fertilizer adheres to plants, remove it by flushing.

**FINISHING:**

- A. EDGING: Install edging to provide a clear cut line between planted area and adjacent turf.
- B. MULCHING: Keep mulch off buildings, sidewalks, light standards, and other structures. Lay membrane with edges lapped 6-12 inches. Spread mulch to a uniform thickness.
- C. EROSION CONTROL MATERIAL: Install according to the manufacturer's printed instructions.
- D. WRAPPING: Tie trunk wrapping to trunks of deciduous trees within the next full working day after planting. Begin wrapping at base and extend to first branches. Overlay the wrapping half the width of underlying wrap and securely tie at top, bottom and 18 inch maximum intervals.

- E. **STAKING AND GUYING:** Hold plants firmly between stakes with guy wire. Use hose chafing guards where wire contacts plant. Drive support stakes outside of plant balls. Do not injure ball or roots. Drive ground stakes into firm ground with top of stake flush with ground. Securely fasten flags on each guy wire and cable.
- F. **PRUNING:** Remove dead and broken branches. Make cuts with sharp instruments, flush with trunk or adjacent branch to eliminate stubs. Apply tree wound dressing to cuts 1/2-inch in diameter and larger immediately after pruning.
- G. **MAINTENANCE:** Begin maintenance immediately after each plant is planted and perform until final acceptance of the project. Water, prune, weed, mulch, re-guy, re-wrap, and perform other operations necessary to promote plant growth. Remove and replace plants not in healthy growing condition.

END OF SECTION

1. GENERAL

1.01 SECTION INCLUDES

- A. Basic Electrical Requirements specifically applicable to Division 16 Sections, in addition to the General Requirements.

1.02 REFERENCES

- A. ANSI/NFPA 70 - National Electrical Code.
- B. NFPA- Life Safety 101: NFPA Codes- All
- C. BOCA- National Building Code
- D. Local codes and Authority Having Jurisdiction
- E. Eversource / CL&P – Information & Requirements for Electrical Supply below 600 Volts, latest edition.

1.03 SUBMITTALS

- A. Submit shop drawings and product data grouped to include complete submittals of related systems, products, and accessories in a single submittal.
- B. Mark dimensions and values in units to match those specified.

1.04 REGULATORY REQUIREMENTS

- A. Conform to applicable State of Connecticut Building Codes.
- B. Electrical: Conform to NFPA 70.
- C. Conform to Eversource (formerly CL&P) requirements

1.05 QUALIFICATIONS

- A. All electrical design and installation work shall be performed by an electrical contractor licensed to perform work in the State of Connecticut.

1.06 TERMS AND DEFINITIONS

- A. The term "provide" shall mean furnish, fabricate, complete, deliver, install and erect including all labor materials, tools, services, and expense required to complete in place, ready for operation or use under terms of the CONTRACT DOCUMENTS.
- B. The term "as indicated" or "as shown" shall mean as shown or indicated on the drawings. The term "as directed" or "as selected" shall mean direction or selection by the Architect/Engineer.
- C. The term "the contractor" shall mean the entity doing the work of Division/Section.

1.07 INTENT

- A. **It is the intention of the specifications and contract drawings for the Contractor to design and build a new finished electrical service drop, meter, and panel sized for proposed and future uses, all in water tight exterior enclosure, tested and ready for operation.**
- B. Items and services not shown on drawing, but mentioned in specification, or vice versa, necessary to render the work complete and ready for operation, shall be provided without additional cost to the Owner.
- C. The Contractor shall familiarize himself with the drawings and specifications of the other trades, particularly the architectural, structural, and mechanical trades. Work that is contingent upon the work of other trades shall be fully coordinated with the General Contractor prior to the Bid submission. Failure to properly coordinate work requirements does not relieve the Contractor from completing all work.
- D. The drawings are general layout schematics and do not show every fitting, transition, offset, etc or device mentioned within the specifications. All items necessary for proper installation, operation, and maintenance of the architectural, electrical, mechanical equipment and systems shall be included, the same as if herein specified.
- E. Prior to submission of Bid, the Contractor shall give written notice to the Architect of any materials or apparatus believed unsuitable or inadequate, in violation of any laws, ordinances, rules, or regulations of authorities having jurisdiction, and any necessary items being omitted. In the absence of such written notice, it is mutually agreed that the Contractor has included all required items in his proposal.
- F. The work required under this section includes all labor, materials, services, and equipment necessary for and reasonably incidental to the proper and complete installation of all lighting systems, power systems, and distribution systems as set forth or reasonably implied on the drawings and in specifications, notwithstanding, that each and every item necessarily involved may not be specifically mentioned.

1.08 WORK INCLUDED

- A. The principal items of the electrical work shall include, but are not necessarily limited to the following:
  - 1. Providing for the extension and termination of the secondary power distribution feeder to the site service cabinet/panel. Examine existing poles on site to determine the extent of this work.
  - 2. Provide all coordination work with *EVERSOURCE*. All *EVERSOURCE* charges for this project are to be included as part of the bid proposal fee.
  - 3. Providing services, distribution panels, surge/lighting suppression, grounding and feeders. **Panels & service shall be sized for the proposed well, irrigation system, potential concession and restroom building and convenience outlet.**
  - 4. **Providing for complete electrical system to service the proposed and future uses including grounding systems, controls, transformers, and concrete bases**

**or pads, bollards, and any other equipment as required for a fully functioning system.**

5. Providing for all of the wiring and electrical devices.
6. Providing for the common grounding of all equipment.
7. Provision for premium time and scheduling of work as required to complete the work.
8. Providing and installing temporary light and power for the project. This includes the cost of energy.
9. Removal and proper disposal of electrical debris as required to complete the project.
10. Providing all necessary equipment for the execution of the electrical work.
11. Relocation/removal/repair of existing underground electric and telephone lines, as necessary, to install the new feeders and distribution conduits.
12. Providing for the complete testing and certified reporting of all tests of the electrical systems.
13. Removal of the abandoned in place electrical systems components, as applies.
14. Providing for all concrete work for the execution of the project.

### 3. EXECUTION

#### 3.01 EXISTING SYSTEMS

To remain - existing street lighting to remain, protect and keep operational at all times.

#### 3.02 PERMITS

- A. The Contractor shall give all necessary notices, obtain all permits and pay all state and local taxes, fees and other costs in connection with his work. He shall prepare documents, file all necessary plans and obtain all necessary approvals of all state and local departments having jurisdiction. He shall obtain and deliver all Certificates of Inspection to the Owner before requesting acceptance and final payment for the work.
- B. The Contractor shall be responsible for performing any and all inspections required by the Building Code Official and the local Fire Marshal.

#### 3.03 MEASUREMENTS

- A. All measurements shall be taken at the site; actual measurements to take precedence over scale dimensions. The contractor/electrical contractor shall make necessary field measurements to determine space requirements.

#### 3.04 COORDINATION OF WORK

- A. Coordinate the work with the work of other trades and check the drawings and specifications for the work of other trades to assure proper location of the materials and equipment provided. **Prepare coordination drawings as necessary.** Verify all

- power requirements for ratings and compatibility for equipment supplied by others but to be connected by the contractor.
- B. Closely schedule the work so that the work will be installed at the proper time without delaying the completion of the project.
  - C. Where the work will be installed in close proximity to the work of other trades, or where there is evidence that the work will interfere with the work of other trades, arrange space conditions to make a satisfactory adjustment. If the work is installed before coordinating with other trades, make necessary changes to the work to correct the condition without additional cost to the owner.
  - D. Prepare complete set of drawings showing all necessary slab openings and structural supports that require structural framing. Drawings shall clearly indicate sizes and location relative to column lines. Drawings shall be completed in sufficient time to allow for structural steel fabrication so as not to delay the project schedule.

### 3.05 SCAFFOLDING, RIGGING, HOISTING

- A. Unless otherwise specified, the work shall include all scaffolding, rigging, hoisting and service necessary for erection and delivery into the premises of any equipment and apparatus furnished. Remove same from the premises when no longer required.

### 3.06 AS-BUILT DRAWINGS

- A. Keep a record on prints of all changes and additions to the systems and show exact location of all concealed and buried conduits.

### 3.07 SUPERVISION

- A. The contractor shall personally, or through an authorized and competent representative, constantly supervise the work from beginning to completion and final acceptance without notice from anyone. As far as possible, he shall keep the same foremen and workmen throughout the project duration.

### 3.08 CLEANING

- A. The contractor shall at all times keep the premises free from surplus material and rubbish and he shall not have undue surplus material for which there is no immediate use on site in the work areas.
- B. At the completion of the work the contractor shall remove his entire plant and equipment, rubbish, waste, and surplus materials. He shall leave the premises broom clean.

### 3.09 EXISTING CONDITIONS

- A. The contractor shall visit the site of the work and familiarize himself with all available information concerning the existing nature of the structural, mechanical, and

electrical conditions bearing on the installation, transportation, handling, storage of necessary materials and equipment. Access to and from the work areas to be assessed carefully as a job site condition. Failure of the contractor to acquaint himself with all available information concerning the foregoing conditions will not relieve him from responsibility for estimating the difficulties and costs of successfully performing the complete work under this contract.

### 3.10 PHASING OF THE WORK

- A. All work will be coordinated by the General Contractor and phasing of the work to accommodate the facility occupancy/scheduling requirements will be a part of the scope of work. Refer to General Conditions and other technical specifications for phasing requirements.

### 3.11 DRAWINGS

- A. Drawings are diagrammatic and indicate the general arrangement of systems and work required. Do not scale the drawings. Contractor to provide for exact location of equipment. The contractor is cautioned to examine **all** of the contract drawings to ascertain the full extent of the work required under this or any other division.
- B. Drawings shall be used in layout of the work. Check reference drawing to verify spaces in which the work will be installed. Maintain maximum headroom and space conditions. Where headroom or space conditions appear inadequate, the Architect shall be notified before proceeding with the installation.
- C. As directed by the Architect/Engineer, make minor modifications in the layout as needed to prevent conflicts with the work of other trades or for the proper execution of the work.

### 3.12 EQUIPMENT SUBSTITUTIONS

- A. Whenever the terms "or equal" or "or approved equal" are used, substitutions are permitted provided the substitution conforms to the specified item with regard to quality, noise generated, operating efficiency, and method of operation. Performance in the schedules and the specifications shall be interpreted as the required minimum performance. Substitutions are subject to approval by the Architect/Engineer.
- B. Where an item of equipment is proposed, other than specified, and requires adjustments to the structure, ceilings, piping, ductwork, or wiring, etc., any redesign, drawing revisions, resubmissions to local officials, or costs incurred therein, shall be the responsibility of the Contractor.

### 3.13 WARRANTIES AND GUARANTEES

- A. Materials and Workmanship Warranty - All materials, workman-ship and the entire installation shall be maintained and serviced for a period of one year from date of acceptance by the Owner. Leave entire system installed under this Contract in perfect

working order, and replace any work or material which develops defects within the warranty period, at no cost to the Owner.

1. Perform all work in a practical, neat and workmanlike manner with mechanics skilled in the work and using the very best practices of the trade involved.
  2. No work shall be concealed until it has been inspected and approved by the Architect.
- B. Equipment Warranty - The manufacturer shall warrant that the equipment which he has furnished is free from defects in material and workmanship and meets the specified performance. Obligations under this warranty shall be as follows:
1. For a period of one year from date of acceptance by the Owner the equipment manufacturer/supplier shall provide and pay for all labor, parts, accessories, material, freight and other work required for the repair or replacement of any equipment or part therein which is found to be defective.
  2. Where a system fails to meet the intended performance, any unsatisfactory conditions must be corrected by the installing Contractor. Where questions arise concerning inadequacy of the design, the burden of proof rests upon the Contractor.
- C. The Contractor shall deliver to the Owner a copy of all man-manufacturer warranties before requesting acceptance and final payment for the work.
- D. Acceptance will be upon written request by the contractor that the work is finished and that an acceptance inspection is requested. Acceptance by the Architect/Engineer will be made in writing. The guarantee period will begin on the acceptance date. The guarantee may also begin upon substantial completion', this will also require an Architect/Engineer's certification that substantial completion has been reached.

### 3.14 DELIVERY, SCAFFOLDING, RIGGING, HOISTING

- A. The Contractor shall transport and hoist all his own materials and equipment, or arrange and pay for transportation and hoisting by other Contractors of the project.
- B. The Contractor shall be responsible for receiving, uncrating, checking and properly storing his own equipment and apparatus delivered to the job site for installation in the building.
- C. Equipment shall be protected when stored in areas exposed to the elements or hazards of construction.

### 3.15 EQUIPMENT FOUNDATIONS

- A. The Contractor shall furnish all necessary templates, forms, patterns, etc., for foundations, support pads, bases, and piers required for all equipment, switchboards,

panels, etc., and shall submit drawings to the Architect for approval before purchase or fabrication.

### 3.16 CUTTING/PATCHING AND DRILLING

- A. In general, all cutting/rough patching, and drilling will be provided by the Contractor requiring the work.
- B. All holes are to be core drilled. All core drilling for conduits and equipment shall be by the Contractor.
- C. The Contractor shall furnish and set all sleeves and forms necessary to provide proper openings for his work in floors and walls. When sleeves and forms are set by others, this Contractor shall be held responsible for their exact location and size. Any cutting and patching resulting from error shall be done at this Contractor's expense.
- D. All repairing, patching, piecing-out, filling-in, restoring and refinishing shall be neatly done by mechanics skilled in their trade to leave same in condition satisfactory to the Owner.
- E. Any disturbance or damage to the work, the existing building, and improvements, or any impairment of facilities resulting from the construction operations, shall be promptly rectified, with the disturbed, damaged, or impaired work, restored, repaired or replaced at no extra cost.

END OF SECTION

## 1.0 DESCRIPTION

This item of work shall include the construction and installation of all conduit, conduit duct banks, including conduits, plastic spacers, sleeves, elbows, fittings, couplings, adapters, expansion couplings, support racks, concrete encasement or sand bedding and all appurtenances of the type, size and kind indicated on the plans and in the specifications, or as ordered by the Engineer. This item shall also include the furnishing and installation of all hardware, materials, and the performance of all work required for the complete conduit duct bank installation.

Conduit Duct Bank installation shall conform to the lines, sizes, grades, dimensions, materials and details shown on the plans and in accordance with the provisions of these Specifications.

This section shall include:

1. Above ground and below ground installations.
2. Conduit for telecommunications, electrical power (primary or secondary), or spares.

## 2.0 MATERIALS

All materials specified shall be new and unused and meet the requirements specified herein and as required and approved by the Owner.

All conduits shall be minimum 1½" diameter.

PVC Conduit shall be schedule 40 piping or schedule 80 and shall conform to the requirements of form 816, Section M.15.09.3.

Rigid Galvanized Steel conduit shall conform to the requirements of form 816, Section M.15.09.1.

Handholes, pull boxes, and junction boxes shall be manufactured of concrete, polymer concrete or HDPE and shall be manufactured by Carson/Old Castle, or approved equal. Boxes shall not be subject to traffic or vehicle loading. Covers shall be nonslip, bolt down, with "Electric", "Telephone", or "Communications" cast into the top.

Portland Cement Concrete for concrete encased duct banks shall conform to the requirements of form 816, Section M.03.01, Class "A".

Sand bedding for conduit duct banks shall conform to the requirements of form 816, Section M.05.01.3

## 3.0 CONSTRUCTION METHODS

Conduit Duct Banks shall be laid and installed as indicated on the Contract plans or otherwise directed. *Conduit routing as shown on the plans is for a general arrangement. The Contractor shall provide an actual conduit layout to the Owner for approval prior to*

**construction.** All conduits when in place shall be true to the line and grade specified. Trenching and backfilling of conduit shall conform to the requirements of form 816, Article 10.01 and these specifications.

The conduit shall be sand bedded or concrete encased as detailed on the Contract plans and in accordance with these Contract specifications. Conduits installed with less than 30" of cover shall be concrete encased.

The maximum conduit length shall be 200 linear feet or as shown on the Contract Drawings without a pull box, junction box, or handhole. Boxes or handholes shall be sized per the NEC code.

It shall be the responsibility of the contractor to ensure that Schedule 40 PVC be installed no less than 30" (thirty inches) below grade or steel piping must be used. In no case shall conduit be installed with less than 24" of cover.

All underground conduits shall be laid in a trench free of water. The Contractor shall furnish all equipment necessary to keep trenches free of water during the laying of pipe.

For buried conduit, marking tape shall be installed in the trench at the depth and to the requirements set forth in the Article 1.05.15 of Form 816

Schedule 40 or 80 PVC Conduit shall be installed as detailed and directed in full accordance with the manufacturer's recommendations and accepted best practice, with the below listed qualifications and clarifications. A lay schedule shall be submitted for approval by the Owner. The methods employed in performing the work and all equipment, tools and machinery used in handling material and executing any part of the work shall be started and, whenever found unsatisfactory, shall be changed and improved as required by the Owner. All equipment, tools and machinery used shall be maintained in a satisfactory working condition.

It shall be the responsibility of the contractor to coordinate his work schedule, where required, with that of the Owner or Utility Company. Ample notice shall be given to the Utility Company so that a minimum of 24 to 48 hours notice may be given to any user whose service may be disconnected for any reason.

Proper implements, tools and facilities shall be provided and used by the Contractor for safe and convenient performance of the work. All conduit materials shall be lowered into the trench with a suitable device that will not damage the materials. Under no circumstance shall the materials be dropped or dumped into the trench. Any damaged materials shall be satisfactorily repaired or replaced.

Conduits shall be installed so that the bell end is at the transformer pad, switchgear vault, each manhole, each handhole or other structure. This includes existing and proposed structures

Every precaution shall be taken to prevent foreign matter from entering the conduit while it is being placed in the trench. If the crew cannot put the conduit into the trench and in place without getting earth into it, the Owner may require that before lowering the conduit materials into the trench, a heavy tightly woven canvas bag of suitable size be placed over each end and left there until all connections are made. At times when work is not in progress, open ends shall be securely closed so that no trench water, earth or other substances will enter the conduit opening or fittings. If necessary, the line shall be flushed out to remove all foreign matter prior to pulling cable.

The cutting of conduit for installing fittings or closure pieces shall be done in a neat manner without damage to the conduit and so as to leave a smooth end at right angles to the axis of the conduit.

Joining of joints, fittings and accessories shall be provided in accordance with the recommendations of the manufacturer. The contractor shall provide at no additional expense to the Owner, all necessary adapters or terminators for use in pulling cables through the conduit.

Bends shall be used only at the locations shown on the plans or at other locations approved by the Owner.

A minimum 3/16" (three sixteenth inch) polypropylene pull string, or approved equal, shall be provided in each conduit within the duct banks.

Long radius elbows shall be provided for conduit called out to be stubbed out to grade. Conduits shall be cut square 12" above grade and a PVC cap provided on the end. Pull string shall be adequately secured to the cap or conduit for future use.

Upon completion of the conduit installation, all conduits shall be free from obstructions and burrs.

END OF SECTION

1. GENERAL

1.1 SECTION INCLUDES

- A. Building wire and cable.
- B. Wiring connectors and connections.

1.2 RELATED SECTIONS

- A. Section 16195 - Electrical Identification.

1.3 REFERENCES

- A. NECA Standard of Installation (National Electrical Contractors Association).
- B. NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems (International Electrical Testing Association).
- C. NFPA 70 - National Electrical Code.

1.4 SUBMITTALS FOR REVIEW

- A. Wire to be used.

1.5 SUBMITTALS FOR INFORMATION

- A. Test Reports: Indicate procedures and values obtained.
- B. Design Data: Indicate voltage drop and ampacity calculations for aluminum conductors substituted for copper conductors.
- C. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency specified under Regulatory Requirements.

1.6 SUBMITTALS AT PROJECT CLOSEOUT

- A. Project Record Documents: Record actual locations of components and circuits.

1.7 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years experience.

1.8 REGULATORY REQUIREMENTS

- A. Conform to NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories Inc., as suitable for the purpose specified and indicated.

## 1.9 PROJECT CONDITIONS

### Coordination and Meetings:

- A. Verify that field measurements are as indicated.
- B. Conductor sizes are based on copper.
- C. Aluminum conductors are not allowed.
- D. Wire and cable routing indicated is approximate unless dimensioned. Include wire and cable lengths within 10 ft of length shown.

## 1.10 COORDINATION

- A. Coordinate Work under provisions of this Section.
- B. Where wire and cable destination is indicated and routing is not shown, determine exact routing and lengths required.

## 2. MATERIALS

### 2.1 BUILDING WIRE

- A. Manufacturers:
  - 1. Okonite.
  - 2. Rome.
  - 3. Southwire.
- B. Description: Single conductor insulated wire.
- C. Conductor: Copper.
- D. Insulation Voltage Rating: 600 volts.
- E. Insulation: NFPA 70; Type XHHW insulation for feeders and branch circuits larger than #1 AWG; Type THHN/THWN insulation for feeders and branch circuits #2 AWG and smaller.

## 3. EXECUTION

### 3.1 EXAMINATION

- A. Coordination and Meetings: Verification of existing conditions before starting work.
- B. Verify that conduit has been protected from weather.
- C. Verify that mechanical work likely to damage wire and cable has been completed.
- D. Verify that raceway installation is complete and supported.

### 3.2 PREPARATION

- A. Completely and thoroughly swab raceway before installing wire.

### 3.3 WIRING METHODS

- A. Exterior Locations: Use only building wire, Type THHN/THWN and XHHW insulation in raceway.
- B. Underground Installations: Use only building wire, Type THHN/THWN and XHHW insulation in raceway.

### 3.4 INSTALLATION

- A. Section - Quality Control: Manufacturer's instructions.
- B. The proper number of wires shall be installed and properly connected in order to make the power systems wiring complete, ready for satisfactory service.
- C. Route wire and cable as required to meet Project Conditions.
- D. Install cable in accordance with the NECA "Standard of Installation."
- E. Use solid conductor for feeders and branch circuits 10 AWG and smaller.
- F. Use stranded conductors for control circuits.
- G. Pull all conductors into raceway at same time.
- H. Use suitable wire pulling lubricant for building wire 4 AWG and larger.
- I. Protect exposed cable from damage.
- J. Use suitable cable fittings and connectors.
- K. Neatly train and lace wiring inside boxes, equipment, and panelboards.
- L. Clean conductor surfaces before installing lugs and connectors.
- M. Make splices, taps, and terminations to carry full ampacity of conductors with no perceptible temperature rise. Splices of wires are to be eliminated wherever possible and where necessary are only to be made in readily accessible pull and outlet boxes.
- N. Taps and splices in wire #6 and larger shall have brass or copper mechanical connectors applied after wire has been cleaned, then made tight and fully insulated as referred to in other paragraphs.
- O. Use split bolt connectors for copper conductor splices and taps, 6 AWG and larger. Tape uninsulated conductors and connector with electrical tape to 150 percent of insulation rating of conductor.
- P. Use solderless pressure connectors with insulating covers for copper conductor splices and taps, 8 AWG and smaller.
- Q. Use insulated spring wire connectors with plastic caps for copper conductor splices and taps, 10 AWG and smaller.
- R. Trench and backfill for conduit installation as specified. Install warning tape along entire length of direct burial cable, within 3 inches (75 mm) of grade.
- S. Identify and color code wire and cable under provisions of Section 16195. Identify each conductor with its circuit number or other designation indicated.

### 3.5 FIELD QUALITY CONTROL

- A. Quality Control: Field inspection, testing, and adjusting.
- B. Inspect and test in accordance with NETA ATS, except Section 4.
- C. Perform inspections and tests listed in NETA ATS, Section 7.3.1.

D. Perform inspections and test reporting in accordance with Section 16800.

END OF SECTION

## PART 1 - GENERAL

### 1.1 SECTION INCLUDES

- A. Receptacles.
- B. Device plates.
- C. Wiring Devices

### 1.2 REFERENCES

- A. NECA - Standard of Installation.
- B. NEMA WD 1 - General Requirements for Wiring Devices.
- C. NEMA WD 6 - Wiring Device -- Dimensional Requirements.
- D. NFPA 70 - National Electrical Code.

### 1.3 SUBMITTALS FOR REVIEW

- A. Product Data: Provide manufacturer's catalog information showing dimensions, colors, and configurations.

### 1.4 SUBMITTALS FOR INFORMATION

- A. Submit manufacturer's installation instructions.

### 1.5 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing the products specified in this section with minimum three years experience.

### 1.6 REGULATORY REQUIREMENTS

- A. Conform to requirements of NFPA 70.
- B. Provide Products listed and classified by Underwriters Laboratories, Inc., as suitable for the purpose specified and indicated.

## PART 2 - PRODUCTS

The following itemized list, is given for the purpose of conveying to the Contractor the quality and rating of wiring devices to be installed under the Contract. Any or all devices may be manufactured by LEVITON, or approved equal to Bryant Electric Co., Arrow Hart & Hegeman, Harvey Hubbell. A complete itemized list of all devices must be submitted for approval before installation.

## 2.1 RECEPTACLES

- A. Manufacturers:
  - 1. Hubbell 5362 series actual part number as needed, color as selected by Architect.
  - 2. Leviton.
  - 3. P and S.
- B. Description: NEMA WD 1, Heavy-duty general use receptacle.
- C. Device Body: Color as selected by Architect plastic.
- D. Configuration: NEMA WD 6, type as specified and indicated.
- E. Convenience Receptacle: Type 5-20.
- F. GFCI Receptacle: Contractor to use GFI C/B to protect circuit in lieu of GFCI receptacle. Provide cast weatherproof cover for receptacle, Hubbell 5206WO.

## 2.2 PLATES

- A. Weatherproof Cover Plate: Gasketed cast metal with hinged, gasketed device cover.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Coordination and Meetings: Verification of existing conditions prior to beginning work.
- B. Verify that branch circuit wiring installation is completed, tested, and ready for connection to wiring devices.

### 3.2 PREPARATION

- A. Clean debris from outlet boxes.

### 3.3 INSTALLATION

- A. Install in accordance with NECA "Standard of Installation."
- B. Install devices plumb and level.
- C. Install receptacles with grounding pole on top.
- D. Connect wiring device grounding terminal to outlet box with bonding jumper and to branch circuit equipment grounding conductor.
- E. Connect wiring devices by wrapping conductor around screw terminal.

### 3.4 FIELD QUALITY CONTROL

- A. Quality Control: Field inspection, testing, adjusting, and balancing.
- B. Inspect each wiring device for defects.
- C. Verify that each receptacle device is energized.
- D. Test each receptacle device for proper polarity.

E. Test each GFCI receptacle device for proper operation.

3.5 ADJUSTING

A. Contract Closeout: Adjusting installed work.

3.6 CLEANING

A. Contract Closeout: Cleaning installed work.

B. Clean exposed surfaces to remove splatters and restore finish.

END OF SECTION

## PART 1 - GENERAL

### 1.1 SECTION INCLUDES

- A. Grounding electrodes and conductors.
- B. Equipment grounding conductors.
- C. Bonding.

### 1.2 REFERENCES

- A. Quality Control: Requirements for references and standards.
- B. NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems (International Electrical Testing Association).
- C. NFPA 70 - National Electrical Code.

### 1.3 GROUNDING SYSTEM DESCRIPTION

- A. Rod electrode.

### 1.4 PERFORMANCE REQUIREMENTS

- A. Grounding System Resistance: 5 ohms.

### 1.5 SUBMITTALS FOR REVIEW

- A. Procedures for submittals, product data: Provide for grounding electrodes and connections.

### 1.6 SUBMITTALS FOR INFORMATION

- A. Submittals: Submittals for information.
- B. Test Reports: Indicate overall resistance to ground and resistance of each electrode.
- C. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by Product testing agency specified under Regulatory Requirements. Include instructions for storage, handling, protection, examination, preparation, and installation of Product.

### 1.7 SUBMITTALS FOR CLOSEOUT

- A. Contract Closeout: Procedures for submittals.
- B. Project Record Documents: Record actual locations of components and grounding electrodes.
- C. Certificate of Compliance: Indicate approval of installation by authority having jurisdiction.

## 1.8 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years experience.

## 1.9 REGULATORY REQUIREMENTS

- A. Conform to requirements of NFPA 70.
- B. Products: Listed and classified by Underwriters Laboratories, Inc. as suitable for the purpose specified and indicated.

## PART 2 - PRODUCTS

### 2.1 ROD ELECTRODES

- A. Manufacturers:
  - 1. Thomas and Betts .
  - 2. Blackburn.
- B. Material: Copper-clad steel.
- C. Diameter: 3/4 inch and 5/8 inch, as noted.
- D. Length: 10 feet and 8 feet, as noted.

### 2.2 MECHANICAL CONNECTORS

- A. Manufacturers:
  - 1. Thomas and Betts.
  - 2. Blackburn.
- B. Material: Bronze.
- C. Mechanical connectors may be used above grade only.

### 2.4 EXOTHERMIC CONNECTIONS

- A. Manufacturers:
  - 1. Cadweld

### 2.5 WIRE

- A. Material: Stranded copper.
- B. Electrodes: 4/0 AWG or as noted on the plans.
- C. Grounding Electrode Conductor: Size to meet NFPA 70 requirements and as noted on the plans.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Coordination and Meetings: Verification of existing conditions prior to beginning work.
- B. Verify that final backfill and compaction has been completed before driving rod electrodes.

#### 3.2 INSTALLATION

- A. Quality Control: Manufacturer's instructions.
- B. Install rod electrodes at locations indicated. Install additional rod electrodes as required to achieve specified resistance to ground.
- C. Provide bonding to meet Regulatory Requirements.
- D. Bond together any metal siding not attached to grounded structure; bond to ground.
- E. Equipment Grounding Conductor: Provide separate, insulated conductor within each feeder and branch circuit raceway. Terminate each end on suitable lug, bus, or bushing.

#### 3.3 FIELD QUALITY CONTROL

- A. Quality Assurance: Field inspection, testing, adjusting.
- B. Inspect and test in accordance with NETA ATS, except Section 4.
- C. Perform inspections and tests listed in NETA ATS, Section 7.13.
- D. Perform inspections and test reporting in accordance with Section 16800.

END OF SECTION

## PART 1 - GENERAL

### 1.01 SECTION INCLUDES

- A. Nameplates and labels.
- B. Wire and cable markers.
- C. Conduit markers.

### 1.02 REFERENCES

- A. ANSI/NFPA 70 - National Electrical Code.

### 1.03 SUBMITTALS

- A. Submit under provisions of this Section.
- B. Product Data: Provide catalog data for nameplates, labels, and markers.
- C. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by Product testing agency specified under regulatory requirements. Include instructions for storage, handling, protection, examination, preparation and installation of Product.

### 1.04 REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

## PART 2 - PRODUCTS

### 2.01 NAMEPLATES AND LABELS

- A. Nameplates: Engraved three-layer laminated plastic, white letters on black background.
- B. Locations:
  - 1. Each electrical distribution and control equipment enclosure.
- C. Letter Size:
  - 1. Use 1/8 inch letters for identifying individual equipment and loads.
  - 2. Use 1/4 inch letters for identifying grouped equipment and loads.
- D. Labels: Embossed adhesive tape, with 3/16 inch white letters on black background. Use only for identification of individual switches and receptacles, control device stations, and other similar individual elements.

## 2.02 WIRE MARKERS

- A. Description: Tape, split sleeve, or tubing type wire markers.
- B. Locations: Each conductor at panelboard gutters, pull boxes, outlet and junction boxes, and each load connection.
- C. Legend:
  - 1. Power and Lighting Circuits: Branch circuit or feeder number indicated on drawings.
  - 2. Control Circuits: Control wire number indicated on schematic and interconnection diagrams on drawings.

## 2.03 UNDERGROUND WARNING TAPE

- A. Manufacturers:
  - 1. 3-M.
- B. Description: 4 inch wide plastic tape, detectable type, colored yellow with suitable warning legend describing buried electrical lines.

## PART 3 - EXECUTION

### 3.01 PREPARATION

- A. Degrease and clean surfaces to receive nameplates and labels.

### 3.02 APPLICATION

- A. Install nameplate and label parallel to equipment lines.
- B. Secure nameplate to equipment front using screws, rivets, or adhesive.
- C. Secure nameplate to inside surface of door on panelboard that is recessed in finished locations.
- D. Install colored bands 20 feet on center.
- E. Identify underground conduits using underground warning tape.

END OF SECTION

1. GENERAL

1.1 SECTION INCLUDES

- A. Design, sizing and installation of electrical service drop per Eversource requirements.
- B. Design, sizing and installation of distribution panel boards.

1.2 RELATED SECTIONS

- A. Section 16170 - Grounding and Bonding.
- B. Section 16195 - Electrical Identification.

1.3 REFERENCES

- A. NECA Standard of Installation (published by the National Electrical Contractors Association).
- B. NEMA AB1 - Molded Case Circuit Breakers.
- C. NEMA ICS 2 - Industrial Control Devices, Controllers and Assemblies.
- D. NEMA KS1 - Enclosed and Miscellaneous Distribution Equipment Switches (600 Volts Maximum).
- E. NEMA PB 1 - Panelboards.
- F. NEMA PB 1.1 - Instructions for Safe Installation, Operation and Maintenance of Panelboards Rated 600 Volts or Less.
- G. NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment (published by the International Electrical Testing Association).
- H. NFPA 70 - National Electrical Code
- I. Eversource / CL&P – Information & Requirements for Electrical Supply below 600 Volts, latest edition.

1.4 SUBMITTALS

A. FOR REVIEW

- 1. Section - Submittals: Procedures for submittals.
- 2. Shop Drawings: Indicate outline and support point dimensions, voltage, main bus ampacity, integrated short circuit ampere rating, circuit breaker and fusible switch arrangement and sizes.

B. FOR INFORMATION

- 1. Section - Submittals: Submittals for information.
- 2. Submit manufacturer's installation instructions. Indicate application conditions and limitations of use stipulated by Product testing agency specified under Regulatory Requirements. Include instructions for storage, handling, protection, examination, preparation, and installation of Product.

### C. SUBMITTALS FOR CLOSEOUT

1. Contract Closeout: Submittals for project closeout.
2. Record actual locations of panelboards and record actual circuiting arrangements in project record documents.
3. Maintenance Data: Include spare parts listing; source and current prices of replacement parts and supplies; and recommended maintenance procedures and intervals.

### 1.5 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years experience.
- B. All electrical design and installation work shall be performed by an electrical contractor licensed to perform work in the State of Connecticut.

### 1.6 REGULATORY REQUIREMENTS

- A. Conform to requirements of NFPA 70.
- B. Products: Listed and classified by Underwriters Laboratories, Inc. as suitable for the purpose specified and indicated.

### 1.7 MAINTENANCE MATERIALS

- A. Contract Closeout - Furnish two of each panelboard key.

### 1.8 PERFORMANCE / DESIGN REQUIREMENTS

- A. Contractor shall be solely responsible for sizing the electrical service and meter for the proposed and future uses in conformance with Eversource requirements.
- B. Contractor shall be solely responsible for sizing the electrical distribution panel for the proposed and future uses in conformance with Eversource requirements.
- C. Proposed and future uses include:
  1. Proposed convenience receptacle.
  2. Proposed irrigation system
  3. Proposed well
  4. Future concession stand / restroom building
  5. Future field lighting system.

## 2 MATERIALS

### 2.1 DISTRIBUTION PANELBOARDS

All materials shall be in conformance with the latest edition of the Eversource / CL&P Information & Requirements for Electrical Supply below 600 Volts.

- A. Manufacturers:
  - 1. GE.
  - 2. SQUARE D.
  - 3. SIEMENS.
- B. Description: NEMA PB 1, circuit breaker type.
- C. Panelboard Bus: Copper, ratings as indicated. Provide copper ground bus in each panelboard.
- D. Minimum integrated short circuit rating: 22 KAIC amperes rms symmetrical for 240 volt panelboards; and/or as indicated.
- E. Molded Case Circuit Breakers: NEMA AB 1, circuit breakers with integral thermal and instantaneous magnetic trip in each pole. Provide circuit breakers UL listed as Type HACR for air conditioning equipment branch circuits. Circuit breakers to be bolt-on type.
- F. Circuit Breaker Accessories: Trip units and auxiliary switches as indicated.
- G. Enclosure: NEMA 3R, as required.
- H. Cabinet Front: Surface type, fastened with concealed trim clamps, hinged door-in-door with flush lock, metal directory frame, finished in manufacturer's standard gray enamel.
- I. Provide surge suppression for panel. Use Joslyn 1265-85, Surgitron I, heavy duty, main panel protection. This is a 120/240V, 1 phase, 3 wire system.

### 3 EXECUTION

Installation shall be in conformance with the latest edition of the Eversource / CL&P Information & Requirements for Electrical Supply below 600 Volts.

#### 3.1 INSTALLATION

- A. Install panelboards in accordance with NEMA PB 1.1 and the NECA "Standard of Installation."
- B. Provide filler plates for unused spaces in panelboards.
- C. Provide typed circuit directory for each branch circuit panelboard. Revise directory to reflect circuiting changes required to balance phase loads.
- D. Provide engraved plastic nameplates under the provisions of Section 16195.
- E. Ground and bond panelboard enclosure according to Section 16170.

#### 3.2 FIELD QUALITY CONTROL

- A. Section- Quality Control: Field inspection, testing, adjusting.
- B. Inspect and test in accordance with NETA ATS, except Section 4.
- C. Perform inspections and tests listed in NETA ATS, Section 7.4 for switches, Section 7.5 for circuit breakers.
- D. Perform inspections and test reporting in accordance with Section 16800.

### 3.3 ADJUSTING

- A. Section - Contract Closeout: Adjusting installed work.
- B. Measure steady state load currents at each panelboard feeder; rearrange circuits in the panelboard to balance the phase loads to within 20 percent of each other. Maintain proper phasing for multi-wire branch circuits.

END OF SECTION

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

- A. The Drawings and general provisions of the Contract, including General and Supplementary Conditions, and General Requirements apply to work specified in this Section.

### 1.2 SECTION INCLUDES

- A. Furnishing and installing a complete underground irrigation system as shown on the Contract Drawings and as specified herein, complete and ready for operation including but not limited to:
  1. All sprinkler heads, piping, fittings, and joints.
  2. All piping, fittings, valves, controls, wiring, couplings, and access boxes.
  3. Control panel, pedestal mount and concrete pad.
  4. Storage tank, buoyancy protection, level controls, pumps, concrete pads, wiring, conduits, and controls.
  5. All coordination, testing, and calibration of the system.

### 1.3 QUALITY ASSURANCE

- B. Installer Qualifications: Installer shall have at least 5 years experience in installing irrigation systems for athletic fields. Contractor shall be licensed to install sprinkler systems in the State of Connecticut.

### 1.4 PERFORMANCE REQUIREMENTS

- A. System is designed to operate at 60 GPM at 75-80 PSI.
- B. System shall be calibrated to provide a minimum of 1" of water over the entire field per week. The minimum application shall be ½" of water at a time. The total application shall not exceed 50,000 gallons during any 24-hour period.

### 1.5 SUBMITTALS

- A. 3 copies of shop drawings and/or manufacturer catalog cut sheets, and user's manuals for all products shall be provided for review and approval.
- B. As-Built Drawings: Record on a print, all deviations from contract drawing locations. Record final and actual sizes, locations and elevations of all components. At completion of work, provide 3 copies of the As-Built drawings to the owner before final acceptance.

## 1.6 INTERPRETATION OF THE DRAWINGS

- A. The irrigation system layout has been provided by Turf Products, LLC of Enfield, Connecticut. The layout is based on the products specified on the Contract Drawings. The Contractor shall provided layout and product information if “or equal” products are substituted.
- B. The irrigation drawing is diagrammatic and is not intended to show exact location of piping, or valves. Contractor shall locate items as closely as possible or as required to avoid conflicts with other improvements in the field.
- C. Sprinkler heads shall be located as shown on the Contract Drawings. The Contractor shall provided layout and product information if “or equal” products are substituted.
- D. The irrigation drawing is diagrammatic and is not intended to show every part or piece of piping, fitting, joint, coupling, wire, or cables that may be required for a fully functioning irrigation system. The Contractor shall furnish and install all of the products as required for a fully functioning irrigation system.

## 1.7 PROTECTION OF THE WORK

- A. The Contractor shall be responsible for the protection of the irrigation work during all construction operations. The Contractor shall be responsible for scheduling and coordinating the irrigation system installation. Any damage to the system that occurs during construction operations shall be the responsibility and at the expense of the Contractor. Repairs to the system shall to the satisfaction of the Owner or Engineer. Products damage during construction shall be replaced with new products.

## 1.8 SYSTEM SHUTDOWN AND STARTUP

- A. The Contractor or manufacturer’s representative shall provided initial operator startup training and operator overview of the system to the Owner prior to final acceptance. The Contractor shall notify the Owner at least 48 hours prior to scheduling training
- B. The Contractor shall be responsible for deactivating and draining the system prior to the onset for freezing conditions after the initial installation. The winter shutdown shall occur within 7 days of November 15<sup>th</sup>, or as approved by the Owner. The Contractor shall submit a letter to the Owner and Engineer certifying that the system was winterized and drained and shall indicate the date the work was completed.

## 1.9 GUARANTEE

- A. The irrigation system shall be guaranteed for all workmanship and material for a period of one (1) year from the date of acceptance of the system. The Contractor shall repair or replace defective irrigation equipment for the duration of the guarantee

period. Repairs or replacements shall be made in the same manner as specified for the original irrigation system and shall be completed at no expense to the Owner.

## PART 2 - PRODUCTS

All materials, equipment, and products specified shall be new and unused and meet the requirements specified herein. All materials, equipment, and products shall be as specified herein or approved equals.

### 2.1 IRRIGATION SYSTEM COMPONENTS

- A. Piping: All piping shall be minimum class 200 PVC and shall conform to the requirements of ASTM D1784 and D1785.
- B. Joints, tees, and fittings shall be class 200 PVC. Fitting shall be solvent weld type except where threaded transition fittings are required.
- C. Wires & Cables: All control and power wires and cables shall be minimum 18 gauge multi-strand UF, UL approved, and suitable for direct bury applications. Dry splice kits suitable for direct burial shall be used for any required splicing.
- D. Controls: Shall be as shown on the Contract Drawings or approved equal.
- E. Sprinkler heads: Shall be as shown on the Contract Drawings or approved equal.
- F. Automatic valves / remote control valves: Shall be as shown on the Contract Drawings or approved equal.
- G. Quick couplings: Shall be as shown on the Contract Drawings or approved equal.
- H. Manual gate valves: Shall be as shown on the Contract Drawings or approved equal.
- I. Valve boxes and cover: Valve boxes shall be HDPE or FRP and shall be manufactured by Carson Industries or approved equal. Valve boxes shall be furnished with bolt down covers.

### 2.2 STORAGE TANK AND IRRIGATION PUMP

- A. The storage tanks shall meet the following requirements:
  - 1. Capacity shall be 5,000 gallons minimum.
  - 2. Shall be constructed of fiberglass reinforced plastic, resin, HDPE, or reinforced concrete. The material and wall thickness shall be suitable for H-20 loading with 2 feet of cover.
  - 3. Shall be furnished with 2 – 24” diameter minimum manways with bolt down access covers.

4. Shall be furnished with a deadman or anti-buoyancy collar to prevent floatation.
  5. All piping connections (fill, discharge, or conduit) shall be watertight.
- B. Irrigation pump station shall be Rain Bird Low Profile Pump Station meeting the following requirements
1. Shall produce 60 GPM at 75-80 psi at the discharge.
  2. Pump shall be variable frequency driven (VFD) to maintain constant pressure and varying demand.
  3. Shall be skid mounted and furnished with a marine grade aluminum enclosure.
  4. Shall include powder coated steel piping and fittings.
  5. Shall include relays as required for the irrigation system.
  6. Shall include surge protection, circuit breaker motor protection, and pump thermal switch for safety shutdown.
  7. Electrical controls shall be in a separate NEMA 3R enclosure and shall include touch screen operation.
  8. Shall be furnished with inlet and outlet pressure gauges.

### 2.3 SYSTEM CONTROLS, WIRING & CONDUITS

- A. All conduits and wiring required for the irrigation and pump systems shall conform to Section 16010 through Section 16470 of these specifications.
- B. Water level in the irrigation system storage tank shall be measured by non-mercury mechanical float switches or pressure level transducer.
- C. The Contractor shall furnish, install and test a complete control system, compatible to the irrigation pump, well pump and irrigation equipment supplied under this contract.
- D. The control equipment shall be integrated with and automatically control the entire well and irrigation system equipment for a fully functioning system. The control equipment shall automatically:
1. Start the irrigation pump when called for by the irrigation system controls.
  2. Turn on the well pump and open the electric ball valve on the tank fill piping to fill the storage tank when the water level reaches a predetermined level.
  3. Turn off the well pump and close the electric ball valve on the tank fill piping when the water level reaches a predetermined level.
  4. Turn off all pumps if the water level in the storage tank reaches a low level alarm.
  5. Turn off the irrigation pump when called for by the irrigation system controls.
  6. Open the electric g lead pump when sewage in the wet well reaches a predetermined level.
  7. Pump motor shall be protected by magnetic overloads, with manual reset. In the event of pump overload, the alarm circuit shall be energized.
- E. The control equipment shall be arranged to automatically start and operate after an interruption of electrical power for any reason what-so-ever and the subsequent

- resumption of electrical power whether by normal utility company or standby generator, provided that the controls were in an operating mode at the time of power interruption.
- F. The control panel shall be mounted in a heavy duty NEMA 4X enclosure with a hinged outer door and multiple padlockable stainless steel latches.
  - G. The control panel shall have high and low water alarms which shall be indicated by a large red alarm light.
  - H. The control panel enclosure shall include all other items necessary if not specifically listed to form a complete, integrated, and operating pump station and irrigation system. All internal wiring shall be neat and color coded. Each wire shall be a different color or stripe (except for ground) and all incoming wires shall terminate into an appropriate terminal block. The equipment shall be mounted in such a way to provide for easy future adjustment and access. A schematic diagram (showing wire color) shall be permanently fastened to the inside of the enclosure. An installation and service manual shall be included with the control panel.
  - I. The contractor shall provide a galvanized steel or pressure treated exterior grade plywood backer panel and posts for mounting the control panels and equipment in the vicinity of the storage tank and irrigation pumps.

#### 2.4 TRENCH BACKFILL & BEDDING MATERIALS

- A. Sand bedding shall meet the requirements of Article M.08.01.21 of DOT form 816.
- B. Trench backfill shall conform to Section 02211

#### 2.5 CONCRETE

- A. Cast-in-place shall meet the requirements of Article M.03.02 Class "C" of Form 816.

### PART 3 - EXECUTION

#### 3.1 COORDINATION

- A. The Contractor shall be responsible for all coordination, scheduling, and timing of the irrigation system installation. All equipment, products, or items that have a fixed relation to finished grade shall be installed and/or reset during the course of the work to match finished grades.

#### 3.2 TRENCHING

- A. Trenching for all irrigation system, tank, and pump station piping, conduits, or other appurtenances shall conform to the requirements of Section 02211 of these specifications and the details shown on the Contract Drawings.

### 3.3 IRRIGATION SYSTEM INSTALLATION

- A. Any PVC piping, fitting or other system component that has been dented or damaged during delivery or installation shall be discarded and new piping, fitting, or components installed.
- B. PVC pipe and fitting installation shall be installed in a neat and workmanlike manner and in accordance with recognized trade practices. Pipe and fitting sizes shall be as shown on the Contract Drawings or per the manufacturer's recommendations.
- C. No PVC pipe may be threaded or connected to a threaded fitting without an adapter.
- D. Care shall be taken during pipe and fitting installation to insure that inside of pipe and fittings remains clean and free of debris. Any pipe end not being worked on shall be protected and not left open.
- E. All threaded joints shall have Teflon tape or pipe dope applied.
- F. Sprinkler heads shall be installed as shown on the Contract Drawings and as recommended by the manufacturer. Sprinkler heads shall be installed with a manufactured swing joint. Sprinkler heads shall have a fixed relation to finished grade as recommended by the manufacturer.
- G. Control wiring shall be installed neatly and in bundles where applicable. Wire splices shall be watertight direct bury splices kits. The minimum wire size shall be determined by the Contractor and in accordance with the Manufacturer's wire sizing charts.
- H. Minimum riser sizes shall be the pipe size of the sprinkler head.
- I. All automatic electric valves, coupling, fittings, boxes, and all other required appurtenances shall be installed as shown on the Contract Drawings or per the manufacturer's recommendations.
- J. The Owner shall approve the exact location of the control panel, pedestal, and concrete pad prior to installation. The Contractor shall stake the location in the field and provide the Owner at least 48 hours notice prior to installation.
- K. The control panels and wiring shall be installed as shown on the Contract Drawings or per the Manufacturer's recommendations.
- L. The Contractor shall calibrate the irrigation system for the application rates as outlined in the Contract Documents.

M. PRESSURE TESTING

1. Before backfilling, all water lines shall be flushed.
2. Risers may be plugged at the head locations prior to testing.
3. Individual sections of the system may be tested as determined by the contractor.
4. The system shall be hydrostatically pressure tested at 150 psi for at least 1 hour or until all joints, fittings, and pipes have been inspected, whichever is greater.
5. The Contractor shall correct any leakage and repeat the test until the system is watertight.
6. The maximum pressure loss during the test may be 5 psi.
7. The pressure testing shall be witnessed by the Owner or Owner's representative. Test not witnessed by the Owner or Owner's representative will not be valid and shall not be accepted.

3.4 STORAGE TANK, IRRIGATION PUMP STATION, AND CONTROLS

- A. The storage tank shall be installed as shown on the Contract Documents and as required by the manufacturer. Tanks shall be furnished with anti-buoyancy collars or deadmen to prevent floatation in high groundwater conditions. Bottom of excavation shall be dry. Tank shall be set level for its entire length. Crushed stone or native material may be utilized for the excavation bottom.
- B. Risers and locking covers shall be installed to grade. Risers shall provide access for flushing, cleaning, and pump station level controls.
- C. Any tank penetrations shall be water tight. Effort shall be made to locate penetrations above the static water level.
- D. The irrigation pump station shall be installed shown on the Contract Documents and as required by the manufacturer. The pump station shall be set level and secured to the concrete pad.
- E. All piping shall be securely braced and thrust blocking or Megalug joint restraints provided.
- F. All controls panels, conduits, and wiring shall be installed in accordance with the manufacturer's recommendations and in accordance with recognized trade practices. Control panels shall be installed in lockable NEMA 4X enclosures.

3.5 FINAL TESTING AND ACCEPTANCE

- A. The Contractor shall balance and calibrate the system prior to final acceptance. The system settings shall be recorded, stored and provided to the Owner.
- B. Before the irrigation system will be accepted by the Owner, the Contractor shall perform and performance coverage test to determine of the water coverage and

- operation of the system is complete and satisfactory. The Owner or Owners representative shall be present at the time of testing. If any part of the system is inadequate, damaged, or not operating to the project specifications, the Contractor shall replace or repair the item at the Contractor's expense and the test repeated until accepted.
- C. The Contractor shall be responsible for the operation and maintenance of the irrigation system until the winter shutdown as outlined in these specifications. The Contractor shall be responsible for any damage or malfunction that occurs during this period.
- D. After the winter shutdown of the system, the Contractor shall provide the Owner with all the required keys and tools necessary to operate the system

END OF SECTION

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

- A. The Drawings and general provisions of the Contract, including General and Supplementary Conditions, and General Requirements apply to work specified in this Section.

### 1.2 SECTION INCLUDES

- A. Furnishing and installing a complete 8" diameter drilled and cased water supply well for potable water and irrigation use as shown on the Contract Drawings and as specified herein, complete and ready for operation.
- B. Furnishing and installing pressure tanks, switches, and controls as part of the potable water and irrigation systems.
- C. All required testing and disinfection as required by the Department of Health.

### 1.3 QUALITY ASSURANCE

- A. Installer Qualifications: Well driller shall be licensed in the State of Connecticut.
- B. The Contractor shall submit a list of at least three (3) similar sized wells of the type, size and capacity specified with owner name, address, and phone number.
- C. Well shall conform to AWWA A100 for water supply wells.

### 1.4 PERFORMANCE REQUIREMENTS

- A. Capacity: A minimum of 60 gpm is sought. Contractor shall obtain additional capacity if readily available.
- B. Discharge Head: Shall be determined in the field by the Contractor. Shall be coordinated with potable water service and irrigation system requirements.

### 1.5 SUBMITTALS

- A. Provide shop drawings or product submittals for:
  - 1. Well pump layout
  - 2. Well pump
  - 3. Casing material, diameter, and wall thickness
  - 4. Pressure tanks, switches, and controls.
- B. Field Quality Control Reports
  - 1. Substrata formations
  - 2. Water bearing formations
  - 3. Water levels
  - 4. Performance test data

C. Project Record Documents

1. Casing material, diameter, wall thickness, and depth below finish grade
2. Pump test including static water level, maximum safe yield, and drawdown at maximum yield.
3. Strata log
4. Certification that the well is aligned and plumb within the project specifications

PART 2 - PRODUCTS

2.1 WELL CASING & SCREEN

- A. ASTM A53 Grade B steel pipe with welded joints, or approved equal.
- B. Well screen shall be precision milled and be non-corrosive. Well contractor shall select the screen and screen length suitable for the soil conditions.

2.2 SUBMERSIBLE WELL PUMP

- A. Shall be minimum 4" diameter
- B. Shall be sized to provide the require flow rates at the total dynamic head as determined by the Contractor.
- C. Shall be furnished with stainless steel casing, motor adapter, and discharge head.
- D. Shall be furnished with integrated stainless steel check valve.
- E. Shall be field serviceable.
- F. Shall be manufactured by Goulds Water Technology, or approved equal.

2.3 PITLESS ADAPTER

- A. Fitting shall be of the size and shape required to fit in the casing and supply the potable water service and irrigation system with waterproof seals

2.4 WELL CAP

- A. Casing caps shall include holes for piping and cable. Cap shall be lockable, removable, waterproof, and vermin proof.

2.5 PRESSURE TANK, PRESSURE SWITCH, AND CONTROLS

- A. Suitable controls and control box shall be provided to operate the system. Control box shall be installed NEMA 3R lockable enclosure.

- B. Pressure tank shall be located within the proposed precast concrete restroom/concession building. Tank shall be minimum 7.6 gallon Well-x-trol WX series, or approved equal.
- C. Pressure switch shall be manufactured by Square D or approved equal and shall be sized by the Contractor for the flows and pressures proposed.

## 2.6 GROUT

- A. ASTM C 150, Type II

## 2.7 WATER PIPING, CONDUIT, AND WIRING

- A. Shall conform to the applicable sections of these specifications.

## PART 3 - EXECUTION

### 3.1 PROJECT CONDITIONS

- A. Contractor to provide all temporary measures as need for drilling, installation, and testing purposes including but not limited to:
  - 1. Drilling Water (the existing onsite well shall not be counted on for water supply).
  - 2. Temporary Power.
  - 3. All pumps, piping, and materials need for testing.
  - 4. Provide any temporary erosion and sedimentation controls measures as needed to protect the site and river during installation and testing.
- B. The Contractor shall coordinate well installation and access to the proposed well site. The Contractor shall be responsible for providing and removing any temporary ground stabilization measures as may be need to facilitate access to the proposed well site.
- C. The Contractor shall acquire a well drilling permit prior to the start of construction and shall comply with all Department of Health inspection, testing and paperwork requirements.

### 3.2 WELL INSTALLATION

- A. The well shall be installed utilizing a rotary drill method.
  - 1. Well casing outside diameter: 8-inch
  - 2. Minimum well depth: 100 feet
  - 3. Estimated total depth: 100 feet
- B. Installation shall be installed in a neat and workmanlike manner and in accordance with recognized trade practices, local and federal codes.

- C. The location of the mud pit shall be marked in the field prior to installation and shall be approved by the Owner and Engineer prior to construction. Provide hay bale dewatering structure around the pit as shown on the Contract Drawings. In no case shall the pit be located beyond the existing chain link fence perimeter.
- D. Well liner and casing shall be round, plumb and true to line.
- E. The Contractor shall provide all temporary power, water, materials, fitting, and all other equipment necessary for testing and developing the well.
- F. Casing cap shall extend a minimum of 2-feet above finished grade. Grade in the vicinity of the well shall be pitched away from the well casing.
- G. Grout shall be installed continuously to ensure filling of the annular space. Installation shall be in accordance with recognized trade practices, local and federal codes. No other operations shall be performed on the well within 72-hours after grouting unless otherwise approved by the Owner or Engineer.
- H. Contractor shall develop well to maximum yield per foot drawdown. Contractor shall utilize compressed air for a minimum of 2-hours for well development or alternate method as approved by the Owner or Engineer. Sand, drill fluid, and fines shall be removed from the water bearing layer.
- I. The submersible pump shall be installed to the manufacturer's recommendations. Alignment shall be corrected and adjusted as necessary. Contractor shall ensure that all piping and wire connections are secure and tight.
- J. Pressure switch, tanks, and controls and all other equipment shall be calibrated and function integrally with the domestic water requirements (proposed precast building or existing service reconnection) and with the irrigation system. All controls for all systems shall be calibrated and coordinated by the Contractor.

### 3.3 TESTING

- A. Clean water supply wells of foreign substances. Swab casings using alkalis, if necessary, to remove foreign substances.
- B. Perform tests and inspections of the completed well and prepare test reports.
- C. Tests and Inspections:
  - 1. Plumbness and alignment shall be in accordance and comply with AWWA A100.
  - 2. static level of ground water, level of water for various pumping rates used during the pump test, and provide depths to water-bearing strata.

3. Start well pump and adjust controls and pressure settings. Replace damaged and malfunctioning controls and equipment.
  4. Conduct final pumping test after well has been constructed, cleaned, and tested for plumbness and alignment. Provide at least 48 hours notice to the Owner and Engineer to schedule testing. Provide discharge piping to convey water to a stable dewatering structure or location previously approved by the Owner and Engineer. Provide equipment and totalizing flowmeter of adequate size and type for measuring flow of water. Measure elevation to water level in well prior to start of pumping test. Perform two bailer or air-ejection tests to determine expected yield prior to pumping test. Test at depths with sufficient quantity of water to satisfy desired yields. Test Pump: Variable capacity test pump with capacity equal to maximum expected yield at pressure equal to drawdown in well, plus losses in pump columns and discharge pipes. A minimum of 60 gpm capacity should be used.
  5. Start and adjust test pumps and equipment to required pumping rates at the discretion of the Owner or Engineer.
  6. Record readings of water level in the well.
  7. Record pumping rates at intervals throughout the 8 hour pumping period for each successive pumping rate. Collect measurements every minute for the first ten minutes, every ten minutes thereafter for the first hour and then every hour for the remaining seven hours of the test unless a less frequent measurement frequency is approved by the Owner or Engineer. Record both water level and pumping rate at the intervals listed.
  8. Record returning water levels in the well once the pump test is completed for at least 4 hours or until they return to static water levels initially measured.
  9. Provide water level and yield information on standard CTDPH yield log forms.
  10. Remove sand, stones, and other foreign materials that may become deposited in wells after completing final tests.
- D. Water Quality testing: The Contractor shall send samples for water quality testing to a commercial laboratory certified by the Connecticut Department of Public Health to test drinking water. Tests shall be in compliance with Regulations of Connecticut State Agencies Section 19-13-B102(e).

END OF SECTION

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

- A. The Drawings and general provisions of the Contract, including General and Supplementary Conditions, and General Requirements apply to work specified in this Section.

### 1.2 SECTION INCLUDES

- A. Furnishing and installing a complete factory built precast concrete concession stand and restroom building as shown on the Contract Drawings and as specified herein, complete and ready for operation including but not limited to:
  - 1. Crushed stone bearing pad.
  - 2. Fabrication, delivery and installation of the precast concrete building including all transportation costs, lifting equipment and materials required for the installation.
  - 3. Coordination and installation of all utilities, water, and sewer service.
  - 4. Certify that the building is flood proofed to the elevations specified on the Contract Drawings.

### 1.3 QUALITY ASSURANCE

- A. American concrete Institute
  - 1. ACI-318-05, “Building Code Requirements for Reinforced Concrete”.
- B. American Society of Testing and Materials
  - 1. ASTM C150 Portland Cement
  - 2. ASTM C33 Concrete Aggregates
  - 3. ASTM C260 Air-Entraining Admixtures for Concrete
  - 4. ASTM A185 Steel Welded Wire Fabric for Concrete Reinforcement
  - 5. ASTM C494 Chemical Admixtures for Concrete
  - 6. ASTM A615 Deformed and Plain Billet Steel Bars for Concrete Reinforcement
- C. ANSI/ASCE-7-02 “Building code requirement for minimum design loads in buildings and other structures”.
- D. International building code (2003 Edition) with 2009 Connecticut supplements.
- E. Concrete reinforcing institute, “Manual of Standard Practice”.
- F. Fabricator must be producer member of NPCA and PCI.
- G. Building fabricator must have a minimum of 5 years’ experience manufacturing monolithic precast concrete buildings.

H. Third Party Inspection label.

**I. The building shall be as shown on the Contract Drawings and as manufactured by United Concrete Products, Yalesville, CT, or approved equal.**

#### 1.4 DESIGN REQUIREMENTS

A. Structural design calculations that are prepared and sealed by a professional engineer, licensed to practice in the state where the project is located, shall be submitted after approved layout by customer.

B. The building shall be designed to meet the following loading requirements:

1. Roof Live Load – 40 psf
2. Floor Live Load – 150 psf
3. Wall Wind Load (130 mph) – 45 psf

C. Building shall be constructed of steel-reinforced concrete. Floor and walls shall be produced as a single component. Walls shall be poured on top of floor panel monolithically. Roof shall be attached to walls with welded connections. **Panel wall systems will not be allowed for construction of building.**

D. The buildings shall have a minimum of Eight (8) inch floor, five (5) inch roof and six (6) inch wall thickness. Roof to be designed to have a 5 to 4 pitch.

E. The building must meet all required state, local and ADA codes.

F. The buildings shall be pre-assembled in factory and shipped as a 2 modules.

G. Manufacture to coordinate all required penetrations for onsite utilities.

#### 1.5 SUBMITTALS

A. Full set of plans, calculations and bill of material shall be submitted for approval.

#### PART 2 - PRODUCTS

A. Concrete: Steel-reinforced, 5000 PSI minimum 28-day compressive strength, air-entrained (ASTM C260).

B. Portland cement shall be Type I, II or III per ASTM specifications.

C. Fine aggregate shall consist of natural sand per ASTM specifications.

- D. Coarse aggregate shall consist of ½” max well graded crushed stone per ASTM specifications.
- E. Reinforcing Steel: ASTM A615, grade 60 unless otherwise specified.
- F. Welded wire fabric shall meet ASTM specifications.
- G. All reinforcement shall be free of loose rust, oil or other items that may reduce bond. If present this material must be removed before placement.
- H. Supports for reinforcement shall be chairs, wheels or other apparatus for spacing and securing reinforcing.
- I. Caulking: Joints between walls and roof shall be caulked on the exterior and interior surface. Caulking shall be SIKAFLEX-1A elastic sealant or equal.

## 2.1 ACCESSORIES

- A. Doors and Frames: Shall comply with Steel Door Institute “Recommended Specifications for Standard Steel Doors and Frames” (SDI-100), and as herein specified.
  - 1. The building doors shall be flood proof and shall be Savannah Trim, Inc., Hurricane Series Flood Resistant Hollow Metal Doors, or approved equal.
  - 2. The buildings shall be equipped with (2) 3’-0” x 7’-0” x 1-3/4”, 18-gauge galvanized/insulated CECO metal doors with (2) 16-gauge galvanized frames.
  - 3. The buildings shall be equipped with (1) 2’-6” x 7’-0” x 1-3/4”, 18-gauge galvanized/insulated CECO metal doors with (1) 16-gauge galvanized frames.
  - 4. Doors and frames shall be bonderized and painted one coat of rust inhibitive primer and one finish coat of enamel paint; color to be selected by Director of Public Works.
- B. Door Hardware:
  - 1. Hinges: Hager Model #1191 with non removal pin 4 ½” x 4 ½” (stainless steel), 3 per door, or equal.
  - 2. Lock Set: Arrow model #Q12SR (Satin Stainless Steel finish) with cylindrical function level, or equal.
  - 3. Astragal: A4441/68R, or equal.
  - 4. Threshold: National Guard Products #B-97 or approved equal.
  - 5. Door Holder Men’s / Woman’s Room: (2) Norton Series 8501 or approved equal.
  - 6. Door Holder: (1) Norton Series 8501H with hold open option or approved equal.
  - 7. Drip Cap: (3) National Guard 15D72, or equal.
- C. Restroom Accessories / Fixtures:
  - 1. Restroom building shall have ADA compliant men’s and ladies rooms and utility chase as shown of contract drawings.

2. (3) Three vitreous china toilets American Standard pressure assisted wall mount toilets model number 4098 elongated vitreous toilets and (2) Two vitreous sinks Kohler model Greenwich K-2032 in men's and ladies' rooms.
  3. (3) Three required Bemis toilet seat model 1955C
  4. (1) One vitreous china urinal Kohler model K-4960-ER ¾" rear spud.
  5. (3) Three Sloan Optima systems operated flushometer model number 152-1.6 ES-S to be used for toilet fixtures.
  6. (1) One Sloan Optima Royal model operated flushometer model number 195-1.0 ES-S to be used for urinal.
  7. (2) Two Sloan Optima model ETF-600 sensor operated faucets.
  8. Microplumb products 50 VA transformer.
  9. (1) One exterior hose bib with locking lock box.
  10. (2) Two vandal proof mirrors Bobrick B-942 frameless mirror.
  11. (2) Two 48" Bobrick B-6806 grab bars.
  12. (2) Two 36" Bobrick B-6806 grab bars.
  13. (2) Two 18" Bobrick B-6806 grab bars.
  14. (2) Two 29" Bobrick B-4998 swing arm grab bars.
  15. (2) Two XI Excel hand dryers model number XL-W.
  16. (2) Two wall mounted plastic baby changing stations.
  17. Restroom door signage (Handicap male & female).
  18. Privacy partitions / urinal screen HDPE material as manufactured by Comtec / Capitol Partitions or approved equal.
  19. Required lavatory guards under sinks.
  20. (2) Two 12' x 12" passive ventilation louvers with insect screens as manufactured by Sunvent.
- D. Electrical
1. (1) One 100 amp electrical panel.
  2. (6) Six vapor tight 4' interior light fixtures.
  3. (1) One 120v 20 amp receptacle in utility chase.
  4. (3) Three light switches.
  5. (2) Two Von Duprin electric door strikes.
  6. (1) One 7 day programmable timer with battery backup.
  7. (1) One low voltage transformer.
  8. (2) Two wall mount exterior lights by RAB with photo eye.
  9. Exhaust fan manufactured by Fantech model number FR 150.
  10. (1) One (6 Gallon) AO Smith Promax model #EJC-6 water heater.
  11. (2) Two remote heads with emergency lights.

## 2.2 FINISHES

- A. Interior of Building: To be smooth Sherwin Williams Macropoxy 646 epoxy coated painted interior of walls and ceilings. (color chosen by Director of Public Works).

- B. Interior Floor: To receive one coat of Sika 62 floor coatings. (color chosen by Director of Public Works).
- C. Exterior of building to receive one coat of Thoroseal concrete sealer and one coat of Throcoat finish. (Color to be selected by Director of Public Works).
- D. Exterior Roof: Shall receive an EPDM.060 rubber roofing system with termination bars and accessories. Note the rubber roofing system must be installed by a certified installer.
- E. Exterior Finish: To be an architectural chamfer finish.

### PART 3 - EXECUTION

#### 3.1 STORAGE, DELIVERY AND HANDLING

- A. Building shall be stored properly at locations to prevent cracking, deformation and other damage.
- B. The precast building shall be delivered to the jobsite by the Building Manufacturer on flat bed trailer.
- C. The Building Manufacturer shall provide all lifting cables and hardware needed to off-load and set the building.
- D. The building manufacturer is responsible for setting of the building utilizing the proper crane.
- E. A factory representative to be present at time of building set.

### PART 4 - WARRANTY

- A. Building and components shall be warranted for one year from date of installation.
- B. The precast concrete structure shall be free of any defects for 15 years.

# PROJECT SIGN

## PROJECT SIGN

The contractor shall provide and prominently display the attached temporary construction sign on the job sight. The sign location shall be approved by the Owner prior to erection.

### Project Information:

#### Project Title:

Riverside Drive Recreation Field Improvements

#### Sponsor / Developer:

Town of Andover  
17 School Road  
Andover, Connecticut 06232

Robert Burbank, First Selectman

#### Architect / Engineer:

CLA Engineers, Inc.

#### Contractor:

To be determined

PROJECT SIGN  
DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION  
6-8'



NAME OF THE PROJECT  
NAME OF THE SPONSOR/DEVELOPER

Constructed in cooperation with the

STATE OF CONNECTICUT  
DANNEL P. MALLOY, GOVERNOR

Department of Energy and Environmental Protection  
Robert J. Klee, Commissioner

and the

Name of Town/City  
Name of Chief Elected Official and title

Name of Architect  
Name of General Contractor

3-4'

**SIGN PANEL:** 3/4" MDO-EXT-APA PLYWOOD SUPPORTED WITH (2) 4X4 TREATED WOOD COLUMNS AND SECURED 4' INTO GRADE. TOP OF SIGN AT 8'-0" ABOVE GRADE.

**COLORS:** ALL LETTERS AND SYMBOLS ARE TO BE ROYAL BLUE. THE BACKGROUND WILL BE WHITE ENAMEL. BACK OF PLYWOOD AND SUPPORT STRUCTURE SHALL BE PAINTED MATTE BLACK.

**TYPEFACE:** AREAL ROUNDED BOLD OR SIMILAR.

**LOCATION:** SIGN MUST BE LOCATED TO BE CLEARLY VISIBLE TO THE PUBLIC.

**TIMING:** INSTALL AT THE START OF CONSTRUCTION AND REMOVE AT CONSTRUCTION COMPLETION.

**STATE SEAL & DEEP LOGO:** ATTACHED

# SOIL TESTING RESULTS

## SOIL TESTING RESULTS

The following are soil testing results performed for the existing field. Soil samples were taken from several locations and mixed prior to testing. The soil testing results are for the Contractor's reference only. The Contractor shall perform additional testing and provide the results to the Owner as outlined in the Contract Documents.



# University of Connecticut Department of Plant Science

Soil Nutrient Analysis Laboratory, 6 Sherman Place, Box U-102, Storrs, CT 06269-5102,  
Phone : 860-486-4274, Fax : 860-486-4562.

GROWER'S ADDRESS
JOAN FORAN ANDOVER REC RIELD 143 HEBRON ROAD ANDOVER, CT 06232

SAMPLE ID		
SOCCER FIELD NEW		
LAB ID	RECEIVED	REPORTED
837	03/11/16	03/23/16
SALES AGENT		

## NUTRIENTS EXTRACTED FROM YOUR SOIL (MODIFIED MORGAN EXTRACTABLE)

		BELOW OPTIMUM	OPTIMUM	ABOVE OPTIMUM
pH	6.7			
Calcium	2706 lbs/acre	*****	*****	**
Magnesium	>500 lbs/acre	*****	*****	*****
Phosphorus	14 lbs/acre	*****	***	
Potassium	267 lbs/acre	*****	***	

Element	ppm	Soil Range
Boron (B)	0.10	0.1-2.0
Copper (Cu)	0.20	0.3-8.0
Iron (Fe)	2.90	1.0-40.0
Manganese (Mn)	1.80	3.0-20.0
Zinc (Zn)	0.40	0.1-70.0
Aluminum (Al)	36	10-300

Estimated Total Lead: Low, typical background levels

## LIME AND FERTILIZER RECOMMENDATIONS

**CROP OR PLANT:** NEW LAWN, SEEDING OR SODDING

### LIMESTONE:

Apply no limestone.

### FERTILIZER:

After final grading, if seeding, apply 20 lbs of 5-10-5 or 10 lbs of 10-20-10 per 1000 sq ft. Scratch into the soil surface with the seed. If sodding, apply to the soil surface 10 lbs of 10-10-10 per 1000 sq ft after final grading before sod placement. Once the lawn begins to grow, follow the recommendations for maintenance fertilizers shown on the enclosed sheet.

### COMMENTS:

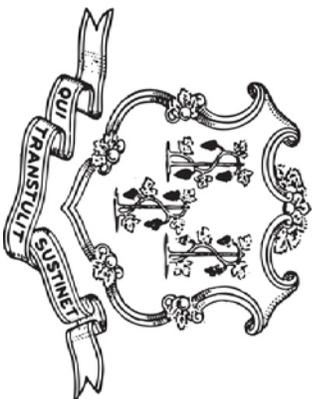
Soil texture classification: Sandy loam

Organic content classification: Medium

1. THE ORGANIC MATTER AS DETERMINED BY LOSS ON IGNITION IS 6.1%

If you have questions about this report or about any other plant or soil problem, contact the University of Connecticut Home & Garden Education Center, Department of Plant Science, U-115, Storrs, CT 06269-4115. Phone: (877) 486 6271 (toll-free).

# PREVAILING WAGE DOCUMENTS



# **THIS IS A PUBLIC WORKS PROJECT**

**Covered by the**

# **PREVAILING WAGE LAW**

**CT General Statutes Section 31-53**

**If you have QUESTIONS regarding your wages**  
**CALL (860) 263-6790**

Section 31-55 of the CT State Statutes requires every contractor or subcontractor performing work for the state to post in a prominent place the prevailing wages as determined by the Labor Commissioner.

**Sec. 31-53b. Construction safety and health course. New miner training program. Proof of completion required for mechanics, laborers and workers on public works projects. Enforcement. Regulations. Exceptions.** (a) Each contract for a public works project entered into on or after July 1, 2009, by the state or any of its agents, or by any political subdivision of the state or any of its agents, described in subsection (g) of section 31-53, shall contain a provision requiring that each contractor furnish proof with the weekly certified payroll form for the first week each employee begins work on such project that any person performing the work of a mechanic, laborer or worker pursuant to the classifications of labor under section 31-53 on such public works project, pursuant to such contract, has completed a course of at least ten hours in duration in construction safety and health approved by the federal Occupational Safety and Health Administration or, has completed a new miner training program approved by the Federal Mine Safety and Health Administration in accordance with 30 CFR 48 or, in the case of telecommunications employees, has completed at least ten hours of training in accordance with 29 CFR 1910.268.

(b) Any person required to complete a course or program under subsection (a) of this section who has not completed the course or program shall be subject to removal from the worksite if the person does not provide documentation of having completed such course or program by the fifteenth day after the date the person is found to be in noncompliance. The Labor Commissioner or said commissioner's designee shall enforce this section.

(c) Not later than January 1, 2009, the Labor Commissioner shall adopt regulations, in accordance with the provisions of chapter 54, to implement the provisions of subsections (a) and (b) of this section. Such regulations shall require that the ten-hour construction safety and health courses required under subsection (a) of this section be conducted in accordance with federal Occupational Safety and Health Administration Training Institute standards, or in accordance with Federal Mine Safety and Health Administration Standards or in accordance with 29 CFR 1910.268, as appropriate. The Labor Commissioner shall accept as sufficient proof of compliance with the provisions of subsection (a) or (b) of this section a student course completion card issued by the federal Occupational Safety and Health Administration Training Institute, or such other proof of compliance said commissioner deems appropriate, dated no earlier than five years before the commencement date of such public works project.

(d) This section shall not apply to employees of public service companies, as defined in section 16-1, or drivers of commercial motor vehicles driving the vehicle on the public works project and delivering or picking up cargo from public works projects provided they perform no labor relating to the project other than the loading and unloading of their cargo.

(P.A. 06-175, S. 1; P.A. 08-83, S. 1.)

History: P.A. 08-83 amended Subsec. (a) by making provisions applicable to public works project contracts entered into on or after July 1, 2009, replacing provision re total cost of work with reference to Sec. 31-53(g), requiring proof in certified payroll form that new mechanic, laborer or worker has completed a 10-hour or more construction safety course and adding provision re new miner training program, amended Subsec. (b) by substituting "person" for "employee" and adding "or program", amended Subsec. (c) by adding "or in accordance with Federal Mine Safety and Health Administration Standards" and setting new deadline of January 1, 2009, deleted former Subsec. (d) re "public building", added new Subsec. (d) re exemptions for public service company employees and delivery drivers who perform no labor other than delivery and made conforming and technical changes, effective January 1, 2009.

# **Informational Bulletin**

## **THE 10-HOUR OSHA CONSTRUCTION SAFETY AND HEALTH COURSE**

(applicable to public building contracts entered into *on or after July 1, 2007*, where the total cost of all work to be performed is at least \$100,000)

- (1) This requirement was created by Public Act No. 06-175, which is codified in Section 31-53b of the Connecticut General Statutes (pertaining to the prevailing wage statutes);
- (2) The course is required for public building construction contracts (projects funded in whole or in part by the state or any political subdivision of the state) entered into on or after July 1, 2007;
- (3) It is required of private employees (not state or municipal employees) and apprentices who perform manual labor for a general contractor or subcontractor on a public building project where the total cost of all work to be performed is at least \$100,000;
- (4) The ten-hour construction course pertains to the ten-hour Outreach Course conducted in accordance with federal OSHA Training Institute standards, and, for telecommunications workers, a ten-hour training course conducted in accordance with federal OSHA standard, 29 CFR 1910.268;
- (5) The internet website for the federal OSHA Training Institute is [http://www.osha.gov/fso/ote/training/edcenters/fact\\_sheet.html](http://www.osha.gov/fso/ote/training/edcenters/fact_sheet.html);
- (6) The statutory language leaves it to the contractor and its employees to determine who pays for the cost of the ten-hour Outreach Course;
- (7) Within 30 days of receiving a contract award, a general contractor must furnish proof to the Labor Commissioner that all employees and apprentices performing manual labor on the project will have completed such a course;
- (8) Proof of completion may be demonstrated through either: (a) the presentation of a *bona fide* student course completion card issued by the federal OSHA Training Institute; *or* (2) the presentation of documentation provided to an employee by a trainer certified by the Institute pending the actual issuance of the completion card;
- (9) Any card with an issuance date more than 5 years prior to the commencement date of the construction project shall not constitute proof of compliance;

- (10) Each employer shall affix a copy of the construction safety course completion card to the certified payroll submitted to the contracting agency in accordance with Conn. Gen. Stat. § 31-53(f) on which such employee's name first appears;
- (11) Any employee found to be in non-compliance shall be subject to removal from the worksite if such employee does not provide satisfactory proof of course completion to the Labor Commissioner by the fifteenth day after the date the employee is determined to be in noncompliance;
- (12) Any such employee who is determined to be in noncompliance may continue to work on a public building construction project for a maximum of fourteen consecutive calendar days while bringing his or her status into compliance;
- (13) The Labor Commissioner may make complaint to the prosecuting authorities regarding any employer or agent of the employer, or officer or agent of the corporation who files a false certified payroll with respect to the status of an employee who is performing manual labor on a public building construction project;
- (14) The statute provides the minimum standards required for the completion of a safety course by manual laborers on public construction contracts; any contractor can exceed these minimum requirements; and
- (15) Regulations clarifying the statute are currently in the regulatory process, and shall be posted on the CTDOL website as soon as they are adopted in final form.
- (16) Any questions regarding this statute may be directed to the Wage and Workplace Standards Division of the Connecticut Labor Department via the internet website of <http://www.ctdol.state.ct.us/wgwkstnd/wgemenu.htm>; or by telephone at (860)263-6790.

**THE ABOVE INFORMATION IS PROVIDED EXCLUSIVELY AS AN EDUCATIONAL RESOURCE, AND IS NOT INTENDED AS A SUBSTITUTE FOR LEGAL INTERPRETATIONS WHICH MAY ULTIMATELY ARISE CONCERNING THE CONSTRUCTION OF THE STATUTE OR THE REGULATIONS.**

November 29, 2006

**Notice**  
**To All Mason Contractors and Interested Parties**  
**Regarding Construction Pursuant to Section 31-53 of the**  
**Connecticut General Statutes (Prevailing Wage)**

The Connecticut Labor Department Wage and Workplace Standards Division is empowered to enforce the prevailing wage rates on projects covered by the above referenced statute.

Over the past few years the Division has withheld enforcement of the rate in effect for workers who operate a forklift on a prevailing wage rate project due to a potential jurisdictional dispute.

The rate listed in the schedules and in our Occupational Bulletin (see enclosed) has been as follows:

**Forklift Operator:**

- **Laborers (Group 4) Mason Tenders** - operates forklift solely to assist a mason to a maximum height of nine feet only.
- **Power Equipment Operator (Group 9)** - operates forklift to assist any trade and to assist a mason to a height over nine feet.

The U.S. Labor Department conducted a survey of rates in Connecticut but it has not been published and the rate in effect remains as outlined in the above Occupational Bulletin.

*Since this is a classification matter and not one of jurisdiction, effective January 1, 2007 the Connecticut Labor Department will enforce the rate on each schedule in accordance with our statutory authority.*

Your cooperation in filing appropriate and accurate certified payrolls is appreciated.

## STATUTE 31-55a

### - SPECIAL NOTICE -

**To: All State and Political Subdivisions, Their Agents, and Contractors**

**Connecticut General Statute 31-55a - Annual adjustments to wage rates by contractors doing state work.**

*Each contractor that is awarded a contract on or after October 1, 2002, for (1) the construction of a state highway or bridge that falls under the provisions of section 31-54 of the general statutes, or (2) the construction, remodeling, refinishing, refurbishing, rehabilitation, alteration or repair of any public works project that falls under the provisions of section 31-53 of the general statutes shall contact the Labor Commissioner on or before July first of each year, for the duration of such contract, to ascertain the prevailing rate of wages on an hourly basis and the amount of payment or contributions paid or payable on behalf of each mechanic, laborer or worker employed upon the work contracted to be done, and shall make any necessary adjustments to such prevailing rate of wages and such payment or contributions paid or payable on behalf of each such employee, effective each July first.*

- The prevailing wage rates applicable to any contract or subcontract awarded on or after October 1, 2002 are subject to annual adjustments each July 1st for the duration of any project which was originally advertised for bids on or after October 1, 2002.
- Each contractor affected by the above requirement shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.
- It is the **contractor's** responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's Web Site. The annual adjustments will be posted on the Department of Labor Web page: [www.ctdol.state.ct.us](http://www.ctdol.state.ct.us). For those without internet access, please contact the division listed below.
- The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project. All subsequent annual adjustments will be posted on our Web Site for contractor access.

**Any questions should be directed to the Contract Compliance Unit, Wage and Workplace Standards Division, Connecticut Department of Labor, 200 Folly Brook Blvd., Wethersfield, CT 06109 at (860)263-6790.**

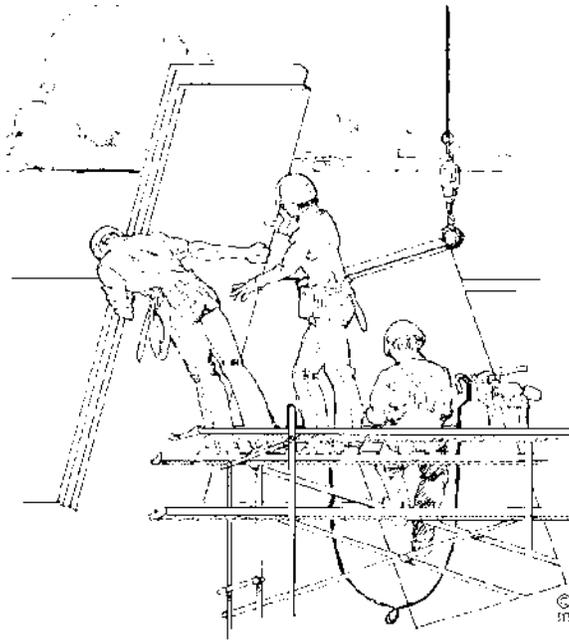
~NOTICE~

TO ALL CONTRACTING AGENCIES

Please be advised that Connecticut General Statutes Section 31-53, requires the contracting agency to certify to the Department of Labor, the total dollar amount of work to be done in connection with such public works project, regardless of whether such project consists of one or more contracts.

Please find the attached “Contracting Agency Certification Form” to be completed and returned to the Department of Labor, Wage and Workplace Standards Division, Public Contract Compliance Unit.

 Inquiries can be directed to (860)263-6543.



CONNECTICUT DEPARTMENT OF LABOR  
WAGE AND WORKPLACE STANDARDS DIVISION  
CONTRACT COMPLIANCE UNIT

*CONTRACTING AGENCY CERTIFICATION FORM*

I, \_\_\_\_\_, acting in my official capacity as \_\_\_\_\_,  
authorized representative title

for \_\_\_\_\_, located at \_\_\_\_\_,  
contracting agency address

do hereby certify that the total dollar amount of work to be done in connection with  
\_\_\_\_\_, located at \_\_\_\_\_,  
project name and number address

shall be \$\_\_\_\_\_, which includes all work, regardless of whether such project  
consists of one or more contracts.

*CONTRACTOR INFORMATION*

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

Address: \_\_\_\_\_

Authorized Representative: \_\_\_\_\_

Approximate Starting Date: \_\_\_\_\_

Approximate Completion Date: \_\_\_\_\_

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Return To: Connecticut Department of Labor  
Wage & Workplace Standards Division  
Contract Compliance Unit  
200 Folly Brook Blvd.  
Wethersfield, CT 06109

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

CONNECTICUT DEPARTMENT OF LABOR  
WAGE AND WORKPLACE STANDARDS DIVISION

**CONTRACTORS WAGE CERTIFICATION FORM**  
**Construction Manager at Risk/General Contractor/Prime Contractor**

I, \_\_\_\_\_ of \_\_\_\_\_  
Officer, Owner, Authorized Rep. Company Name

do hereby certify that the \_\_\_\_\_  
Company Name  
\_\_\_\_\_  
Street  
\_\_\_\_\_  
City

and all of its subcontractors will pay all workers on the  
\_\_\_\_\_  
Project Name and Number  
\_\_\_\_\_  
Street and City

the wages as listed in the schedule of prevailing rates required for such project (a copy of which is attached hereto).

\_\_\_\_\_  
Signed

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

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

Return to:  
Connecticut Department of Labor  
Wage & Workplace Standards Division  
200 Folly Brook Blvd.  
Wethersfield, CT 06109

Rate Schedule Issued (Date): \_\_\_\_\_



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## CERTIFIED PAYROLL FORM WWS - CPI

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In accordance with [Connecticut General Statutes, 31-53](#) Certified Payrolls with a statement of compliance shall be submitted monthly to the contracting agency.

**Note:** Once you have downloaded these forms and are ready to print them out, set the print function on your PC to the horizontal print orientation.

**Note2:** Please download both the Payroll Certification for Public Works Projects **and** the Certified Statement of Compliance for a complete package. The Certified Statement of Compliance appears on the same page as the Fringe Benefits Explanation page.

**Announcement: The Certified Payroll Form WWS-CPI can now be completed on-line!**

- [Certified Payroll Form WWS-CPI](#) (PDF, 727KB)
- [Sample Completed Form](#) (PDF, 101KB)

200 Folly Brook Boulevard, Wethersfield, CT 06109 / Phone: 860-263-6000

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**\*FRINGE BENEFITS EXPLANATION (P):**

Bona fide benefits paid to approved plans, funds or programs, except those required by Federal or State Law (unemployment tax, worker’s compensation, income taxes, etc.).

Please specify the type of benefits provided:

- 1) Medical or hospital care \_\_\_\_\_ 4) Disability \_\_\_\_\_
- 2) Pension or retirement \_\_\_\_\_ 5) Vacation, holiday \_\_\_\_\_
- 3) Life Insurance \_\_\_\_\_ 6) Other (please specify) \_\_\_\_\_

**CERTIFIED STATEMENT OF COMPLIANCE**

For the week ending date of \_\_\_\_\_,

I, \_\_\_\_\_ of \_\_\_\_\_, (hereafter known as Employer) in my capacity as \_\_\_\_\_ (title) do hereby certify and state:

**Section A:**

1. All persons employed on said project have been paid the full weekly wages earned by them during the week in accordance with Connecticut General Statutes, section 31-53, as amended. Further, I hereby certify and state the following:

- a) The records submitted are true and accurate;
- b) The rate of wages paid to each mechanic, laborer or workman and the amount of payment or contributions paid or payable on behalf of each such person to any employee welfare fund, as defined in Connecticut General Statutes, section 31-53 (h), are not less than the prevailing rate of wages and the amount of payment or contributions paid or payable on behalf of each such person to any employee welfare fund, as determined by the Labor Commissioner pursuant to subsection Connecticut General Statutes, section 31-53 (d), and said wages and benefits are not less than those which may also be required by contract;
- c) The Employer has complied with all of the provisions in Connecticut General Statutes, section 31-53 (and Section 31-54 if applicable for state highway construction);
- d) Each such person is covered by a worker’s compensation insurance policy for the duration of his employment which proof of coverage has been provided to the contracting agency;
- e) The Employer does not receive kickbacks, which means any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind which is provided directly or indirectly, to any prime contractor, prime contractor employee, subcontractor, or subcontractor employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contract or in connection with a prime contractor in connection with a subcontractor relating to a prime contractor; and
- f) The Employer is aware that filing a certified payroll which he knows to be false is a class D felony for which the employer may be fined up to five thousand dollars, imprisoned for up to five years or both.

2. OSHA~The employer shall affix a copy of the construction safety course, program or training completion document to the certified payroll required to be submitted to the contracting agency for this project on which such persons name first appears.

\_\_\_\_\_ Submitted on (Date)

(Signature) (Title)



[New] In accordance with Section 31-53b(a) of the C.G.S. each contractor shall provide a copy of the OSHA 10 Hour Construction Safety and Health Card for each employee, to be attached to the first certified payroll on the project.

PAYROLL CERTIFICATION FOR PUBLIC WORKS PROJECTS											Connecticut Department of Labor Wage and Workplace Standards Division 200 Folly Brook Blvd. Wethersfield, CT 06109												
In accordance with Connecticut General Statutes, 31-53 Certified Payrolls with a statement of compliance shall be submitted monthly to the contracting agency.											WEEKLY PAYROLL												
CONTRACTOR NAME AND ADDRESS: Landon Corporation, 15 Connecticut Avenue, Northford, CT 06472								SUBCONTRACTOR NAME & ADDRESS XYZ Corporation 2 Main Street Yantic, CT 06389				WORKER'S COMPENSATION INSURANCE CARRIER Travelers Insurance Company POLICY # #BAC8888928 EFFECTIVE DATE: 1/1/09 EXPIRATION DATE: 12/31/09											
PAYROLL NUMBER	Week-Ending Date	PROJECT NAME & ADDRESS									Total ST Hours	BASE HOURLY RATE	TYPE OF FRINGE BENEFITS Per Hour 1 through 6 (see back)	GROSS PAY FOR ALL WORK PERFORMED THIS WEEK	TOTAL DEDUCTIONS				GROSS PAY FOR THIS PREVAILING RATE JOB	CHECK # AND NET PAY			
		Week-Ending Date	DAY AND DATE												Total O/T Hours	TOTAL FRINGE BENEFIT PLAN CASH	FICA	FEDERAL			STATE	LIST OTHER	
PERSON/WORKER, ADDRESS and SECTION	APPR RATE %	MALE/FEMALE AND RACE*	WORK CLASSIFICATION	S	M	T	W	TH	F	S													
			Trade License Type & Number - OSHA 10 Certification Number	20	21	22	23	24	25	26													
HOURS WORKED EACH DAY																							
Robert Craft 81 Maple Street Willimantic, CT 06226		M/C	Electrical Lineman E-1 1234567 Owner OSHA 123456		8	8	8	8	8			S-TIME 40	\$ 30.75 Base Rate	1. \$ 5.80 2. \$ 3. \$ 2.01	\$1,582.80				P-xxxx	\$1,582.80	#123 \$ xxx.xx		
Ronald Jones 212 Elm Street Norwich, CT 06360	65%	M/B	Electrical Apprentice OSHA 234567		8	8	8	8	8			S-TIME 40	\$ 19.99 Base Rate	1. \$ 2. \$ 3. \$	\$1,464.80	xx.xx	xxx.xx	xx.xx	G-xxx	\$1,464.80	#124 \$xxx.xx		
Franklin T. Smith 234 Washington Rd. New London, CT 06320 SECTION B		M/H	Project Manager			8						S-TIME 8	\$ Base Rate	1. \$ 2. \$ 3. \$	\$1,500.00	xx.xx	xx.xx	xx.xx	M-xx.x		#125 xxx.xx		
												S-TIME	\$ Base Rate	1. \$ 2. \$ 3. \$									
												O-TIME	\$ Cash Fringe	4. \$ 5. \$ 6. \$									

7/13/2009 \*IF REQUIRED  
WWS-CP1

\*SEE REVERSE SIDE

PAGE NUMBER 1 OF 2

OSHA 10 ~ATTACH CARD TO 1ST CERTIFIED PAYROLL

**\*FRINGE BENEFITS EXPLANATION (P):**

Bona fide benefits paid to approved plans, funds or programs, except those required by Federal or State Law (unemployment tax, worker's compensation, income taxes, etc.).

Please specify the type of benefits provided:

- 1) Medical or hospital care Blue Cross 4) Disability \_\_\_\_\_
- 2) Pension or retirement \_\_\_\_\_ 5) Vacation, holiday \_\_\_\_\_
- 3) Life Insurance Utopia 6) Other (please specify) \_\_\_\_\_

**CERTIFIED STATEMENT OF COMPLIANCE**

For the week ending date of 9/26/09,

I, Robert Craft of XYZ Corporation, (hereafter known as

Employer) in my capacity as Owner (title) do hereby certify and state:

**Section A:**

1. All persons employed on said project have been paid the full weekly wages earned by them during the week in accordance with Connecticut General Statutes, section 31-53, as amended. Further, I hereby certify and state the following:

- a) The records submitted are true and accurate;
- b) The rate of wages paid to each mechanic, laborer or workman and the amount of payment or contributions paid or payable on behalf of each such employee to any employee welfare fund, as defined in Connecticut General Statutes, section 31-53 (h), are not less than the prevailing rate of wages and the amount of payment or contributions paid or payable on behalf of each such employee to any employee welfare fund, as determined by the Labor Commissioner pursuant to subsection Connecticut General Statutes, section 31-53 (d), and said wages and benefits are not less than those which may also be required by contract;
- c) The Employer has complied with all of the provisions in Connecticut General Statutes, section 31-53 (and Section 31-54 if applicable for state highway construction);
- d) Each such employee of the Employer is covered by a worker's compensation insurance policy for the duration of his employment which proof of coverage has been provided to the contracting agency;
- e) The Employer does not receive kickbacks, which means any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind which is provided directly or indirectly, to any prime contractor, prime contractor employee, subcontractor, or subcontractor employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contract or in connection with a prime contractor in connection with a subcontractor relating to a prime contractor; and
- f) The Employer is aware that filing a certified payroll which he knows to be false is a class D felony for which the employer may be fined up to five thousand dollars, imprisoned for up to five years or both.

2. OSHA~The employer shall affix a copy of the construction safety course, program or training completion document to the certified payroll required to be submitted to the contracting agency for this project on which such employee's name first appears.

Robert Craft owner 10/2/09  
 (Signature) (Title) Submitted on (Date)

**Section B: Applies to CONNDOT Projects ONLY**

That pursuant to CONNDOT contract requirements for reporting purposes only, all employees listed under Section B who performed work on this project are not covered under the prevailing wage requirements defined in Connecticut General Statutes Section 31-53.

Robert Craft owner 10/2/09  
 (Signature) (Title) Submitted on (Date)

Note: CTDOL will assume all hours worked were performed under Section A unless clearly delineated as Section B WWS-CP1 as such. Should an employee perform work under both Section A and Section B, the hours worked and wages paid must be segregated for reporting purposes.

**\*\*\*THIS IS A PUBLIC DOCUMENT\*\*\*  
 \*\*\*DO NOT INCLUDE SOCIAL SECURITY NUMBERS\*\*\***



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## OCCUPATIONAL CLASSIFICATION BULLETIN

The Connecticut Department of Labor has the responsibility to properly determine "job classification" on prevailing wage projects covered under C.G.S. Section 31-53.

**Note: This information is intended to provide a sample of some occupational classifications for guidance purposes only. It is not an all-inclusive list of each occupation's duties. This list is being provided only to highlight some areas where a contractor may be unclear regarding the proper classification.**

Below are additional clarifications of specific job duties performed for certain classifications:

- **ASBESTOS WORKERS**

- Applies all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems.

- **ASBESTOS INSULATOR**

- Handle, install apply, fabricate, distribute, prepare, alter, repair, dismantle, heat and frost insulation, including penetration and fire stopping work on all penetration fire stop systems.

- **BOILERMAKERS**

- Erects hydro plants, incomplete vessels, steel stacks, storage tanks for water, fuel, etc. Builds incomplete boilers, repairs heat exchanges and steam generators.

- **BRICKLAYERS, CEMENT MASONS, CEMENT FINISHERS, MARBLE MASONS, PLASTERERS, STONE MASONS, PLASTERERS. STONE MASONS, TERRAZZO WORKERS, TILE SETTERS**

- Lays building materials such as brick, structural tile and concrete cinder, glass, gypsum, terra cotta block. Cuts, tools and sets marble, sets stone, finishes concrete, applies decorative steel, aluminum and plastic tile, applies cements, sand, pigment and marble chips to floors, stairways, etc.

- **CARPENTERS, MILLWRIGHTS. PILEDRIVERMEN. LATHERS. RESILEINT FLOOR LAYERS, DOCK BUILDERS, DIKERS, DIVER TENDERS**

- Constructs, erects, installs and repairs structures and fixtures of wood, plywood and wallboard. Installs, assembles, dismantles, moves industrial machinery. Drives piling into ground to provide foundations for structures such as buildings and bridges, retaining walls for earth embankments, such as cofferdams. Fastens wooden, metal or rockboard lath to walls, ceilings and partitions of buildings, acoustical tile layer, concrete form builder. Applies firestopping materials on fire resistive joint systems only. Installation of curtain/window walls only where attached to wood or metal studs. Installation of insulated material of all types whether blown, nailed or attached in other ways to walls, ceilings and floors of buildings. Assembly and installation of modular furniture/furniture systems. Free-standing furniture is not covered. This includes free standing: student chairs, study top desks, book box desks, computer furniture, dictionary stand, atlas stand, wood shelving, two-position information access station, file cabinets, storage cabinets, tables, etc.

- **CLEANING LABORER**

- The clean up of any construction debris and the general cleaning, including sweeping, wash down, mopping, wiping of the construction facility, washing, polishing, dusting, etc., prior to the issuance of a certificate of occupancy falls under the *Labor classification*.

- **DELIVERY PERSONNEL**

- If delivery of supplies/building materials is to one common point and stockpiled there, prevailing wages are not required. If the delivery personnel are involved in the distribution of the material to multiple locations within the construction site then they would have to be paid prevailing wages for the type of work performed: laborer, equipment operator,

electrician, ironworker, plumber, etc.

- An example of this would be where delivery of drywall is made to a building and the delivery personnel distribute the drywall from one "stockpile" location to further sub-locations on each floor. Distribution of material around a construction site is the job of a laborer/tradesman and not a delivery personnel.

- **ELECTRICIANS**

- Install, erect, maintenance, alteration or repair of any wire, cable, conduit, etc., which generates, transforms, transmits or uses electrical energy for light, heat, power or other purposes, including the installation or maintenance of telecommunication, LAN wiring or computer equipment, and low voltage wiring. **\*License required per Connecticut General Statutes: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9.**

- **ELEVATOR CONSTRUCTORS**

- Install, erect, maintenance and repair of all types of elevators, escalators, dumb waiters and moving walks. **\*License required by Connecticut General Statutes: R-1,2,5,6.**

- **FORK LIFT OPERATOR**

- Laborers Group 4) Mason Tenders - operates forklift solely to assist a mason to a maximum height of nine (9) feet only.
- Power Equipment Operator Group 9 - operates forklift to assist any trade, and to assist a mason to a height over nine (9) feet.

- **GLAZIERS**

- Glazing wood and metal sash, doors, partitions, and 2 story aluminum storefronts. Installs glass windows, skylights, store fronts and display cases or surfaces such as building fronts, interior walls, ceilings and table tops and metal store fronts. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers which requires either a blended rate or equal composite workforce.

- **IRONWORKERS**

- Erection, installation and placement of structural steel, precast concrete, miscellaneous iron, ornamental iron, metal curtain wall, rigging and reinforcing steel. Handling, sorting, and installation of reinforcing steel (rebar). Metal bridge rail (traffic), metal bridge handrail, and decorative security fence installation. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers which requires either a blended rate or equal composite workforce. Insulated metal and insulated composite panels are still installed by the Ironworker.

- **INSULATOR**

- Installing fire stopping systems/materials for "Penetration Firestop Systems": transit to cables, electrical conduits, insulated pipes, sprinkler pipe penetrations, ductwork behind radiation, electrical cable trays, fire rated pipe penetrations, natural polypropylene, HVAC ducts, plumbing bare metal, telephone and communication wires, and boiler room ceilings. Past practice using the applicable licensed trades, Plumber, Sheet Metal, Sprinkler Fitter, and Electrician, is not inconsistent with the Insulator classification and would be permitted.

- **LABORERS**

- Acetylene burners, asphalt rakers, chain saw operators, concrete and power buggy operator, concrete saw operator, fence and guard rail erector (except metal bridge rail (traffic), metal bridge handrail, and decorative security fence installation.), hand operated concrete vibrator operator, mason tenders, pipelayers (installation of storm drainage or sewage lines on the street only), pneumatic drill operator, pneumatic gas and electric drill operator, powermen and wagon drill operator, air track operator, block paver, curb setters, blasters, concrete spreaders.

- **PAINTERS**

- Maintenance, preparation, cleaning, blasting (water and sand, etc.), painting or application of any protective coatings of every description on all bridges and appurtenances of highways, roadways, and railroads. Painting, decorating, hardwood finishing, paper hanging, sign writing, scenic art work and drywall hanging+ for any and all types of building and residential work.

- **LEAD PAINT REMOVAL**

- Painter's Rate
  1. Removal of lead paint from bridges.
  2. Removal of lead paint as preparation of any surface to be repainted.
  3. Where removal is on a Demolition project prior to reconstruction.

- Laborer's Rate

1. Removal of lead paint from any surface NOT to be repainted.
2. Where removal is on a *TOTAL* Demolition project only.

- **PLUMBERS AND PIPEFITTERS**

- Installation, repair, replacement, alteration or maintenance of all plumbing, heating, cooling and piping. **\*License**

*required per Connecticut General Statutes: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2 S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4.*

- **POWER EQUIPMENT OPERATORS**

- Operates several types of power construction equipment such as compressors, pumps, hoists, derricks, cranes, shovels, tractors, scrapers or motor graders, etc. Repairs and maintains equipment. **\*License required, crane operators only, per Connecticut General Statutes.**

- **ROOFERS**

- Covers roofs with composition shingles or sheets, wood shingles, slate or asphalt and gravel to waterproof roofs, including preparation of surface. (tear-off and/or removal of any type of roofing and/or clean-up of any and all areas where a roof is to be relaid)

- **SHEETMETAL WORKERS**

- Fabricate, assemble, install and repairs sheetmetal products and equipment in such areas as ventilation, air-conditioning, warm air heating, restaurant equipment, architectural sheet metal work, sheetmetal roofing, and aluminum gutters. Fabrication, handling, assembling, erecting, altering, repairing, etc. of coated metal material panels and composite metal material panels when used on building exteriors and interiors as soffits, fascia, louvers, partitions, wall panel siding, canopies, cornice, column covers, awnings, beam covers, cladding, sun shades, lighting troughs, spires, ornamental roofing, metal ceilings, mansards, copings, ornamental and ventilation hoods, vertical and horizontal siding panels, trim, etc. The sheet metal classification also applies to the vast variety of coated metal material panels and composite metal material panels that have evolved over the years as an alternative to conventional ferrous and non-ferrous metals like steel, iron, tin, copper, brass, bronze, aluminum, etc. Insulated metal and insulated composite panels are still installed by the Iron Worker. Fabrication, handling, assembling, erecting, altering, repairing, etc. of architectural metal roof, standing seam roof, composite metal roof, metal and composite bathroom/toilet partitions, aluminum gutters, metal and composite lockers and shelving, kitchen equipment, and walk-in coolers.

- **SPRINKLER FITTERS**

- Installation, alteration, maintenance and repair of fire protection sprinkler systems. **\*License required per Connecticut General Statutes: F-1,2,3,4.**

- **TILE MARBLE AND TERRAZZO FINISHERS**

- Assists and tends the tile setter, marble mason and terrazzo worker in the performance of their duties.

- **TRUCK DRIVERS**

- **Definitions:**

- 1) "Site of the work" (29 Code of Federal Regulations (CFR) 5.2(l)(b) is the physical place or places where the building or work called for in the contract will remain and any other site where a significant portion of the building or work is constructed, provided that such site is established specifically for the performance of the contract or project;
  - (a) Except as provided in paragraph (l) (3) of this section, job headquarters, tool yards, batch plants, borrow pits, etc. are part of the "site of the work"; provided they are dedicated exclusively, or nearly so, to the performance of the contract or project, and provided they are adjacent to "the site of work" as defined in paragraph (e)(1) of this section;
  - (b) Not included in the "site of the work" are permanent home offices, branch plant establishments, fabrication plants, tool yards etc. of a contractor or subcontractor whose location and continuance in operation are determined wholly without regard to a particular State or political subdivision contract or uncertain and indefinite periods of time involved of a few seconds or minutes duration and where the failure to count such time is due to consideration justified by industrial realities (29 CFR 785.47)
- 2) "Engaged to wait" is waiting time that belongs to and is controlled by the employer which is an integral part of the job and is therefore compensable as hours worked. (29 CFR 785.15)
- 3) "Waiting to be engaged" is waiting time that an employee can use effectively for their own purpose and is not compensable as hours worked. (29 CFR 785.16)
- 4) "De Minimus" is a rule that recognizes that unsubstantial or insignificant periods of time which cannot as a practical administrative matter be precisely recorded for payroll purposes, may be disregarded. This rule applies only where there are uncertain and indefinite periods of time involved of a short duration and where the failure to count such time is due to consideration justified by worksite realities. For example, with respect to truck drivers on prevailing wage sites, this is typically less than 15 minutes at a time.

- **Coverage of Truck Drivers on State or Political subdivision Prevailing Wage Projects**

- Truck drivers **are covered** for payroll purposes under the following conditions:
  - Truck Drivers for time spent working on the site of the work.
  - Truck Drivers for time spent loading and/or unloading materials and supplies on the site of the work, if such time is not de minimus
  - Truck drivers transporting materials or supplies between a facility that is deemed part of the site of the work

and the actual construction site.

- Truck drivers transporting portions of the building or work between a site established specifically for the performance of the contract or project where a significant portion of such building or work is constructed and the physical places where the building or work outlined in the contract will remain.

*For example: Truck drivers delivering asphalt are covered under prevailing wage while "engaged to wait" on the site and when directly involved in the paving operation, provided the total time is not "de minimus"*

- Truck Drivers **are not** covered in the following instances:
  - Material delivery truck drivers while off "the site of the work"
  - Truck Drivers traveling between a prevailing wage job and a commercial supply facility while they are off the "site of the work"
  - Truck drivers whose time spent on the "site of the work" is de minimus, such as under 15 minutes at a time, merely to drop off materials or supplies, including asphalt.

*These guidelines are similar to U.S. Labor Department policies. The application of these guidelines may be subject to review based on factual considerations on a case by case basis.*

**For example:**

- Material men and deliverymen are not covered under prevailing wage as long as they are not directly involved in the construction process. If, they unload the material, they would then be covered by prevailing wage for the classification they are performing work in: laborer, equipment operator, etc.
- Hauling material off site is not covered provided they are not dumping it at a location outlined above.
- Driving a truck on site and moving equipment or materials on site would be considered covered work, as this is part of the construction process.

*Any questions regarding the proper classification should be directed to:*

*Public Contract Compliance Unit  
Wage and Workplace Standards Division  
Connecticut Department of Labor  
200 Folly Brook Blvd, Wethersfield, CT 06109  
(860) 263-6543*

200 Folly Brook Boulevard, Wethersfield, CT 06109 / Phone: 860-263-6000  
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**Connecticut Department of Labor  
Wage and Workplace Standards Division  
FOOTNOTES**

⇒ Please Note: If the “Benefits” listed on the schedule for the following occupations includes a letter(s) (+ a or + a+b for instance), refer to the information below.

Benefits to be paid at the appropriate prevailing wage rate for the listed occupation.

If the “Benefits” section for the occupation lists only a dollar amount, disregard the information below.

**Bricklayers, Cement Masons, Cement Finishers, Concrete Finishers, Stone Masons  
(Building Construction) and  
(Residential- Hartford, Middlesex, New Haven, New London and Tolland Counties)**

- a. Paid Holiday: Employees shall receive 4 hours for Christmas Eve holiday provided the employee works the regularly scheduled day before and after the holiday. Employers may schedule work on Christmas Eve and employees shall receive pay for actual hours worked in addition to holiday pay.

**Elevator Constructors: Mechanics**

- a. Paid Holidays: New Year’s Day, Memorial Day, Independence Day, Labor Day, Veterans’ Day, Thanksgiving Day, Christmas Day, plus the Friday after Thanksgiving.
- b. Vacation: Employer contributes 8% of basic hourly rate for 5 years or more of service or 6% of basic hourly rate for 6 months to 5 years of service as vacation pay credit.

**Glaziers**

- a. Paid Holidays: Labor Day and Christmas Day.

**Power Equipment Operators  
(Heavy and Highway Construction & Building Construction)**

- a. Paid Holidays: New Year’s Day, Good Friday, Memorial day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday. Holidays falling on Saturday may be observed on Saturday, or if the employer so elects, on the preceding Friday.

**Ironworkers**

- a. Paid Holiday: Labor Day provided employee has been on the payroll for the 5 consecutive work days prior to Labor Day.

**Laborers (Tunnel Construction)**

- a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. No employee shall be eligible for holiday pay when he fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

**Roofers**

- a. Paid Holidays: July 4<sup>th</sup>, Labor Day, and Christmas Day provided the employee is employed 15 days prior to the holiday.

**Sprinkler Fitters**

- a. Paid Holidays: Memorial Day, July 4th, Labor Day, Thanksgiving Day and Christmas Day, provided the employee has been in the employment of a contractor 20 working days prior to any such paid holiday.

**Truck Drivers**

(Heavy and Highway Construction & Building Construction)

- a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas day, and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

Project: Riverside Drive Recreation Field Improvements

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**Minimum Rates and Classifications  
for Heavy/Highway Construction**

ID#: H 22097

**Connecticut Department of Labor  
Wage and Workplace Standards Division**

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By virtue of the authority vested in the Labor Commissioner under provisions of Section 31-53 of the General Statutes of Connecticut, as amended, the following are declared to be the prevailing rates and welfare payments and will apply only where the contract is advertised for bid within 20 days of the date on which the rates are established. Any contractor or subcontractor not obligated by agreement to pay to the welfare and pension fund shall pay this amount to each employee as part of his/her hourly wages.

Project Number:

Project Town: Andover

FAP Number:

State Number:

Project: Riverside Drive Recreation Field Improvements

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**CLASSIFICATION**

**Hourly Rate**

**Benefits**

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01) Asbestos/Toxic Waste Removal Laborers: Asbestos removal and encapsulation (except its removal from mechanical systems which are not to be scrapped), toxic waste removers, blasters. \*\*See Laborers Group 5 and 7\*\*

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1) Boilermaker

33.79

34% + 8.96

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1a) Bricklayer, Cement Masons, Cement Finishers, Plasterers, Stone Masons

33.48

28.76

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2) Carpenters, Piledrivermen

31.45

23.54

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As of:

Thursday, May 05, 2016

Project: Riverside Drive Recreation Field Improvements

2a) Diver Tenders	31.45	23.54
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3) Divers	39.91	23.54
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03a) Millwrights	31.84	23.99
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4) Painters: (Bridge Construction) Brush, Roller, Blasting (Sand, Water, etc.), Spray	45.95	19.35
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4a) Painters: Brush and Roller	31.52	19.35
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4b) Painters: Spray Only	34.52	19.35
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4c) Painters: Steel Only	33.02	18.55
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*As of:*

Thursday, May 05, 2016

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4d) Painters: Blast and Spray 34.52 19.35

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4e) Painters: Tanks, Tower and Swing 33.52 19.35

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5) Electrician (Trade License required: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9) 38.20 23.72 + 3% of gross wage

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6) Ironworkers: Ornamental, Reinforcing, Structural, and Precast Concrete Erection 34.47 31.09 + a

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7) Plumbers (Trade License required: (P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2) and Pipefitters (Including HVAC Work) (Trade License required: S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4 G-1, G-2, G-8, G-9) 40.62 28.91

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---LABORERS----

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8) Group 1: Laborer (Unskilled), Common or General, acetylene burner, concrete specialist 28.55 18.90 + a

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*As of:*

Thursday, May 05, 2016

Project: Riverside Drive Recreation Field Improvements

9) Group 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators, powdermen	28.80	18.90 + a
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10) Group 3: Pipelayers	29.05	18.90 + a
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11) Group 4: Jackhammer/Pavement breaker (handheld); mason tenders (cement/concrete), catch basin builders, asphalt rakers, air track operators, block paver, curb setter and forklift operators	29.05	18.90 + a
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12) Group 5: Toxic waste removal (non-mechanical systems)	30.55	18.90 + a
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13) Group 6: Blasters	30.30	18.90 + a
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Group 7: Asbestos/lead removal, non-mechanical systems (does not include leaded joint pipe)	29.55	18.90 + a
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Group 8: Traffic control signalmen	16.00	18.90 + a
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Project: Riverside Drive Recreation Field Improvements

Group 9: Hydraulic Drills	29.30	18.90 + a
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---LABORERS (TUNNEL CONSTRUCTION, FREE AIR). Shield Drive and  
Liner Plate Tunnels in Free Air.---

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13a) Miners, Motormen, Mucking Machine Operators, Nozzle Men, Grout Men, Shaft & Tunnel Steel & Rodmen, Shield & Erector, Arm Operator, Cable Tenders	32.22	18.90 + a
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13b) Brakemen, Trackmen	31.28	18.90 + a
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---CLEANING, CONCRETE AND CAULKING TUNNEL---

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14) Concrete Workers, Form Movers, and Strippers	31.28	18.90 + a
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15) Form Erectors	31.60	18.90 + a
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Project: Riverside Drive Recreation Field Improvements

---ROCK SHAFT LINING, CONCRETE, LINING OF SAME AND TUNNEL  
IN FREE AIR:----

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16) Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers	31.28	18.90 + a
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17) Laborers Topside, Cage Tenders, Bellman	31.17	18.90 + a
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18) Miners	32.22	18.90 + a
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---TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED  
AIR: ----

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18a) Blaster	38.53	18.90 + a
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19) Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders	38.34	18.90 + a
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*As of:*

Thursday, May 05, 2016

Project: Riverside Drive Recreation Field Improvements

20) Change House Attendants, Powder Watchmen, Top on Iron Bolts	36.41	18.90 + a
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21) Mucking Machine Operator	39.11	18.90 + a
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---TRUCK DRIVERS---(\*see note below)

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Two axle trucks	28.83	21.39 + a
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Three axle trucks; two axle ready mix	28.93	21.39 + a
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Three axle ready mix	28.98	21.39 + a
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Four axle trucks, heavy duty trailer (up to 40 tons)	29.03	21.39 + a
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*As of:*

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Project: Riverside Drive Recreation Field Improvements

Four axle ready-mix	29.08	21.39 + a
<hr/>		
Heavy duty trailer (40 tons and over)	29.28	21.39 + a
<hr/>		
Specialized earth moving equipment other than conventional type on-the road trucks and semi-trailer (including Euclids)	29.08	21.39 + a
<hr/>		
---POWER EQUIPMENT OPERATORS---		
<hr/>		
Group 1: Crane handling or erecting structural steel or stone, hoisting engineer (2 drums or over), front end loader (7 cubic yards or over), Work Boat 26 ft. & Over, Tunnel Boring Machines. (Trade License Required)	38.55	23.55 + a
<hr/>		
Group 2: Cranes (100 ton rate capacity and over); Excavator over 2 cubic yards; Piledriver (\$3.00 premium when operator controls hammer); Bauer Drill/Caisson. (Trade License Required)	38.23	23.55 + a
<hr/>		
Group 3: Excavator/Backhoe under 2 cubic yards; Cranes (under 100 ton rated capacity), Gradall; Master Mechanic; Hoisting Engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power of operation), Rubber Tire Excavator (Drott-1085 or similar); Grader Operator; Bulldozer Fine Grade (slopes, shaping, laser or GPS, etc.). (Trade License Required)	37.49	23.55 + a
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Project: Riverside Drive Recreation Field Improvements

Group 4: Trenching Machines; Lighter Derrick; Concrete Finishing Machine; CMI Machine or Similar; Koehring Loader (Skooper)	37.10	23.55 + a
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Group 5: Specialty Railroad Equipment; Asphalt Paver; Asphalt Spreader; Asphalt Reclaiming Machine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24" Mandrell)	36.51	23.55 + a
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Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller.	36.51	23.55 + a
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Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).	36.20	23.55 + a
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Group 7: Asphalt Roller; Concrete Saws and Cutters (ride on types); Vermeer Concrete Cutter; Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24" and Under Mandrel).	35.86	23.55 + a
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Group 8: Mechanic, Grease Truck Operator, Hydroblaster, Barrier Mover, Power Stone Spreader; Welder; Work Boat under 26 ft.; Transfer Machine.	35.46	23.55 + a
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Group 9: Front End Loader (under 3 cubic yards), Skid Steer Loader regardless of attachments (Bobcat or Similar); Fork Lift, Power Chipper; Landscape Equipment (including hydroseeder).	35.03	23.55 + a
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*As of:*

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Project: Riverside Drive Recreation Field Improvements

Group 10: Vibratory Hammer, Ice Machine, Diesel and Air Hammer, etc. 32.99 23.55 + a

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Group 11: Conveyor, Earth Roller; Power Pavement Breaker (whiphammer), Robot Demolition Equipment. 32.99 23.55 + a

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Group 12: Wellpoint Operator. 32.93 23.55 + a

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Group 13: Compressor Battery Operator. 32.35 23.55 + a

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Group 14: Elevator Operator; Tow Motor Operator (Solid Tire No Rough Terrain). 31.21 23.55 + a

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Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator. 30.80 23.55 + a

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Group 16: Maintenance Engineer/Oiler 30.15 23.55 + a

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*As of:*

Thursday, May 05, 2016

Project: Riverside Drive Recreation Field Improvements

Group 17: Portable asphalt plant operator; portable crusher plant operator; portable concrete plant operator.	34.46	23.55 + a
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Group 18: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (minimum for any job requiring CDL license).	32.04	23.55 + a
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\*\*NOTE: SEE BELOW

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---LINE CONSTRUCTION---(Railroad Construction and Maintenance)---

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20) Lineman, Cable Splicer, Technician	45.43	6.25%+19.20
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21) Heavy Equipment Operator	40.89	6.25%+17.18
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22) Equipment Operator, Tractor Trailer Driver, Material Men	38.62	6.25%+16.68
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Project: Riverside Drive Recreation Field Improvements

23) Driver Groundmen 24.99 6.25%+10.87

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23a) Truck Driver 34.07 6.25%+15.41

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---LINE CONSTRUCTION---

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24) Driver Groundmen 30.92 6.5% + 9.70

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25) Groundmen 22.67 6.5% + 6.20

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26) Heavy Equipment Operators 37.10 6.5% + 10.70

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27) Linemen, Cable Splicers, Dynamite Men 41.22 6.5% + 12.20

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*As of:*

Thursday, May 05, 2016

Project: Riverside Drive Recreation Field Improvements

28) Material Men, Tractor Trailer Drivers, Equipment Operators

35.04

6.5% + 10.45

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*As of:*

Thursday, May 05, 2016

Project: Riverside Drive Recreation Field Improvements

*Welders: Rate for craft to which welding is incidental.*

*\*Note: Hazardous waste removal work receives additional \$1.25 per hour for truck drivers.*

*\*\*Note: Hazardous waste premium \$3.00 per hour over classified rate*

***ALL Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra \$3.00 premium in addition to the hourly wage rate and benefit contributions:***

***1) Crane handling or erecting structural steel or stone; hoisting engineer (2 drums or over)***

***2) Cranes (100 ton rate capacity and over) Bauer Drill/Caisson***

***3) Cranes (under 100 ton rated capacity)***

*Crane with 150 ft. boom (including jib) - \$1.50 extra*

*Crane with 200 ft. boom (including jib) - \$2.50 extra*

*Crane with 250 ft. boom (including jib) - \$5.00 extra*

*Crane with 300 ft. boom (including jib) - \$7.00 extra*

*Crane with 400 ft. boom (including jib) - \$10.00 extra*

All classifications that indicate a percentage of the fringe benefits must be calculated at the percentage rate times the "base hourly rate".

Apprentices duly registered under the Commissioner of Labor's regulations on "Work Training Standards for Apprenticeship and Training Programs" Section 31-51-d-1 to 12, are allowed to be paid the appropriate percentage of the prevailing journeymen hourly base and the full fringe benefit rate, providing the work site ratio shall not be less than one full-time journeyman instructing and supervising the work of each apprentice in a specific trade.

*~~Connecticut General Statute Section 31-55a: Annual Adjustments to wage rates by contractors doing state work ~~*

*The Prevailing wage rates applicable to this project are subject to annual adjustments each July 1st for the duration of the project.*

*Each contractor shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.*

*It is the contractor's responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's website.*

*The annual adjustments will be posted on the Department of Labor's Web page: [www.ct.gov/dol](http://www.ct.gov/dol).*

*The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project.*

*All subsequent annual adjustments will be posted on our Web Site for contractor access.*

*Contracting Agencies are under no obligation pursuant to State labor law to pay any increase due to the annual adjustment provision.*

As of:

Thursday, May 05, 2016

Project: Riverside Drive Recreation Field Improvements

*Effective October 1, 2005 - Public Act 05-50: any person performing the work of any mechanic, laborer, or worker shall be paid prevailing wage*

All Person who perform work ON SITE must be paid prevailing wage for the appropriate mechanic, laborer, or worker classification.

All certified payrolls must list the hours worked and wages paid to All Persons who perform work ON SITE regardless of their ownership i.e.: (Owners, Corporate Officers, LLC Members, Independent Contractors, et. al)

Reporting and payment of wages is required regardless of any contractual relationship alleged to exist between the contractor and such person.

**~~Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clause (29 CFR 5.5 (a) (1) (ii)).**

Please direct any questions which you may have pertaining to classification of work and payment of prevailing wages to the Wage and Workplace Standards Division, telephone (860)263-6790.

*As of:*

Thursday, May 05, 2016