

**TOWN OF WESTON  
OFFICE OF THE TOWN CLERK  
WESTON TOWN HALL  
56 NORFIELD RD  
WESTON, CONNECTICUT 06833**

**Notice to Contractors – Invitation to Bid  
WESTON COMMUNITY CONNECTIVITY PROJECT  
STATE PROJECT 0170-3513  
WESTON, CT**

**Addenda #2 – Issued April 7, 2023**

This Addendum #2 is issued to acknowledge changes to the Invitation to Bid:

**INFORMATION FOR BIDDERS**

1. Sealed bids will be received by the Town of Weston until **April 21, 2023 at 12:00 P.M.** The bid opening will take place at 12:01 P.M. on April 21, 2023 at the Town Hall Meeting Room at 56 Norfield Road.

**SPECIAL CONDITIONS**

1. Special Conditions Section 5. Coordination of Utilities is updated to delete the following sentence “Contractor shall note that underground fiber shown on plans has been disconnected to allow for ease during construction.” and replaced with:

*Contractor shall take care to protect underground town-owned fiber located within project limits. Approximate location of underground fiber is shown on plans. Contractor shall conduct a minimum of ten (10) test pits to verify depth and location of underground fiber.*

**GENERAL CONDITIONS**

1. Contract Documents shall be amended to include the attached General Conditions.

**BID SHEET**

1. Bid Sheet has been revised and is attached to this addendum.

**TECHNICAL SPECIFICATIONS**

1. Additional Technical Specifications have been provided and are attached to this addendum.

## PLANS

1. The following plan sheets have been revised, copies of which are included with this addendum.
  - C100
  - C200
  - C300
  - C400
  - C500
  - C600
  - C800
  - C900

## QUESTIONS

1. Will there be a revised bid form with square footage of each section? The scope of work is unclear for this project, the bid form provides one line for lump sum for sidewalks but the plans include work beyond sidewalks, please detail out what the contract responsibilities are. Typically a job of this nature will have unit price items, this is very difficult to provide a lump sum for.

Answer: Yes, revised bid sheet is attached to this addendum.

2. C-600 says "Existing Guide Rail to remain provide rubber end caps atop steel posts." Can you please provide a detail and spec for these rubber end caps and the number of caps needed.

Answer: There are a total of nineteen (19) caps to be placed. A cutsheet for sample product is included with this addendum.

3. There are a number of utility poles and guy wires that are shown to be relocated on the plan, can you please verify the number of each relocations required and if it is the responsibility of the contractor or to be done by others.

Answer: There are two guy wires to be replaced with sidewalk-type guy wires. Eversource is on schedule to replace this year. Any other utility pole adjustments are the responsibility of Eversource and Contractor shall coordinate as necessary.

4. Is the contractor responsible for painting the crosswalks shown on the plans or is it to be done by others? If it is the responsibility of the contractor please provide a detail and spec.

Answer: Yes, Contractor shall be responsible for painting crosswalks. Crosswalks should be epoxy painted with bars 8 feet in length by 24 inches in width, with 16 inch spacing between bars.

5. C-400 shows two locations for new chain link fence to be installed. What is the height and finish of the fence?

Answer: Height of new chain link fence is 4 feet.

6. In one spot it says “relocate ledge” one could ask where are we reinstalling the ledge?

Answer: Ledge may be relocated to back of walk and/or removed by Contractor.

If traffic control, uniformed flagger, is not to be a separate item on the bid form and is to be included in the lump sum. Where is a flagger needed and not needed along the route of the project? If municipal uniformed officers are required how is this to be paid?

Answer: Please see Technical Specification 430 – Maintenance and Protection of Traffic. If Municipal Police Officers are required at the intersection of Weston Rd and Norfield Rd these services will be paid for on a hourly basis outside of the lump sum Maintenance and Protection of Traffic Item.

Bidders must acknowledge receipt of this Addendum #2 – Issued April 7, 2023, on the attached form to be submitted with the Bid.

Samantha Nestor  
Town Selectwoman

**This sheet is to acknowledge receipt of Addendum #2 Issued April 7, 2023 to the Invitation to Bid for the WESTON COMMUNITY CONNECTIVITY PROJECT, STATE PROJECT 0170-35132, WESTON, CT.**

BIDDER'S  
SIGNATURE \_\_\_\_\_

SIGNED BY \_\_\_\_\_ TITLE \_\_\_\_\_

DATE \_\_\_\_\_

**Must Submit with Bid**

## GENERAL CONDITIONS

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## GENERAL CONDITIONS

### ARTICLE 1. Definitions

Whenever used in these General Conditions or in the other Contract Documents, the following terms shall have the meanings which shall be applicable to both the singular and plural thereof:

#### Agreement

The written agreement between the Town of Windsor and the Contractor covering the work to be performed, including the Contractor's bid and the bonds. The written agreement is intended to be the complete and exclusive agreement between the above parties covering the work to be performed, including the Contractor's bid and the bonds.

#### Architect

Whenever in the Contract Documents the word "Architect" is used it shall be understood as referring to the Architect designated by the Town Manager as the primary contact related to building design and specifications.

#### A.A.S.H.T.O.

American Association of State Highway and Transportation Officials.

#### Bid

The offer or proposal of the Bidder submitted on the prescribed form setting forth the price for the Work to be performed.

#### Bidder

Any person, firm or corporation submitting a Bid for the Work.

#### Bonds

Bid, performance and payment bonds and other instruments of security, furnished by the Contractor and his surety in accordance with the Contract Documents.

#### Change Order

A written order to the Contractor signed by the Town Manager authorizing an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time issued after execution of the Agreement.

## Commission on Human Rights and Opportunities (CHRO)

The State of Connecticut's Commission on Human Rights and Opportunities, statutory authorization under C.G.S. Chapter 814c.

## Contract Documents

The Agreement, Invitation to Bid, Information for Bidders, Bid Sheet, Specifications, Drawings, Maps, Technical Specifications, Special Conditions, General Conditions, Addenda (whether issued prior to opening of Bids or execution of the Agreement) and Modifications.

## Contract Price

The total monies payable to the Contractor under the Contract Documents.

## Contract Time

The numbers of days or the dates stated in the Agreement to complete the Work so that it is ready for final payment as evidenced by Town Manager or his designee's written recommendation of final payment.

## Contractor

The person, firm or corporation with whom the Town of Windsor has executed the Agreement.

## Drawings

The drawings and plans which show the character and scope of the Work to be performed and which have been prepared or approved by the Architect or Engineer and are referred to in the Contract Documents.

## Engineer

Whenever in the Contract Documents the word "Engineer" is used it shall be understood as referring to the Town Engineer of the Town of Windsor or an Engineer as designated by the Town Manager.

## Form 817

Shall refer to the State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges, and Incidental Construction Form 817 dated 2016 and any and all approved changes to the Form.

### Gender identity or expression

A person's gender-related identity, appearance or behavior, whether or not that gender-related identity, appearance or behavior is different from that traditionally associated with the person's physiology or assigned sex at birth, which gender-related identity can be shown by providing evidence including, but not limited to, medical history, care or treatment of the gender-related identity, consistent and uniform assertion of the gender-related identity or any other evidence that the gender-related identity is sincerely held, part of a person's core identity or not being asserted for an improper purpose.

### Good faith

That degree of diligence which a reasonable person would exercise in the performance of legal duties and obligations;

### Good faith efforts

"Good faith efforts" shall include, but not be limited to, those reasonable initial efforts necessary to comply with statutory or regulatory requirements and additional or substituted efforts when it is determined that such initial efforts will not be sufficient to comply with such requirements.

### Inspector

The authorized representative of the Town of Windsor who is assigned to the Project or any parts thereof.

### Intellectual disability

A significant limitation in intellectual functioning and deficits in adaptive behavior that originated during the developmental period before eighteen years of age;

### Liens

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

### Marital status

Being single, married as recognized by the State of Connecticut, widowed, separated or divorced.

### Mental disability

One or more mental disorders, as defined in the most recent edition of the American Psychiatric Association's "Diagnostic and Statistical Manual of Mental Disorders", or a record of or regarding a person as having one or more such disorders.

### M.D.C. Specifications

Shall refer to the Bureau of Public Works of the Metropolitan District of Hartford, Connecticut specifications for the construction of sewers and drains and similar structures reprinted December 1, 1963, and the sewer standards plans printed July, 1972 and any revisions or supplements thereto.

### Minority business enterprise

Any small contractor or supplier of materials fifty-one percent or more of the capital stock, if any, or assets of which is owned by a person or persons: (1) who are active in the 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 Connecticut General Statutes section 32-9n.

### Minority

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.

### Modification

(a) A written amendment of the Contract Document signed by both parties, (b) a Change Order, (c) a written clarification or interpretation issued by the Architect or Engineer or (d) a written order for a minor change or alteration in the work issued by the Architect or Engineer. A modification may only be issued after execution of the Agreement.

### Project

The entire construction to be performed as provided in the Contract Documents.

### Project Manager

The licensed Architect or licensed Engineer designated by the Town Manager as the primary contact for all project correspondence.

### Shop Drawings

All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the Contractor, a Subcontractor, manufacturer, supplier or distributor and which illustrate the equipment, material or some portion of the Work.

### Specifications

The Information for Bidders, these General Conditions, the Special Conditions, the Technical Specifications, CT DOT Form 817, and any addenda thereto.

### Subcontractor

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

### Town

The Town of Windsor, Connecticut.

### Town Manager

The Chief Executive Officer of the Town of Windsor, Connecticut.

### Work

Any and all obligations, duties and responsibilities necessary to the successful completion of the Project assigned to or undertaken by the Contractor under the Contract Documents, including the furnishing of all labor, materials, equipment and other incidentals.

## ARTICLE 2. Progress and Submission; Preconstruction Conference; Time of Starting the Work

- (a) Within ten (10) days after execution of the Agreement, the Contractor will submit to the Project Manager for approval, an estimated progress schedule indicating the starting and completion dates of the various stages of the Work, and a schedule of Shop Drawing submissions. The Contractor's schedule provided is for general overview of work effort. The Contractor planning to do the schedule is not to be considered as a basis of the Contractor's expected productivity or to be used as a basis of any claim against the Town.
- (b) Before starting the Work, a conference will be held to review the above schedules, to establish procedures for handling Shop Drawings and other submissions and for

processing Applications for Payment, and to establish a working understanding between the parties as to the Project.

- (c) Prior to starting the Work the Contractor will furnish the Town of Windsor certificates of insurance as required by the specifications.
- (d) The Contractor will start the Work on the date on which the Agreement is executed and delivered, or on such other date, if any, as may be specified in the Agreement. However, at the time of execution and delivery of the Agreement the Owner may give the Contractor a written notice to proceed, stating a different date on which it is expected that the Contractor will start the Work, but such date shall not be more than thirty days after the date of execution and delivery of the Agreement.
- (e) The Contract Time shall commence to run on the date when the Work is to start as provided in the above paragraph.

### ARTICLE 3. Correlation, Interpretation and Intent of Contract Documents

- (a) It is the intent of the Specifications and Drawings to describe a complete Project to be constructed in accordance with the Contract Documents.

The Contract Documents comprise the entire Agreement between the Town and the Contractor. They may be altered only by a Modification.

- (b) The Contract Documents are complementary; what is called for by one is as binding as if called for by all. If the Contractor finds a conflict, error or discrepancy in the Contract Documents, he will call it to the Project Manager's attention, in writing, before proceeding with the work affected thereby. In resolving such conflicts, errors and discrepancies, the documents shall be given precedence in the following order: Agreement, Specifications, Drawings. Within the Specifications the order of precedence shall be as follows: Special Conditions, Information for Bidders, General Conditions, and Technical Provisions. Figure dimensions on Drawings shall govern over scale dimensions, and detailed Drawings shall govern over general Drawings. Any Work that may reasonably be inferred from the Specifications or Drawings as being required to produce the intended result shall be supplied whether or not it is specifically called for. Work, materials or equipment described in words which so applied have a well-known technical or trade meaning shall be deemed to refer to such recognized standards. The Contractor assumes full responsibility for having familiarized himself with the nature and extent of the Contract Documents, Work, locality, and local conditions that may in any manner affect the Work to be done.

#### ARTICLE 4. Copies of Documents and Record Documents

- (a) The Town will furnish the Contractor up to ten copies of the Specifications and Drawings as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.
- (b) The Contractor will keep one record copy of all Specifications, Drawings, Addenda, Modifications, and Shop Drawings at the site in good order and annotated to show all changes made during the construction process. These shall be available to the Project Manager and shall be delivered to the Town of Windsor upon completion of the Project.
- (c) The Contractor shall be responsible for furnishing as-built drawings upon completion of the project. The Contractor has an option to prepare and submit as-builts electronically or by hand and shall be maintained as the work progresses. The as-builts should clearly define any deviations from the original plans either geometrically (horizontal or vertical) or changes in materials used. Final payment will not be released until the final as-built drawings have been furnished to the Town.

This work shall be performed on a continuing basis and shall be included in the general cost of the work. No separate payment will be made for As-Built Drawings. This information will be used by the Municipality and may serve as public information.

#### ARTICLE 5. Separate Contracts

The Town may award other contracts in the vicinity of the Work which may proceed simultaneously with the execution of this Contract. The Contractor shall perform his work, causing as little interference with other Contractors, so far as circumstances will permit.

#### ARTICLE 6. Subcontracts

- (a) Prior to the execution and delivery of the Agreement, the successful Bidder will submit to the Project Manager for acceptance a list of the names of Subcontractors and such other persons and organizations (including those who are to furnish materials or equipment fabricated to a special design) proposed for those portions of the Work as to which the identity of the Subcontractors and other persons and organizations must be submitted as specified in the Contract Documents. Prior to the execution and delivery of the Agreement, the Project Manager will notify the successful Bidder in writing if the Project Manager, after due investigation, has reasonable objection to any Subcontractor, person or organization on such list. The failure of the Project Manager to make objection to any Subcontractor, person

or organization on the list prior to the execution and delivery of the Agreement shall constitute an acceptance of such Subcontractor, person or organization. Acceptance of any such Subcontractor, person or organization shall not constitute a waiver of any right of the Project Manager to reject defective work, material or equipment not in conformance with the requirements of the Contract Documents.

- (b) The Contractor will be fully responsible for all acts and omissions of his Subcontractors and of persons directly or indirectly employed by them and of persons for whose acts any of them may be liable to the same extent that he is responsible for the acts and omissions of persons directly employed by him. Nothing in the Contract Documents shall create any contractual relationship between any Subcontractor and the Town or any obligation on the part of the Town to pay or to see to the payment of any monies due any Subcontractor, except as may otherwise be required by law.
- (c) The Contractor agrees to specifically bind every Subcontractor to all of the applicable terms and conditions of the Contract Documents. Every Subcontractor, by undertaking to perform any of the Work, will thereby automatically be deemed to be bound by such terms and conditions.
- (d) Subcontractors selected to complete any work in excess of \$100,000.00 must also provide both a Performance Bond and Labor and Materials Bond, each in an amount of one hundred percent (100%) of the total estimated work to be provided by said Subcontractor.

#### ARTICLE 7. Materials, Equipment and Labor; Or Equal Clause

- (a) The Contractor will provide and pay for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water and sanitary facilities and all other facilities and incidentals necessary for the execution, testing, initial operation and completion of the Work.
- (b) All materials and equipment will be new. If required by the Project Manager, the Contractor will furnish satisfactory evidence as to the kind and quality of materials and equipment.
- (c) Wherever in these Contract Documents a particular brand, make of material, device or equipment is shown or specified, such brand, make of materials, device or equipment shall be regarded as standard. Where such items are specified, this shall not be interpreted to preclude the furnishing of items other than those specified where the quality, use and serviceability of the substitute is adjudged by the Project Manager to be the same as or exceed that of the standard.

- (d) All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturer, fabricator or processors, except as otherwise specifically provided in the Contract Documents.

#### ARTICLE 8. Patent Fees and Royalties

The Contractor will pay all license fees and royalties and assume all costs incident to the use of any invention, design, process or device which is the subject of patent rights or copyrights held by others. He will hold harmless the Town and anyone directly or indirectly employed by the Town from and against all claims, damages, losses and expenses (including attorney's fees) arising out of any infringement of such rights during or after completion of the Work, and shall defend all such claims in connection with any alleged infringement of such rights.

#### ARTICLE 9. Permits, Laws and Regulations

- (a) The Contractor will secure and pay for all construction permits and licenses.
- (b) The Contractor will give all notices and comply with all laws, ordinances, rules and regulations applicable to the work. If the Contractor observes that the Specifications or Drawings are at variance therewith, he will give the Project Manager prompt written notice thereof, and any necessary changes shall be adjusted by an appropriate modification. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Project Manager, he will bear all costs arising therefrom.

#### ARTICLE 10. Availability of Lands; Physical and Subsurface Conditions

The Town will provide, as indicated in the Contract Documents and not later than the date when needed by the Contractor, the lands upon which the Work is to be done, rights-of-way for access thereto, and such other lands which are designated for the use of the Contractor. Easements for permanent structures or permanent changes in existing facilities will be secured and paid for by the Town, unless otherwise specified in the Contract Documents. If the Contractor believes that any delay in the Town's furnishing these lands or providing such easements entitles him to an extension of the Contract Time, he may make a claim therefor as provided hereafter. The Contractor will provide all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

Subsurface information which may be contained in these Contract Documents, has been developed from the best available records, the accuracy of which cannot be guaranteed.

If, in the course of construction, conditions are found which result in changes or alignment and/or delays necessitating the re-scheduling of the Contractor's operation, such changes in alignment or re-scheduling of operations shall not constitute the basis of a claim for extra payment. It is anticipated that the Contractor, in the preparation of his bid, will provide for contingencies which may confront him throughout the execution of the Work.

#### ARTICLE 11. Project Manager's Control

- (a) In the performance of the Work, the Contractor shall abide by all orders, directions and requirements of the Project Manager and shall perform all Work to the satisfaction of the Project Manager, and at such time and places, by such methods and in such manner and sequence as the Project Manager may require. The Project Manager shall determine the amount, quality, acceptability and fitness of all parts of the Work, shall interpret the Contract Documents and Change Orders and shall decide all other questions in connection with the Work.
- (b) The enumeration herein or elsewhere in the Contract Documents of particular instances in which the opinion, judgment, discretion or determination of the Project Manager shall control or in which Work shall be performed to his satisfaction or subject to his approval or inspection, shall not imply that only matters similar to those enumerated shall be so governed and performed, but without exception, all the Work shall be governed and so performed.

#### ARTICLE 12. Authority and Duties of Inspectors

Inspectors employed by the Town shall be authorized to inspect all work done and all material furnished. Such inspection may extend to all or any part of the Work, and to the preparation or manufacture of the materials to be used. In case of any dispute arising between the Contractor and the Inspector as to materials furnished or the manner of performing the Work, the Inspector shall have authority to reject materials or suspend the Work until the question at issue can be referred to and decided by the Project Manager. The Inspector shall not be authorized to revoke, alter, enlarge, relax or release any requirements of these specifications, nor to approve or to accept any portion or the Work, nor to issue instructions contrary to the Plans and Specifications. The Inspector shall in no case act as foreman or perform other duties for the Contractor, or interfere with the management of the Work by the latter. Any advice which the Inspector may give to the Contractor shall in no circumstance be construed as binding the Town in any way nor releasing the Contractor from fulfillment of the terms of the Contract.

#### ARTICLE 13. Tests and Inspections

- (a) If the Contract Documents, laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction require any Work to specifically be inspected,

tested or approved by someone other than the Contractor, the Contractor will give the Project Manager timely notice of readiness therefore. The Contractor will furnish the Project Manager the required certificates of inspection, testing or approval.

- (b) Sampling and Testing shall be completed in accordance with the requirements specified in the Special Conditions and in accordance with the latest revision of the standard method of AASHTO, ASTM, or other standards accepted by the Town which are in effect at the time of bidding, unless otherwise specified on the plans or in the special provisions. Any items not covered in the "Schedule of Minimum Requirements for Sampling Materials for Test," Special Conditions, or plans shall be sampled and tested or certified, as directed by the Engineer. If any such Work required to be so inspected, tested or approved is covered up without written approval or consent of the Project Manager, it must, if directed by the Project Manager, be uncovered for observation at the Contractor's expense. The cost of all such inspections, tests and approvals shall be borne by the Contractor unless otherwise provided.
- (c) Any Work which fails to meet the requirements of any such test, inspection or approval and any Work which meets the requirements of any such test or approval but does not meet the requirements of the Contract Documents shall be considered defective. Such defective Work may be rejected, corrected or accepted as provided.
- (d) Neither observations by the Project Manager nor inspections, tests or approvals by persons other than the Contractor shall relieve the Contractor from his obligations to perform the Work in accordance with the requirements of the Contract Documents.

#### ARTICLE 14. Shop Drawings and Samples

- (a) After checking and verifying all field measurements, the Contractor will submit to the Project Manager for approval, in accordance with the accepted schedule of Shop Drawing submissions, five copies (or at the Project Manager's option, one reproducible copy) of all Shop Drawings, which shall have been checked by and stamped with the approval of the Contractor and identified as the Project Manager may require. The data shown on the Shop Drawings will be complete with respect to dimensions, design criteria, materials of construction and the like to enable the Project Manager to review the information as required.
- (b) The Contractor will also submit to the Project Manager for approval, with such promptness as to cause no delay in Work, all samples required by the Contract Documents. All samples will have been checked by and stamped with the approval of the Contractor, identified clearly as to material, manufacturer, any pertinent catalog numbers and the use for which intended.

- (c) At the time of each submission, the Contractor will, in writing, call the Project Manager's attention to any deviations that the Shop Drawing or sample may have from the requirements of the Contract Documents.
- (d) The Project Manager will check and approve with reasonable promptness Shop Drawings and samples, but his checking and approval shall be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents. The approval of a separate item as such will not indicate approval of the assembly in which the item functions. The Contractor will make any corrections required by the Project Manager and will return the required number of corrected copies of Shop Drawings and resubmit new samples until approved. The Contractor shall direct specific attention in writing or on resubmitted Shop Drawings to revisions other than the corrections called for by the Project Manager on previous submissions.
- (e) No Work requiring a Shop Drawing or sample submission shall be commenced until the submission has been approved by the Project Manager.
- (f) The Project Manager's approval of Shop Drawings or samples shall not relieve the Contractor from his responsibility for any deviations from the requirements of the Contract Documents unless the Contractor has, in writing, called the Project Manager's attention to such deviations at the time of submission and the Project Manager has given written approval to the specific deviation, nor shall any approval by the Project Manager relieve the Contractor from responsibility for errors or omissions in the Shop Drawings.

#### ARTICLE 15. Contractor's Supervision and Superintendence

- (a) The Contractor will supervise and direct the Work efficiently and with his best skill and attention. He will be solely responsible for the means, methods, techniques, sequences and procedures of construction. Before undertaking the Work he will carefully study and compare the Contract Documents and check and verify all figures shown thereon and all field measurements. He will at once report in writing to the Project Manager any conflict, error or discrepancy which he may discover. The Contractor will be responsible to see that the finished Work complies accurately with the Contract Documents.
- (b) The Contractor will keep on the Work at all times during its progress a resident superintendent satisfactory to the Project Manager. The superintendent shall not be replaced without the consent of the Project Manager except under extraordinary circumstances. The superintendent will be the Contractor's representative at the site and shall have authority to act on behalf of the Contractor. All communications given to the superintendent shall be as binding as if given to the Contractor.

- (c) The Town of Windsor will not be responsible for the acts or omissions of the Contractor, or any Subcontractors, or any of his or their agents or employees, or any other persons performing any of the Work.

ARTICLE 16. Safety and Protection; Emergencies

- (a) The Contractor will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. He will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to:
  - 1. All employees on the Work and other persons who may be affected thereby.
  - 2. All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site, and
  - 3. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.
- (b) No materials or other obstruction shall be placed within 15 feet of any fire hydrant, which at all times must be readily accessible to the Fire Department.
- (c) No more than one block at a time of the street shall be torn up, obstructed or closed without the permission of the Project Manager. Prior to street closings, the Contractor shall obtain the permission of the Director of Public Safety who will in turn notify the Police Department and the Fire Department immediately of such closings and openings.
- (d) The Contractor will comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. He will erect and maintain, as required by the conditions and progress of the Work, all necessary safeguards for safety and protection, including posting danger signs and other warnings against hazards and promulgating safety regulations. He will notify owners of adjacent utilities when prosecution of the Work may affect them. When the use or storage of explosives or other hazardous materials is necessary for the prosecution of the Work, the Contractor will exercise the utmost care and will carry on such activities under the supervision of properly qualified personnel. All damage, injury or loss to any property referred to in the above paragraphs, caused, directly or indirectly, in whole or in part, by the Contractor, any Subcontractor or anyone directly or indirectly employed by them or anyone for whose acts any of them may be liable, will be remedied by the Contractor, except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of the Town or

any of its employees or for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor.

- (e) In emergencies affecting the safety of persons or the Work or property at the site or adjacent thereto, the Contractor, without special instruction or authorization from the Town is obligated to act, at his discretion, to prevent threatened damage, injury or loss. He will give the Project Manager prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby, and a Change Order shall thereupon be issued covering the changes and deviations involved.

#### ARTICLE 17. Access to the Work; Uncovering Finished Work

- (a) The Project Manager and his representatives will at all times have access to the Work. The Contractor will provide proper facilities for such access and observation of the Work and also for any inspection or testing thereof by others.
- (b) If any Work is covered contrary to the request of the Project Manager, it must, if requested by the Project Manager, be uncovered for his observation and replaced at the Contractor's expense.
- (c) If any Work has been covered which the Project Manager has not specifically requested to observe prior to its being covered, or if the Project Manager considers it necessary or advisable that covered Work be inspected or tested by others, the Contractor, at the Project Manager's request, will uncover, expose or otherwise make available for observation, inspection or testing as the Project Manager may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is defective or does not meet the requirements of the Contract Documents, the Contractor will bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, including compensation for additional professional services, and an appropriate Change Order shall be issued deducting all such costs from the Contract Price. If, however, such Work is found to be nondefective and meet the requirements of the Contract Documents, the Contractor will be allowed an increase in the Contract Price or extension of the Contract Time directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction if he makes a claim therefor as provided hereafter.

#### ARTICLE 18. Change in the Work

- (a) Without invalidating the Agreement, the Town may, at any time or from time to time, order additions, deletions or revisions in the Work: these will be authorized by Change Orders. Upon receipt of a Change Order, the Contractor will proceed with the Work involved. All such Work shall be executed under the applicable

conditions of the Contract Documents. If any Change Order causes an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, an equitable adjustment will be made as provided hereafter.

- (b) The Project Manager may authorize minor changes or alterations in the Work not involving extra cost and not inconsistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order. If the Contractor believes that any minor change or alteration authorized by the Project Manager entitles him to an increase in the Contract Price, he may make a claim therefor as provided hereafter.
- (c) Additional Work performed by the Contractor without authorization of a Change Order will not entitle him to an increase in the Contract Price or an extension of the Contract Time, except in the case of an emergency as provided in these Conditions.
- (d) It is the Contractor's responsibility to notify his Surety of any changes affecting the general scope of the Work or change in the contract Price and the amount of the applicable Bonds shall be adjusted accordingly. The Contractor will furnish proof of such adjustment to the Town.

#### ARTICLE 19. Change Orders

- (a) The value of any Work covered by a Change Order shall be determined in one of the following ways:
  - 1. Where the Work is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved.
  - 2. By mutual acceptance of a lump sum.
  - 3. By cost and a mutually acceptable fixed amount for overhead and profit.
  - 4. If none of the above methods is agreed upon, the value shall be determined by the Project Manager on the basis of costs and a percentage for overhead and profit. Costs shall only include labor (payroll, payroll taxes, fringe benefits, workmen's compensation, etc.), materials, equipment, and other incidentals directly related to the Work involved. The maximum percentage which shall be allowed for Contractor's combined overhead and profit, shall be as follows:
    - a. For all such Work done by his own organization, the Contractor may add up to ten percent of his actual net increase in costs, and

- b. For all such Work done by a Subcontractor, each Subcontractor may add up to ten percent of his actual net increase in costs for combined overhead and profit and the Contractor may add up to five percent of the Subcontractor's total for his combined overhead and profit; provided that no overhead or profit shall be allowed on costs incurred in connection with premiums for public liability insurance or otherwise special insurance directly related to such Work.
- c. Under no circumstances will the Contractor be entitled to any additional compensation due to delay, loss of productivity or other like claims because of change orders.

In such case, the Contractor will submit, in form prescribed by the Project Manager, an itemized cost breakdown together with supporting data.

- (b) The amount of credit to be allowed by the Contractor to the Town for any such change which results in a net decrease in cost, will be the amount of the actual net decrease as determined by the Project Manager. When both additions and credits are involved in any one change, the combined overhead and profit shall be figured on the basis of the net increase, if any.

#### ARTICLE 20. Change of the Contract Time

- (a) The Contract Time may only be changed by a Change Order. If the Contractor is entitled by the Contract Documents to make a claim for an extension in the Contract Time, his claim shall be delivered in writing to the Project Manager within 10 days of the occurrence of the event giving rise to the claim. Any change in the Contract Time resulting from any such claim shall be incorporated in a Change Order.
- (b) The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of the Contractor if he makes a claim therefor as provided in paragraph above. Such delays shall include, but not be restricted to, acts or neglect by any separate Contractor employed by the Town, fires, floods, labor disputes, epidemics, abnormal weather conditions, or acts of God.
- (c) All time limits stated in the Contract Documents are of the essence of the Agreement. The provisions of this article shall not exclude recovery for damages (including compensation for additional professional services) for delay by either party.
- (d) Notwithstanding anything to the contrary in the Contract Documents, an extension in the Contract Time, to the extent permitted under Article 20, shall be the sole

remedy of the Contractor for any: (1) delay in the commencement, prosecution or completion of the Work; (2) hindrance or obstruction in the performance of the Work; (3) loss of productivity; or (4) other similar claims to (collectively referred to in this Paragraph Article 20 d as Delays) whether or not such Delays are foreseeable, contemplated, or unanticipated, unless a Delay is caused by acts of the Owner constituting active interference with the Contractor's performance of the Work, and only to the extent of such acts continue after the Contractor furnishes the Owner with notice of such interference. In no event shall the Contractor be entitled to any compensation or recovery of any damages in connection with any Delay, including, without limitation, consequential damages, lost opportunity costs, impact damages or other similar remuneration. The Owner's exercise of any of its rights or remedies under the Contract Documents (including, without limitation, ordering changes in the Work, or directing suspension, rescheduling or correction of the Work), regardless of the extent or frequency of the Owner's exercise of such rights or remedies, shall not be construed as active interference with the contractor's performance of the Work.

ARTICLE 21. Warranty and Guarantee: Correction, Removal or Acceptance of Defective Work

- (a) The Contractor warrants and guarantees to the Town that all materials and equipment will be new unless otherwise specified and that all Work will be of good quality and free from faults or defects and in accordance with the requirements of the Contract Documents and of any inspections, tests or approvals referred to in Article 13. All unsatisfactory Work, all faulty or defective Work and all Work not conforming to the requirements of the Contract Documents or of such inspections, tests or approvals shall be considered defective. Prompt notice of all defects shall be given to the Contractor. All defective Work, whether or not in place, may be rejected.
- (b) If required by the Project Manager prior to the issuance of the certificate of completion, the Contractor will promptly, without cost to the Town and as required by the Project Manager, either correct any defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by the Project Manager, remove it from the site and replace it with non-defective Work. If the Contractor does not correct such defective Work or remove and replace such rejected Work within a reasonable time, all as required by written notice from the Project Manager, the Town may have the deficiency corrected or the rejected Work removed and replaced. All direct or indirect costs of such correction or removal and replacement, including compensation for additional professional services shall be paid by the Contractor, and an appropriate Change Order shall be issued deducting all such costs from the Contract Price. The Contractor will also bear the expenses of making good all Work of others destroyed or damaged by his correction, removal or replacement of his defective Work.

- (c) If, after the approval of final payment and prior to the expiration of one year after the date of completion, any Work is found to be defective the Contractor will, promptly without cost to the Town and in accordance with the Town's written instructions, either correct such defective Work, or, if it has been rejected by the Town, remove it from the site and replace it with non-defective Work. If the Contractor does not promptly comply with the terms of such instructions, the Town may have the defective Work corrected or the rejected Work removed and replaced, and all direct and indirect costs of such removal and replacement, including compensation for additional professional services, will be paid by the Contractor.

## ARTICLE 22. Applications for Progress Payments

- (a) At a frequency not to exceed once a month, the Contractor may submit to the Project Manager for review the Application for Payment filled out and signed by the Contractor covering the Work completed as of the date of the Application and supported by such data as the Project Manager may reasonably require. Only under certain conditions, and if approved by the Town, if payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by such supporting data, satisfactory to the Town, as will establish the title to the material and equipment and protect his interest therein, including applicable insurance.
- (b) All applications for payment shall be made on forms approved by the Town.
- (c) The Contractor warrants and guarantees that title to all Work, materials and equipment covered by an Application for Payment, whether incorporated in the Project or not, will have passed to the Town prior to the making of the Application for Payment, free and clear of all liens, claims, security interests and encumbrances; and that no Work, materials or equipment covered by an Application for Payment will have been acquired by the Contractor or by any other person performing the Work at the site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person.
- (d) The Project Manager will, within fourteen days after receipt of each Application for Payment, either indicate in writing his approval of payment and present the Application to the Town or return the Application to the Contractor indicating in writing his reasons for refusing to approve payment. In the latter case, the Contractor may make the necessary corrections and resubmit the Application.

- (e) The amount paid the Contractor shall be the amount due less 5% retainage. The retainage shall be held by the Town until completion of the Work.
- (f) The Town will, within fourteen days of presentation to him of an approved Application for Payment, pay the Contractor the amount approved by the Project Manager.

#### ARTICLE 23. Certificates of Completion and Final Payment

- (a) Upon written notice from the Contractor that the Project is complete, the Project Manager will make a final inspection with the Contractor and will notify the Contractor in writing of any particulars in which this Inspection reveals that the Work is defective. The Contractor shall immediately make such corrections as are necessary to remedy such defects.
- (b) After the Contractor has completed any such corrections to the satisfaction of the Project Manager and delivered all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection and other documents all as required by the Contract Documents, the Town will issue a certificate of completion and Contractor may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by such supporting data as the Project Manager may require, together with complete and legally effective releases or waivers (satisfactory to the Town) of all Liens arising out of the Contract Documents and the labor and services performed and the material and equipment furnished thereunder. In lieu thereof and as approved by the Town, the Contractor may furnish receipts or releases in full; an affidavit of the Contractor that the releases and receipts include all labor, services, material and equipment for which a Lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which the Town or its property might in any way be responsible have been paid or otherwise satisfied; and the consent of the surety, if any, to final payment. If any Subcontractor or supplier fails to furnish a release or receipt in full, the Contractor may furnish a bond satisfactory to the Town to indemnify it against any Lien.
- (c) If, on the basis of his observation and review of the Work during construction, his final inspection and his review of the final Application for Payment - all as required by the Contract documents, the Project Manager is satisfied that the Work has been completed and the Contractor has fulfilled all of his obligations under the Contract Documents, he will, within fourteen days after receipt of the final Application for Payment, indicate in writing his approval of payment and present the Application to the Town for payment. Otherwise, he will return the Application to the Contractor, indicating in writing his reasons for refusing to approve final payment, in which case the Contractor will make the necessary corrections and resubmit the Application.

- (d) Final payment shall constitute 95% of the final Contract amount. The remaining 5% will be payable in accordance with Article 21 "Warranty and Guarantee: Removal or Acceptance of Defective Work". The Town will, within fourteen days of presentation to him of an approved final Application for Payment, pay the Contractor the amount approved by the Project Manager.

#### ARTICLE 24. Waivers of Claims and Continuing Obligations

- (a) The Contractor's obligation to perform the Work and complete the Project in accordance with the Contract Documents shall be absolute. Neither approval of any progress or final payment by the Project Manager, nor any payment by the Town to the Contractor under the Contract Documents, nor any use or occupancy of the Project or any part thereof by the Town, nor any act of acceptance by the Town, nor any failure to do so, nor any correction of faulty or defective Work by the Town shall constitute an acceptance of Work not in accordance with the Contract Documents.
- (b) The making and acceptance of final payment shall constitute:
  - 1. A waiver of all claims by the Town against the Contractor other than those arising from unsettled Liens, from faulty or defective Work appearing after final payment or from failure to comply with the requirements of the Contract Documents or the terms of any special guarantees specified therein, and
  - 2. A waiver of all claims by the Contractor against the Town other than those previously made in writing and still unsettled.

#### ARTICLE 25. Indemnification

- (a) The Contractor shall indemnify and hold harmless the State of Connecticut, the Town and their agents and employees from and against all claims, damages, losses and expenses including attorney's fees arising out of or resulting from the performance or the Work provided that any such claim, loss or expense (a) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including the loss of use resulting therefrom and (b) is caused in whole or in part by any negligent act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.
- (b) In any and all claims against the State of Connecticut, Town or any of their agents or employees by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of

them may be liable, the indemnification obligation under this article shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under Workmen's Compensation Acts, Disability Benefits Acts or other employee benefit acts.

- (c) The obligations of the Contractor under this article shall not extend to the liability of the Town, its agents or employees arising out of (a) the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, designs or specifications or (b) the giving of or the failure to give directions or instructions by the Town, its Project Manager, agents or employees provided such giving or failure to give is the primary cause of injury or damage.

#### ARTICLE 26. Cleaning Up

The Contractor will keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work, and at the completion of the Work he will remove all waste materials, rubbish and debris from and about the premises as well as all tools, construction equipment and machinery, and surplus materials, and will leave the site clean and ready for occupancy by the Town. The Contractor will restore to their original condition those portions of the site not designated for alteration by the Contract Documents.

#### ARTICLE 27. Town's Right to Stop or Suspend

- (a) If the Work is defective, or the Contractor fails to supply sufficient skilled workmen or suitable materials or equipment, or if the Contractor fails to make prompt payments to Subcontractors or for labor, materials or equipment, the Town may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated.
- (b) The Town may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to the Contractor which shall fix the date on which Work shall be resumed. The Contractor will resume the Work on the date so fixed. The Contractor will be allowed an increase in the Contract Price or an extension of the Contract Time directly attributable to any suspension if he makes a claim therefore as provided in the General Conditions.

## ARTICLE 28. Town's Right to Terminate

- (a) If the Contractor is adjudged a bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the Contractor or for any of his property, or if he files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or similar laws, or if he repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or if he repeatedly fails to make prompt payments to Subcontractors or for labor, materials or equipment or if he disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction, or if he disregards the authority of the Project Manager, or if he otherwise violates any provision of the Contract Documents, then the Town may, without prejudice to any other right or remedy and after giving the Contractor and his surety seven days written notice, terminate the services of the Contractor and take possession of the Project and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor, and finish the Work by whatever method it may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct and indirect costs of completing the Project, including compensation for additional professional services, such excess shall be paid to the Contractor. If such costs exceed such unpaid balance, the Contractor will pay the difference to the Town. Such costs incurred by the Town will be determined by the Project Manager and incorporated in a Change Order.
- (b) Where the Contractor's services have been so terminated by the Town, said Termination shall not affect any rights of the Town against the Contractor then existing or which may thereafter accrue. Any retention of payment of monies by the Town due the Contractor will not release the Contractor from liability.
- (c) Upon seven days written notice to the Contractor, the Town may, without cause and without prejudice to any other right or remedy, elect to abandon the Project and terminate the Agreement. In such case, the Contractor shall be paid for all Work executed and any expense sustained plus a reasonable profit.
- (d) Anything to the contrary notwithstanding, the Town retains the right to terminate the Contract for its convenience upon written notice to the Contractor. In said event, Contractor's remedy for termination for convenience shall be limited to the following:
  - 1. Contractor shall be entitled to be paid pursuant to the prices set forth in the Contract for all work properly performed prior to termination;

2. Partial payment shall be made for any lump sum items of work on the basis of the percentage complete of such items at the time of termination;
3. The Contractor shall be reimbursed for reasonable close-out costs, including the mobilization, shipping and restocking fees for material which can be returned, and Engineering for work not performed;
4. Contractor shall not be entitled to any compensation for loss of anticipated profits or unallocated overhead. Except as provided under Article 29, any determination by a court of competent jurisdiction that the termination of the Contractor or successor-in-interest pursuant to any provision of this contract is wrongful, such termination will be deemed converted to a termination for convenience of the Town and the Contractor's remedy shall be limited to those set forth in this Paragraph.

#### ARTICLE 29. Contractor's Right to Stop Work or Terminate

If, through no fault of the Contractor, the Work is suspended for a period of more than ninety days by the Town or under an order of court or other public authority, or the Project Manager fails to act on any Application for Payment within thirty days after it is submitted, or the Town fails to pay the Contractor any sum approved by the Project Manager within thirty days of its approval and presentation, then the Contractor may, upon seven days written notice to the Town and the Project Manager, terminate the Agreement and recover from the Town payment for all Work executed and any expense sustained plus a reasonable profit. In addition and in lieu of terminating the Agreement, if the Project Manager has failed to act on an Application for Payment or the Town has failed to make any payment as aforesaid, the Contractor may upon seven days notice to the Town stop the Work until he has been paid all amounts then due.

#### ARTICLE 30. Contract Surety

The Contractor shall provide a Performance Bond, within the time stipulated above, from a surety bond licensed to do business in the State of Connecticut, in an amount equal to one hundred (100) percent of estimate total contract price recorded in proposal of contract as executed. A Labor and Materials payment bond in like amount, will be required from successful bidder for faithful performance of contract.

Subcontractors selected to complete any work in excess of \$100,000.00 must also provide both a Performance Bond and Labor and Materials Bond, in accordance with the above stipulations, in an amount equal to one hundred (100) percent of the estimated work.

## ARTICLE 31. Time for Completion and Liquidated Damages

It is hereby understood and mutually agreed, by and between the Contractor and the Town, that the date of beginning and the time for completion as specified in the Contract of the work to be done hereunder are ESSENTIAL CONDITIONS of this Contract; and it is further mutually understood and agreed that the work embraced in this Contract shall be commenced on a date to be specified in the notice to proceed.

The Contractor agrees that said work shall be prosecuted regularly, diligently and uninterruptedly at such rate of progress as will insure full completion thereof within the time specified. It is expressly understood and agreed, by and between the Contractor and the Town, that the time for the completion of the work described herein is a reasonable time for the completion of the same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

If the said Contractor shall neglect, fail or refuse to complete the work within the time herein specified, or any proper extension thereof granted by the Town, the Contractor does hereby agree, as a part consideration for the awarding of this Contract, to pay to the Town the amount specified in the Contract, not as a penalty but as liquidated damages for such breach of Contract as hereinafter set forth for each and every calendar day that the Contractor shall be in default after the time stipulated in the Contract for completing the work.

It is further agreed that time is of the essence of each and every portion of this Contract and of the Specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the Contract an additional time is allowed for the completion of any Work, the new time limit fixed by such extension shall be of the essence of this Contract. Provided, that the Contractor shall not be charged with liquidated damages or any excess cost when the delay in completion of the work is due:

- a. To any preference, priority or allocation order duly issued by the Government;
- b. To unforeseeable cause beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God, or of the public enemy, acts of the Town, acts of another Contractor in the performance of a Contract with the Town, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather; and

- c. To any delays of subcontractors or suppliers occasioned by any of the causes specified in subsections (a) and (b) of this Article; provided further that Article 20 of the General Conditions shall be complied with.

#### ARTICLE 32. No Damage for Delay

Notwithstanding anything to the contrary in the Contract Documents, an extension in the Contract Time shall be the sole remedy of the Contractor for any (1) delay in the commencement, prosecution or completion of the work, (2) hindrance or obstruction in the performance of the work, (3) loss of productivity, or (4) other similar claims whether or not such delays are foreseeable, contemplated, or uncomtemplated, unless a delay is caused by acts of the Town, constituting active interference with the Contractor's performance of the Work, and only to the extent such acts continue after the Contractor furnishes the Town with written notice of such interference. In no event shall the Contractor be entitled to any compensation or recovery of any damage, in connection with any delay, including without limitation, consequential damages, lost opportunity cost, impact damages or other similar remuneration. The Town's exercise of any of it's rights or remedies under the Contract Documents (including without limitation, ordering changes in the work, or directing suspension, rescheduling or correction of the work), regardless of the extent or frequency of the Town's exercise of such rights or remedies, shall not be construed as active interference with the Contractor's performance of the work.

If the Contractor submits a progress report indicating or otherwise expresses an intention to achieve, completion of the work prior to any completion date required by the Contract Documents or expiration of the Contract Time, no liability of the Town to the Contractor for any failure of the Contractor to so complete the work shall be created or implied.

In addition to the foregoing and to all other express provisions in the Contract Documents, the following are areas of delay which could occur and are clearly contemplated by the parties:

1. Delay caused by change orders;
2. Delays caused by the bankruptcy or insolvency of one or more contractors or subcontractors;
3. Delays caused by changes necessitated by changes in laws or regulations;
4. Unavailability or shortage of building materials;
5. Job site theft;
6. Weather conditions;
7. Failure of one or more contractors or subcontractors to perform;
8. Vandalism or natural disaster requiring reconstruction;

#### ARTICLE 33. Contractor's and Subcontractor's Insurance

- (a) The Contractor shall, after being awarded the Contract but prior to starting work, furnish all Certificates of Insurance, as identified and listed below:

1. Commercial General Liability Insurance:

The Contractor shall provide Commercial General Liability insurance with a combined single limit of \$2,000,000 per occurrence, \$4,000,000 aggregate for bodily injury and property damage.

The CGL shall be written on ISO occurrence form CG 00 01 10 93 (or a substitute form providing equivalent coverage) and shall cover liability arising from premises, operations, independent contractors, products-completed operations, personal injury and advertising injury, and liability assumed under an insured contract (including the tort liability of another assumed in a business contract).

2. Commercial Automobile Liability Insurance

The Contractor shall provide Commercial Automobile Liability insurance with a combined single limit of \$2,000,000 per occurrence, \$4,000,000 aggregate and shall include coverage for all owned, hired, and non-owned vehicles.

3. Worker's Compensation Insurance

The Contractor shall provide Worker's Compensation insurance in the required amount as applies to the State of Connecticut and Employers Liability Insurance as follows:

Bodily Injury by Accident - \$100,000 each accident  
Bodily Injury by Disease - \$500,000 policy limit  
Bodily Injury by Disease - \$100,000 each employee

4. Umbrella Liability Insurance

The Contractor shall provide Commercial Umbrella Liability insurance with a combined single limit of \$2,000,000 per occurrence, \$4,000,000 aggregate for bodily injury and property damage.

Each Policy of Insurance shall include a waiver of subrogation in favor of both the State of Connecticut and the Town of Windsor and shall provide no less than thirty (30) days' notice to the Town in the event of a cancellation or change in conditions or amounts of coverage. All insurance policies shall name both the State of Connecticut and the Town of Windsor as an additional insured.

Certificates of Insurance, acceptable to the Town of Windsor shall be delivered to the Town of Windsor prior to the commencement of the work and kept in force throughout the term hereof.

- (b) The above insurance requirements shall also apply to all Subcontractors and the Contractor shall not allow any Subcontractor to commence work until the Subcontractor's insurance has been so obtained and approved.

#### ARTICLE 34. Wage Rates

The wages paid on an hourly basis to any mechanic, laborer or workman employed upon the work herein contracted to be done and the amount of payment or contribution paid or payable on behalf of each such employee to any employee welfare fund, as defined in subsection (h) of section 31-53 of the general statutes, shall be at a rate equal to the rate customary or prevailing for the same work in the same trade or occupation in the town in which such public works project is being constructed. Any contractor who is not obligated by agreement to make payment or contribution on behalf of such employees to any such employee welfare fund shall pay to each employee as part of his wages the amount of payment or contribution for his classification on each pay day.

The schedule of prevailing wage and welfare payments for this project as supplied by the State of Connecticut, Labor Department is attached.

The Contractor shall comply with the provisions of Section I of Public Act 85-355 of the June 16, 1985 session of the General Assembly.

#### ARTICLE 35. Removal of Rock

Prior to any blasting within the Town of Windsor, a blasting meeting shall be held at which the Engineer, the Windsor Fire Marshal, and the Contractor shall be represented to determine whether blasting may be permitted and if so, the methods to be used and the protective measures necessary to insure the utmost safety during blasting operations. A blasting permit to be issued by the Windsor Fire Marshal must be obtained prior to any blasting. Overnight storage of explosives is not permitted within the Town of Windsor.

#### ARTICLE 36. Assignment of Causes of Action

The Contractor, for itself and all subcontractors, offers and agrees to assign to the Town of Windsor all right, title and interest in and to all causes of action it (they) may have under Section 4 of the Clayton Act, 15 U.S. Section 15, or under Chapter 624 of the Connecticut General Statutes, arising out of the purchase of services, property or intangibles of any kind pursuant to a public purchase contract or subcontract. This assignment shall be made and become effective at the time the Town of Windsor awards or accepts such contract, without further acknowledgments by the parties.

#### ARTICLE 37. Sanitary Provisions

The Contractor shall provide and maintain in a neat and sanitary condition such accommodations for the use of his employees as may be necessary to comply with the requirements and regulations of the State Department of Health or of other bodies or tribunals having jurisdiction therewith.

#### ARTICLE 38. Provisions Required by Law Deemed Inserted

Each and every provision of law and clause required by law to be inserted in this Contract shall be deemed to be inserted herein and the Contract shall be read and enforced as though it were included herein, and if through a mistake or otherwise any such provision is not inserted or is not correctly inserted, then upon the application of either the Town or the Contractor, the Contract shall forthwith be physically amended to make such insertion.

#### ARTICLE 39. Compliance with the Contract Compliance Regulations of CHRO

- (a) The Contractor who is selected to perform this State project must comply with CONN. GEN. STAT. §§ 4a-60, 4a-60a, 4a-60g, and 46a-68b through 46a-68f, inclusive, as amended by June 2015 Special Session Public Act 15-5.
- (b) State law requires a minimum of twenty-five (25%) percent of the state-funded portion of the Contract for award to Subcontractors holding current certification from the Connecticut Department of Administrative Services ("DAS") under the provisions of CONN. GEN. STAT. § 4a-60g. (25% of the work with DAS certified Small and Minority owned businesses and 25% of that work with DAS certified Minority, Women and/or Disabled owned businesses.) The Contractor must demonstrate good faith effort to meet the 25% set-aside goals.
- (c) The Contractor must file a written or electronic non-discrimination certification with the Commission on Human Rights and Opportunities (CHRO) within thirty (30) days of Contract Award. Forms can be found at: [http://www.ct.gov/opm/cwp/view.asp?a=2982&q=390928&opmNav\\_GID=180622](http://www.ct.gov/opm/cwp/view.asp?a=2982&q=390928&opmNav_GID=180622)
- (d) Contractor shall also file an Affirmative Action Plan or Set Aside Plan, in accordance with CHRO requirements, with the Commission within thirty (30) days of Contract Award.
- (e) (1) The Contractor agrees and warrants that in the performance of the Contract such Contractor 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, ancestry, sex, gender identity or expression, intellectual disability, mental disability 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 the Contractor further agrees to take affirmative action to insure that applicants with job-related qualifications are employed and that employees are treated when employed without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by the Contractor that such disability prevents performance of the work involved; (2) the Contractor agrees, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, to state that it is an "affirmative action equal opportunity employer" in accordance with regulations adopted by the Commission; (3) the Contractor agrees to provide each labor union or representative of workers with which such Contractor has a collective bargaining agreement or other contract or understanding and each vendor with which the Contractor has a contract or understanding, a notice to be provided by the Commission, advising the labor union or workers' representative of the Contractor's commitments under Conn. Gen. Stat. section 4a-60 and to post copies of the notice in conspicuous places available to employees and applicants for employment; (4) the Contractor agrees to comply with each provision of Conn. Gen. Stat. sections 4a-60, 46a-68e, and 46a-68f and with each regulation or relevant order issued by the Commission pursuant to Conn. Gen. Stat. sections 46a-56, 46a-68e, 46a-68f, and 46a-86; and (5) the Contractor agrees to provide the Commission with such information requested by the Commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor as relate to the provisions of Conn. Gen. Stat. sections 4a-60 and 46a-56. If the Contract is a public works contract, municipal public works contract or contract for a quasi-public agency project, the Contractor agrees and warrants that he or she will make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such public works or quasi-public agency project.

- (f) Determination of the Contractor's good faith efforts shall include, but shall not be limited to, the following factors: The Contractor's employment and subcontracting policies, patterns and practices; affirmative advertising, recruitment and training; technical assistance activities and such other reasonable activities or efforts as the Commission may prescribe that are designed to ensure the participation of minority business enterprises in public works projects.
- (g) The Contractor shall develop and maintain adequate documentation, in a manner prescribed by the Commission, of its Good faith efforts.
- (h) The Contractor shall include the provisions of subsection (e) of this Article in every subcontract or purchase order entered into in order to fulfill any obligation of a Contract with the State and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the

Commission. The Contractor shall take such action with respect to any such subcontract or purchase order as the Commission may direct as a means of enforcing such provisions including sanctions for noncompliance in accordance with Conn. Gen. Stat. section 46a-56; provided if such Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Commission, the Contractor may request the State of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the State and the State may so enter.

- (i) The Contractor agrees to comply with the statutes and regulations referred to in this Section as they exist on the date of this Contract and as they may be adopted or amended from time to time during the term of this Contract and any amendments thereto.
- (j) (1)The Contractor agrees and warrants that in the performance of the Contract such Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of sexual orientation, in any manner prohibited by the laws of the United States or the State of Connecticut, and that employees are treated when employed without regard to their sexual orientation; (2) the Contractor agrees to provide each labor union or representative of workers with which such Contractor has a collective bargaining Agreement or other contract or understanding and each vendor with which such Contractor has a contract or understanding, a notice to be provided by the Commission advising the labor union or workers' representative of the Contractor's commitments under Conn. Gen. Stat. section 4a-60a, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (3) the Contractor agrees to comply with each provision of Conn. Gen. Stat. section 4a-60a and with each regulation or relevant order issued by said Commission pursuant to Conn. Gen. Stat. section 46a-56; and (4) the Contractor agrees to provide the Commission with such information requested by the Commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor which relate to the provisions of this Section and Conn. Gen. Stat. section 4a-60a and section 46a-56.
- (k) The Contractor shall include the provisions of the foregoing subsection (j) of this Article in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the State and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the Commission. The Contractor shall take such action with respect to any such subcontract or purchase order as the Commission may direct as a means of enforcing such provisions including sanctions for noncompliance in accordance with Conn. Gen. Stat. section 46a-56; provided, if such Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Commission, the Contractor may request the State of

Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the State and the State may so enter.

ARTICLE 40. Compliance with Executive Order No. Three

This Agreement is subject to the provisions of Executive Order No. Three of Governor Thomas J. Meskill promulgated June 16, 1971 and, as such, this Agreement may be cancelled, terminated or suspended by the State Labor Commissioner for violation or of noncompliance with said Executive Order No. Three, or any State or Federal Law concerning nondiscrimination, notwithstanding that the Labor Commissioner is not a party to this Agreement. The parties to this Agreement, as part of the consideration hereof, agree that said Executive Order No. Three is incorporated herein by reference and made a part hereof. The parties agree to abide by said Executive Order and agree that the State Labor Commissioner shall have continuing jurisdiction in respect to Agreement performance in regard to nondiscrimination, until the Agreement is completed or terminated prior to completion. The Applicant agrees as part consideration hereof, that this contract is subject to the guidelines and rules issued by the State Labor Commissioner to implement Executive Order No. Three and that it will not discriminate in his employment practices or policies, will file all reports as required, and will fully cooperate with the State and the State Labor Commissioner.

ARTICLE 41. Compliance with Executive Order No. Seventeen

This Agreement is subject to the provisions of Executive Order No. Seventeen of Governor Thomas J. Meskill promulgated February 15, 1973, and, as such, this Agreement may be cancelled, terminated or suspended by the Commissioner or the State Labor Commissioner for violation of or noncompliance with said Executive Order No. Seventeen, notwithstanding that the Labor Commissioner may not be a party to this Agreement. The parties to this Agreement, as part of the consideration hereof, agree that the Executive Order No. Seventeen is incorporated herein by reference and made a part hereof. The parties agree to abide by said Executive Order and agree that the contracting agency and the State Labor Commissioner shall have joint and several continuing jurisdiction in respect to Agreement performance in regard to listing all employment openings with the Connecticut Employment Service.

ARTICLE 42. Compliance with Executive Order No. Sixteen

This Agreement is subject to, and Applicant hereby agrees to abide by Executive Order No. Sixteen of Governor John G. Rowland promulgated August 4, 1999, and, as such, the Agreement may be cancelled, terminated or suspended by the State for violation or noncompliance with said Executive Order No. Sixteen.

ARTICLE 43. Enforcement of Payment to General Contractor to Subcontractor and by Subcontractor to his Subcontractors

The Contractor and its Subcontractors shall comply with section 49-41a of the general statutes. Within thirty days after payment to the Contractor by the Town of Windsor, the Contractor shall pay any amounts due any Subcontractor, whether for labor performed or materials furnished, when the labor or materials have been included in a requisition submitted by the Contractor and paid by the Town of Windsor. The Contractor shall include in each of its subcontracts a provision requiring each Subcontractor to pay any amounts due any of its Subcontractors, whether for labor performed or materials furnished, within thirty days after such Subcontractor receives a payment from the Contractor which encompassed labor or materials furnished by such Subcontractor.

ARTICLE 44. Labor Provisions in Construction Contracts

In the employment of labor to perform the work specified herein, preference shall be given to citizens of the United States, who are, and continuously for at least three months prior to the date hereof have been, residents of the labor market area, as established by the Labor Commissioner, in which such work is to be done, and if no such qualified person is available, then to citizens who have continuously resided in the county in which the work is to be performed for at least three months prior to the date hereof, and then to citizens of the state who have continuously resided in the state at least three months prior to the date hereof.

ARTICLE 45. Residents' Preference in Work on Other Public Facilities

In the employment of mechanics, laborers or workmen to perform the work specified herein, preference shall be given to residents of the state who are, and continuously for at least six months prior to the date hereof have been, residents of this state, and if no such person is available then to residents of other states.

ARTICLE 46. Non-Resident Contractor

Any non-resident Contractor shall obtain and provide to the Town of Windsor a certificate from the Connecticut Commissioner of Revenue Services of compliance with Connecticut General Statutes Section 12-430(7) or the Town will be required to deduct five percent (5%) of all amounts payable to such non-resident Contractor and pay it over to the Commissioner of Revenue Services.

ARTICLE 47. Federal Grant Contract Provisions

- (a) The Contractor and all Subcontractors with contracts in excess of \$10,000 should comply with Presidential Executive Order 11246 (Equal Employment Opportunity) as outlined in Federal Procurement Regulations, Part 1-12.8. Mandatory contract provisions are attached hereto and incorporated herein as Exhibit A to Article 47.
- (b) The Contractor and all Subcontractors shall comply with the Copeland Anti-Kickback Act (18 U.S.C. 874) as supplemented in Department of Labor Relations (29CFR, Part III). This Act provides that the Contractor is prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he is otherwise entitled.
- (c) The National Parks Service, the Comptroller General of the United States, or any of their duly authorized representatives shall have access to any books, papers and records of the Contractor and all Subcontractors whose subcontracts exceed \$5,000 for the purpose of audits, examinations, excerpts, and transcriptions.
- (d) All contracts in excess of \$100,000 shall comply with the Federal Clean Air Act as amended.
- (e) All facilities developed with federal funds must be in conformance with the Architectural Barriers Act of 1968, Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act. Acceptable design criteria are published in the Uniform Federal Accessibility Standards which are available from Architectural and Transportation Barrier Compliance Board, Washington, DC 20202.

ARTICLE 48. Compliance with the Town of Windsor Code of Ethics

No former town employee in administrative pay grade 3 or above and no former board of education employee in a cabinet level position or above shall work for a private firm who has a contract with the town any time within six months after terminating service with the town. If this occurs, the vendor could be subject to penalties up to and including contract termination. (Chapter 2, Article IV, Section 11. Sec. 2-30.)

## **Exhibit A to Article 47**

*"During the performance of this contract, the contractor agrees as follows:*

*"(1) The contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.*

*"(2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin.*

*"(3) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.*

*"(4) The contractor will comply with all provisions of Executive Order No. 11246 of Sept. 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.*

*"(5) The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.*

*"(6) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of Sept 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.*

*"(7) The contractor will include the provisions of Paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of Sept. 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, That in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States."*

STATE OF CONNECTICUT

BY HIS EXCELLENCY

THOMAS J. MESKILL

GOVERNOR

EXECUTIVE ORDER NO. THREE

WHEREAS, sections 4-61d (b) and 4-114a of the 1969 supplement to the general statutes require nondiscrimination clauses in state contracts and subcontracts for construction on public buildings, other public works and goods and services and

WHEREAS, section 4-61e (c) of the 1969 supplement to the general statutes requires the labor department to encourage and enforce compliance with this policy by both employers and labor unions, and to promote equal employment opportunities, and

WHEREAS, the government of this state recognizes the duty and desirability of its leadership in providing equal employment opportunity, by implementing these laws,

NOW, THEREFORE, I, THOMAS J. MESKILL, Governor of the State of Connecticut, acting by virtue of the authority vested in me under section twelve of article fourth of the constitution of the state, as supplemented by section 3-1 of the general statutes, do hereby ORDER and DIRECT, as follows, by this Executive Order:

I

The labor commissioner shall be responsible for the administration of this Order and shall adopt such regulations as he deems necessary and appropriate to achieve the purposes of this Order. Upon the promulgation of this Order, the commissioner of finance and control shall issue a directive forthwith to all state agencies, that henceforth all state contracts and subcontracts for construction on public buildings, other public works and goods and services shall contain a provision rendering such contract or subcontract subject to this Order, and that such contract or subcontract may be cancelled, terminated or suspended by the labor commissioner for violation of or noncompliance with this Order or state or federal laws concerning nondiscrimination, notwithstanding that the labor commissioner is not a party to such contract or subcontract.

II

Each contractor having a contract containing the provisions prescribed in section 4-114a of the 1969 supplement to the general statutes, shall file, and shall cause each of his subcontractors to file, compliance reports with the contracting agency or the labor commissioner, as may be directed. Such reports shall be filed within such times and shall contain such information as to employment policies and statistics of the contractor and each subcontractor, and shall be in such form as the labor commissioner may prescribe. Bidders or prospective

contractors or subcontractors may be required to state whether they have participated in any previous contract subject to the provisions of this Order or any preceding similar Order, and in that event to submit on behalf of themselves and their proposed subcontractors compliance reports prior to or as an initial part of their bid or negotiation of a contract.

### III

Whenever the contractor or subcontractor has a collective bargaining agreement or other contract or understanding with a labor organization or employment agency as defined in section 31-122 of the general statutes, the compliance report shall identify the said organization or agency and the contracting agency or the labor commissioner may require a compliance report to be filed with the contracting agency or the labor commissioner, as may be directed, by such organization or agency, signed by an authorized officer or agent of such organization or agency, with supporting information, to the effect that the signer's practices and policies, including but not limited to matters concerning personnel, training, apprenticeship, membership, grievance and representation, and upgrading, do not discriminate on grounds of race, color, religious creed, age, sex or national origin, or ancestry of any individual, and that the signer will either affirmatively cooperate in the implementation of the policies and provisions of this Order, or that it consents and agrees that recruitment, employment and the terms and conditions of employment under the proposed contract shall be in accordance with the purposes and provisions of the Order.

### IV

The labor commissioner may by regulation exempt certain classes of contracts, subcontracts or purchase order from the implementation of this Order, for standard commercial supplies or raw materials, for less than specified amounts of money or numbers of workers or for subcontractors below a specified tier. The labor commissioner may also provide by regulation for the exemption of facilities of a contractor which are in all respects separate and distinct from activities of the contractor related to the performance of the state contract, provided only that such exemption will not interfere with or impede the implementation of this Order, and, provided further, that in the absence of such an exemption, all facilities shall be covered by the provisions of this Order.

### V

Each contracting agency shall be primarily responsible for obtaining compliance with the regulations of the labor commissioner with respect to contracts entered into by such agency or its contractors. All contracting agencies shall comply with the regulations of the labor commissioner in discharging their primary responsibility for securing compliance with the provisions of contracts and otherwise with the terms of this Order and of the regulations of the labor commissioner issued pursuant to this Order. They are directed to cooperate with the labor commissioner and to furnish the labor commissioner such information and assistance as he may require in the performance of his functions under this Order. They are further directed to appoint or designate from among the personnel of each agency, compliance officers, whose duty shall be to seek compliance with the objectives of this Order by conference, conciliation, mediation, or persuasion.

## VI

The labor commissioner may investigate the employment practices and procedures of any state contractor or subcontractor and the practices and policies of any labor organization or employment agency hereinabove described, relating to employment under the state contract, as concerns nondiscrimination by such organization or agency as hereinabove described, or the labor commissioner may initiate such investigation by the appropriate contract agency, to determine whether or not the contractual provisions hereinabove specified or statutes of the state respecting them have been violated. Such investigation shall be conducted in accordance with the procedures established by the labor commissioner and the investigating agency shall report to the labor commissioner any action taken or recommended.

## VII

The labor commissioner shall receive and investigate or cause to be investigated complaints by employees or prospective employees of a state contractor or subcontractor or members or applicants for membership or apprenticeship or training in a labor organization or employment agency hereinabove described, which allege discrimination contrary to the contractual provisions specified hereinabove or state statutes requiring nondiscrimination in employment opportunity. If this investigation is conducted for the labor commissioner by a contracting agency, that agency shall report to the labor commissioner what action has been taken or is recommended with regard to such complaints.

## VIII

The labor commissioner shall use his best efforts, directly and through contracting agencies, other interested federal, state and local agencies, contractor and all other available instrumentalities, including the commission on human rights and opportunities, the executive committee on human rights and opportunities, and the apprenticeship council under its mandate to provide advice and counsel to the labor commissioner in providing equal employment opportunities to all apprentices or to provide training, employment and upgrading opportunities for disadvantaged workers in accordance with section 31-51(d) of the 1969 supplement to the general statutes, to cause any labor organization or any employment agency whose members are engaged in work under government contracts or referring workers or providing or supervising apprenticeship or training for or in the course of work under a state contract or subcontract to cooperate in the implementation of the purposes of this Order. The labor commissioner shall in appropriate cases notify the commission on human rights and opportunities or other appropriate state or federal agencies whenever it has reason to believe that the practices of any such organization or agency violate equal employment opportunity requirements or state or federal law.

## IX

The labor commissioner or any agency officer or employee in the executive branch designated by regulation of the labor commissioner may hold such hearings, public or private, as the labor commissioner may deem advisable for compliance, enforcement or educational purposes under this Order.

(a) *The labor commissioner may hold or cause to be held hearings, prior to imposing ordering or recommending the imposition of penalties and sanctions under this Order. No order for disbarment of any contractor from further state contracts shall be made without affording the contractor an opportunity for a hearing. In accordance with such regulations as the labor commissioner may adopt, the commissioner or the appropriate contracting agency may*

- (1) *Publish or cause to be published the names of contractors or labor organizations or employment agencies as hereinabove described which it has concluded have complied or failed to comply with the provisions of this Order or the regulations of the labor commissioner in implementing this Order.*
- (2) *Recommend to the commission on human rights and opportunities that in cases in which there is substantial or material violation or threat thereof of the contractual provision or related state statutes concerned herein, appropriate proceedings be brought to enforce them, including proceedings by the commission on its own motion under chapter 563 of the general statutes and the enjoining, within the limitations of applicable law, of organizations, individuals or groups who prevent directly or indirectly or seek to prevent directly or indirectly compliance with the provisions of this Order.*
- (3) *Recommend that criminal proceedings be brought under chapter 939 of the general statutes.*
- (4) *Cancel, terminate, suspend or cause to be cancelled, terminated, or suspended in accordance with law any contract or any portion or portions thereof for failure of the contractor or subcontractor to comply with the nondiscrimination provisions of the contract. Contracts may be cancelled, terminated, suspended absolutely or their continuance conditioned upon a program for future compliance approved by the contracting agency.*
- (5) *Provide that any contracting agency shall refrain from entering into any further contracts or extensions or modifications of existing contracts with any contractor until he has satisfied the labor commissioner that he has established and will carry out personnel and employment policies compliant with this Order.*
- (6) *Under regulations prescribed by the labor commissioner each contracting agency shall make reasonable efforts within a reasonable period of time to secure compliance with the contract provisions of this Order by methods of conference, conciliation, mediation or persuasion, before other proceedings shall be instituted under this Order or before a state contract shall be cancelled or terminated in whole or in part for failure of the contractor or subcontractor to comply with the contract provisions of state statute and this Order.*

(b) Any contracting agency taking any action authorized by this Order, whether on its own motion or as directed by the labor commissioner or pursuant to his regulations shall promptly notify him of such action. Whenever the labor commissioner makes a determination under this Order, he shall promptly notify the appropriate contracting agency and other interested federal, state and local agencies of the action recommended. The state and local agency or agencies shall take such action and shall report the results thereof to the labor commissioner within such time as he shall specify.

XI

If the labor commissioner shall so direct, contracting agencies shall not enter into contracts with any bidder or prospective contractor unless he has satisfactorily complied with the provisions of this Order, or submits a program for compliance acceptable to the labor commissioner, or if the labor commissioner so authorizes, to the contracting agency.

XII

Whenever a contracting agency cancels or terminates a contract, or a contractor has been disbarred from further government contracts because of noncompliance with the contract provisions with regard to nondiscrimination, the labor commissioner or the contracting agency shall rescind such disbarment, upon the satisfaction of the labor commissioner that the contractor has purged himself of such noncompliance and will thenceforth carry out personnel and employment policies of nondiscrimination in compliance with the provision of this Order.

XIII

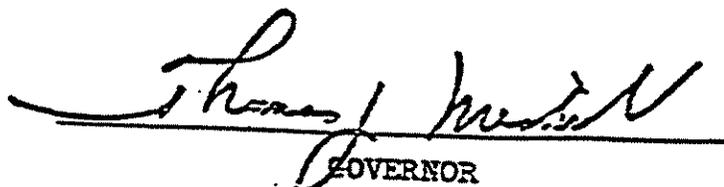
The labor commissioner may delegate to any officer, agency or employee in the executive branch any function or duty of the labor commissioner under this Order except authority to promulgate regulations of a general nature.

XIV

This Executive Order supplements the Executive Order issued on September 28, 1967. All regulations, orders, instructions, designations and other directives issued heretofore in these premises, including those issued by the heads of various departments or agencies under or pursuant to prior order or statute, shall remain in full force and effect, unless and until revoked or superseded by appropriate authority, to the extent that they are not inconsistent with this Order.

This Order shall become effective thirty days after the date of this Order.

Dated at Hartford, Connecticut, this 16th day of June, 1971.

  
GOVERNOR

**STATE OF CONNECTICUT**

**BY HER EXCELLENCY**

**M. JODI RELL**

**GOVERNOR**

**EXECUTIVE ORDER NO. 17**

**WHEREAS**, in September of 2006, I unveiled a comprehensive plan for Connecticut's energy future called "Connecticut's Energy Vision, For a Cleaner, Greener State" ("CT's Energy Vision").

**WHEREAS**, the CT's Energy Vision put forward a comprehensive plan designed to: reduce the State's reliance on fossil fuels; chart the path for an energy future that focuses on alternative, clean and environmentally friendly energy sources; create incentives for efficient energy choices, make conservation a critical component of state energy policy; strengthen state planning for energy needs and create real savings for consumers.

**WHEREAS**, The Connecticut Climate Change Action Plan 2005 includes a recommended action for the State procurement of environmentally preferable services and products by increasing preferences for products and services that decrease Green House Gas (GHG) emissions and/or mitigate climate change impact; and

**WHEREAS**, Public Act 04-252 established a goal for the state to reduce GHG emissions to contribute to the regional GHG reduction goals of 1990 levels by 2010 and 10% below 1990 levels by 2020; and

**WHEREAS**, Reducing demand for electricity and other energy sources will reduce green house gas emissions associated with global warming; and

**WHEREAS**, Energy efficiency is recognized as the most cost effective means for reducing the demand for electricity, controlling electric system growth and long term costs, and yielding real cost benefits for the consumer; and

**WHEREAS**, Utilizing energy efficient appliances and equipment will help mitigate Federally Mandated Congestion Charges (FMCCs) that Connecticut rate payers are subject to; and

**WHEREAS**, State agencies purchased 670 million kilowatt hours of electricity at a cost of \$62.6 million in state fiscal year 2005; and

**WHEREAS**, The Energy Star® label indicates that appliances and equipment meet all U.S. Department of Energy and Environmental Protection Agency standards for energy efficiency; and

**WHEREAS**, Energy Star® estimates energy and cost savings to businesses, organizations and consumers utilizing Energy Star® certified appliances and equipment of approximately \$12 billion nationally in 2005; and

**WHEREAS**, CT's Energy Vision called for state agencies to assume a leadership role in conservation and the use of energy efficient products and equipment.

**NOW, THEREFORE**, I, M. Jodi Rell, Governor of the State of Connecticut, acting by virtue of the authority vested in me by the constitution and by the statutes of this state, do hereby **ORDER** and **DIRECT** that:

All future equipment and appliances purchased by and for executive branch state agencies shall be Energy Star® certified, provided such Energy Star® certified equipment and appliances are commercially available.

The Department of Administrative Services, in consultation with the Office of Policy and Management and the Department of Environmental Protection shall establish and publish guidelines to provide direction to all executive branch state agencies with the implementation of this Executive Order.

The Department of Administrative Services shall provide the Office of the Governor with a report assessing the effectiveness of this Executive Order within one year of the effective date of this Executive Order.

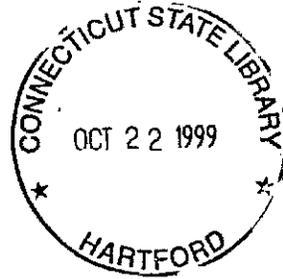
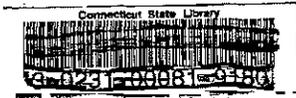
Municipal governments, political subdivisions and school districts that are not expressly subject to the requirements of this Executive Order are encouraged to comply with the provisions of this Executive Order. Such entities may seek guidance and assistance consistent with the provisions of Paragraph 2 of this Executive Order from the Departments of Administrative Services, Environmental Protection and the Office of Policy and Management.

This Order shall take effect immediately.

Dated at Hartford the \_\_\_ day of February, 2008

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M. Jodi Rell,  
Governor



State of Connecticut by His Excellency

John G. Rowland

Executive Order No. 16

WHEREAS, the State of Connecticut recognizes that workplace violence is a growing problem that must be addressed; and

WHEREAS, the State is committed to providing its employees a reasonably safe and healthy working environment, free from intimidation, harassment, threats, and /or violent acts; and

WHEREAS, violence or the threat of violence by or against any employee of the State of Connecticut or member of the public in the workplace is unacceptable and will subject the perpetrator to serious disciplinary action up to and including discharge and criminal penalties.

NOW, THEREFORE, I, John G. Rowland, Governor of the State of Connecticut, acting by virtue of the authority vested in me by the Constitution and by the statutes of this state, do hereby ORDER and DIRECT:

- 1. That all state agency personnel, contractors, subcontractors, and vendors comply with the following **Violence in the Workplace Prevention Policy**:

The State of Connecticut adopts a statewide zero tolerance policy for workplace violence.

Therefore, except as may be required as a condition of employment—

- No employee shall bring into any state worksite any weapon or dangerous instrument as defined herein.
- No employee shall use, attempt to use, or threaten to use any such weapon or dangerous instrument in a state worksite.
- No employee shall cause or threaten to cause death or physical injury to any individual in a state worksite.

Weapon means any firearm, including a BB gun, whether loaded or unloaded, any knife (excluding a small pen or pocket knife), including a switchblade or other knife having an automatic spring release device, a stiletto, any police baton or nightstick or any martial arts weapon or electronic defense weapon.

Dangerous instrument means any instrument, article, or substance that, under the circumstances, is capable of causing death or serious physical injury.

Violation of the above reasonable work rules shall subject the employee to disciplinary action up to and including discharge.

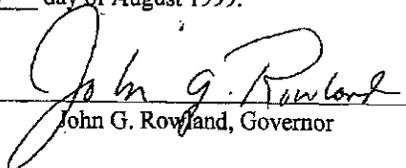
- 2. That each agency must prominently post this policy and that all managers and supervisors must clearly communicate this policy to all state employees.

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Executive Order No. 16

3. That all managers and supervisors are expected to enforce this policy fairly and uniformly.
4. That any employee who feels subjected to or witnesses violent, threatening, harassing, or intimidating behavior in the workplace immediately report the incident or statement to their supervisor, manager, or human resources office.
5. That any employee who believes that there is a serious threat to their safety or the safety of others that requires immediate attention notify proper law enforcement authorities and his or her manager or supervisor.
6. That any manager or supervisor receiving such a report shall immediately contact their human resources office to evaluate, investigate and take appropriate action.
7. That all parties must cooperate fully when questioned regarding violations of this policy.
8. That all parties be advised that any weapon or dangerous instrument at the worksite will be confiscated and that there is no reasonable expectation of privacy with respect to such items in the workplace.
9. That this order applies to all state employees in the executive branch.
10. That each agency will monitor the effective implementation of this policy.
11. That this order shall take effect immediately.

Dated in Hartford, Connecticut this 4th day of August 1999.

  
John G. Rowland, Governor

Filed this 4th day of August 1999



  
Susan Bysac, Secretary of the State

WESTON COMMUNITY CONNECTIVITY PROJECT (STATE PROJECT 0170-3513)  
 BID SHEET

The undersigned declares he/she has carefully examined all Contract Documents and sites of work for the referenced project and hereby proposes to furnish all labor, materials and equipment and perform all work necessary to complete the project in strict accordance with the requirements of the Contract Documents.

Item No.	Item & Unit	Estimated Quantity	Computed Total
1	CLEARING & GRUBBING, Lump Sum _____ dollars and _____ cents	1 L.S.	_____
2	EROSION AND SEDIMENTATION CONTROL, Per Lump Sum _____ dollars and _____ cents	1 L.S.	_____
3	TEST PITS WITH LAWN RESTORATION, Per Each _____ dollars and _____ cents	10 EA.	_____
4	TEST PITS WITH PAVEMENT RESTORATION, Per Each _____ dollars and _____ cents	2 EA.	_____
5	ROOT CONTROL SYSTEM, Per Linear Foot _____ dollars and _____ cents	1,500 L.F.	_____
6	EARTH EXCAVATION, Per Cubic Yard _____ dollars and _____ cents	100 C.Y.	_____
7	ROCK EXCAVATION, Per Cubic Yard _____ dollars and _____ cents	5 C.Y.	_____

WESTON COMMUNITY CONNECTIVITY PROJECT (STATE PROJECT 0170-3513)

BID SHEET

8	PROCESSED AGGREGATE SHOULDER (GRAVEL ROAD SHOULDER), Per Cubic Yard _____ dollars and _____ cents	30 C.Y.	_____
9	SAWCUT BITUMINOUS CONCRETE, Per Linear Foot _____ dollars and _____ cents	530 L.F.	_____
10	BITUMINOUS CONCRETE DRIVEWAY (COMMERCIAL), Per Square Yard _____ dollars and _____ cents	50 S.Y.	_____
11	PAVEMENT REPAIR, Per Square Yard _____ dollars and _____ cents	90 S.Y.	_____
12	BITUMINOUS CONCRETE LIP CURBING, Per Linear Foot _____ dollars and _____ cents	925 L.F.	_____
13	CONCRETE CURBING, Per Linear Foot _____ dollars and _____ cents	335 L.F.	_____
14	STANDARD CONCRETE SIDEWALK, Per Square Foot _____ dollars and _____ cents	28,260 S.F.	_____
15	HEAVY DUTY SIDEWALK, Per Square Foot _____ dollars and _____ cents	300 S.F.	_____
16	CONCRETE PEDESTRIAN RAMPS, Per Square Foot _____ dollars and _____ cents	930 S.F.	_____

WESTON COMMUNITY CONNECTIVITY PROJECT (STATE PROJECT 0170-3513)

BID SHEET

17	DETECTABLE WARNING STRIPS, Per Square Foot _____ dollars and _____ cents	160 S.F.	_____
18	4" PVC DRAINAGE PIPE, Per Linear Foot _____ dollars and _____ cents	30 L.F.	_____
19	MODIFIED RIP RAP PROTECTION, Per Cubic Yard _____ dollars and _____ cents	4 C.Y.	_____
20	SEGMENTAL RETAINING WALL, Per Square Foot _____ dollars and _____ cents	170 S.F.	_____
21	LOAMING AND SEEDING, Per Square Yard _____ dollars and _____ cents	3150 S.Y.	_____
22	REMOVE AND REINSTALL R-B END ANCHORAGE Per Each _____ dollars and _____ cents	1 EA.	_____
23	STEEL-BACKED TIMBER GUIDERAIL, Per Linear Foot _____ dollars and _____ cents	150 L.F.	_____
24	RELOCATE CHAINLINK FENCE, Per Linear Foot _____ dollars and _____ cents	615 L.F.	_____
25	4' CHAINLINK FENCE, Per Linear Foot _____ dollars and _____ cents	60 L.F.	_____

WESTON COMMUNITY CONNECTIVITY PROJECT (STATE PROJECT 0170-3513)

BID SHEET

26	12" WHITE EPOXY PAVEMENT MARKINGS, Per Square Foot _____ dollars and _____ cents	1,770 S.F.	_____
27	ADJUST ELECTRIC/COMMUNICATIONS UTILITY COVER, Per Each _____ dollars and _____ cents	2 EA.	_____
28	SIGNAL IMPROVEMENTS AT WESTON RD/NORFIELD RD INTERSECTION, Per Lump Sum _____ dollars and _____ cents	1 L.S.	_____
29	MAINTENANCE AND PROTECTION OF TRAFFIC, Per Lump Sum _____ dollars and _____ cents	1 L.S.	_____
30	TRAFFICPERSON (MUNICIPAL POLICE OFFICER), Per Hour _____ dollars and _____ cents	80 HR.	_____
31	CONSTRUCTION STAKING, Per Lump Sum _____ dollars and _____ cents	1 L.S.	_____
32	PROJECT SIGN, Per Square Foot _____ dollars and _____ cents	32 S.F.	_____
<b>TOTAL OF ALL BASE BID ITEMS:</b>			
\$ _____			
WRITTEN: _____			DOLLARS
AND _____			CENTS

WESTON COMMUNITY CONNECTIVITY PROJECT (STATE PROJECT 0170-3513)

BID SHEET

<b>BID ALTERNATES</b>			
<b>Alternate No.</b>	<b>Description</b>	<b>Estimated Quantity</b>	<b>Computed Total</b>
1	Work shown on Sheet L-100 and L-200	1 L.S.	Addition/Deduction (circle one) <hr/>
2	Eliminate Sidewalk Segment F (excluding ramps)	4,780 SF	Addition/Deduction (circle one) <hr/>
3	Construct Sidewalk Segment F (excluding ramps) as Bituminous Concrete Path	530 S.Y.	Addition/Deduction (circle one) <hr/>
4	Eliminate Sidewalk Segment G (excluding ramps)	2,625 SF	Addition/Deduction (circle one) <hr/>
5	Construct Sidewalk Segment G (excluding ramps) as Bituminous Concrete Path	290 S.Y.	Addition/Deduction (circle one) <hr/>
6	Eliminate Sidewalk Segments H1 and H2 (excluding ramps)	1,770 SF	Addition/Deduction (circle one) <hr/>
7	Construct Sidewalk Segments H1 and H2 (excluding ramps) as Bituminous Concrete Path	197 S.Y.	Addition/Deduction (circle one) <hr/>

WESTON COMMUNITY CONNECTIVITY PROJECT (STATE PROJECT 0170-3513)

BID SHEET

8	Eliminate Sidewalk Segment I (excluding ramps)	7,235 SF	Addition/Deduction (circle one) _____
9	Construct Sidewalk Segment I (excluding ramps) as Bituminous Concrete Path	804 S.Y.	Addition/Deduction (circle one) _____

I attest that accompanying this bid is a certified check or cashier's check in the amount of 10% of the Total Base Bid Price indicated above.

Bidder's legal business name:

\_\_\_\_\_

Bidder's principal office address:

\_\_\_\_\_

State in which bidder is incorporate/organized:

\_\_\_\_\_

Date of incorporation/formation:

\_\_\_\_\_

Address from which Bidder's forces will be mobilized:

\_\_\_\_\_

The names, resident address, and titles of bidder's principal officers, members, managers, or owners are as follows (attach additional pages if necessary):


WESTON COMMUNITY CONNECTIVITY PROJECT (STATE PROJECT 0170-3513)

BID SHEET

The undersigned is duly authorized to execute this bid on behalf of the Bidder and hereby designates the following individual as the Bidder's contact person for all purposes related to this bid:

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

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

Email: \_\_\_\_\_

Phone: \_\_\_\_\_

\_\_\_\_\_  
Signature of Authorized Representative

\_\_\_\_\_  
Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

TECHNICAL SPECIFICATIONS  
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450	Signage
460	Segmental Retaining Wall

## **TECHNICAL SPECIFICATION 100 CLEARING, GRUBBING, AND SITE PREPARATION**

### **100.1 SCOPE OF WORK**

This technical specification covers the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary for clearing and grubbing of the project area in preparation for the construction activities described under this contract. Included in the work is the stripping, removal, and disposal of all trees, downed timber, snags, brush, vines, rubbish, stumps, logs, topsoil, bricks, existing sidewalks, concrete steps, curbing, driveways, pavement, fencing, guiderails, signs (including those electric powered), yard drains, pipe, light fixtures, bases, old wire, and other incidentals that interfere with the planned construction. The work includes the resetting of walls, fence fabric, and poles, relocation and/or resetting of lawn sprinklers, signs, mailboxes, etc., including the installation of temporary and construction fencing, and relocation and trimming of shrubs, trees, or other plantings to remain. The work also includes the removal of winter shims placed on the binder course of bituminous concrete surfaces to protect catch basin tops, manholes, valve boxes, etc., that extend above the paved surface awaiting final surface treatment during the next construction season. Site preparation work also includes the construction, maintenance, and removal of construction site entrance pads, if shown on the plans or ordered by the Engineer.

### **100.2 MATERIALS**

Materials used for the construction of the construction site entrance pad shall conform to the following:

- A. Crushed stone, 2 inch, shall meet the requirements of Form 817, Section M.01.01.
- B. Processed aggregate, when required, shall be medium gradation conforming to Technical Specification 210 – “Processed Aggregate Base”.
- C. Geotextiles shall meet the requirements of Form 817, Section M.08.01.19.
- D. Bituminous concrete pavement, when required, shall conform to Form 817, Section M.04, HMA S0.5 or Class 1.

### **100.3 SUBMITTALS**

The following submittals shall be submitted to the Town Engineer for review and approval prior to installation:

- Gradation test results for crushed stone
- Manufacturer(s) cut sheet(s) for geotextile(s)

### **100.4 CONSTRUCTION METHODS**

The stumps of all trees and brush, including the major root system, shall be removed in all excavation areas, under all embankments, and graded areas where the proposed finished surface is within 4 feet of the original ground. In any case where the Engineer determines that the material encountered below the finished grade is unfit for a proper foundation, the material shall be removed.

All excess material except topsoil, shall be the property of and disposed by the Contractor. Disposal areas for excess material shall be subject to approval of the Engineer.

Any topsoil to be used for the finished grading shall be stockpiled and preserved for future use in a location and manner approved by the Engineer.

In areas where certain trees and shrubs have been designated to be relocated, or to remain, or in areas adjacent to the construction activity, the Contractor shall protect this growth from damage or injury during construction. Trees shall be trimmed to provide a minimum of 8 feet of vertical clearance from the finished grade of any sidewalk constructed or repaired. In case of unavoidable damage to branches and limbs, the damaged portions shall be neatly trimmed and preserved as directed by the Engineer. Any trees or bushes that have been designated to be preserved and/or relocated and are damaged by the Contractor and are beyond recovery, shall be removed and replaced as directed by the Engineer, at the expense of the Contractor.

Construction site entrance pads shall be constructed prior to any clearing and grubbing. They shall be maintained to prevent tracking of dirt onto the adjacent paved roadway. The local roadways shall be swept as necessary to remove any materials that have been tracked from the site.

#### 100.5 MEASUREMENT

Measurement for this item will be based on the area within the contract construction limits as identified on the plans and/or specifications contained herein, or as ordered by the Engineer.

#### 100.6 PAYMENT

Payment for this item will be based on the contract Lump Sum price including all labor, materials, testing, submittals, tools, and equipment necessary to complete the work as specified. Partial payments for this item will be made based on the percentage completion of the overall work. If the contract construction limits are reduced or increased, the Town and the Contractor shall negotiate a reasonable change to the lump sum payment.

<b>PAY ITEM</b>	<b>PAY UNIT</b>
Clearing, Grubbing, and Site Preparation	L.S.

## **TECHNICAL SPECIFICATION 105 EXCAVATION**

### **105.1 SCOPE OF WORK**

This technical specification covers the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to excavate, place, form and shape slopes and other areas, and satisfactorily dispose of all materials that are within the limits of the work contracted for or as shown on the plans. Excavation under this item is intended for construction of roadways, subgrades, shoulders, slopes, entrances, retaining walls, channels, and any additional excavation necessary for, but not limited to the construction of roads, driveways, parking areas, sidewalks, concrete and granite curbing, trenches, drainage, light pole bases, and any other miscellaneous and incidental construction shown on the plans or as directed by the Engineer. Excavation and the off-site disposal of unsuitable material, boulders, concrete, and masonry walls and other structures, and concrete pavement of one or more cubic yards in size is included in this item. This item does not include the excavation and disposal of bituminous pavement, curbing, and sidewalks, all of which are included in Technical Specification 100 - "Clearing, Grubbing, and Site Preparation".

### **105.2 MATERIALS**

Not applicable.

### **105.3 SUBMITTALS**

Not applicable.

### **105.4 CONSTRUCTION METHODS**

The construction methods utilized shall conform to Form 817, Section 2.02.03. Any excavated suitable material may be placed within the project limits to the lines and grades indicated on the plans, or as directed by the Engineer. All unsuitable material and excess suitable material including rock or blasted rock shall be the property of and be disposed by the Contractor. Disposal areas for excess and unsuitable material shall be subject to the approval of the Engineer.

In addition, where rock excavation requires blasting, it shall be done in accordance with the Town of Windsor ordinances, State Statutes or other pertinent regulations governing explosives and firing of blasts. Such ordinances or regulations shall not relieve the Contractor of any responsibility for damages caused by them or their employees due to the work of blasting. All blasting work must be performed or supervised by a licensed blaster who shall at all times have a license on their person and shall permit examination thereof by the Engineer or other officials having jurisdiction.

### **105.5 MEASUREMENT**

Measurement for these items will be based on the number of cubic yards excavated in place as determined by the method of average end areas or other acceptable method of field measurements, if approved by the Engineer, or as identified by payment lines shown on the drawings or details.

Boulders, concrete, and masonry walls and other structures as well as concrete pavement of one or more cubic yards in size shall be measured in place, before removal for payment as “Rock Excavation” and before blasting as “Blasted Rock.”

105.6 PAYMENT

Payment for these items will be at the contract unit price per Cubic Yard including all labor, materials, testing, submittals, tools, and equipment necessary to complete the work as specified.

<b>PAY ITEM</b>	<b>PAY UNIT</b>
Earth Excavation	C.Y.
Rock Excavation	C.Y.
Blasted Rock Excavation	C.Y.
Unsuitable Material Excavation	C.Y.

## **TECHNICAL SPECIFICATION 110R BORROW**

### **110R.1 SCOPE OF WORK**

This technical specification covers the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to properly place borrow material at all locations where shown on the drawings or as ordered by the Engineer.

### **110R.2 MATERIALS**

All materials used under the title of Borrow shall conform to Form 817, Section 2.07. Recycled/reclaimed material shall not be used unless approved by the Engineer.

### **110R.3 SUBMITTALS**

The following submittals shall be submitted to the Engineer for review and approval prior to installation:

- Gradation test results for borrow

### **110R.4 CONSTRUCTION METHODS**

Borrow will be permitted only to the extent necessary to complete the embankments and similar details and only after all usable material from the excavation has been placed. With the approval of the Engineer, the Contractor may be permitted to place borrow before the excavation is completed, but will be held responsible for the proper placing of all suitable excavated material, and no payment will be allowed for any borrow placed in lieu of suitable excavated material. This permission may be revoked by the Engineer at any time if in his opinion satisfactory progress is not maintained on other operations.

The Contractor shall notify the Engineer at least 2 days prior to obtaining any borrow material, and shall provide to the Engineer all testing reports of said material from a testing laboratory certified in the State of Connecticut.

Borrow compaction, if necessary, shall be performed with equipment and by methods approved by the Engineer.

### **110R.5 MEASUREMENT**

This item will not be measured for payment as it should be included in unit price of any associated work items.

### **110R.6 PAYMENT**

Not applicable.

**TECHNICAL SPECIFICATION 115SP  
EROSION AND SEDIMENTATION CONTROL SYSTEMS**

**115.1 SCOPE OF WORK**

The purpose of this technical specification is to cover the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to provide, operate and maintain means and devices to minimize erosion within and adjacent to the work area and to prevent the entrance of any silt-laden water from work areas into any standing or moving bodies of water or into adjacent wetland areas, using silt fence, hay bales, hay bale backed silt fence, or silt sacks at catch basins where indicated on the plans or as ordered by the Engineer. This work includes the periodic inspection, repair, replacement, or cleanout of accumulated sediment and the removal and disposal of the system and associated surplus materials at the end of the project.

**115.2 MATERIALS**

Hay bales shall conform to Form 817, Section 2.19.02. Wood stakes shall be 2 inch x 2 inch x 36 inch hardwood. Geotextiles shall conform to Form 817, Sections 7.55 and M.08.01.19. Silt sacks shall be AFC Environmental Silt Sack or approved equal.

**115.3 SUBMITTALS**

The following submittals shall be submitted to the Engineer for review and approval prior to installation:

- Manufacturer(s) cut sheet(s) for geotextile(s)
- Manufacturer(s) cut sheet(s) for silt sacks

**115.4 CONSTRUCTION METHODS**

The installation, maintenance and removal of hay bales shall conform to the requirements of Form 817, Section 2.19.03. The installation, maintenance, and removal of sedimentation control devices shall conform to the requirements of Form 817, Section 2.19.03 except the use of brush as a backing for geotextile shall not be allowed. The installation, maintenance and removal of silt sacks shall conform to the manufacturer's specifications.

**115.5 MEASUREMENT**

Measurement for this item shall be based on a lump sum for installing erosion and sedimentation controls as shown on the drawings and in accordance with these specifications. Partial payments will be made for this item based on the percentage completed of the overall work, as determined by the Engineer.

115.6 PAYMENT

Payment for this item will be at the contract Lump Sum for erosion and sedimentation controls installation and shall include all labor, materials, testing, submittals, tools and equipment necessary to complete the work as specified.

<b>PAY ITEM</b>	<b>PAY UNIT</b>
Erosion and Sedimentation Controls	L.S.

**TECHNICAL SPECIFICATION 120  
TEST PITS**

**120.1 SCOPE OF WORK**

This technical specification covers the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to perform the excavation and restoration, if required, of test pits for the purpose of locating underground utilities and investigating soil types and conditions. These test pits shall be excavated to a depth not to exceed 10 feet where shown on the drawings, or as directed by the Engineer.

**120.2 MATERIALS**

Where test pits have been ordered, restoration materials, as required, shall be in conformance with the applicable requirements of Technical Specifications 235 - "Pavement Repair" and 415 - "Loaming, Seeding, Hydroseeding, and Sodding".

**120.3 SUBMITTALS**

The following submittals shall be submitted to the Engineer for review and approval prior to installation:

- Affidavit and test report for seed mixture.

**120.4 CONSTRUCTION METHODS**

Restoration of test pits in paved areas shall conform to Technical Specification 235 - "Pavement Repair". Restoration of test pits in lawn areas shall conform to Technical Specification 415 - "Loaming, Seeding, Hydroseeding, and Sodding".

Where permanent restoration is not required due to impending construction activities, the area will be maintained at grade using materials necessary to provide a safe surface for pedestrian and vehicular traffic.

**120.5 MEASUREMENT**

Measurement for this item will be based upon the number of individual test pits completed.

**120.6 PAYMENT**

Payment for this item will be based on the contract unit price for Each test pit completed, including all labor, material, testing, submittals, tools, and equipment necessary to complete the work as specified.

<b>PAY ITEM</b>	<b>PAY UNIT</b>
Test Pit with Pavement Restoration	EA.
Test Pit with Lawn Restoration	EA.
Test Pit without Restoration	EA.

**TECHNICAL SPECIFICATION 125  
ROOT CONTROL SYSTEM**

**125.1 SCOPE OF WORK**

This section covers the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to install a root control system in accordance with the details shown on the plans or as directed by the Engineer.

**125.2 MATERIALS**

Materials for this section shall be 12” width Typar Bio Barrier or approved equivalent.

**125.3 SUBMITTALS**

The following submittals shall be submitted to the Engineer for review and approval prior to installation:

- Manufacturer(s) cut sheet(s) of barrier materials

**125.4 CONSTRUCTION METHODS**

Using a root pruner, cut the existing roots that extend into the proposed excavation area along the drip line of the tree. Alternatively, using ditch/trench digging equipment, cut a trench 2 to 4 inches wide along the drip line. Insert Bio Barrier vertically into trench at right angles to anticipated direction of tree root growth. Use spikes, large nails, or sod staples to hold fabric in place 1 inch below surface line. All seams shall overlap at least 6 inches. Backfill and tamp in soil making sure Bio Barrier is held securely in place. Care should be taken to follow the manufacturer’s directions in the proper use and handling of this material.

**125.5 MEASUREMENT**

Measurement for this item will be based on the number of linear feet of root control system installed and accepted in place.

**125.6 PAYMENT**

Payment for this item will be based on the unit price per Linear Foot of root control system including all labor, materials, testing, submittals, tools, and equipment necessary to complete the work as specified.

<b>PAY ITEM</b>	<b>PAY UNIT</b>
Root Control System	L.F.

## **TECHNICAL SPECIFICATION 200R FORMATION OF SUBGRADE**

### **200R.1 SCOPE OF WORK**

This technical specification covers the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to shape and prepare the road subgrade to the lines and grades as shown on the plans.

### **200R.2 MATERIALS**

Where ruts and holes are required to be filled to conform to the grades shown on the plan, bank run gravel which conforms to Technical Specification 205 – “Bank Run Gravel”, shall be used.

### **200R.3 SUBMITTALS**

The following submittals shall be submitted to the Engineer for review and approval prior to installation:

- Gradation test results for bank run gravel

### **200R.4 CONSTRUCTION METHODS**

The subgrade shall be formed in accordance with Form 817, Section 2.09. The roadway subgrade shall be shaped to a uniformly compacted surface. Ruts and holes shall be filled with gravel and compacted. Where soft or yielding material is encountered, this unsatisfactory material as determined by the Engineer, shall be removed and the holes filled with gravel as described in Section 200.2.

### **200R.5 MEASUREMENT**

This item will not be measured for payment as it should be included in unit price of any associated work items.

### **200R.6 PAYMENT**

Not applicable.

**TECHNICAL SPECIFICATION 205R**  
**BANK RUN GRAVEL**

**205R.1 SCOPE OF WORK**

This technical specification covers the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to properly place and compact gravel to correct grades at all locations where shown on the drawings or as directed by the Engineer.

**205R.2 MATERIALS**

All materials used under this item shall conform to Form 817, Section M.02.02 and M.02.06. Reclaimed or recycled materials will not be accepted.

**205R.3 SUBMITTALS**

The following submittals shall be submitted to the Engineer for review and approval prior to installation:

- Gradation test results for bank run gravel

**205R.4 CONSTRUCTION METHODS**

Work under this technical specification shall conform to Form 817, Section 2.12.03.

**205R.5 MEASUREMENT**

This item will not be measured for payment as it should be included in unit price of any associated work items.

**205R.6 PAYMENT**

Not applicable.

**TECHNICAL SPECIFICATION 210R  
PROCESSED AGGREGATE BASE**

**210R.1 SCOPE OF WORK**

This technical specification covers the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to properly place processed aggregate to the lines, grades and compacted thickness as shown on the plans.

**210R.2 MATERIALS**

**A. Gradation**

Coarse and fine aggregates shall be combined and mixed by approved methods so that the resulting material shall conform to one of the following gradation requirements as specified:

<b>Percent Passing by Weight</b>		
<b>Square Mesh Sieves</b>	<b>Medium Gradation</b>	<b>Coarse Gradation</b>
2 ¼"	- -	100
2"	- -	95-100
1½"	100	-
1"	90-100	-
¾"	75-100	50-75
¼"	30-60	25-45
#40	10-25	5-20
#100	3-12	2-12

**B. Coarse Aggregate**

Coarse aggregate shall be broken stone. When tested by means of the Los Angeles Abrasion Machine, using AASHTO Method T 96, the coarse aggregate shall not have a loss of more than 50 percent. Broken stone shall consist of sound, tough, durable fragments of rock of uniform quality throughout. It shall be free from soft, disintegrated pieces, mud, dirt, organic or other injurious material.

Gravel or reclaimed miscellaneous aggregate will not be accepted as an alternative for processed aggregate.

**C. Fine Aggregate**

The fine aggregate shall conform to Form 817, Section M.05.01-3.

**210R.3 SUBMITTALS**

The following submittals shall be submitted to the Engineer for review and approval prior to installation:

- Gradation test results for processed aggregates

#### 210R.4 CONSTRUCTION METHODS

The processed aggregate base shall be placed in conformance with Form 817, Section 3.04.03 except that gravel, recycled or reclaimed material shall not be used.

#### 210R.5 MEASUREMENT

This item will not be measured for payment as it should be included in unit price of any associated work items.

#### 210R.6 PAYMENT

Not applicable.

**TECHNICAL SPECIFICATION 215  
PROCESSED AGGREGATE DRIVES AND SHOULDERS**

215.1 SCOPE OF WORK

This technical specification covers the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to properly place processed aggregate for drives and shoulders in conformance with lines, grades and compacted depths shown on the plans.

215.2 MATERIALS

All material for processed aggregate drives shall be medium gradation conforming to Technical Specification 210 – “Processed Aggregate Base”. Gravel and reclaimed processed aggregate will not be accepted.

215.3 SUBMITTALS

The following submittals shall be submitted to the Engineer for review and approval prior to installation:

- Gradation test results for processed aggregate

215.4 CONSTRUCTION METHODS

The processed aggregate shall be placed in conformance with Form 817, Section 3.04.03, in 4 inch lifts, with a maximum compacted thickness of 4 inches for residential drives and 8 inches for parking areas.

215.5 MEASUREMENT

Measurement for this item will be based on the number of square yards compacted in place within the construction limits, as determined by the Engineer.

215.6 PAYMENT

Payment for this item will be based on the contract unit price per Square Yard, completed in place, including all labor, materials, testing, submittals, tools, and equipment necessary to complete the work as specified.

<b>PAY ITEM</b>	<b>PAY UNIT</b>
Processed Aggregate Drive (Type)	S.Y.
Processed Aggregate Shoulder	S.Y.

## **TECHNICAL SPECIFICATION 220R BITUMINOUS CONCRETE SURFACES**

### **220R.1 SCOPE OF WORK**

This technical specification covers the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to place bituminous concrete pavement for construction, widening, overlaying, resurfacing, reconstruction or replacement of road surfaces, to the proposed grades as shown on the drawings, typical cross sections, or as directed by the Engineer.

### **220R.2 MATERIALS**

All materials used shall conform to CT DOT Special Owned Provision Section M.04 (last revise 9-30-16), as applicable. The job mix used for construction of roads shall be as follows:

- A. The premix binder course shall be HMA S1.0 or Class 4 Bituminous Concrete
- B. The binder course shall be HMA S0.5 or Class 1 Bituminous Concrete
- C. The wear course shall be HMA S0.375 or Class 2 Bituminous Concrete
- D. Processed aggregate shall be coarse gradation conforming to Technical Specification 210 – “Processed Aggregate Base”

### **220R.3 SUBMITTALS**

The following submittals shall be submitted to the Engineer for review and approval prior to installation:

- Gradation test results for processed aggregate

Density testing shall be conducted during paving process and the results shall be forwarded to the Engineer.

### **220R.4 CONSTRUCTION METHODS**

The placement of the material defined in Technical Specification 220.2 shall be performed in accordance with CT DOT Owned Special Provision Section 4.06.03 (last revised 9-30-16). The Contractor shall refer and conform to the applicable sections of this Provision and the Form 817 pertaining to the weather conditions permitting the placement of bituminous concrete.

Where bituminous concrete is being applied as trench placement or is being matched to an existing pavement, the placement of material shall be against a smooth and cut surface and be sealed with an asphalt joint sealer, AC-20 or approved equivalent.

Prior to the application of the bituminous concrete finish course, all work within the project shall be complete, and shall include, but not be limited to, the adjustments of frames, grates, covers, utility boxes, both public and private, as well as curbing, sweeping of the binder and/or existing pavement surfaces with the proper pickup sweeper and accessory equipment and utilizing it for the removal of earth and/or other dust producing materials from the paved surfaces to prepare them for bituminous concrete overlay and, if directed, loaming and seeding.

Sweeping of the binder course shall take place prior to paving. The Contractor will be responsible for removal and disposal of the sweepings. This disposal shall meet with the approval of the Engineer.

Tack coat application shall conform to CT DOT Owned Special Provision Section 4.06.03, with the exception that tack coat shall be applied to all vertical joints and shall be required on all Surfaces that have been in place longer than 72 hours.

#### 220R.5 MEASUREMENT

This item will not be measured for payment as it should be included in unit price of any associated work items.

#### 220R.6 PAYMENT

Not applicable.

**TECHNICAL SPECIFICATION 221**  
**SAWCUT BITUMINOUS CONCRETE PAVEMENT**

221.1 SCOPE OF WORK

This technical specification covers the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to sawcut bituminous concrete pavement for construction activities identified on the Contract Plans or as directed by the Engineer.

221.2 MATERIALS

Not applicable.

221.3 SUBMITTALS

Not applicable.

221.4 CONSTRUCTION METHODS

Work under this item shall consist of making a sawcut where indicated on the plans. The sawcut shall be made with an approved power driven saw. The joint shall be cut to a depth as to allow for a clean finish for the entire depth of the required cut or the entire depth of the existing pavement.

221.5 MEASUREMENT

Measurement for this item will be based on the number of linear feet of cut made by an approved method to the lines delineated on the plans or as directed by the Engineer.

221.6 PAYMENT

Payment for this item will be based on the contract unit prices per Linear Foot for Sawcut Bituminous Concrete Pavement, completed and accepted including all labor, materials, testing, submittals, tools, testing, and equipment necessary to complete the work as specified.

<b>PAY ITEM</b>	<b>PAY UNIT</b>
Sawcut Bituminous Concrete Pavement	L.F.

**TECHNICAL SPECIFICATION 225  
BITUMINOUS CONCRETE SIDEWALKS, PATHS, DRIVEWAYS,  
AND PARKING AREAS**

**225.1 SCOPE OF WORK**

This technical specification covers the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to construct bituminous concrete sidewalks, paths, parking areas and driveways in accordance with the details shown on the plans or as directed by the Engineer.

**225.2 MATERIALS**

Materials for the construction of sidewalks, parking areas and driveways shall conform to Form 817, Section 9.22.02, except that:

- A. Binder course shall be HMA S0.5 or Class 1 Bituminous Concrete
- B. Wear course shall be HMA S0.375 or Class 2 Bituminous Concrete
- C. Base material shall be medium gradation processed aggregate base conforming to Technical Specification 210 – “Processed Aggregate Base”.
- D. Suitable subbase material shall be medium gradation processed aggregate base as specified in Technical Specification 210, or bank or crushed gravel meeting the applicable provisions of Form 817, Section M.02.02.1, and approved by the Engineer.
- E. Tack coat material shall conform to Form 817, Section M.04.01.

**225.3 SUBMITTALS**

The following submittals shall be submitted to the Engineer for review and approval prior to installation:

- Gradation test results for processed aggregate
- Gradation test results for subbase material(s)

Density testing shall be conducted during paving process and the results shall be forwarded to the Engineer.

**225.4 CONSTRUCTION METHODS**

**A. Bituminous Concrete Sidewalks and Residential Driveways:**

All bituminous concrete sidewalk and residential driveway construction shall be excavated or filled to within 10 inches below finished grade and extended 3 inches minimum beyond the outside edges of the proposed walk, drive or bituminous concrete lip curbing (if curbing is installed). The subbase shall be properly graded to form a uniform base, and shall follow a true line and cross-section 10 inches below the finished grade of the pavement. Any material, which, in the opinion of the Engineer, is unsuitable to receive the base material, shall be excavated, removed, disposed and replaced with suitable material and compacted as approved by the Engineer. Leveling material used to fill ruts, holes or irregularities in the subbase is the responsibility of the Contractor and is considered part of this item. The base shall be 8 inches of processed aggregate base as

specified and shall be compacted in two 4 inch lifts utilizing a roller weighing a minimum of 2000 pounds. Compaction shall be uniform and the surface of the base shall follow a true line and cross section 2 inches below the finish grade of the walk/drive. At any point where new pavement will match existing pavement, the existing pavement shall be saw cut vertically to a smooth edge and a tack coat shall be applied, and after placement of the pavement, the joint shall be sealed with a hot asphalt material, AC-20 or approved equivalent.

Class 2 bituminous concrete shall be placed, and compacted to a depth of 2 inches using a roller weighing a minimum of 2,000 pounds.

Driveways shall be installed full width, with no cold joints, unless prior approval is granted by the Engineer to install driveways in sections. Subbase, if required, shall be placed in maximum 4 inch lifts and compacted with a minimum of 2 passes with a motor drive vibratory compactor.

**B. Bituminous Concrete Parking Areas and Commercial Driveways:**

All bituminous concrete parking, and commercial drive construction shall be excavated or filled to within 12 inches below finished grade and extended 6 inches minimum beyond the outside edges of the paved areas or 3 inches beyond bituminous concrete lip curbing (if curbing is installed). The subbase shall be properly graded to form a uniform base. Any material which, in the opinion of the Engineer, is unsuitable to receive the base material shall be excavated, removed, disposed and replaced with suitable material and compacted as approved by the Engineer. Leveling material used to fill ruts, holes or irregularities in the subbase is the responsibility of the Contractor and is considered part of this item. The base shall be 8 inches of processed aggregate base as specified and shall be compacted in two 4 inch lifts utilizing a roller weighing a minimum of 10,000 pounds. Compaction shall be uniform and the surface of the base shall follow a true line and cross section 4 inches below the finish grade. At any point where new pavement will match existing pavement, the existing pavement shall be saw cut vertically to a smooth edge and a tack coat shall be applied, and after placement of the pavement, the joint shall be sealed with a hot asphalt material, AC-20 or approved equivalent. The bituminous concrete shall be placed, and compacted in two 2 inch lifts to a depth of 4 inches using a roller weighing a minimum of 10,000 pounds with no cold joints, unless prior approval is granted by the Engineer to install parking areas and driveways in sections. The binder course shall be placed first followed by the wear course. Tack coat will be applied between lifts as per Technical Specification 220 – “Bituminous Concrete Surfaces”.

Bituminous concrete lip curbing, if installed, shall be placed on the binder course with tack coat applied.

**C. Bituminous Concrete Paths:**

All path construction shall be excavated or filled to within 10 inches below finished grade and extended 3 inches minimum beyond the outside edges of the proposed path. The subbase shall be properly graded to form a uniform base, and shall follow a true line and cross-section 10 inches below the finished grade of the pavement. Any material, which, in the opinion of the Engineer, is unsuitable to receive the base material, shall be excavated, removed, disposed and

replaced with suitable material and compacted as approved by the Engineer. Leveling material used to fill ruts, holes or irregularities in the subbase is the responsibility of the Contractor and is considered part of this item. The base shall be a minimum of 8 inches of processed aggregate base as specified and shall be compacted in two 4 inch lifts utilizing a roller weighing a minimum of 2000 pounds. Compaction shall be uniform and the surface of the base shall follow a true line and cross section 2 inches below the finish grade of the path. At any point where new pavement will match existing pavement, the existing pavement shall be saw cut vertically to a smooth edge and a tack coat shall be applied, and after placement of the pavement, the joint shall be sealed with a hot asphalt material, AC-20 or approved equivalent. Class 2 bituminous concrete shall be placed, and compacted to a depth of 2 inches using a roller weighing a minimum of 2,000 pounds.

Paths shall be installed full width, with no cold joints, unless prior approval is granted by the Engineer to install driveways in sections. Subbase, if required, shall be placed in maximum 4 inch lifts and compacted with a minimum of 2 passes with a motor drive vibratory compactor.

225.5 MEASUREMENT

Measurement for this item will be based on the number of square yards completed and accepted in place. This area shall include the area under and beyond the back of the bituminous concrete lip curbing. Tack coat shall be measured for payment by the number of gallons used and accepted.

Sawcutting existing bituminous concrete pavement will not be measured for payment but shall be included in the square yard measurement for this item.

225.6 PAYMENT

Payment for this item will be based on the contract unit price per Square Yard (or Gallon for tack coat) including all labor, materials, testing, submittals, tools, and equipment necessary to complete the work as specified. All excavation (up to 12" deep) and sawcutting pavement shall be considered part of this item.

<b>PAY ITEM</b>	<b>PAY UNIT</b>
Bituminous Concrete Sidewalks and Residential Driveways	S.Y.
Bituminous Concrete Parking and Commercial Driveways	S.Y.
Bituminous Concrete Paths	S.Y.
Tack Coat	Gals

## **TECHNICAL SPECIFICATION 235 PAVEMENT REPAIR**

### **235.1 SCOPE OF WORK**

This technical specification covers the furnishing of all labor, materials, testing, submittals, tools and equipment necessary to perform pavement repair including saw cutting, excavation, removal and disposal of existing pavement and base material and installation of processed aggregate base and bituminous concrete, tack coat and joint sealant, to depths as shown on the plans.

### **235.2 MATERIALS**

Processed aggregate base shall be medium gradation conforming to Technical Specification 210 – “Processed Aggregate Base”. Gravel and reclaimed process aggregate base shall not be accepted. Bituminous concrete materials used shall conform to Form 817, Section M.04, as applicable and shall be as follows:

- A. The binder course shall be HMA S0.5 or Class 1 bituminous concrete
- B. The wear course shall be HMA S0.375 or Class 2 bituminous concrete
- C. Tack coat
- D. Joint sealer shall be AC-20 or approved equal

Hot-applied pavement markings shall conform to Form 817, Section M.07.21.

Epoxy resin pavement markings shall conform to Form 817, Section M.07.22.

### **235.3 SUBMITTALS**

The following submittals shall be submitted to the Engineer for review and approval prior to installation:

- Gradation test result for processed aggregate
- Certified test report and material certification for pavement markings

### **235.4 CONSTRUCTION METHODS**

Saw cuts shall be made no less than 18 inches back from the edges of the excavation on the pavement.

Processed aggregate base, medium gradation, shall be placed in conformance with Technical Specification 210 in lifts with a maximum compacted thickness of 4 inches. Processed aggregate base shall be applied to a total compacted minimum depth of 8 inches. If the depth of the existing base is greater than 8 inches, processed aggregate should be placed in 4” lifts to match existing depth. Suitable backfill and processed aggregate base materials shall be compacted to 95 % per AASHTO T-180 Method D.

The placement of the bituminous concrete materials shall be performed in accordance with Technical Specification 220 – “Bituminous Concrete Surfaces”. Unless otherwise shown on the

plans or directed by the Engineer, the binder course shall be applied and compacted to a minimum thickness of 2 inches, or to a thickness of the existing pavement, less 2 inches. The finish course shall be placed and compacted to a thickness of 2 inches. The Contractor shall refer and conform to Form 817, Section 4.06 pertaining to the weather conditions permitting the placement of bituminous concrete. Further, where bituminous concrete is being applied as trench placement or is being matched to an existing roadway, the existing roadway shall be saw cut to meet the new material, a tack coat shall be applied as per Technical Specification 220 and the joint shall be sealed with hot asphalt material, all considered as part of this item.

If greater than 5 linear feet of existing pavement marking (centerlines, lane lines, shoulder lines) has been removed then the pavement markings should be replaced with either hot-applied or epoxy resin pavement markings (white or yellow as appropriate), to match existing conditions, in accordance with Form 817, Section 12.09 or 12.10 as applicable. Structures such as catch basins, manhole covers, and other movable/repositionable objects within the roadway should not be marked.

#### 235.5 MEASUREMENT

Measurement for this item will be based on the number of square yards of pavement repairs completed and accepted in place.

#### 235.6 PAYMENT

Payment for this item will be based on the contract unit price per Square Yard completed and accepted in place, including all labor, materials, testing, submittals, tools, and equipment necessary to complete the work as specified.

<b>PAY ITEM</b>	<b>PAY UNIT</b>
Pavement Repair	S.Y.

**TECHNICAL SPECIFICATION 240  
BITUMINOUS CONCRETE CURBING**

**240.1 SCOPE OF WORK**

This technical specification covers the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to construct and place machine formed bituminous concrete lip curbing, bituminous concrete flat top curb, or bituminous concrete Cape Cod curbing in accordance with the dimensions and details as shown on the plans or as directed by the Engineer.

**240.2 MATERIALS**

Materials, including tack coat, for the work shall conform to the requirements of Form 817, Section M.04, Curb Mix or Bituminous Class 3.

**240.3 SUBMITTALS**

Not applicable.

**240.4 CONSTRUCTION METHODS**

The bituminous concrete curbing shall be placed in accordance with Form 817, Section 8.15.03. In new construction, it shall be placed on the binder course. Prior to the placement of the bituminous concrete curbing, the area shall be cleaned of all loose and foreign materials, and a tack coat shall be applied.

**240.5 MEASUREMENT**

Measurement for this item will be based on the number of linear feet of specified bituminous concrete curbing placed and accepted.

**240.6 PAYMENT**

Payment for this item will be based the contract unit price per Linear Foot complete and accepted in place, including all labor, materials, testing, submittals, tools, and equipment necessary to complete the work as specified.

<b>PAY ITEM</b>	<b>PAY UNIT</b>
Bituminous Concrete (Type) Curb	L.F.

**TECHNICAL SPECIFICATION 245  
CONCRETE CURBING**

**245.1 SCOPE OF WORK**

This technical specification covers the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to construct and place concrete curbing on a prepared base, in accordance with the dimensions and details as shown on the plans or as directed by the Engineer.

**245.2 MATERIALS**

Materials shall conform to Form 817, Section 8.11.02.

Processed aggregate shall be medium gradation conforming to Technical Specification 210 – “Processed Aggregate Base”.

**245.3 SUBMITTALS**

The following submittals shall be submitted to the Engineer for review and approval prior to installation:

- Concrete specifications from supplier
- Material certifications for all pre-cast concrete
- Gradation test results for processed aggregate

**245.4 CONSTRUCTION METHODS**

Concrete curbing shall be placed in accordance with Form 817, Section 8.11.03.

**245.5 MEASUREMENT**

Measurement for this item will be based on the number of linear feet of concrete curbing placed and accepted.

**245.6 PAYMENT**

Payment for this item will be based on the contract unit price per Linear Foot completed in place, including all labor, materials, testing, submittals, tools, and equipment necessary to complete the work as specified.

<b>PAY ITEM</b>	<b>PAY UNIT</b>
Concrete Curbing (Type)	L.F.

**TECHNICAL SPECIFICATION 265  
PORTLAND CEMENT CONCRETE SIDEWALKS AND RAMPS**

**265.1 SCOPE OF WORK**

This technical specification includes the furnishing of labor, materials, testing, submittals, tools, and equipment necessary to replace or construct Portland Cement Concrete sidewalks, drill for and install steel dowels, and construct driveway ramps and sidewalk ramps with detectable warning strips. Prior to the installation of the concrete, all work within the sidewalk limits shall be complete and shall include, but not be limited to, the adjustments of all public and private frames, grates, covers, and utility boxes.

**265.2 MATERIALS**

**A. Base Material:**

Base material shall be medium gradation processed aggregate base conforming to Technical Specifications 210 – “Processed Aggregate Base”.

**B. Portland Cement Concrete:**

All Portland Cement Concrete shall conform to the following specifications.

All concrete used shall be proportioned by weight for one cubic yard as follows:

Cement (7 sacks)	658 lbs.
Sand	1,244 lbs.
3/8” crushed stone	700 lbs.
3/4” crushed stone	1,080 lbs.
Water	34 gals
Darex II (A.E.A.)	3.29 oz
Air Entrainment	5-7 percent
Slump	3 inches (max.)
Strength (28 day)	4,000 PSI (min.)

The proportions listed are based on the weight of cement and surface dry aggregates with a bulk specific gravity of 2.65 for sand with a fineness modulus of 2.70 and trap rock with a specific gravity of 2.90.

Portland Cement shall be Type II or IIA and shall comply with AASHTO M-85. Type III or IIIA may not be used except as directed by the Engineer for special conditions. All cements must meet requirements of ASTM C-150. Should air entraining cement be used, it must be capable of producing entrained air within the specified limits without air entraining admixtures.

The air entraining agent used shall be of the vinsol resin type and shall conform to Form 817, Sections M.03.01-5. The air entraining agent shall be added to the mixing water prior to its addition

to the mix, for non air entrained cement mixes only. Air entraining agent may not be used with air entrained cement.

All Portland Cement Concrete used shall be "ready-mixed concrete", (Portland Cement Concrete manufactured for delivery to a purchaser in a plastic state and delivered to the job site suitably mixed for placing in the work). Ready-mixed concrete shall be either (1) mixed completely at a central mix plant and transported to the job in a truck mixer operating at agitator speed or (2) mixed completely in a truck mixer while in transit or at the point of delivery. Ready-mixed concrete shall be obtained from suppliers approved by the Inspector. Batching equipment, stationary mixes and truck mixers shall conform to the requirements of Form 817, Section 4.01.03 and Section 6.01.03, as applicable, and be in good condition and operated as designated by the manufacturer. The concrete shall be discharged at the site of the work in a thoroughly mixed and uniform mass of the consistency and workability required without the use of additional mixing water. The slump of the concrete at and during discharge at the work shall be three (3) inches or less.

As determined in accordance with AASHTO T-119, discharge of the batch shall be complete within one (1) hour of the addition of water to the mix. Concrete delivered in outdoor temperatures lower than 40° F shall be discharged at the work site having a temperature not less than 60° F nor greater than 90° F. Every load of concrete delivered to the job site shall have a ticket clearly marked indicating the proportionment of the batch and stamped by a time clock indicating the time the batch was placed in the truck mixer. This ticket shall be presented to the Inspector on the job prior to beginning discharge. Additional water for tempering will be added to the mix only on direction of the Inspector. The concrete supplier shall guarantee proper frequency of delivery to allow conformance with placing requirements of these specifications. Failure to conform with all the requirements of this technical specification will result in the rejection of the nonconforming load(s). Rejected loads that have been "doctored up" will not be accepted. Repeated failure of a supplier to conform to these specifications will result in loss of approval by the Engineer as an approved source of material for construction within the Town.

C. Premolded Joint Material:

Premolded joint material shall be Kork Pak, Proflex Reflex or equivalent approved by the Engineer.

D. Curing Materials:

Waterproof paper shall be double sheet, bituminous cemented Kraft Paper, reinforced in both directions and conforming to the requirements of AASHTO M-139.

Polyethylene (i.e. Plastic) Sheeting shall not be allowed except to cover the waterproof paper in case of inclement weather.

E. Curing Compound:

Liquid membrane-forming compound shall be white pigmented and conform to Form 817, Section M.03.04.

F. Suitable Subbase Material:

Suitable subbase material shall be medium gradation processed aggregate base as specified in Technical Specification 210 – “Processed Aggregate Base”, or bank run gravel meeting the applicable provisions of Form 817, Section M.02.02 and approved by the Engineer.

G. Dowels:

Dowels shall be 5/8-inch diameter x 24-inch long intermediate grade steel conforming to AASHTO M-38 and shall be smooth. Speed Dowel plastic sleeve or approved equal to cover one end of the dowel shall be 12-inches long by 5/8-inch diameter.

H. Wire Mesh Reinforcing:

Wire mesh reinforcing shall be cold-drawn steel wire conforming to the requirements of AASHTO M-32 and M-35, and shall be welded steel, no. 8 wire, spaced 6 inches by 6 inches, both ways. All 8-inch concrete walks, drives, and ramps shall be reinforced.

I. Detectable Warning Strips

Detectable warning strips shall be prefabricated cast-in-place truncated dome detectable warning surface tile as manufactured by ADA Fabricators, Inc. P.O. Box 179, North Billerica, MA 01862. The color shall be brick red and approved by the Engineer.

### 265.3 SUBMITTALS

The following submittals shall be submitted to the Engineer for review and approval prior to installation:

- Gradation test results for processed aggregate
- Concrete specifications from supplier
- Manufacturer’s cut sheet for premolded joint material
- Manufacturer’s cut sheet for waterproof paper
- Label or manufacturer’s cut sheet for curing compound
- Gradation test results for processed aggregate
- Gradation test results for bank run gravel
- Manufacturer’s cut sheet for dowels
- Manufacturer’s cut sheet for wire mesh reinforcing
- Material certification for detectable warning strips

### 265.4 CONSTRUCTION METHODS

A. Excavation:

All proposed 5-inch thick walks shall be excavated 13 inches below and parallel to the finished grade of the walk. All proposed 8-inch walks and ramps shall be excavated 16 inches. Excavation

shall extend 3 inches minimum and 6 inches maximum outside the edges of the proposed walk. Ledge rock encountered within 13 inches of the finished walk grade shall be removed. After completion of excavation, and prior to placing of base material, the subbase shall be compacted by at least 2 passes of a motor driven vibratory compactor; should the subbase appear soft and yielding, this material shall be removed to firm ground with a maximum depth of 25 inches below finished grade as ordered by the Engineer, for 5-inch thick walks, and 28 inches below finished grade for 8-inch walks and ramps. The sub-grade shall then be recompactd as herein before specified.

B. Subbase:

Subbase, if required, shall be placed in maximum 12-inch lifts and compacted with a minimum of 2 passes with a motor drive vibratory compactor.

C. Base:

The processed aggregate base material shall be placed in two 4-inch lifts, the full width of the excavation, and shall be compacted to the satisfaction of the Inspector with at least 2 passes of a motor driven vibratory compactor. Base should extend 3 to 6 inches beyond the outside edges of the walk. Additional fine material shall be added to fill any voids that may have developed during compaction and to bring the completed foundation to true line and cross section 5 inches (or 8 inches) below and parallel to the finished grade of the walk.

D. Forms:

Forms shall be of metal or wood, straight, free from warp and of sufficient strength to resist springing from the pressure of the concrete. Wood, forms for 5-inch thick walks shall be 2 inch by 6 inch smooth surfaced plank, except that at sharp curves, thinner material may be used. Forms for 8-inch thick walks and ramps shall be 8 inches deep. Metal forms shall be of section approved by the Inspector, and shall have a flat surface on the top. Forms shall be of a depth equal to the depth of the walk. Forms shall be securely staked, braced and held firmly to the required line and grade; special care shall be taken to maintain the proper shape of all curves. Forms shall remain in place for at least 24 hours after finishing of concrete. No stakes or bracing shall project above the top of the form. Forms shall be sufficiently tight to prevent leakage of concrete. All forms shall be cleaned and oiled before concrete is placed against them. Sheet metal templates, ¼-inch thick of the full depth and width of the walk, shall be placed at every expansion joint or as ordered by the Inspector. If concrete is placed in alternate sections, these templates shall remain in place until concrete has been placed on both sides of the templates. As soon as the concrete has obtained its initial set, the template shall be removed.

E. Placing of Concrete:

The Contractor shall give the Inspector assigned to the work a 24-hour notice before placing concrete. All expansion joints and other embedded material items shall be in place, and all necessary placing and finishing tools, and all curing and protection materials shall be on the job prior to commencement of placing concrete. Before the concrete is placed, the sub-grade shall be

thoroughly dampened so that it is moist throughout, but without puddles of water. Concrete shall be placed as near to its final position as practicable, and precautions shall be taken not to overwork the concrete while it is still plastic. The concrete shall be uniformly placed along the forms or screens. The concrete shall be placed in one course and struck off as hereinafter specified to the required graded cross section. The top shall be struck off by use of a suitable screed resting on the forms or screed support to the required grade and cross section.

F. Finishing of Concrete:

No finishing operation shall be performed while free water is present; finishing operations shall be delayed until all bleed water and water sheen have left the surface and the concrete has started to set. Dusting the surface with cement to promote drying will not be permitted. After water sheen has disappeared, all exposed walk edges, and edges on each side of expansion joints shall be finished with a ¼ inch radius edging tool. Transverse dummy joints shall be formed by cutting a slot in the concrete, 1 inch deep. The slot may be cut by a 1-inch deep T-bar forced into the fresh concrete or by a 1 inch bit jointer held against a straight edge. After the concrete has partially hardened, the joint shall be edged with a jointer having a 1 inch bit and ¼-inch fillets held against a straight edge to make a clean straight joint. All other dummy joints in the walk shall be treated as above specified for transverse dummy joints. All completed dummy joints shall be 1 inch deep. After edging and jointing operations, the surface shall be floated with a wood float. In very warm weather, care shall be taken to prevent final set by shading until all finishing operations have been performed. If necessary, all tooled joints and edges shall be rerun after floating to maintain uniformity. After floating, the surface shall be brushed by drawing a soft bristled push broom, across the entire sidewalk width, perpendicular to the direction of pedestrian traffic, with a long handle over the surface of the concrete, to produce a non-slip surface. "Picture frame" finishes should NOT be provided. A rain spattered finish will not be acceptable. Forms shall not be stripped for at least 24 hours after completion of finishing; care shall be taken to not damage the green concrete during stripping of forms.

G. Joints:

Transverse dummy joints shall be constructed at a longitudinal spacing equal to the width of the walk but not over 5 feet apart; or to match adjoining walk. Doweled transverse expansion joints shall be constructed to replace every third dummy joint and at change of walk thickness. Dowels are also to be installed between new and existing concrete slabs. Where new or repaired walks abut existing concrete sidewalks the Contractor shall drill holes measuring ¾ inch in diameter and 12 inches deep into the existing concrete slab. Transverse expansion joints shall be ½ inch thick by the depth of concrete (5 inches or 8 inches), premolded joint material and shall have 5/8 inch diameter by 24 inches long dowels spaced as shown in the details or as ordered by the Inspector. One end of each dowel shall be set in a 12 inch long 5/8 inch ID Speed Dowel plastic sleeve. The Contractor is to ensure that the expansion joint is kept straight and perpendicular to the forms by use of a steel or wood spacer drilled to accommodate the dowels. Dowels are to be centered vertically in the slab. In areas where dowels are not specified, premolded joint material shall be 1/4 inch thick.

Isolation joints, 1/4 inch by the depth of the concrete (5 or 8) inches, premolded joint material shall be used between the walk being constructed and existing concrete walks, entrance walks, building foundations, retaining walls, light pole bases, vaults, manholes and all similar structures. Where dowels are specified, the premolded joint material shall be 1/2 inch thick. Utility poles, hydrants, fire alarm boxes, gate boxes and similar installations located in the walk area shall be separated from the main walk by isolation joints of suitable pattern as ordered by the Inspector. No transverse dummy joint, or expansion joint, shall be located within 12 inches of any structure in the walk.

For repair work, all joints shall be similar in pattern to the joints in the adjacent existing walk. All concrete areas, wider than the normal sidewalk width, will have isolation joints limiting the size of the continuous slab to a maximum of one 144 square feet.

#### H. Detectable Warning Strips:

The detectable warning strips for new construction shall be set directly in poured concrete according to the plans and the manufacturer's specifications, or as directed by the Engineer. The Contractor shall place two (2) 25-pound concrete blocks or sandbags on each tile to prevent the tiles from floating after installation in wet concrete.

The Contractor is responsible for removing any material splatters or debris and repairing any damage to the existing sidewalks arising from the installation of the tile.

#### I. Curing

In case of inclement weather, a forecast of inclement weather, or when ordered by the Engineer, immediately following the final finishing and as soon as possible without marring the surface, the concrete shall be covered with waterproof paper conforming to Section 265.2 (d) of these specifications. The waterproof paper shall extend at least 12 inches beyond the edge of the walk and, if required, shall be lapped a minimum of 6 inches. It shall be held down on all edges and laps by continuous wood planks or piles of sand. Use of rocks or broken concrete will not be permitted. Paper shall not be removed for at least 72 hours.

Curing methods shall conform to Form 817, Section 4.01.03 (f-7).

#### J. Wire Mesh Reinforcing:

The mesh shall be placed 4 inches below the required finished grade and all adjacent sections of the mesh shall be lapped 8 inches and tied together with wire, spaced not over 24 inches on centers, to prevent displacement. Wire mesh shall be continuous transversely between sides of the sidewalk. No more than two pieces of wire mesh may be used per 10 longitudinal feet of sidewalk. Scrap pieces of wire mesh shall not be placed in the sidewalk but shall be disposed of by the Contractor. Wire mesh shall not be placed within 2 inches of sidewalk edges or isolation joints. The concrete shall be placed 4 inches deep and struck off to a reasonably true grade prior to placing the wire mesh and the final 4 inches of concrete. Wire mesh, if supplied in rolls, shall be cut to the proper size and flattened out prior to placement in the concrete.

K. Cold Weather Concrete:

No Portland Cement Concrete shall be placed when the air temperature is 40° F or below. When, in the opinion of the Engineer, the condition of the weather is such that any concrete which has not been completely cured is liable to become frozen, such concrete shall be protected using suitable blanketing materials approved by the Engineer to prevent freezing of the concrete. During the period of time of such protection, the Contractor shall be responsible for the quality and strength of the concrete placed during cold weather, and any concrete damaged by frost action shall be removed and replaced at the Contractor's expense.

L. Conditions for 8-inch Walks and Ramps

Construction of 8-inch concrete pedestrian ramps shall conform to all provisions of this specification, except as follows:

1. Regardless of the type of pavement of adjacent sidewalks, all pedestrian ramps shall be constructed of Portland Cement Concrete.
2. The final texture of the concrete surface shall be a coarse broom finish, transverse to the slope of the ramp.
3. Ramps shall conform to detail drawings as shown in the plans and shall comply with all applicable laws and regulations governing handicap access to public sidewalks.
4. Ramps shall be a minimum of 5 feet in length.
5. Expansion joint material and dowels shall be placed between 8-inch walks and 5-inch walks.

265.5 MEASUREMENT

Measurement for this item will be based on the number of square feet of concrete sidewalks, ramps, and detectable warning strips completed and accepted in place. All items incidental to the sidewalk construction, including excavation, base material, and others described in 265.2 and 265.4 will not be measured for payment but shall be included in the square feet measurement for this item.

265.6 PAYMENT

Payment for this item will be based on the contract unit price per Square Foot for 5-inch or 8-inch sidewalks, 8-inch ramps, and detectable warning strips including all labor, materials, testing, submittals, tools, and equipment necessary to complete the work as specified.

<b>PAY ITEM</b>	<b>PAY UNIT</b>
5" Sidewalk	S.F.
8" Sidewalk	S.F.
8" Driveway Ramp	S.F.
8" Pedestrian Ramp	S.F.
Detectable Warning Strips	S.F.

**TECHNICAL SPECIFICATION 300**  
**DRAINAGE, CULVERTS, UNDERDRAINS, AND COLLECTOR PIPING**

**300.1 SCOPE OF WORK**

This technical specification covers the furnishing of all labor, materials, testing, submittals, tools, and equipment, necessary to excavate, lay and join drainage, culverts, underdrain, and collector piping systems and fittings, place warning tape and tracing wire, backfill and compact trenches, as shown on the plans or as directed by the Engineer. Work under this item also includes all handling of water, trench wall support, and breaking into and connecting proposed drainage systems to new or existing drainage systems or structures.

**300.2 MATERIALS**

Materials used for the construction of the drainage, culvert, underdrain, or collector piping systems shall conform to Form 817, Section M.08.01. Joints in concrete pipe shall be preformed plastic gaskets or flexible watertight, rubber-type gaskets conforming to the requirements of Form 817, Section M.08.01.

Sand used for bedding shall meet the requirements of Form 817, Section M.08.03..

Gravel, when specified, shall meet the requirements of Technical Specification 205 – “Bank Run Gravel”.

Crushed stone shall meet the requirements of Form 817, Section M.02.05, ¾-inch crushed stone. Backfill material for RCP pipe installation: Wherever reference is made on the Drawings or in the Specifications to suitable material, suitable backfill material, and suitable fill material, the material shall be mineral soil substantially free from organic materials, topsoil, wood, trash, and other objectionable materials which may be compressible or which cannot be properly compacted. It shall not contain rocks or lumps larger than six (6) inches in largest dimension, and not more than 15 percent of the rocks or lumps shall be larger than 2 1/2 inches in largest dimension. Further, it shall not contain granite blocks, broken concrete, masonry rubble, or other similar materials. It shall have physical properties such that it can be readily spread and compacted during filling. Snow, ice, and frozen soil will not be permitted.

Backfill material for plastic pipe installation: ¼-inch crushed stone shall conform to the requirements of Section M.02.05 of the DOT specifications.

Geotextiles, when specified shall meet the requirements of Form 817, Section M.08.01.19.

Drainage locator tape and #10 solid tracing wire, XLPUSE, for underdrain and collector systems shall comply with details as shown on the drawings.

### 300.3 SUBMITTALS

The following submittals shall be submitted to the Engineer for review and approval prior to installation:

- Material certifications for total length of pipe to be used
- Gradation test results for sand
- Gradation test results for gravel
- Gradation test results for crushed stone
- Gradation test results for backfill
- Manufacturer(s) cut sheet(s) for geotextile(s)
- Manufacturer(s) cut sheet(s) for locator tape and #10 solid tracing wire

### 300.4 CONSTRUCTION METHODS

All pipe shall be properly stored and protected to prevent damage. Any material deemed unsuitable by the Engineer shall be immediately removed from the project site. When pipe is being installed, all trenches shall be kept dry. Pipes and fittings shall be laid accurately to the required line and grade using laser beam techniques unless otherwise approved by the Engineer. Pipe shall be uniformly supported along its entire length on bedding material as described and shown on the details. Pipe shall be properly haunched and tamped against its sides to firmly hold it in place. All other backfill shall be suitable material as approved by the Engineer. If the excavated materials are not approved for backfill by the Engineer, or if unsuitable materials need to be excavated and removed, the Contractor shall provide suitable backfill materials from outside sources, if no other suitable materials are available from the project. Warning tape shall be installed 12 to 18 inches above the pipe and #10 tracing wire shall be installed on all underdrain and collector piping. Further detailed construction methods shall be in accordance with Form 817, Section 6.51.

All trenches shall be thoroughly compacted utilizing a method approved by the Engineer. In all trench areas, compaction density shall not be less than 95% of the dry density achieved by AASHTO T180, Method D. If any of the compaction tests fail, the Contractor shall, at no cost to the Town, recompact and retest the area until uniform test results are acceptable.

If the plans indicate, or the Engineer approves a combined underdrain and collector piping system, the installation and materials shall conform to the requirements of the underdrain installation.

### 300.5 MEASUREMENT

Measurement for this item will be based on the actual number of linear feet of the various sizes and types of pipes, completed and accepted in place, measured from the interior face of a structure to the interior face of a structure or to the exterior face of a terminating pipe length. Measurement for backfill provided from sources outside the project limits only, shall be by the cubic yard measured in place.

### 300.6 PAYMENT

Payment for pipe will be based on the contract unit price per Linear Foot of pipe. Payment for backfill and ¾" crushed stone, if required, will be based on the contract unit price per Cubic Yard. All items to be completed and accepted in place including all labor, materials, testing, submittals, tools, and equipment necessary to complete the work as specified.

Removal and disposal of any unsuitable materials shall be paid under Technical Specification 105 – "Excavation, Placement and Disposal of Surplus Material". Backfilling with suitable materials shall be paid under Technical Specification 205 – "Bank Run Gravel". Payment for excavation is only applicable for removal of unsuitable materials below the specified trench depth. Payment for backfill is for replacement of all unsuitable materials, but only if suitable materials are not available on the project site.

<b>PAY ITEM</b>	<b>PAY UNIT</b>
(Size-type) Pipe	L.F.
Backfill (type)	C.Y.
¾" Crushed Stone	C.Y.

**TECHNICAL SPECIFICATION 320**  
**GRADE ADJUSTMENTS TO UTILITY BOXES AND GATE VALVES**

**320.1 SCOPE OF WORK**

This technical specification includes furnishing all labor, materials, testing, submittals, tools, and equipment necessary to adjust valve frames, covers, or utility boxes contained within the limits of work, to the final elevation of the pavement, overlay, or grades shown on the plans. The installation of bituminous concrete shims as shown on the plans, or if required by the Engineer, are included in this item.

**320.2 MATERIALS**

The Contractor shall provide all adjustment rings or telescopes in accordance with the Town of Weston or other utility standards. The following utility companies are provided:

- Cable TV - Cablevision
- Communication
  - Crown Castle Liber, LLC
  - Level 3 Communications, LLC
  - The Southern New England Telephone Company
- Electric – The Connecticut Light and Power Company
- Gas - Southern Connecticut Gas Company
- Water - Aquarion Water Company of Connecticut
- Fiber – Town of Weston

Bituminous concrete for shims shall be HMA S0.375 or Class 2 conforming to Form 817, Section M.04.

Emulsion shall conform to Form 817, Section M.04.01.5.

**320.3 SUBMITTALS**

The following submittals shall be submitted to the Engineer for review and approval prior to installation:

- Material certifications for all adjustment rings or telescopes
- Material certification or manufacture(s) cut sheet for emulsion

**320.4 CONSTRUCTION METHODS**

Prior to the installation of the final pavement surface, all adjustments to the utility frames and covers will be made. Where the elevation of the adjustment interferes with safe traffic travel conditions, or if directed by the Engineer, the protrusion will be marked by cones, barricades, or other safety marking to distinguish the hazard. All warning devices used shall conform to the Manual on Uniform Traffic Control Devices.

Winter shims, if shown on the plans or if ordered by the Engineer, will normally be installed only if there is a significant delay, such as a winter shut-down, before placing the finish course of bituminous concrete. The areas to be shimmed shall be swept clean of all debris and be free of standing water. The emulsion shall be applied to the existing pavement at the match mark using a brush to create a band at least 4 inches wide. The width of the shim shall be 2 feet for every one inch of height of the exposed structure. Compaction shall be by plate compactor, roller or other method approved by the Engineer. Diesel fuel shall not be used to keep materials from sticking to compaction equipment. If deemed necessary by the Engineer, winter shims shall be reinstalled by the Contractor.

320.5 MEASUREMENT

Measurement for this item will be based on the number of gate valves or utility boxes adjusted and/or the number of shims installed, including the reinstallation of any winter shims.

320.6 PAYMENT

Payment for this item will be based on the contract unit price for Each adjustment to utility boxes and gate valves, or installation of shims, including all labor, materials, testing, submittals, tools, and equipment necessary to complete the work as specified.

<b>PAY ITEM</b>	<b>PAY UNIT</b>
Adjust (Utility) Box/Cover	EA.
Adjust (Utility) Cover	EA.
Adjust (Utility) Gate Valve	EA.
Shims	EA..

## **TECHNICAL SPECIFICATION 405 RIP RAP**

### **405.1 SCOPE OF WORK**

This technical specification covers the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to excavate for and install rip rap including stone, concrete, bedding and geotextile, to protect slopes and waterways from water damage, as shown on the plans or as specified herein.

### **405.2 MATERIALS**

The stone for this work shall be the type called for on the plans and shall conform to the requirements of Form 817, Section M.12.02.

The concrete for this work shall be Class "C" concrete and shall conform to the requirements of Form 817, Section M.03.01.

The bedding for this work shall be processed aggregate base medium gradation conforming to Technical Specification 210 – "Processed Aggregate Base".

The geotextile for this work shall conform to the requirements of Form 817, Section M.08.01.19.

### **405.3 SUBMITTALS**

The following submittals shall be submitted to the Engineer for review and approval prior to installation:

- Gradation test results for stone
- Concrete specifications from suppliers
- Gradation test results for processed aggregate
- Manufacturer(s) cut sheet(s) for geotextile(s)

### **405.4 CONSTRUCTION METHODS**

Construction methods shall conform to Form 817, Sections 7.03.03 and 7.55.03.

### **405.5 MEASUREMENT**

Measurement for this item will be based on the actual number of cubic yards, in place and accepted. The length and width shall be measured in place while the depth shall be as shown on the plans.

### **405.6 PAYMENT**

Payment for this item will be based on the contract unit price per Cubic Yard for the type of rip rap indicated, completed in place, including all labor, materials, testing, submittals, tools, and equipment necessary to complete the work as specified.

<b>PAY ITEM</b>	<b>PAY UNIT</b>
(Type) Rip Rap	C.Y.

**TECHNICAL SPECIFICATION 415  
LOAMING, SEEDING, HYDROSEEDING, SODDING,  
AND EROSION CONTROL MATTING**

**415.1 SCOPE OF WORK**

This technical specification covers the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to loam, fertilize, seed, mulch, hydroseed, sod, or install erosion control matting on all areas shown on the drawings or as directed by the Engineer. The work shall consist of providing an accepted uniform stand of established perennial turf grasses, including watering, weed control and mowing. Where loaming, seeding, hydroseeding, sodding, and/or installing erosion control matting is included in other items, the technical portions of this technical specification shall apply.

**415.2 MATERIALS**

**A. Loam**

The loam shall comply with the requirements of Form 817, Section M.13.01, except that the loam shall be free from rocks and stones greater than 3/4 inch. Loam shall be delivered unfrozen to the job site. No existing loam taken from the site shall be reused without approval of the Engineer.

**B. Fertilizer**

Composite commercial fertilizer shall bear the manufacturer's guarantee statement of analysis and meet the minimum requirements of 10% nitrogen, 10% phosphoric acid, 10% potash, with at least 50% of the nitrogen being organically carried.

**C. Mulch**

Mulch shall comply with the requirements of Form 817, Section M.13.05.

**D. Seed**

Lawn seed shall be fresh, clean and new crop seed composed of the following varieties, mixed in proportion, and passing tests for the minimum percentages of purity and germination indicated:

	Proportion by Weight Percent	Minimum Percent	Purity	Minimum Germination Percent
Perennial Rye Grass	50 parts	98		90
Kentucky Blue Grass	20 parts	85		75
Fine Fescue	30 parts	98		85

#### E. Sod

The sod shall have a seed mix as recommended by the grower and approved by the Engineer for the specific use of the sod. Sod shall be living sod obtained from a commercial sod farm, and shall be free from noxious weeds, insect infestations, and fungous and bacterial diseases. The sod shall be cut to a minimum depth of one to one and one-half inches. Agricultural Ground Dolomitic Limestone shall conform to Form 817, Section M.13.02. A commercial grade granular fertilizer shall contain 15% nitrogen, 15% phosphoric acid, and 15% potash, with at least 50% of the nitrogen being organically carried. Stakes for pegging, when shown on the plans, shall be wood, approximately 1 inch x 2 inch and of sufficient length to penetrate the sod and the topsoil to a minimum depth of two inches of subsoil.

#### F. Erosion Control Matting

Erosion control matting shall comply with the requirements of Form 817, Section M.13.09.

### 415.3 SUBMITTALS

The following submittals shall be submitted to the Engineer for review and approval prior to installation:

- Gradation test results for loam
- Material certification/test results confirming percentage of organic matter in loam
- Manufacturer's guarantee statement of analysis for fertilizer
- Label from bag and/or manufacturer(s) cut sheet for mulch
- Affidavit and test report for seed mixture
- Manufacturer's guarantee statement for sod
- Manufacturer(s) cut sheet for erosion control matting

### 415.4 CONSTRUCTION METHODS

Prior to spreading loam, the area shall be brought to a uniform grade 4 inches minimum below the finished surface or as indicated on the plans. The subgrade shall be thoroughly pulverized to a depth of at least 3 inches by rototilling, harrowing or by other approved methods. Loam shall be applied in a 4" layer, unless otherwise directed. The Contractor is responsible for a satisfactory catch of grass as herein specified. If required, or as directed by the Engineer, the newly seeded, hydroseeded or areas with erosion control matting shall be watered by the Contractor, as required, until a uniform stand of grass has been established.

Any sparse areas will be reseeded as required.

The fertilizer shall be applied at the rate of 20 pounds per 1000 square feet. Seeding and hydroseeding shall only be done from March 15th to June 15th or from August 15th to October 15th. Seeding at other times shall be done only when ordered or approved by the Engineer. Pulverized, dolomitic, agricultural limestone shall be spread at a rate of 46 pounds per 1000 square feet.

A. Seeding

The grass seed shall be applied at the rate of 6 pounds per 1000 square feet. The seeded area shall be mulched with a layer of grass hay or straw at the rate of 10 pounds per 100 square feet, and in lieu of an approved mulch, shall be thoroughly watered each day until satisfactory growth has been established. After establishment of the turf in the Spring, weed control shall be applied per the manufacturer's recommendation. The Contractor is responsible for one mowing at the direction of the Engineer.

B. Hydroseeding

Mulch shall be applied at a rate of 25-40 pounds per 1000 square feet. (40 lbs. per 1000 square feet for slopes greater than 2 to 1). After establishment of the turf in the Spring, weed control shall be applied per the manufacturer's recommendation. The Contractor is responsible for one mowing at the direction of the Engineer.

Fertilizer, seed, and mulch shall be applied using an acceptable hydroseeding distribution method approved by the Engineer.

C. Sodding

The fertilizer and or lime shall be applied at a rate as per the sod suppliers recommendation. Live sod shall be installed in conformance with Form 817, Section 9.53.03.

D. Erosion Control Matting

Erosion control matting shall be installed in accordance with Form 816, Section 9.50.03.7.

E. Warranty

The Contractor shall warrantee the work for the one year period following the planting. Any bare areas shall be reestablished by the Contractor at the Contractor's expense.

415.5 MEASUREMENT

Measurement for this item will be based on the number of square yards of surface area acceptably loamed, seeded, hydroseeded, sodded, or where erosion control matting has been installed and accepted.

415.6 PAYMENT

Payment for this item will be based on the contract unit price per Square Yard for Loaming, Loaming & Seeding, Loaming & Hydroseeding, Loaming & Sodding, and Erosion Control Matting, including all labor, materials, testing, submittals, tools, and equipment necessary to complete the work as specified.

<b>PAY ITEM</b>	<b>PAY UNIT</b>
Loaming	S.Y.
Loaming & Seeding	S.Y.
Loaming & Hydroseeding	S.Y.
Loaming & Sodding	S.Y.
Erosion Control Matting	S.Y.

## **TECHNICAL SPECIFICATION 430 MAINTENANCE AND PROTECTION OF TRAFFIC**

### **430.1 SCOPE OF WORK**

This technical specification shall include identifying safety hazards and then furnishing all necessary labor, materials, testing, submittals, tools, and equipment including, but not limited, to signs, barricades, traffic drums, cones, flashers, construction fencing, flaggers, warning devices, temporary pavement markings, delineators, etc., to control vehicular and pedestrian traffic through and adjacent to the project area. These measures and actions shall safely maintain the accessibility of public and construction traffic by preventing potential construction hazards. This work shall also include all costs associated with the erecting, maintaining, moving, adjusting, cleaning, relocating, and storing the aforementioned materials as is necessary to ensure safe movement of vehicular and pedestrian traffic throughout the project area.

The Contractor may request that the Town approve the detouring of traffic around the construction area if it is in the best interest of public safety and the Town. Detouring shall be limited to normal construction hours and two way traffic patterns shall be re-established at the end of each work day. Working hours are specified in the Special Conditions of the Contract Documents.

### **430.2 MATERIALS**

All materials under this item including any warning devices, such as signs, barricades, flashers, cones, drums, vests, paddle signs, delineators, and other incidentals necessary to protect the work area and maintain vehicular and pedestrian traffic through and adjacent to the project area shall be in accordance with the Manual of Uniform Traffic Control Devices, as amended, or as approved by the Engineer.

### **430.3 SUBMITTALS**

The following submittals shall be submitted to the Engineer for review and approval prior to installation:

- Material certifications for all cones, drums, and barricades

### **430.4 CONSTRUCTION METHODS**

The Contractor shall keep the roadway under construction open to vehicular and pedestrian traffic for the full length of the project. Traffic is to be maintained on one section of existing pavement, proposed pavement, or a combination thereof. Alternating one way traffic may be utilized and limited to a maximum length of 500 feet during construction hours. Lane width for alternating one-way traffic shall be kept to a minimum width of 10 feet, or as directed by the Engineer. A sufficient number of travel ways and pedestrian passways shall be provided to move that traffic ordinarily using the roadway. The travel lanes and pedestrian passways shall be drained and kept reasonably smooth, and in a suitable condition at all times in order to provide minimum interference to traffic consistent with the prosecution of the work. Suitable ingress and egress shall

be provided at all times where required for all intersections, driveways, and for all abutting properties having legal access.

Traffic patterns shall conform to the Connecticut Department of Transportation Special Provision Item 0971001A - Traffic Control Plans & Typical Materials.

For such instances where detouring is unavoidable, the Contractor shall provide the Engineer a proposed detour route that will be subject to the Town's approval prior to the beginning of construction activities. For any instance when the Contractor proposes to detour traffic, the Engineer shall be provided a minimum of 72 hours notice. The right to detour traffic is not implied and the decision to do so will be the sole responsibility of the Town.

Where flashers or other warning devices are used, all signs shall be erected and placed in accordance with the Manual of Uniform Traffic Control Devices, as amended.

The Contractor shall furnish a sufficient number of traffic control devices such as signs, barricades, traffic drums, cones, flashers, construction fencing, flaggers, warning devices, temporary pavement markings, and delineators to forewarn traffic of the impending construction and to guide the traveling public through the construction safely.

All signs in any one signing pattern shall be mounted the same height above the roadway. The Contractor shall keep all signs in proper position, clean, and legible at all times. Care shall be taken so that weeds, shrubbery, construction materials, equipment, and soil are not allowed to obscure any sign, light, or barricade. Signs that do not apply to construction conditions should be removed or adjusted so that the legend is not visible to approaching traffic.

Snow removal and correction of icy conditions that prohibit or impede traffic within the roadway, other than those resulting from the Contractor's operations, will remain an obligation of the Town.

All proposed construction area traffic control is subject to the review and approval by the Engineer, or Weston Police Department. If the traffic control is deemed unacceptable or hazardous, construction operations may be suspended until the Contractor corrects the traffic control issue. The construction suspension shall be at the Contractor's expense.

#### Emergency Situations

The Contractor shall provide the Town of Weston with the names, addresses, and telephone numbers of at least two employees residing in the Weston area who will be responsible and in charge and may be contacted in case of necessary or emergency work.

#### 430.5 MEASUREMENT

Measurement for this item will be based on a lump sum basis to perform all the work described above. Should the project be increased in scope due to construction changes beyond the above requirements, the Contractor can claim additional compensation as extra work at that time.

Likewise, any reduction in the scope of work, the Town will request a suitable credit for work not

performed.

430.6 PAYMENT

Payment for this item will be based on the contract Lump Sum price including all labor, materials, testing, submittals, tools, and equipment necessary to perform the work. This price shall not include any costs associated with acquiring the services of Town Police Officers. (These services, if required, will be paid for on a per hour basis.)

Partial payments for this item will be made based on the percentage completion of the overall work. If called upon to do emergency work, or to repair damage caused by natural or manmade disasters, such emergency work shall be considered as extra work for which the Contractor can claim reimbursement for reasonable expenses. Should the Contractor fail to perform any of the work required under this technical specification, the Town of Weston may perform or arrange for others to perform such work. In such cases, the Town will deduct from money due or to become due the Contractor, all expenses connected therewith.

<b>PAY ITEM</b>	<b>PAY UNIT</b>
Maintenance and Protection of Traffic	L.S.
Trafficperson (Municipal Police Officer)	HR.

**TECHNICAL SPECIFICATION 435  
CHAIN LINK FENCE**

**435.1 SCOPE OF WORK**

The purpose of this technical specification is to cover the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to furnish and install chain link fencing, including gates, as shown on the plans, or as directed by the Engineer.

**435.2 MATERIALS**

All chain link fencing materials shall conform to the requirements of Form 817, Section M.10.05. Fence fabric, metal posts, rails, and fittings shall be factory coated with polyvinyl chloride (PVC). All cut ends shall be coated with PVC at the factory. Unless otherwise specified, the fabric, posts, rails, and fittings shall be black in color, and all chain link fences shall have both a top rail and bottom rail. Gates shall be of the same type materials as the chain link fence. Size of all chain link fencing materials shall be shown on the plans or details.

Concrete for setting of posts shall be Class C, conforming to the requirements of Form 817, Section M.03.01.

**440.3 SUBMITTALS**

The following submittals shall be submitted to the Engineer for review and approval prior to installation:

- Manufacturer(s) cut sheet(s) for fencing materials

**435.4 CONSTRUCTION METHODS**

The installation of chain link fencing shall conform to the requirements of Form 817, Section 9.13.03.

**435.5 MEASUREMENT**

Measurement for chain link fence will be based on the actual number of linear feet of chain link fence completed and accepted. Measurement for gates will be based on the actual number of gates completed and accepted.

**435.6 PAYMENT**

Payment for these items will be based on the contract unit price per Linear Foot for chain link fence, and based on the contract unit price for Each, for gates, including all labor, materials, testing, submittals, tools, and equipment necessary to complete the work as specified.

<b>PAY ITEM</b>	<b>PAY UNIT</b>
Chain Link Fence (Height)	L.F.

Chain Link Gate (Height – Width)	EA.
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## **TECHNICAL SPECIFICATION 440 CONSTRUCTION STAKING**

### **440.1 SCOPE OF WORK**

This technical specification covers the furnishing of all labor, materials, testing, submittals, tools and equipment necessary to perform all construction layout, control, and reference staking for satisfactory completion of the project.

### **440.2 MATERIALS**

Hubs shall be 1½ inch x 1½ inch x 16 inch oak and witness stakes shall be 1 inch x 1 inch x 36 inch oak or other hardwood.

### **440.3 SUBMITTALS**

Not applicable.

### **440.4 CONSTRUCTION METHODS**

Hubs with tacks shall be used for all control points, centerline or baseline offsets and structure stakeout and shall be accompanied by witness stakes marked with the pertinent information. For supplemental stakeout only, witness stakes alone may be used. For laser grade control and the verification of the laser elevation a hub with witness shall be provided. All staking shall be performed under the direct supervision of a Land Surveyor licensed by the State of Connecticut and shall conform to “MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT” adopted by the Connecticut Association of Land Surveyors on September 26, 1996, Connecticut General State Statutes 20-300b, and the applicable provisions of Form 817, Section 9.80.03.

In addition, reference stakeout (line and grade) for areas involving horizontal or vertical curves shall be placed at intervals no greater than 25 foot, or in sufficient intervals to provide the Contractor with necessary information to meet the designed lines and grades.

Work in this section also requires that, where the drawings indicate a graphical boundary and/or street line intersection, all efforts will be made prior to construction activities, to locate any and all existing merestones, iron pins and any other boundary marker, as well as those identified on the plans (except for those indicated to be set or reset) using prescribed methods for Class A-2 accuracy, or using 3 ties for each marker.

If impacted during construction activities, each removed marker shall be re-established by the Contractor's surveyor.

### **440.5 MEASUREMENT**

Measurement for this item shall be based on a lump sum for construction staking completed in accordance with these specifications. Partial payments will be made for this item based on the percentage completed of the overall work, as determined by the Engineer.

440.6 PAYMENT

Payment for this item will be at the contract Lump Sum for construction staking completed and shall include all labor, materials, testing, submittals, tools and equipment necessary to complete the work as specified.

<b>PAY ITEM</b>	<b>PAY UNIT</b>
Construction Staking	L.S.

## TECHNICAL SPECIFICATION 445 PAVEMENT MARKINGS

### 445.1 SCOPE OF WORK

The purpose of this technical specification is for the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to install epoxy resin pavement markings, including centerlines, lane lines, shoulder lines, stop bars, crosswalks, parking stalls, lane arrows, symbols, and legends in accordance with the details shown on the plans, or as directed by the Engineer.

### 445.2 MATERIALS

Materials for this work shall conform to the requirements of Form 817, Section M.07.22.

### 445.3 SUBMITTALS

The following submittals shall be submitted to the Engineer for review and approval prior to installation:

- Material certifications for all epoxy resin pavement markings

### 445.4 CONSTRUCTION METHODS

The construction methods including equipment, application procedures, performance, and warranty shall conform to the requirements of Form 817, Section 12.10.03.

Crosswalks and Raised Crosswalks: Only glass beads conforming to the requirements of Grading “A” (smaller beads) shall be applied at a rate of 25 pounds per gallon of epoxy pavement making material.

Line striping shall not be applied to structures within the roadway. This includes catch basin tops, manholes covers, and all other movable/repositionable objects.

### 445.5 MEASUREMENT

Measurement for the centerlines, lane lines, shoulder lines, stop bars, and parking stalls will be based on the actual number of linear feet for each color and width completed and accepted in place. Crosswalks, lane arrows, symbols, and legends will be based on the actual number of square feet completed and accepted in place.

### 445.6 PAYMENT

Payment will be based on the contract unit price per Linear Foot for centerlines, lane lines, shoulder lines, stop bars, and parking stalls. Payment will be based on the contract unit price per Square Foot for crosswalks, lane arrows, symbols, and legends. Payment for these items includes all labor, materials, testing, submittals, tools, and equipment necessary to complete the work as specified.

<b>PAY ITEM</b>	<b>PAY UNIT</b>
Epoxy Resin Pavement Marking (Width) Color)	L.F.
Epoxy Resin Symbols and Legends	S.F.

## TECHNICAL SPECIFICATION 450 SIGNAGE

### 450.1 SCOPE OF WORK

The purpose of this technical specification is to cover the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to furnish and install street name, regulatory, warning, and informational signage, including sign posts and associated hardware, as shown on the plans, or as directed by the Engineer.

### 450.2 MATERIALS

Reflective sheeting shall conform to the requirements of Form 817, Section M.18.10.2.

Regulatory, warning, and informational signage properties, including, but not limited to, size, font style, font size, colors, symbols, and layout shall conform to the Manual of Uniform Control Devices, 2009 Edition, or as amended.

Sheet aluminum sign blanks shall conform to the requirements of Form 817, Section M.18.13. For street name signage, the sign material shall be a flat 0.125 gauge aluminum blade 12" high with legend on both sides and rounded corners.

Street name sign font shall be mixed case ClearviewHwy font. Street name sign background shall be 3M white diamond grade VIP with 3M ElectroCut 1177 Green Film, or approved equal. Street name sign coloring shall be white lettering, a ½ inch white border, and a green background.

A 12 inch street name sign blade holder shall be provided as shown in the plan.

All steel sign posts shall be a galvanized breakaway design at 3 pounds per foot conforming to the mechanical requirements of ASTM A 499-81, Grade 420 and to the chemical requirements of ASTM A1-76 carbon steel tee rail. All sign posts shall meet the AASHTO requirements for breakaway design contained in the "Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals".

### 450.3 SUBMITTALS

The following submittals shall be submitted to the Engineer for review and approval prior to installation:

- Manufacturer's cut sheets for all signs
- Manufacturer's cut sheet for steel sign posts

### 450.4 CONSTRUCTION METHODS

The installation of all signage shall conform to the requirements of Form 817, Section 12.08.03.

All signage shall be installed at locations approved by the Legal Traffic Authority.

450.5 MEASUREMENT

Measurement for signage will be based on the actual number of square feet of sign completed and accepted.

450.6 PAYMENT

Payment for this item will be based on the contract unit price per Square Foot for signage (Type), including all labor, materials, testing, submittals, tools, and equipment necessary to complete the work as specified.

<b>PAY ITEM</b>	<b>PAY UNIT</b>
Signage (Type)	S.F.

## TECHNICAL SPECIFICATION 460 SEGMENTAL RETAINING WALL

### 460.1 SCOPE OF WORK

This technical specification covers the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to install a segmental retaining wall system in accordance with plans and specifications and in reasonably close conformity with the lines, grades, design and dimensions shown on plans or established by the Engineer.

### 460.2 MATERIALS

#### A. Segmental Retaining Wall Units

1. SRW units shall be machine-formed, Portland cement concrete blocks specifically designed for retaining wall applications. SRW units currently approved for this project are: VERSA-LOK Cobble® Retaining Wall Units as manufactured by Cromwell Concrete.
2. Color of SRW units shall be Bedford Brown.
3. Finish of SRW units shall be weathered split-face. A weathered split-face is a straight-face unit that is mechanically finished to create rounded corners and edges similar in appearance to naturally worn stones or cobbles.
4. SRW unit faces shall be of straight geometry.
5. SRW unit height shall be 6 inches.
6. SRW units shall provide a minimum weight of 120 psf wall face area.
7. SRW units shall be solid through the full depth of the unit.
8. SRW units shall have a depth (front face to rear) to height ratio of 2:1, minimum.
9. SRW units shall be capable of being erected with the horizontal gap between adjacent units not exceeding 1/8 inch.
10. SRW units shall be interlocked with connection pins that provide 3/4-inch setback or 1/4-inch setback from unit below (yielding a 7-degree or 2-degree cant from vertical).
11. SRW units shall be sound and free of cracks or other defects that would interfere with the proper placing of the unit or significantly impair the strength or permanence of the structure. Any cracks or chips observed during construction shall fall within the guidelines outlined in ASTM C 1372.

12. Concrete SRW units shall conform to the requirements of ASTM C 1372 and have a minimum net average 28 days compressive strength of 3000 psi. Compressive strength test specimens shall conform to the saw-cut coupon provisions of ASTM C 140.
13. SRW units' molded dimensions shall not differ more than + 1/8 inch from that specified, as measured in accordance with ASTM C 140. This tolerance does not apply to architectural surfaces, such as split-faces.

B. Segmental Retaining Wall Unit Connection Pins

1. SRW units shall be interlocked with VERSA-TUFF® connection pins. The pins shall consist of glass-reinforced nylon made for the expressed use with the SRW units supplied.

C. Geosynthetic Reinforcement

1. Geosynthetic reinforcement shall consist of high-tenacity PET geogrids, HDPE geogrids, or geotextiles manufactured for soil reinforcement applications. The type, strength and placement of the geosynthetic reinforcement shall be determined by procedures outlined in this specification and the "NCMA Design Manual for Segmental Retaining Walls," (3rd Edition, 2009), and materials shall be specified by Wall Design Engineer in their final wall plans and specifications. The manufacturers/suppliers of the geosynthetic reinforcement shall have demonstrated construction of similar size and types of segmental retaining walls on previous projects.

The geosynthetic type must be approved one week prior to bid opening. Geosynthetic types currently approved for this project are: VERSA-Grid® Geogrids

2. The type, strength and placement of the reinforcing geosynthetic shall be as determined by the Wall Design Engineer, as shown on the final, P.E.-sealed retaining wall plans.

D. Leveling Pad

1. Material for leveling pad shall consist of compacted sand, gravel, or combination thereof (USCS soil types GP, GW, SP and SW) and shall be a minimum of 6 inches in depth. Lean concrete with a strength of 200-300 psi and 3 inches thick maximum may also be used as a leveling pad material. The leveling pad should extend laterally at least a distance of 6 inches from the toe and heel of the lowermost SRW unit.

E. Drainage Aggregate

1. Drainage aggregate shall be angular, clean stone or granular fill meeting the following gradation as determined in accordance with ASTM D 422:

<u>Sieve Size</u>	<u>Percent Passing</u>
1 inch	100
3/4 inch	75-100

No. 4	0-60	
No. 40	0-50	
No. 200		0-5

F. Drainage Pipe

1. The drainage collection pipe shall be a perforated or slotted PVC, or corrugated HDPE pipe. The drainage pipe may be wrapped with a geotextile to function as a filter.
2. Drainage pipe shall be manufactured in accordance with ASTM F 405 or ASTM F 758.

G. Reinforced Backfill Soil

1. The reinforced soil material shall be free of debris. Unless otherwise noted on the final, P.E.-sealed, retaining wall plans prepared by the Wall Design Engineer, the reinforced material shall consist of the inorganic USCS soil types GP, GW, SW, SP and SM, meeting the following gradation, as determined in accordance with ASTM D 422:

<u>Sieve Size</u>	<u>Percent Passing</u>
1 inch	100
No. 4	20-100
No. 40	0-60
No. 200	0-35

2. The maximum particle size of poorly-graded gravels (GP) (no fines) should not exceed 3/4 inch unless expressly approved by the Wall Design Engineer and the long-term design strength (LTDS) of the geosynthetic is reduced to account for additional installation damage from particles larger than this maximum.
3. The plasticity of the fine fraction shall be less than 20.
4. The pH of the backfill material shall be between 3 and 9 when tested in accordance with ASTM G 51.

H. Geotextile Filter

1. Drainage geotextile shall consist of geosynthetic specifically manufactured for use as a preamable soil filter that retains soil while still allowing water to pass throughout the life of the structure. The type and placement of the geotextile filter material shall be as required by the Wall Design Engineer in their final wall plans and specifications.

460.3 DESIGN

The design analysis for the final, P.E.-sealed retaining wall plans prepared by the Wall Design Engineer shall consider the external stability against sliding and overturning, internal stability and facial stability of the reinforced soil mass, and shall be in accordance with acceptable engineering

practice and these specifications. The internal and external stability analysis shall be performed in accordance with the “NCMA Design Manual for Segmental Retaining Walls,” (3rd Edition, 2009), using the recommended minimum factors of safety in this manual.

External stability analysis for bearing capacity, global stability, and total and differential settlement shall be the responsibility of the Owner and the Owner's Geotechnical Engineer. The Geotechnical Engineer shall perform bearing capacity, settlement estimates, and global stability analysis based on the final wall design provided by the Wall Design Engineer and coordinate any required changes with the Wall Design Engineer.

While vertical spacing between geogrid layers may vary, it shall not exceed 2.0 feet maximum in the wall design.

The geosynthetic placement in the wall design shall have 100% continuous coverage parallel to the wall face. Gapping between horizontally adjacent layers of geosynthetic (partial coverage) will not be allowed.

#### 460.4 SUBMITTALS

The following submittals shall be submitted to the Engineer for review and approval prior to installation:

- Sample Versalok Cobble in specified color
- Design in accordance with Section 460.3
- Proof of Contractor’s qualifications to install wall
- Gradation test results for aggregate materials to be used
- Material certificate for connection pins
- Material certificate for geosynthetic reinforcement
- Material certificate for drainage pipe
- Material certificate for geotextile filter

#### 460.5 CONSTRUCTION METHODS

##### A. Excavation

Contractor shall excavate to the lines and grades shown on the project grading plans. Contractor shall take precautions to minimize over-excavation. Over-excavation shall be filled with compacted infill material, or as directed by the Wall Design Engineer, at the Contractor's expense.

Contractor shall verify location of existing structures and utilities prior to excavation. Contractor shall ensure all surrounding structures are protected from the effects of wall excavation. Excavation support, if required, is the responsibility of the Contractor.

##### B. Foundation Preparation

Following the excavation, the foundation soil shall be examined by the Owner's Engineer to assure actual foundation soil strength meets or exceeds the assumed design bearing strength. Soils not

meeting the required strength shall be removed and replaced with infill soils, as directed by the Owner's Geotechnical Engineer.

Foundation soil shall be proof-rolled and compacted to 95% standard Proctor density and inspected by the Owner's Geotechnical Engineer prior to placement of leveling pad materials.

#### C. Leveling Pad Construction

Leveling pad shall be placed as shown on the final, P.E.-sealed retaining wall plans with a minimum thickness of 6 inches. The leveling pad should extend laterally at least a distance of 6 inches from the toe and heel of the lowermost SRW unit.

Granular leveling pad material shall be compacted to provide a firm, level bearing surface on which to place the first course of units. Well-graded sand can be used to smooth the top 1/4 inch to 1/2 inch of the leveling pad. Compaction will be with mechanical plate compactors to achieve 95% of maximum standard Proctor density (ASTM D 698).

#### D. SRW Unit Installation

All SRW units shall be installed at the proper elevation and orientation as shown on the final, P.E.-sealed wall plans and details or as directed by the Wall Design Engineer. The SRW units shall be installed in general accordance with the manufacturer's recommendations. The specifications and drawings shall govern in any conflict between the two requirements.

First course of SRW units shall be placed on the leveling pad. The units shall be leveled side-to-side, front-to-rear and with adjacent units, and aligned to ensure intimate contact with the leveling pad. The first course is the most important to ensure accurate and acceptable results. No gaps shall be left between the front of adjacent units. Alignment may be done by means of a string line or offset from base line to the back of the units.

All excess debris shall be cleaned from top of units and the next course of units installed on top of the units below.

Two VERSA-TUFF connection pins shall be inserted through the pin holes of each upper-course unit into receiving slots in lower-course units. Pins shall be fully seated in the pin slot below. Units shall be pushed forward to remove any looseness in the unit-to-unit connection.

Prior to placement of next course, the level and alignment of the units shall be checked and corrected where needed.

Layout of curves and corners shall be installed in accordance with the wall plan details or in general accordance with SRW manufacturer's installation guidelines. Walls meeting at corners shall be interlocked by overlapping successive courses.

Procedures C. through F. shall be repeated until reaching top of wall units, just below the height of the cap units. Geosynthetic reinforcement, drainage materials, and reinforced backfill shall be placed in sequence with unit installation as described in Section 4.06, 4.07 and 4.08.

#### E. Geosynthetic Reinforcement Placement

All geosynthetic reinforcement shall be installed at the proper elevation and orientation as shown on the final P.E.-sealed retaining wall plan profiles and details, or as directed by the Wall Design Engineer.

At the elevations shown on the final plans, (after the units, drainage material and backfill have been placed to this elevation) the geosynthetic reinforcement shall be laid horizontally on compacted infill and on top of the concrete SRW units, to within 1 inch of the front face of the unit below. Embedment of the geosynthetic in the SRW units shall be consistent with SRW manufacturer's recommendations. Correct orientation of the geosynthetic reinforcement shall be verified by the Contractor to be in accordance with the geosynthetic manufacturer's recommendations. The highest-strength direction of the geosynthetic must be perpendicular to the wall face.

Geosynthetic reinforcement layers shall be one continuous piece for their entire embedment length. Splicing of the geosynthetic in the design-strength direction (perpendicular to the wall face) shall not be permitted. Along the length of the wall, horizontally adjacent sections of geosynthetic reinforcement shall be butted in a manner to assure 100% coverage parallel to the wall face.

Tracked construction equipment shall not be operated directly on the geosynthetic reinforcement. A minimum of 6 inches of backfill is required prior to operation of tracked vehicles over the geosynthetic. Turning should be kept to a minimum. Rubber-tired equipment may pass over the geosynthetic reinforcement at slow speeds (less than 5 mph).

The geosynthetic reinforcement shall be free of wrinkles prior to placement of soil fill. The nominal tension shall be applied to the reinforcement and secured in place with staples, stakes or by hand tensioning until reinforcement is covered by 6 inches of fill.

#### F. Drainage Aggregate and Drainage Material Placement

Drainage aggregate shall be installed to the line, grades and sections shown on the final P.E.-sealed retaining wall plans. Drainage aggregate shall be placed to the minimum thickness shown on the construction plans between and behind units (a minimum of 1 cubic foot for each exposed square foot of wall face unless otherwise noted on the final wall plans).

Drainage collection pipes shall be installed to maintain gravity flow of water outside the reinforced-soil zone. The drainage collection pipe shall be installed at the locations shown on the final construction drawings. The drainage collection pipe shall daylight into a storm sewer or along a slope, at an elevation below the lowest point of the pipe within the aggregate drain. Drainage laterals shall be spaced at a maximum 50-foot spacing along the wall face.

#### G. Backfill Placement

The reinforced backfill shall be placed as shown in the final wall plans in the maximum compacted lift thickness of 8 inches and shall be compacted to a minimum of 95% of standard Proctor density (ASTM D 698) at a moisture content within -1% point to +3% points of optimum. The backfill shall be placed and spread in such a manner as to eliminate wrinkles or movement of the geosynthetic reinforcement and the SRW units.

Only hand-operated compaction equipment shall be allowed within 3 feet of the back of the wall units. Compaction within the 3 feet behind the wall units shall be achieved by at least three passes of a lightweight mechanical tamper, plate, or roller.

At the end of each day's operation, the Contractor shall slope the last level of backfill away from the wall facing and reinforced backfill to direct water runoff away from the wall face.

At completion of wall construction, backfill shall be placed level with final top of wall elevation. If final grading, paving, landscaping and/or storm drainage installation adjacent to the wall is not placed immediately after wall completion, temporary grading and drainage shall be provided to ensure water runoff is not directed at the wall nor allowed to collect or pond behind the wall until final construction adjacent to the wall is completed.

#### H. SRW Caps

SRW caps shall be properly aligned and glued to underlying units with VERSA-LOK adhesive, a flexible, high-strength concrete adhesive. Rigid adhesive or mortar are not acceptable.

Caps shall overhang the top course of units by 3/4 inch to 1 inch. Slight variation in overhang is allowed to correct alignment at the top of the wall.

#### I. Construction Adjacent to Completed Wall

The Owner or Owner's Representative is responsible for ensuring that construction by others adjacent to the wall does not disturb the wall or place temporary construction loads on the wall that exceed design loads, including loads such as water pressure, temporary grades, or equipment loading. Heavy paving or grading equipment shall be kept a minimum of 3 feet behind the back of the wall face. Equipment with wheel loads in excess of 150 psf live load shall not be operated within 10 feet of the face of the retaining wall during construction adjacent to the wall. Care should be taken by the General Contractor to ensure water runoff is directed away from the wall structure until final grading and surface drainage collection systems are completed.

#### 460.6 MEASUREMENT

Measurement for this item will be based on the number of square feet of wall installed and accepted in place.

460.7 PAYMENT

Payment for this item will be based on the contract unit price per Square Foot including all labor, materials, testing, submittals, tools, and equipment necessary to complete the work as specified.

<b>PAY ITEM</b>	<b>PAY UNIT</b>
Segmental Retaining Wall	S.F.



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#### Application:

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#### Material:

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#### ~ Advantages of Guardrail Safety Caps™ ~

- Cost effective, and low cost
  - Fast, easy mounting on steel post
  - No drilling required on post
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- Mounts with Construction Liquid Nails
  - No weather restriction for mounting
  - ALL parts and materials are made in the U.S.
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  - High level of impact strength at temperatures down to -40 degrees F (-40 degrees C)
  - UV stabilized formulations for good weatherability
  - Available in BLACK, recommended for best performance

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