



CITY OF NEW LONDON, CONNECTICUT  
FINAL DESIGN CONTRACT DOCUMENTS  
FOR

**STATE PROJECT NO. 0094-258**  
**WILLIAMS STREET**  
**IMPROVEMENTS**

Federal Aid Project Number PEDS(206) (PE)

Michael Passero - Mayor

July 14, 2020



655 Winding Brook Drive  
Glastonbury, CT 06033

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## **NOTICE TO BIDDERS**

### **BASE BID AND BID ALTERNATES**

Due to budgetary considerations, the bid for the WILLIAMS STREET IMPROVEMENTS (State Project No. 094-258) is divided into a “Base Bid” and five (5) additive alternate bids, as follows:

- **Additive Alternate Bid No. 1** – Decorative Crosswalks
- **Additive Alternate Bid No. 2** – Gateway Plaza
- **Additive Alternate Bid No. 3** – Decorative Raised Intersection
- **Additive Alternate Bid No. 4** – Landscaping
- **Additive Alternate Bid No. 5** – Ornamental Lighting Systems

Bidders are required to submit bids for the Base Bid and additive alternates on the forms provided. Bids which do not include the Base Bid and each additive alternate will be considered nonresponsive and subject to rejection in their entirety. The contract will be awarded on the basis of the lowest responsive **Total Base Bid, not including the additive alternate bids**. The Town reserves the right to include in the project contract, either before or after its signing, none, any or all of the additive alternate bids. Any selected additive alternate bids may be added at any time after the award of the contract but prior to completion of the Base Bid work.

Any other work or general items associated with the alternate bids, such as (but not limited to) Clearing and Grubbing, Maintenance and Protection of Traffic, Water Pollution Control, etc. will not be measured for payment or paid separately under the additive alternate bids. Only the items specifically included under the additive alternate bids shall be measured and paid separately in the event any or all additive alternate bids are added to the contract.

No additional calendar days will be allotted for the inclusion of any or all of the alternative bids, nor may any claim be filed for additional compensable or noncompensable delay due merely to the addition of an additive bid item and its ramifications. All work must be completed within the number of calendar days specified in the “Contract Documents”/Agreement.

In the event of any discrepancies between this Notice to Bidders and the Information for Bidders within the Contract Documents this Notice to Bidders governs.

#### **Description of Additive Alternate Bids**

##### **Additive Alternate Bid No. 1** – Decorative Crosswalks

Additive Alternate Bid No. 1 will include the installation of the stamped concrete crosswalks at the locations shown on the plans and as detailed on sheet MDS-01.

##### **Additive Alternate Bid No. 2** – Gateway Plaza

Additive Alternate Bid No. 2 will include the installation of the Gateway Plaza as shown on GEN-01 near the intersection of Williams Street and Mohegan Ave Parkway. This will include the concrete sidewalk and the 6 foot bench.

##### **Additive Alternate Bid No. 3** – Decorative Raised Intersection

Additive Alternate Bid No. 3 will include the installation of the stamped concrete in lieu of the HMA within the crosswalks of the raised intersection at Chapel Way as show on the plans.

##### **Additive Alternate Bid No. 4** – Landscaping

Additive Alternate Bid No. 4 will include the installation of all plantings shown on the plans.

Turf Establishment will be considered Base Bid.

**Additive Alternate Bid No. 5 – Ornamental Lighting Systems**

Additive Alternate Bid No. 5 will include the furnishing and installation of the 21 ornamental light fixtures shown on the plans. The light fixtures will be installed complete as identified in the Special Provisions.

CITY OF NEW LONDON  
STATE PROJECT NO. 0094-258

**Williams Street Improvements**

**BID FORM**

**Bid Form for General Bid**

Project: State Proj No. 094-258, Williams Street Improvements

Location: New London, CT

Prepared By: BSC Group

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
0201001A	1	CLEARING AND GRUBBING at _____ Per Lump Sum				
0201211	6	REMOVE SIGN at _____ Per Each				
0201214	1	RESET SIGN at _____ Per Each				
0202000	405	EARTH EXCAVATION at _____ Per Cubic Yard				
0202100	20	ROCK EXCAVATION at _____ Per Cubic Yard				
0202491	1550	REMOVAL OF GRANITE STONE CURBING at _____ Per Linear Foot				
0202512	100	CUT CONCRETE SIDEWALK at _____ Per Linear Foot				
0202513	1530	REMOVAL OF CONCRETE SIDEWALK at _____ Per Square Yard				
0202529	2500	CUT BITUMINOUS CONCRETE PAVEMENT at _____ Per Linear Foot				
0212000	247	SUBBASE at _____ Per Cubic Yard				
0219003	2000	SEDIMENTATION CONTROL FILTER FABRIC FENCE SYSTEM at _____ Per Linear Foot				
0219011A	23	SEDIMENT CONTROL SYSTEM AT CATCH BASIN at _____ Per Each				
0304002	335	PROCESSED AGGREGATE BASE at _____ Per Cubic Yard				
0401000A	1	DECORATIVE RAISED INTERSECTION (BASE BID) at _____ Per Lump Sum				
0406171	108	HMA S0.5 at _____ Per Ton				
0406172	65	HMA S0.375 at _____ Per Ton				
0406236	125	MATERIAL FOR TACK COAT at _____ Per Gallon				
0586750	2	TYPE 'C' CATCH BASIN TOP at _____ Per Each				
0606001	1	CEMENT RUBBLE MASONRY at _____ Per Cubic Yard				
0813021	1900	6" GRANITE STONE CURBING at _____ Per Linear Foot				
0813031	980	6" GRANITE CURVED STONE CURBING at _____ Per Linear Foot				
0901003	10	DECORATIVE BOLLARD at _____ Per Each				

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
0905007A	315	RESET STONE WALL at Per Linear Foot				
0921001	18113	CONCRETE SIDEWALK at Per Square Foot				
0921005	1200	CONCRETE SIDEWALK RAMP at Per Square Foot				
0921013A	100	CONCRETE DRIVEWAY APRON at Per Square Foot				
0921039	14	DETECTABLE WARNING STRIP at Per Each				
0922500	279	BITUMINOUS CONCRETE DRIVEWAY (COMMERCIAL) at Per Square Yard				
0944000	721	FURNISHING AND PLACING TOPSOIL at Per Square Yard				
0945060A	222	PINE BARK MULCH at Per Square Yard				
0947207A	1	BICYCLE STAND at Per Each				
0950039	1353	EROSION CONTROL MATTING TYPE D at Per Square Yard				
0950019A	721	TURF ESTABLISHMENT - LAWN at Per Square Yard				
0969060	6	CONSTRUCTION FIELD OFFICE, SMALL at Per Month				
0970006	1	TRAFFICPERSON (MUNICIPAL POLICE OFFICER) (ESTIMATED COST) at Thirty Five Thousand and Zero Cents Estimated	35,000	0	35,000	0
0970007	800	TRAFFICPERSON (UNIFORMED FLAGGER) at Per Hour				
0971001A	1	MAINTENANCE AND PROTECTION OF TRAFFIC at Per Lump Sum				
0974000	14	REMOVAL OF EXISTING MASONRY at Per Cubic Foot				
0975004	1	MOBILIZATION AND PROJECT CLOSEOUT at Per Lump Sum				
0977001	100	TRAFFIC CONE at Per Each				
0978002	25	TRAFFIC DRUM at Per Each				
0979003	10	CONSTRUCTION BARRICADE TYPE III at Per Each				
0980001	1	CONSTRUCTION STAKING at Per Lump Sum				
1001001	92	TRENCHING AND BACKFILLING at Per Linear Foot				
1008127	92	2" POLYVINYL CHLORIDE CONDUIT IN TRENCH at Per Linear Foot				
1010001	4	CONCRETE HANDHOLE at Per Each				

Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
1111451A	100	LOOP DETECTOR SAW CUT at _____ Per Linear Foot				
1116100A	4	30" SOLAR POWERED FLASHING CROSSWALK SIGN at _____ Per Each				
1206023A	1	REMOVAL AND RELOCATION OF EXISTING SIGNS at _____ Per Lump Sum				
1208931	175	SIGN FACE - SHEET ALUMINUM (TYPE IX RETROREFLECTIVE SHEETING) at _____ Per Square Foot				
1210101	10554	4" WHITE EPOXY RESIN PAVEMENT MARKINGS at _____ Per Linear Foot				
1210102	10320	4" YELLOW EPOXY RESIN PAVEMENT MARKINGS at _____ Per Linear Foot				
1210105	2059	EPOXY RESIN PAVEMENT MARKINGS, SYMBOLS AND LEGENDS at _____ Per Square Foot				
1210106	1190	12" WHITE EPOXY RESIN PAVEMENT MARKINGS (BASE BID) at _____ Per Linear Foot				
1216020	10320	6" BLACK AGGREGATE COVER-UP RESIN PAVEMENT MARKINGS at _____ Per Linear Foot				
1216024	304	BLACK AGGREGATE COVER-UP RESIN PAVEMENT MARKINGS, SYMBOLS AND LEGENDS at _____ Per Square Foot				
1220027	134	CONSTRUCTION SIGNS at _____ Per Square Foot				
1302061A	14	ADJUST GATE BOX (WATER) at _____ Per Each				
3000101A	1	TRAFFICMEN (STATE POLICE OFFICERS) at Three Thousand and Zero Cents Estimated	3,000	0	3,000	0

**TOTAL:**

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Item No.	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents

**BID ALTERNATIVES**

0921031A	2382	DECORATIVE CROSSWALK (ALTERNATE #1)				
		at				
		Per Square Foot				
0921024A	1	GATEWAY PLAZA (ALTERNATE #2)				
		at				
		Per Lump Sum				
0401000A	1	DECORATIVE RAISED INTERSECTION (ALTERNATE #3)				
		at				
		Per Lump Sum				
0949221A	1	ILEX GLABRA 'SHAMROCK' INKBERRY #3 (ALTERNATE #4)				
		at				
		Each				
0949252A	1	ASTER OBLONGIFOLIUS 'OCTOBER SKY' AROMATIC ASTER #1 (ALTERNATE #4)				
		at				
		Each				
0949256A	1	AMSONIA 'BLUE ICE' BLUE STAR #1 (ALTERNATE #4)				
		at				
		Each				
0949710A	1	AMELANCHIER CANADENSIS 'AUTUMN BRILLIANCE' SERVICEBERRY 5'-6' HT. B.B. (ALT. #4)				
		at				
		Each				
0949711A	1	AMELANCHIER CANADENSIS 'GLEN FORM' (RAINBOW PILLAR) 6-7' B&B (ALTERNATE #4)				
		at				
		Each				
0949997A	1	ZELKOVA SERRATA 'JFS-KW1' TM CITY SPRITE ZELKOVA 2"-2.5" CAL. B.B. (ALTERNATE #4)				
		at				
		Each				
1003680A	1	ORNAMENTAL LIGHTING SYSTEM (SITE NO. 1) (ALTERNATE #5)				
		at				
		Per Lump Sum				

**TOTAL:**

Acknowledgement of Addenda:

Bidder hereby acknowledges receipt of the following Addenda:

Addendum No.	Addendum date
_____	_____
_____	_____
_____	_____

**SAMPLE**

**CONTRACT FORMS**

## CONTRACT FOR SERVICES

THIS AGREEMENT made and entered into this **XX** day of **Month, 2020**, by and between (**Legal Name, address, city & state**), hereinafter called "**Contractor**" and the City of New London, 181 State Street, New London, CT 06320, hereinafter called "**City.**"

WHEREAS, the City desires to enter into a contract for the (**state work being performed**) and the Contractor represents itself as competent and qualified to accomplish the specific requirements of this contract to the satisfaction of the City, therefore this contract is entered into under the following terms and conditions:

1. The Contractor agrees to perform the services described below or in attachments if applicable. Only those attachments specifically referenced in this Contract for Services shall apply. The terms and conditions as contained in this Contract for Services shall take precedence over any conflicting terms as may be attached hereto.
2. **Term of the Contract:** The start date for this Contract shall be **Month/Day, 2020** and the completion date of this Contract shall be **Month/Day, 2020**, time being of the essence.
3. **Contract Price:** The City shall pay the Contractor for the performance of the Contract in current funds, for the total quantities of work performed for the price of (**written amount**) (**\$dollar amount**).

Based upon Applications for Payment submitted by the Contractor, the City shall make progress payments on account of the Contract Sum to the Contractor. The period covered by each Application for Payment shall be one calendar month ending on the last day of the month. The City shall make payment to the Contractor within 30 days after the City receives the Application for Payment. With each Application for Payment, the Contractor shall submit the most recent schedule of values, which allocates the Contract Price among the various portions of the Work. The Applications for Payments shall indicate the percentage of completion of each portion of the Work. Such Applications may include requests for payment on account of changes in the Work, but not yet included in Change Orders. Partial payment shall be due Contractor in the amount of 95.0% of the work in place.

Final payment, constituting the entire unpaid balance of the Contract Price, including Change Orders, shall be made by the City to the Contractor no later than 30 days after the Contractor has fully performed the Contract and has provided to the Owner a final Application for Payment.

4. **Contract Documents:** The Contract Documents consist of this Agreement, the Standard Bid and Contract Terms and Conditions, the Instructions to Bidders, the Contractor's bid as accepted by the City, the General and Special Conditions of the Work, the Technical Specifications, the drawings and all Addenda attached hereto.

The Contract Documents are complementary and what is called for by any one shall be as binding as if called for by all. In the event of any conflict or inconsistency between the provisions of this Agreement and the provisions of any of the other Contract Documents, the provisions of the Agreement shall prevail.

Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the edition of the standard specification, manual, code or laws or regulations identified in the reference. In the event a particular edition is not identified, the reference shall mean the latest edition in effect at the time of receipt of the bid. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall change the duties and responsibilities of the City, the Contractor or any of their consultants, agents or employees from those set forth in the Contract Documents.

5. **Obligations And Liability Of The Contractor:** The Contractor shall do all the work and perform and furnish all the labor, services, materials, equipment, plant, machinery, apparatus, appliances, tools, supplies and all other things (except as otherwise expressly provided herein) necessary and as herein specified for the proper performance and completion of the Work in the manner and within the time hereinafter specified, in strict accordance with the Drawings, Specifications and other Contract Documents, in conformity with the directions and to the satisfaction of the City, and at the prices herein agreed upon therefor.

All parts of the Work and all fixtures, equipment, apparatus and other items indicated on the Drawings and not mentioned in the Specifications, or vice versa, and all work and material usual and necessary to make the Work complete in all its parts, including all incidental work necessary to make it complete and satisfactory and ready for use and operation, whether

or not they are indicated on the Drawings or mentioned in the Specifications, shall be furnished and executed the same as if they were called for both by the Drawings and by the Specifications.

The Contractor shall coordinate his operations with those of any other contractors who may be employed on other work of the City, shall avoid interference therewith, and shall cooperate in the arrangements for storage of materials and equipment.

The Contractor shall conduct his work so as to interfere as little as possible with private business and public travel. Wherever and whenever necessary or required, he shall maintain fences, furnish watchmen, maintain lights, and take such other precaution as may be necessary to protect life and property.

The Contractor shall indemnify and save harmless the City and its officers, agents, servants and employees, from and against any and all claims, demands, suits, proceedings, liabilities, judgments, awards, losses, damages, costs and expenses, including attorneys' fees, on account of bodily injury, sickness, disease or death sustained by any person or persons or injury or damage to or destruction of any property, directly or indirectly arising out of, relating to or in connection with the Work, whether or not due to or claimed to be due in whole or in part to the active, passive or concurrent negligence or fault of the Contractor, his officers, agents, servants or employees, any of his subcontractors, the City or any of their respective officers, agents, servants or employees and/or any other person or persons, and whether or not such claims, demands, suits or proceedings are just, unjust, groundless, false or fraudulent; and the Contractor shall and does hereby assume and agrees to pay for the defense of all such claims, demands, suits and proceedings, provided, however, that the Contractor shall not be required to indemnify the City, its officers, agents, servants, or employees, against any such damages occasioned solely by acts or omissions of the owner other than supervisory acts or omissions of the City in the Work.

The Contractor shall have complete responsibility for the Work and the protection thereof, and for preventing injuries to persons and damage to the Work and property and utilities on or about the Work, until final completion and final acceptance thereof. He shall in no way be relieved of his responsibility by any right of the City to give permission or directions relating to any part of the Work, by any such permission or directions given, or by failure of the City to give such permission or directions. The Contractor shall bear all costs, expenses, losses and damages on account of the quantity or character of the Work or the nature of the land (including but not limited to subsurface conditions) in or under or on which the Work is done being different from that indicated or shown in the Contract Documents or from what was estimated or expected, or on account of the weather, elements, or other causes unless information regarding such condition(s) was known and not disclosed by the City prior to Contractor commencing its work.

The Contractor shall conduct his operations so as not to damage existing structures or work installed either by him or by other contractors. In case of any such damage resulting from his operations, he shall repair and make good as new the damaged portions at his own expense with the consent of the damaged party. In the event that consent is not given, the Contractor shall continue liable for the damage caused.

The Contractor shall be as fully responsible to the City for the acts and omissions of his subcontractors, their officers, agents, servants and employees as he is for his own acts and omissions and those of his own officers, agents, servants and employees.

Should the Contractor sustain any loss, damage or delay through any act or omission of any other contractor or any subcontractor of any such other contractor, the Contractor shall have no claim against the City therefor, other than for an extension of time, but shall have recourse solely to such other contractor or subcontractor.

If any other contractor or any subcontractor of any such other contractor shall suffer or claim to have suffered loss, damage or delay by reason of the acts or omissions of the Contractor or of any of his subcontractors, the Contractor agrees to assume the defense against any such claim and to reimburse such other contractor or subcontractor for such loss or damage.

The Contractor agrees to and does hereby indemnify and save harmless the City from and against any and all claims by such other contractors or subcontractors alleging such loss, damage or delay and from and against any and all claims, demands, suits, proceedings, liabilities, judgments, awards, losses, damages, costs and expenses, including attorneys' fees, arising out of, relating to or resulting from such claims.

The Contractor shall promptly pay all federal, state and local taxes which may be assessed against him in connection with the Work or his operations under this Agreement and/or the other Contract Documents, including, but not limited to, taxes attributable to the purchase of material and equipment, to the performance of services, and the employment of persons in the prosecution of the Work.

Because (i) anticipated damages hereunder are uncertain in amount and difficult to prove, (ii) the parties hereto wish to liquidate said damages in advance, and (iii) monies paid pursuant to this Agreement are not greatly disproportionate to the damage reasonably anticipated in the event of default, it is further agreed that if Contractor shall not complete all of its obligations under this contract within the time period and by the completion date specified in Paragraph 2 herein, Contractor shall pay liquidated damages to the City at a rate of \$1,100 per day for every day beyond the completion date until such time as the Contractor finally completes all of its obligations under this Contract.

**6. Supervision Of Work:** The Contractor shall be solely responsible for supervision of the Work, shall give the work the constant attention necessary to ensure the expeditious and orderly progress thereof, and shall cooperate with the City, its officers, agents or employees in every possible way.

At all times, the Contractor shall have as his agent on the Work a competent superintendent capable of reading and thoroughly understanding the Drawings and Specifications, with full authority to execute the directions of the Engineer without delay and to supply promptly such labor, services, materials, equipment, plant, apparatus, appliances, tools, supplies and other items as may be required. Such superintendent shall not be removed from the Work without the prior written consent of the City. If, in the opinion of the City, the superintendent or any successor proves incompetent, the Contractor shall replace him with another person approved by the City; such approval, however, shall in no way relieve or diminish the Contractor's responsibility for supervision of the Work.

Whenever the Contractor or his agent or superintendent is not present on any part of the Work where it may be necessary to give directions or instructions with respect to such work, such directions or instructions may be given by the City to and shall be received and obeyed by the foreman or any other person in charge of the particular work involved.

**7. Insurance:** The Contractor shall procure and maintain insurance of the types specified below, and to the limits for this insurance specified in the Standard Bid and Contract Terms and Conditions and the City of New London Code of Ordinances, Article IV., Section 2-71 or in accordance with Section 1.03.07 of the State of Connecticut Department of Transportation Standard Specifications for Road, Bridges and Incidental Construction Form 817, Dated 2016, whichever is greater. All insurance shall be obtained from companies satisfactory to the City.

Insurance shall be in such forms as will protect the Contractor from all claims and liability for damages for bodily and personal injury, including accidental death, and for property damage, which may arise from operations under the Contract, whether such operations be by himself, his subcontractors, or by anyone directly or indirectly employed or engaged by him.

The following types of insurance shall be provided before starting and until final completion and acceptance of the Work and expiration of the guarantee period provided for in the Agreement.

- a. Workmen's Compensation and Employer's Liability Insurance.
- b. Bodily Injury Insurance for operations and completed operations and Contractor's Protective Bodily Injury Insurance.
- c. Property Damage Insurance for operations and completed operations and Contractor's Protective Property Damage Insurance, each including coverage for injury to or destruction of wires or pipes and similar property and appurtenant apparatus and the collapse of or structural injury to any building or structure except those on which work under the Contract is being done. Blasting and explosion coverage shall be obtained if there is a need for blasting under the Contract, and no blasting shall be performed until such insurance has been secured.
- d. Bodily Injury Insurance covering the operation of all motor vehicles owned by the Contractor.
- e. Personal Injury Insurance to cover claims for personal injury and including claims brought by employees.
- f. Property Damage Insurance covering the operation of all motor vehicles owned by the Contractor.
- g. Insurance to cover bodily injuries and property damage resulting from the use of motor vehicles not owned by the Contractor, while such vehicles are being operated in connection with the prosecution of the Work.

- h. Contractual Liability Insurance covering the liability assumed by the Contractor under the fifth paragraph of that subsection titled "Obligations and Liability of Contractor" of this Agreement.
- i. Owner's Protective Liability and Property Damage Insurance to protect the City and any Engineer against claims for Property damage and for bodily injuries, including accidental death, caused by the operations of the Contractor or his subcontractors on the Work. The policy shall indicate the City and any Engineer as the named insured. A copy of the policy shall be furnished to the City and a Certificate of Insurance shall be furnished to any Engineer.

Any of the above coverages written on a claims made form have an Extended Reporting Period of three years from the termination of the contract.

All policies shall be so written that the owner will be notified in writing of cancellation or restrictive amendment at least 30 days prior to the effective date of such cancellation or amendment.

Certificates from the Contractor's insurance carriers stating the coverages provided, the limits of liability, and expiration dates shall be filed in triplicate with the Engineer before operations are begun. Such certificates shall be on the form furnished by the Engineer.

The CITY requires that the aggregate limits be maintained by the CONSULTANT as required. It is the responsibility of the CONSULTANT or his representative to notify the CITY if ever or whenever claims reduce the General Aggregate below \$1,000,000.

Renewal certificates must be furnished by the Contractor prior to the expiration date of any of the initial insurances.

No insurance required or furnished hereunder shall in any way relieve the Contractor of or diminish any of his responsibilities, obligations and liabilities under the Contract.

**8. Contract:** This Agreement, which includes all the Contract Document elements listed in paragraph 1 above, forms the Contract between the parties identified in the heading of this document. In the event that any provision of the Contract conflicts with any other provision of this Contract, the decision of the City will be final.

**9. Funding and Fiscal Year Appropriations:** Appropriations for expenditures by the City and authorization to spend for a particular purpose are ordinarily made on a fiscal year basis. The fiscal year of the City is the twelve (12) month period ending June 30 of each year. The obligations of the City under this Contract for the present or any subsequent fiscal year following the fiscal year in which this Contract is executed are subject to the appropriation of funds sufficient to discharge the City's obligation, which accrues in this or any subsequent fiscal year. In the absence of such appropriation or authorization, this Contract shall be terminated immediately upon the Contractor's receipt of notice to said effect without liability for damages, penalties or other charges arising from early termination. Expenditures for Contracted services that will extend beyond a single fiscal year shall not exceed in any fiscal year the amount appropriated and authorized for said fiscal year. The Contractor's yearly costs, as contained herein, may not exceed the amount appropriated for said year.

**10. Termination:** The Contract may be terminated without cause by either party by giving written notice to the other at least thirty (30) calendar days prior to the effective date of termination stated in the notice. If Contractor fails to fulfill his obligations, the City may terminate this Contract by giving written notice to the Contractor at least seven (7) calendar days before the effective date of termination stated in the notice. The notice shall state the circumstances of the alleged breach and may state a period during which the alleged breach may be cured, which cure shall be subject to approval by the City.

**11. Obligations in Event of Termination:**

A. Upon termination, all finished or unfinished documents, data, studies, and reports prepared by the Contractor pursuant to this Contract, shall become the property of the City.

B. The City shall promptly pay the Contractor for all services performed to the effective date of termination, subject to indemnification provisions of Paragraph 5 hereof and subject to offset of sums due the Contractor against sums owed by the Contractor to the City.

**12. Record keeping, Audit, and Inspection of Records:** The Contractor shall maintain books, records and other compilations of data pertaining to the requirements of the Contract to the extent and in such detail as shall properly

substantiate claims for payment under the Contract. All such records shall be kept for a period of six (6) years or for such longer period as is specified herein. All retention periods start on the first day after final payment under this Contract. If any litigation, claim, negotiation, audit or other action involving the records is commenced prior to the expiration of the applicable retention period, all records shall be retained until completion of the action and resolution of all issues resulting therefrom, or until the end of the applicable retention period, whichever is later. The Federal grantor agency, the State Auditor, the City, or any of their duly authorized representatives or designees shall have the right at reasonable times and upon reasonable notice, to examine and copy, at reasonable expense, the books, records, and other compilations of data of the Contractor which pertain to the provisions and requirements of this Contract. Such access shall include on-site audits, review, and copying of records.

**13. Publicity, Publication, Reproduction and Use of Contract Products or Materials:** Unless provided otherwise by law or the City, title and possession of all data, reports, programs, software, equipment, furnishings, and any other documentation or product paid for with City funds shall vest with the City at the termination of the Contract. The Contractor shall at all times obtain the prior written approval of the City before it, any of its officers, agents, employees or subcontractors, either during or after termination of the Contract, makes any statement bearing on the work performed or data collected under this Contract to the press or issues any material for publication through any medium of communication. If the Contractor, or any of its subcontractors, publishes a work dealing with any aspect of performance under the Contract, or of the results and accomplishments attained in such performance, the City shall have a royalty-free non-exclusive and irrevocable license to reproduce, publish or otherwise use and to authorize others to use the publication. The Contractor shall use reasonable means to inform the public that the City provides financial support for its operations and services by explicitly stating on publicity material, stationery, posters and other written materials, and on its premises the following: "This program is supported in part (in full) by the City of New London."

**14. Assignment by Contractor and Subcontracting:** The Contractor shall not assign or in any way transfer any interest in this Contract without the prior written consent of the City, nor shall he subcontract any services without the prior written approval of the City.

**15. Connecticut Law:** It is agreed that this contract shall be governed by, construed, and enforced in accordance with the internal laws of the State of Connecticut.

**16. Venue:** In the event of litigation, the parties do agree to be contractually bound to submit themselves to the personal jurisdiction of the state courts of Connecticut. The venue for any court proceeding shall be in the Superior Court for the Judicial District for New London at New London, Connecticut.

**17. Waiver of Jury Trial:** CONTRACTOR HEREBY EXPRESSLY WAIVES ANY AND ALL RIGHTS IT MAY HAVE TO TRIAL BY JURY OF ANY CLAIM, DEMAND, ACTION OR CAUSE OF ACTION (1) ARISING UNDER THIS AGREEMENT OR ANY OTHER INSTRUMENT, DOCUMENT OR AGREEMENT EXECUTED OR DELIVERED IN CONNECTION HERewith, OR (2) IN ANY WAY CONNECTED WITH OR RELATED OR INCIDENTAL TO THE DEALINGS OF THE PARTIES HERETO OR ANY OF THEM WITH RESPECT TO THIS AGREEMENT OR ANY OTHER INSTRUMENT, DOCUMENT OR AGREEMENT EXECUTED OR DELIVERED IN CONNECTION HERewith, OR THE TRANSACTIONS RELATED HERETO OR THERETO, IN EACH CASE WHETHER NOW EXISTING OR HEREAFTER ARISING, AND WHETHER SOUNDING IN CONTRACT OR TORT OR OTHERWISE; AND CONTRACTOR HEREBY AGREES AND CONSENTS THAT ANY SUCH CLAIM, DEMAND, ACTION OR CAUSE OF ACTION SHALL BE DECIDED BY COURT TRIAL WITHOUT A JURY, AND THE CITY MAY FILE AN ORIGINAL COUNTERPART OR A COPY OF THIS SECTION WITH ANY COURT AS WRITTEN EVIDENCE OF CONTRACTOR'S CONSENT TO THE WAIVER OF ITS RIGHT TO TRIAL BY JURY.

**18. Nondiscrimination and affirmative action provisions, nondiscrimination provisions regarding sexual orientation, Executive Order Number Three and guidelines and rules, Executive Order Number Seventeen, Executive Order Number Sixteen and sexual harassment policy:**

For the purposes of this article, the word "contractor" is substituted for and has the same meaning and effect as if it read "Contractor's name." Section A of this article is inserted in connection with subsection (a) of Section 4a-60 of the General Statutes of Connecticut, as revised. Section B of this article is inserted in connection with subsection (a) of Section 4a-60a of the General Statutes of Connecticut, as revised.

A. (a) For the purposes of this section, "minority business enterprise" means 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 Conn. Gen. Stat. Section

32-9n; and “good faith” means that degree of diligence which a reasonable person would exercise in the performance of legal duties and obligations. “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.

For the purposes of this section, “Commission” means the Commission on Human Rights and Opportunities.

For the purposes of this section, “public works contract” means any agreement between any individual, firm, or corporation and the State or any political subdivision of the State other than a municipality for construction, rehabilitation, conversion, extension, demolition or repair of a public building, highway or other changes or improvements in real property, or which is financed in whole or in part by the State, including, but not limited to, matching expenditures, grants, loans, insurance, or guarantees.

(b) (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, mental retardation, or physical disability, including, but not limited to, blindness, unless it is shown by such contractor that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the State of Connecticut. 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, mental retardation, or physical disability, including, but not limited to, blindness, unless it is shown by such contractor that such disability prevents performance of the work involved; (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 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 this section, 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 this section and Conn. Gen. Stat. Sections 46a-68e and 46a-68f and with each regulation or relevant order issued by said commission pursuant to Conn. Gen. Stat. Sections 46a-56, 46a-68e, and 46a-68f; (5) the contractor agrees to provide the Commission on Human Rights and Opportunities 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 they relate to the provisions of this section and Conn. Gen. Stat. Section 46a-56. If the contract is a public works contract, the contractor agrees and warrants that he will make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such public works project.

(c) 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.

(d) The contractor shall develop and maintain adequate documentation, in a manner prescribed by the Commission, of its good faith efforts.

(e) The contractor shall include the provisions of subsection (b) of this section 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.

(f) The contractor agrees to comply with the 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.

B. (a) (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 of 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 on Human Rights and Opportunities advising the labor union or workers' representative of the contractor's commitments under this section, 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 this section and with each regulation or relevant order issued by said commission pursuant to Section 46a-56 of the Connecticut General Statutes; (4) the contractor agrees to provide the Commission on Human Rights and Opportunities 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 that relate to the provisions of this section and Section 46a-56 of the Connecticut General Statutes.

(b) The contractor shall include the provisions of subsection (a) of this section 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 Section 46a-56 of the Connecticut General Statutes; 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.

(c) The contractor agrees to comply with the 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.

C. This contract is subject to the provisions of Executive Order No. Three of Governor Thomas J. Meskill promulgated June 16, 1971, and, as such, this contract may be cancelled, terminated, or suspended by the State Labor Commissioner for violation of or noncompliance with said Executive Order No. Three, or any State or federal law concerning nondiscrimination, notwithstanding that the State Labor Commissioner is not a party to this contract. The parties to this contract, 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 contract performance in regard to nondiscrimination, until the contract is completed or terminated prior to completion.

The contractor 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 he will not discriminate in his employment practices or policies, will file all reports as required, and will fully cooperate with the State of Connecticut and the State Labor Commissioner.

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

E. This contract is subject to the provisions of Executive Order No. Sixteen of Governor John G. Rowland promulgated August 4, 1999, and, as such, the contract may be canceled, terminated, or suspended by the State for violation of or noncompliance with said Executive Order No. Sixteen. Executive Order No. Sixteen is attached hereto and made a part hereof. The parties agree to comply with such executive order. In addition, the contractor agrees to include a copy of Executive Order No. Sixteen, and the requirement to comply with said executive order, in all contracts with its contractors, subcontractors, consultants, sub-consultants, and vendors.

F. This contract is subject to the provisions of the City of New London Sexual Harassment Policy ("Policy") and, as such, the contract may be canceled, terminated, or suspended by the City in the event that the contractor, its employees, contractors, subcontractors, consultants, sub-consultants, or vendors engages in behavior prohibited by the provisions of the Policy (a copy of the Policy is attached hereto). The contractor agrees to include a copy of the Policy, and the requirement to prevent behavior as defined in such Policy, in all contracts with its contractors, subcontractors, consultants, sub-consultants, and vendors.

**19. Force Majeure:** Neither party shall be liable to the other or be deemed to be in breach of this Contract for any failure or delay in rendering performance arising out of causes beyond its reasonable control and without its fault or negligence. Such causes may include, but are not limited to, acts of God or of a public enemy, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, or unusually severe weather. Dates or times of performance shall be extended to the extent of delays excused by this section, provided that the party whose performance is affected notifies the other promptly of the existence and nature of such delay.

**20. Compliance with Laws and Indemnification of the City of New London:** The Contractor shall comply with all applicable laws, rules, regulations, ordinances, orders or requirements of the State of Connecticut and any governmental authority relating to the delivery of the services specified in this Contract. The City may require the Contractor to pay fines, penalties, and damages that may arise out of or may be imposed because of, the Contractor's breach or failure to comply with the provisions of this Contract. Unless otherwise provided by law the Contractor shall indemnify and hold harmless the City, its agents, officers and employees against any and all liability, loss, damages, penalties, costs or expenses for personal injury or damage to real or tangible personal property which the City may sustain, incur or be required to pay resulting from, arising out of, or in connection with the services performed or delivered under this Contract by reason of acts, inactions, omissions, negligence, reckless or intentional misconduct of the Contractor, its agent(s), officers, employees or subcontractors; provided that the Contractor is notified of any claim within a reasonable time after the City becomes aware of it, and the Contractor is afforded an opportunity to participate in the defense of such claim. In such event, no negotiated settlement agreement shall be binding on the Contractor without the Contractor's concurrence.

**21. Waivers And Severability:** All conditions, covenants, duties and obligations contained in this Contract can be waived only by written agreement. Forbearance or indulgence in any form or manner by a party shall not be construed as a waiver, nor in any way limit the legal or equitable remedies available to that party. A waiver or breach of any term, condition, or covenant by a party shall not constitute a waiver or breach of any other term, condition or covenant. If any court of competent jurisdiction declares a provision of this Agreement invalid, illegal, or otherwise unenforceable, the remaining provisions of the Agreement shall remain in full force and effect.

**22. Amendments:** No amendment to this Contract shall be effective unless it is signed by authorized representatives of both parties and complies with all other regulations and requirements of law.

**23. Entire Agreement:** The parties understand and agree that this Contract and attachments (if any), which includes all Contract Documents, supersede all other verbal and written agreements and negotiations by the parties relating to the services under this Contract.

**24. Notice:** Unless otherwise specified in an attachment hereto, any notice hereunder shall be in writing addressed to the persons and addresses indicated in the caption of this Contract on page 1.

IN WITNESS WHEREOF, the parties hereto have caused this AGREEMENT to be executed in two (2) original copies on the day and year first above written.

OWNER:

CONTRACTOR:

\_\_\_\_\_  
Michael Passero  
Its Mayor

\_\_\_\_\_  
Its Duly Authorized Agent

Approved as to form:

\_\_\_\_\_  
Jeffrey T. Londregan, Esq., Director of Law

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

NON COLLUSION AFFIDAVIT OF PRIME BIDDER

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

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

- (1) He is \_\_\_\_\_ of \_\_\_\_\_ herein referred to as the "Bidder" that has submitted the attached bid;
- (2) He is fully informed respecting the preparation and content of the attached Bid and of all pertinent circumstances respecting such Bid;
- (3) Such Bid is genuine and is not a collusive or sham Bid;
- (4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix any overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the City of New London, CT or any person interested in the proposed Contract; and
- (5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties of interest, including this affiant.
- (6) That no officer or employee or person whose salary is payable in whole or in part from the City of New London is directly or indirectly interested in this Bid, or in the supplies, materials, equipment, work or labor to which it relates, or in any of the profits thereof.

Signed \_\_\_\_\_

Title \_\_\_\_\_

Subscribed and sworn before me this

\_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_

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

My Commission expires \_\_\_\_\_

NON COLLUSION AFFIDAVIT OF SUBCONTRACTOR

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

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

- (1) He is \_\_\_\_\_ of \_\_\_\_\_ herein referred to as the "Subcontractor";
- (2) He is fully informed respecting the preparation and content of the Subcontractor's Proposal submitted by the Subcontractor to \_\_\_\_\_, the Contractor for certain work in connection with the \_\_\_\_\_ Contract pertaining to the Project in New London, Connecticut;
- (3) Such Subcontractor's Proposal is genuine and is not a collusive or sham Bid;
- (4) Neither the said Subcontractors nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in said Subcontractor's Proposal or to fix any overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the City of New London, CT or any person interested in the proposed Contract; and
- (5) The price or prices quoted in the attached Subcontractor's Proposal are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties of interest, including this affiant.
- (6) That no officer or employee or person whose salary is payable in whole or in part from the City of New London is directly or indirectly interested in this Bid, or in the supplies, materials, equipment, work or labor to which it relates, or in any of the profits thereof.

Signed \_\_\_\_\_

Title \_\_\_\_\_

Subscribed and sworn before me this

\_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_

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

My Commission expires \_\_\_\_\_

Statement of Bidder's Qualifications

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

1. Name of Bidder \_\_\_\_\_
2. Bidder's Tax Identification No. \_\_\_\_\_
3. Permanent main office address \_\_\_\_\_  
\_\_\_\_\_
4. When organized \_\_\_\_\_
5. If corporation, where incorporated \_\_\_\_\_
6. Number of years have you been engaged in the contracting business under your present firm or trade name \_\_\_\_\_
7. Contracts on hand: (Schedule these showing amount of each contract and the appropriate anticipated dates of completion) \_\_\_\_\_  
\_\_\_\_\_
8. General character of work performed by your company \_\_\_\_\_  
\_\_\_\_\_
9. Have you ever failed to complete any work awarded to you? If so, where and why? \_\_\_\_\_  
\_\_\_\_\_
10. Have you ever defaulted on a contract? If so, where and why? \_\_\_\_\_  
\_\_\_\_\_
11. List the more important projects recently completed by your company, stating the approximate cost for each, and the month and year completed (use a separate sheet if necessary) \_\_\_\_\_  
\_\_\_\_\_
12. List your major equipment available for this Contract \_\_\_\_\_  
\_\_\_\_\_
13. List your experience in work similar to this project \_\_\_\_\_  
\_\_\_\_\_

14. List the background and experience of the principal members of your organization, including officers \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
15. List the work to be done by Subcontractors and summarize the dollar value of each Subcontract  
\_\_\_\_\_
16. Credit available \$ \_\_\_\_\_
17. Give Bank reference \_\_\_\_\_
18. Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required by the Owner? \_\_\_\_\_  
\_\_\_\_\_
19. The undersigned hereby authorizes and requests any person, firm or corporation to furnish any information requested by the Owner in verification of the recitals comprising this Statement of Bidder's Qualifications.

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

By \_\_\_\_\_

Title \_\_\_\_\_

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

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

\_\_\_\_\_, and that the answers to the foregoing items and questions and all statements therein contained are true and correct.

Subscribed and sworn to before me this

\_\_\_\_\_ day of \_\_\_\_\_ 20

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

My Commission expires \_\_\_\_\_

AFFIRMATIVE ACTION POLICY STATEMENT  
(must be submitted on your firm's letterhead)

It has always been the policy and will continue to be the strong commitment of \_\_\_\_\_ and all contractors and subcontractors who do business with this City to provide equal opportunities in employment to all qualified persons solely on the basis of job-related skills, ability and merit. \_\_\_\_\_ will continue to take Affirmative Action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, sex, national origin, ancestry, mental disorder (present or past history thereof), age, physical disability (but not limited to blindness), marital status, mental retardation, and criminal record. Such action includes, but is not limited to, 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. \_\_\_\_\_, and its subcontractors will continue to make good faith efforts to comply with all federal and state laws and policies which speak to equal employment opportunity.

The principles of Affirmative Action are addressed in the 13th, 14th, and 15th Amendments of the United States Constitution, Civil Rights Act of 1866, 1870, 1871, Equal Pay Act of 1963, Title VI and VII of - the 1964 United States Civil Rights Act, Presidential Executive Orders 11246, amended by 11375, (nondiscrimination under federal contracts), Act I, Sections 1 and 20 of the Connecticut Constitution, Governor Grasso's Executive Order Number 11, Governor O'Neill's Executive Order Number 9, the Connecticut Fair Employment Practices Law (Sec. 46a-60-69) of the Connecticut General Statutes, Connecticut Code of Fair Practices (46a-70-81), Deprivation of Civil Rights (46a-58(a)(d)), Public Accommodations Law (46a-63-64), Discrimination against Criminal Offenders (46a-80), definition of Blind (46a-51(1)), definition of Physically Disabled (46a-51(15)), definition. of Mentally Retarded (46a-51(13)), cooperation with the Commission on Human Rights and Opportunities ( 46 - 77), Sexual Harassment (46a-60(a)-8), Connecticut Credit Discrimination Law (36-436 through 439), Title I of the State and Local Fiscal Assistance Act of 1972.

This Affirmative Action Policy Statement re-affirms my personal commitment to the principles of Equal Employment Opportunity.

\_\_\_\_\_  
DATE

\_\_\_\_\_  
Signature of Authorized Signer

CERTIFICATION OF BIDDER REGARDING  
EQUAL EMPLOYMENT OPPORTUNITY

INSTRUCTIONS

This certification is required pursuant to Executive Order 11246 Part II, Section 203(b), (30 FR 12319, 12935). The implementing rules and regulations provide that any bidder or prospective contractor, or any of its proposed subcontractors, shall state whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and, if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicated that the bidder has not filed a compliance report due under applicable instructions, such bidder shall be required to submit a compliance report within seven (7) calendar days after bid opening. No contract shall be awarded unless such report is submitted.

CERTIFICATION BY BIDDER

Bidder's Name \_\_\_\_\_

Address and Zip Code \_\_\_\_\_

1. Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause.

Yes ( ) No ( ) If answer is yes, identify the most recent contract.

2. Compliance reports were required to be filed in connection with such contract or subcontract

Yes ( ) No ( ) If answer is yes, identify the most recent contract.

3. Bidder has filed all compliance reports due under applicable instructions, including SF. 100.

Yes ( ) No ( ) Not Required ( )

4. If answer to Item 3 is "No" please explain in detail on reverse side of this Certification.

Certification - The information above is true and complete to the best of my knowledge and belief. A willfully false statement is punishable by law (U.S. Code, Title 18, Section 1001).

\_\_\_\_\_  
Name and Title of Signer (Please Type)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date





**Construction Contracts - Required Contract Provisions  
(FHWA Funded Contracts)**

**Index**

1. Federal Highway Administration (FHWA) Form 1273 (Revised May 1, 2012)
2. Title VI of the Civil Rights Act of 1964 / Nondiscrimination Requirements
3. Contractor Work Force Utilization (Federal Executive Order 11246) / Specific Equal Employment Opportunity
4. Requirements of Title 49, CFR, Part 26, Participation by DBEs
5. Contract Wage Rates
6. Americans with Disabilities Act of 1990, as Amended
7. Connecticut Statutory Labor Requirements
  - a. Construction, Alteration or Repair of Public Works Projects; Wage Rates
  - b. Debarment List - Limitation on Awarding Contracts
  - c. Construction Safety and Health Course
  - d. Awarding of Contracts to Occupational Safety and Health Law Violators Prohibited
  - e. Residents Preference in Work on Other Public Facilities (Not Applicable to Federal Aid Contracts)
8. Tax Liability - Contractor's Exempt Purchase Certificate (CERT – 141)
9. Executive Orders (State of CT)
10. Non Discrimination Requirement (pursuant to section 4a-60 and 4a-60a of the Connecticut General Statutes, as revised)
11. Whistleblower Provision
12. Connecticut Freedom of Information Act
  - a. Disclosure of Records
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13. Service of Process
14. Substitution of Securities for Retainages on State Contracts and Subcontracts
15. Health Insurance Portability and Accountability Act of 1996 (HIPAA)
16. Forum and Choice of Law

17. Summary of State Ethics Laws
18. Audit and Inspection of Plants, Places of Business and Records
19. Campaign Contribution Restriction
20. Tangible Personal Property
21. Bid Rigging and/or Fraud – Notice to Contractor
22. Consulting Agreement Affidavit
23. Federal Cargo Preference Act Requirements (46 CFR 381.7(a)-(b))

**Index of Exhibits**

- EXHIBIT A – FHWA Form 1273 (Begins on page 14)
- EXHIBIT B – Title VI Contractor Assurances (page 34)
- EXHIBIT C – Contractor Work Force Utilization (Federal Executive Order 11246) / Equal Employment Opportunity (page 36)
- EXHIBIT D – Health Insurance Portability and Accountability Act of 1996 (HIPAA) (page 43)
- EXHIBIT E - Campaign Contribution Restriction (page 51)
- EXHIBIT F – Federal Wage Rates (Attached at the end)
- EXHIBIT G - State Wage Rates (Attached at the end)

### **1. Federal Highway Administration (FHWA) Form 1273**

The Contractor shall comply with the Federal Highway Administration (FHWA), Form 1273 attached at Exhibit A, as revised, which is hereby made part of this contract. The Contractor shall also require its subcontractors to comply with the FHWA – Form 1273 and include the FHWA – Form 1273 as an attachment to all subcontracts and purchase orders.

### **2. Title VI of the Civil Rights Act of 1964 / Nondiscrimination Requirements**

The Contractor shall comply with Title VI of the Civil Rights Act of 1964 as amended (42 U.S.C. 2000 et seq.), all requirements imposed by the regulations of the United States Department of Transportation (49 CFR Part 21) issued in implementation thereof, and the Title VI Contractor Assurances attached hereto at Exhibit B, all of which are hereby made a part of this Contract.

### **3. Contractor Work Force Utilization (Federal Executive Order 11246) / Equal Employment Opportunity**

- (a) The Contractor shall comply with the Contractor Work Force Utilization (Federal Executive Order 11246) / Equal Employment Opportunity requirements attached at Exhibit C and hereby made part of this Contract, whenever a contractor or subcontractor at any tier performs construction work in excess of \$10,000. These goals shall be included in each contract and subcontract. Goal achievement is calculated for each trade using the hours worked under each trade.
- (b) Companies with contracts, agreements or purchase orders valued at \$10,000 or more will develop and implement an Affirmative Action Plan utilizing the ConnDOT Affirmative Action Plan Guideline. This Plan shall be designed to further the provision of equal employment opportunity to all persons without regard to their race, color, religion, sex or national origin, and to promote the full realization of equal employment opportunity through a positive continuation program. Plans shall be updated as required by ConnDOT.

### **4. Requirements of Title 49, Code of Federal Regulations (CFR), Part 26, Participation by DBEs, as may be revised.**

Pursuant to 49 CFR 26.13, the following paragraph is part of this Contract and shall be included in each subcontract the Contractor enters into with a subcontractor:

“The Contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26, Participation by DBEs, in the award and administration of U.S. DOT-assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this Contract, which may result in the termination of this contract or such other remedy as ConnDOT (recipient) deems appropriate, which may include, but is not limited to: (1) Withholding monthly progress payments, (2) Assessing sanctions, (3) Liquidated damages; and/or, (4) Disqualifying the contractor from future bidding as non-responsible.”

## 5. Contract Wage Rates

The Contractor shall comply with:

The Federal and State wage rate requirements indicated in Exhibits F and G hereof, as revised, are hereby made part of this Contract. The Federal wage rates (Davis-Bacon Act) applicable to this Contract shall be the Federal wage rates that are current on the US Department of Labor website (<http://www.wdol.gov/dba.aspx>) as may be revised 10 days prior to bid opening. These applicable Federal wage rates will be physically incorporated in the final contract document executed by both parties. The Department will no longer physically include revised Federal wage rates in the bid documents or as part of addenda documents, prior to the bid opening date. During the bid advertisement period, bidders are responsible for obtaining the appropriate Federal wage rates from the US Department of Labor website.

To obtain the latest Federal wage rates go to the US Department of Labor website (link above). Under Davis-Bacon Act, choose "Selecting DBA WDs" and follow the instruction to search the latest wage rates for the State, County and Construction Type. Refer to the Notice to Contractor (NTC) - Federal Wage Determinations (Davis Bacon Act).

If a conflict exists between the Federal and State wage rates, the higher rate shall govern.

Prevailing Wages for Work on State Highways; Annual Adjustments. With respect to contracts for work on state highways and bridges on state highways, the Contractor shall comply with the provisions of Section 31-54 and 31-55a of the Connecticut General Statutes, as revised.

As required by Section 1.05.12 (Payrolls) of the State of Connecticut, Department of Transportation's Standard Specification for Roads, Bridges and Incidental Construction (FORM 816), as may be revised, every Contractor or subcontractor performing project work on a Federal aid project is required to post the relevant prevailing wage rates as determined by the United States Secretary of Labor. The wage rate determinations shall be posted in prominent and easily accessible places at the work site.

## 6. Americans with Disabilities Act of 1990, as Amended

This provision applies to those Contractors who are or will be responsible for compliance with the terms of the Americans with Disabilities Act of 1990, as amended (42 U.S.C. 12101 et seq.), (Act), during the term of the Contract. The Contractor represents that it is familiar with the terms of this Act and that it is in compliance with the Act. Failure of the Contractor to satisfy this standard as the same applies to performance under this Contract, either now or during the term of the Contract as it may be amended, will render the Contract voidable at the option of the State upon notice to the contractor. The Contractor warrants that it will hold the State harmless and indemnify the State from any liability which may be imposed upon the State as a result of any failure of the Contractor to be in compliance with this Act, as the same applies to performance under this Contract.

## 7. Connecticut Statutory Labor Requirements

- (a) **Construction, Alteration or Repair of Public Works Projects; Wage Rates.** The Contractor shall comply with Section 31-53 of the Connecticut General Statutes, as revised. The

wages paid on an hourly basis to any person performing the work of any mechanic, laborer or

worker on the work herein contracted to be done and the amount of payment or contribution paid or payable on behalf of each such person to any employee welfare fund, as defined in subsection (i) of section 31-53 of the Connecticut 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 persons to any such employee welfare fund shall pay to each mechanic, laborer or worker as part of such person's wages the amount of payment or contribution for such person's classification on each pay day.

(b) **Debarment List. Limitation on Awarding Contracts.** The Contractor shall comply with Section 31-53a of the Connecticut General Statutes, as revised.

(c) **Construction Safety and Health Course.** The Contractor shall comply with section 31-53b of the Connecticut General Statutes, as revised. The contractor shall furnish proof to the Labor Commissioner with the weekly certified payroll form for the first week each employee begins work on such project that any person performing the work of a mechanic, laborer or worker pursuant to the classifications of labor under section 31-53 of the Connecticut General Statutes, as revised, on such public works project, pursuant to such contract, has completed a course of at least ten hours in duration in construction safety and health approved by the federal Occupational Safety and Health Administration or, has completed a new miner training program approved by the Federal Mine Safety and Health Administration in accordance with 30 CFR 48 or, in the case of telecommunications employees, has completed at least ten hours of training in accordance with 29 CFR 1910.268.

Any employee required to complete a construction safety and health course as required that has not completed the course, shall have a maximum of fourteen (14) days to complete the course. If the employee has not been brought into compliance, they shall be removed from the project until such time as they have completed the required training.

Any costs associated with this notice shall be included in the general cost of the contract. In addition, there shall be no time granted to the contractor for compliance with this notice. The contractor's compliance with this notice and any associated regulations shall not be grounds for claims as outlined in Section 1.11 – "Claims".

(d) **Awarding of Contracts to Occupational Safety and Health Law Violators Prohibited.** The Contract is subject to Section 31-57b of the Connecticut General Statutes, as revised.

(e) **Residents Preference in Work on Other Public Facilities. NOT APPLICABLE TO FEDERAL AID CONTRACTS.** Pursuant to Section 31-52a of the Connecticut General Statutes, as revised, 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

## **8. Tax Liability - Contractor's Exempt Purchase Certificate (CERT – 141)**

The Contractor shall comply with Chapter 219 of the Connecticut General Statutes pertaining to tangible personal property or services rendered that is/are subject to sales tax. The Contractor is

responsible for determining its tax liability. If the Contractor purchases materials or supplies pursuant to the Connecticut Department of Revenue Services' "Contractor's Exempt Purchase Certificate (CERT-141)," as may be revised, the Contractor acknowledges and agrees that title to such materials and supplies installed or placed in the project will vest in the State simultaneously with passage of title from the retailers or vendors thereof, and the Contractor will have no property rights in the materials and supplies purchased.

Forms and instructions are available anytime by:

Internet: Visit the DRS website at [www.ct.gov/DRS](http://www.ct.gov/DRS) to download and print Connecticut tax forms; or Telephone: Call 1-800-382-9463 (Connecticut calls outside the Greater Hartford calling area only) and select Option 2 or call 860-297-4753 (from anywhere).

## 9. Executive Orders

This contract is subject to the provisions of Executive Order No. Three of Governor Thomas J. Meskill, promulgated June 16, 1971, concerning labor employment practices, Executive Order No. Seventeen of Governor Thomas J. Meskill, promulgated February 15, 1973, concerning the listing of employment openings and Executive Order No. Sixteen of Governor John G. Rowland promulgated August 4, 1999, concerning violence in the workplace, all of which are incorporated into and are made a part of the contract as if they had been fully set forth in it. The contract may also be subject to Executive Order No. 14 of Governor M. Jodi Rell, promulgated April 17, 2006, concerning procurement of cleaning products and services and to Executive Order No. 49 of Governor Dannel P. Malloy, promulgated May 22, 2015, mandating disclosure of certain gifts to public employees and contributions to certain candidates for office. If Executive Order No. 14 and/or Executive Order No. 49 are applicable, they are deemed to be incorporated into and are made a part of the contract as if they had been fully set forth in it. At the Contractor's request, the Department shall provide a copy of these orders to the Contractor.

## **10. Non Discrimination Requirement (pursuant to section 4a-60 and 4a-60a of the Connecticut General Statutes, as revised): References to "minority business enterprises" in this Section are not applicable to Federal-aid projects/contracts. Federal-aid projects/contracts are instead subject to the Federal Disadvantaged Business Enterprise Program.**

(a) For purposes of this Section, the following terms are defined as follows:

- (1) "Commission" means the Commission on Human Rights and Opportunities;
- (2) "Contract" and "contract" include any extension or modification of the Contract or contract;
- (3) "Contractor" and "contractor" include any successors or assigns of the Contractor or contractor;
- (4) "Gender identity or expression" means 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.
- (5) "good faith" means that degree of diligence which a reasonable person would exercise in the performance of legal duties and obligations;
- (6) "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;

- (7) "marital status" means being single, married as recognized by the state of Connecticut, widowed, separated or divorced;
- (8) "mental disability" means 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;
- (9) "minority business enterprise" means 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 § 32-9n; and
- (10) "public works contract" means any agreement between any individual, firm or corporation and the State or any political subdivision of the State other than a municipality for construction, rehabilitation, conversion, extension, demolition or repair of a public building, highway or other changes or improvements in real property, or which is financed in whole or in part by the State, including, but not limited to, matching expenditures, grants, loans, insurance or guarantees.

For purposes of this Section, the terms "Contract" and "contract" do not include a contract where each contractor is (1) a political subdivision of the State of Connecticut, including, but not limited to municipalities, unless the contract is a municipal public works contract or quasi-public agency project contract, (2) any other state of the United States, including but not limited to, the District of Columbia, Puerto Rico, U.S. territories and possessions, and federally recognized Indian tribal governments, as defined in Connecticut General Statutes § 1-267, (3) the federal government, (4) a foreign government, or (5) an agency of a subdivision, state or government described in subdivision (1), (2), (3), or (4) of this subsection.

- (b) (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, status as a veteran, 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, status as a veteran, 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 the 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 this section 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 this Section and Connecticut General Statutes §§ 46a-68e and 46a-68f and with each regulation or relevant order issued by said Commission pursuant to Connecticut General Statutes §§ 46a-56, 46a-68e and 46a-68f; and (5) the Contractor agrees to provide the Commission on Human Rights and Opportunities 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 this Section and Connecticut General Statutes § 46a-56. If the contract is a public works contract, the Contractor agrees and warrants that he will make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such public works projects.

- (c) 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.
- (d) The Contractor shall develop and maintain adequate documentation, in a manner prescribed by the Commission, of its good faith efforts.
- (e) The Contractor shall include the provisions of subsection (b) of this Section 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 Connecticut General Statutes §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.
- (f) The Contractor agrees to comply with the 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.
- (g) (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 on Human Rights and Opportunities advising the labor union or workers' representative of the Contractor's commitments under this section, 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 this section and with each regulation or relevant order issued by said Commission pursuant to Connecticut General Statutes § 46a-56; and (4) the Contractor agrees to provide the Commission on Human Rights and Opportunities 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 Connecticut General Statutes § 46a-56.
- (h) The Contractor shall include the provisions of the foregoing paragraph 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 Connecticut General Statutes § 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.

Please be aware the Nondiscrimination Certifications can be found at the Office of Policy and Management website:

<https://portal.ct.gov/OPM/Fin-PSA/Forms/Nondiscrimination-Certification>

## 11. Whistleblower Provision

The following clause is applicable if the Contract has a value of Five Million Dollars (\$5,000,000) or more.

**Whistleblowing.** This Contract may be subject to the provisions of Section 4-61dd of the Connecticut General Statutes. In accordance with this statute, if an officer, employee or appointing authority of the Contractor takes or threatens to take any personnel action against any employee of the Contractor in retaliation for such employee's disclosure of information to any employee of the contracting state or quasi-public agency or the Auditors of Public Accounts or the Attorney General under the provisions of subsection (a) of such statute, the Contractor shall be liable for a civil penalty of not more than five thousand dollars for each offense, up to a maximum of twenty per cent of the value of this Contract. Each violation shall be a separate and distinct offense and in the case of a continuing violation, each calendar day's continuance of the violation shall be deemed to be a separate and distinct offense. The State may request that the Attorney General bring a civil action in the Superior Court for the Judicial District of Hartford to seek imposition and recovery of such civil penalty. In accordance with subsection (f) of such statute, each large state contractor, as defined in the statute, shall post a notice of the provisions of the statute relating to large state contractors in a conspicuous place which is readily available for viewing by the employees of the Contractor.

## 12. Connecticut Freedom of Information Act

- (a) **Disclosure of Records.** This Contract may be subject to the provisions of section 1-218 of the Connecticut General Statutes. In accordance with this statute, each contract in excess of two million five hundred thousand dollars between a public agency and a person for the performance of a governmental function shall (a) provide that the public agency is entitled to receive a copy of records and files related to the performance of the governmental function, and (b) indicate that such records and files are subject to FOIA and may be disclosed by the public agency pursuant to FOIA. No request to inspect or copy such records or files shall be valid unless the request is made to the public agency in accordance with FOIA. Any complaint by a person who is denied the right to inspect or copy such records or files shall be brought to the Freedom of Information Commission in accordance with the provisions of sections 1-205 and 1-206 of the Connecticut General Statutes.
- (b) **Confidential Information.** The State will afford due regard to the Contractor's request for the protection of proprietary or confidential information which the State receives from the Contractor. However, all materials associated with the Contract are subject to the terms of the FOIA and all corresponding rules, regulations and interpretations. In making such a request, the Contractor may not merely state generally that the materials are proprietary or confidential in nature and not, therefore, subject to release to third parties. Those particular

sentences, paragraphs, pages or sections that the Contractor believes are exempt from disclosure under the FOIA must be specifically identified as such. Convincing explanation and rationale sufficient to justify each exemption consistent with the FOIA must accompany the request. The rationale and explanation must be stated in terms of the prospective harm to the competitive position of the Contractor that would result if the identified material were to be released and the reasons why the materials are legally exempt from release pursuant to the FOIA. To the extent that any other provision or part of the Contract conflicts or is in any way inconsistent with this section, this section controls and shall apply and the conflicting provision or part shall not be given effect. If the Contractor indicates that certain documentation is submitted in confidence, by specifically and clearly marking the documentation as "CONFIDENTIAL," DOT will first review the Contractor's claim for consistency with the FOIA (that is, review that the documentation is actually a trade secret or commercial or financial information and not required by statute), and if determined to be consistent, will endeavor to keep such information confidential to the extent permitted by law. See, *e.g.*, Conn. Gen. Stat. §1-210(b)(5)(A-B). The State, however, has no obligation to initiate, prosecute or defend any legal proceeding or to seek a protective order or other similar relief to prevent disclosure of any information that is sought pursuant to a FOIA request. Should the State withhold such documentation from a Freedom of Information requester and a complaint be brought to the Freedom of Information Commission, the Contractor shall have the burden of cooperating with DOT in defense of that action and in terms of establishing the availability of any FOIA exemption in any proceeding where it is an issue. In no event shall the State have any liability for the disclosure of any documents or information in its possession which the State believes are required to be disclosed pursuant to the FOIA or other law.

### **13. Service of Process**

The Contractor, if not a resident of the State of Connecticut, or, in the case of a partnership, the partners, if not residents, hereby appoints the Secretary of State of the State of Connecticut, and his successors in office, as agent for service of process for any action arising out of or as a result of this Contract; such appointment to be in effect throughout the life of this Contract and six (6) years thereafter.

### **14. Substitution of Securities for Retainages on State Contracts and Subcontracts**

This Contract is subject to the provisions of Section 3-112a of the General Statutes of the State of Connecticut, as revised.

### **15. Health Insurance Portability and Accountability Act of 1996 (HIPAA)**

The Contractor shall comply, if applicable, with the Health Insurance Portability and Accountability Act of 1996 and, pursuant thereto, the provisions attached at Exhibit D, and hereby made part of this Contract.

### **16. Forum and Choice of Law**

Forum and Choice of Law. The parties deem the Contract to have been made in the City of Hartford, State of Connecticut. Both parties agree that it is fair and reasonable for the validity and construction of the Contract to be, and it shall be, governed by the laws and court decisions of the State of

Connecticut, without giving effect to its principles of conflicts of laws. To the extent that any immunities provided by Federal law or the laws of the State of Connecticut do not bar an action against the State, and to the extent that these courts are courts of competent jurisdiction, for the purpose of venue, the complaint shall be made returnable to the Judicial District of Hartford only or shall be brought in the United States District Court for the District of Connecticut only, and shall not be transferred to any other court, provided, however, that nothing here constitutes a waiver or compromise of the sovereign immunity of the State of Connecticut. The Contractor waives any objection which it may now have or will have to the laying of venue of any Claims in any forum and further irrevocably submits to such jurisdiction in any suit, action or proceeding.

## **17. Summary of State Ethics Laws**

Pursuant to the requirements of section 1-101qq of the Connecticut General Statutes, the summary of State ethics laws developed by the State Ethics Commission pursuant to section 1-81b of the Connecticut General Statutes is incorporated by reference into and made a part of the Contract as if the summary had been fully set forth in the Contract.

## **18. Audit and Inspection of Plants, Places of Business and Records**

- (a) The State and its agents, including, but not limited to, the Connecticut Auditors of Public Accounts, Attorney General and State's Attorney and their respective agents, may, at reasonable hours, inspect and examine all of the parts of the Contractor's and Contractor Parties' plants and places of business which, in any way, are related to, or involved in, the performance of this Contract. For the purposes of this Section, "Contractor Parties" means the Contractor's members, directors, officers, shareholders, partners, managers, principal officers, representatives, agents, servants, consultants, employees or any one of them or any other person or entity with whom the Contractor is in privity of oral or written contract and the Contractor intends for such other person or entity to Perform under the Contract in any capacity.
- (b) The Contractor shall maintain, and shall require each of the Contractor Parties to maintain, accurate and complete Records. The Contractor shall make all of its and the Contractor Parties' Records available at all reasonable hours for audit and inspection by the State and its agents.
- (c) The State shall make all requests for any audit or inspection in writing and shall provide the Contractor with at least twenty-four (24) hours' notice prior to the requested audit and inspection date. If the State suspects fraud or other abuse, or in the event of an emergency, the State is not obligated to provide any prior notice.
- (d) The Contractor shall keep and preserve or cause to be kept and preserved all of its and Contractor Parties' Records until three (3) years after the latter of (i) final payment under this Agreement, or (ii) the expiration or earlier termination of this Agreement, as the same may be modified for any reason. The State may request an audit or inspection at any time during this period. If any Claim or audit is started before the expiration of this period, the Contractor shall retain or cause to be retained all Records until all Claims or audit findings have been resolved.
- (e) The Contractor shall cooperate fully with the State and its agents in connection with an audit or inspection. Following any audit or inspection, the State may conduct and the Contractor shall cooperate with an exit conference.
- (f) The Contractor shall incorporate this entire Section verbatim into any contract or other agreement that it enters into with any Contractor Party.

## **19. Campaign Contribution Restriction**

For all State contracts, defined in Conn. Gen. Stat. §9-612(f)(1) as having a value in a calendar year of \$50,000 or more, or a combination or series of such agreements or contracts having a value of \$100,000 or more, the authorized signatory to this contract expressly acknowledges receipt of the State

Elections Enforcement Commission’s notice advising state contractors of state campaign contribution and solicitation prohibitions, and will inform its principals of the contents of the notice, as set forth in "Notice to Executive Branch State Contractors and Prospective State Contractors of Campaign Contribution and Solicitation Limitations," a copy of which is attached hereto and hereby made a part of this contract, attached as Exhibit E.

**20. Tangible Personal Property**

- (a) The Contractor on its behalf and on behalf of its Affiliates, as defined below, shall comply with the provisions of Conn. Gen. Stat. §12-411b, as follows:
  - (1) For the term of the Contract, the Contractor and its Affiliates shall collect and remit to the State of Connecticut, Department of Revenue Services, any Connecticut use tax due under the provisions of Chapter 219 of the Connecticut General Statutes for items of tangible personal property sold by the Contractor or by any of its Affiliates in the same manner as if the Contractor and such Affiliates were engaged in the business of selling tangible personal property for use in Connecticut and had sufficient nexus under the provisions of Chapter 219 to be required to collect Connecticut use tax;
  - (2) A customer’s payment of a use tax to the Contractor or its Affiliates relieves the customer of liability for the use tax;
  - (3) The Contractor and its Affiliates shall remit all use taxes they collect from customers on or before the due date specified in the Contract, which may not be later than the last day of the month next succeeding the end of a calendar quarter or other tax collection period during which the tax was collected;
  - (4) The Contractor and its Affiliates are not liable for use tax billed by them but not paid to them by a customer; and
  - (5) Any Contractor or Affiliate who fails to remit use taxes collected on behalf of its customers by the due date specified in the Contract shall be subject to the interest and penalties provided for persons required to collect sales tax under chapter 219 of the general statutes.
- (b) For purposes of this section of the Contract, the word “Affiliate” means any person, as defined in section 12-1 of the general statutes, that controls, is controlled by, or is under common control with another person. A person controls another person if the person owns, directly or indirectly, more than ten per cent of the voting securities of the other person. The word “voting security” means a security that confers upon the holder the right to vote for the election of members of the board of directors or similar governing body of the business, or that is convertible into, or entitles the holder to receive, upon its exercise, a security that confers such a right to vote. “Voting security” includes a general partnership interest.
- (c) The Contractor represents and warrants that each of its Affiliates has vested in the Contractor plenary authority to so bind the Affiliates in any agreement with the State of Connecticut. The Contractor on its own behalf and on behalf of its Affiliates shall also provide, no later than 30 days after receiving a request by the State’s contracting authority, such information as the State may require to ensure, in the State’s sole determination, compliance with the provisions of Chapter 219 of the Connecticut General Statutes, including, but not limited to, §12-411b.

**21. Bid Rigging and/or Fraud – Notice to Contractor**

The Connecticut Department of Transportation is cooperating with the U.S. Department of Transportation and the Justice Department in their investigation into highway construction contract bid rigging and/or fraud.

A toll-free “HOT LINE” telephone number 800-424-9071 has been established to receive information from contractors, subcontractors, manufacturers, suppliers or anyone with knowledge of bid rigging and/or fraud, either past or current. The “HOT LINE” telephone number will be available during

normal working hours (8:00 am – 5:00 pm EST). Information will be treated confidentially and anonymity respected.

## **22. Consulting Agreement Affidavit**

The Contractor shall comply with Connecticut General Statutes Section 4a-81(a) and 4a-81(b), as revised. Pursuant to Public Act 11-229, after the initial submission of the form, if there is a change in the information contained in the form, a contractor shall submit the updated form, as applicable, either (i) not later than thirty (30) days after the effective date of such change or (ii) prior to execution of any new contract, whichever is earlier.

The Affidavit/Form may be submitted in written format or electronic format through the Department of Administrative Services (DAS) website.

## **23. Cargo Preference Act Requirements (46 CFR 381.7(a)-(b)) – Use of United States Flag Vessels**

The Contractor agrees to comply with the following:

### **(a) *Agreement Clauses.***

- (1) Pursuant to Pub. L. 664 ([43 U.S.C. 1241\(b\)](#)) at least 50 percent of any equipment, materials or commodities procured, contracted for or otherwise obtained with funds granted, guaranteed, loaned, or advanced by the U.S. Government under this agreement, and which may be transported by ocean vessel, shall be transported on privately owned United States-flag commercial vessels, if available.
- (2) Within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (a)(1) of this section shall be furnished to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

### **(b) *Contractor and Subcontractor Clauses.*** The contractor agrees—

- (1) To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.
- (2) To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b) (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.
- (3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

## EXHIBIT A

FHWA-1273 -- Revised May 1, 2012

### REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

#### **I. GENERAL**

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.



3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

## II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

**1. Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: 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, pre-apprenticeship, and/or on-the-job training."

**2. EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

**3. Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

**4. Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

**5. Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

## **6. Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

**7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

**8. Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

**9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

**10. Assurance Required by 49 CFR 26.13(b):**

a. The requirements of 49 CFR Part 26, and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26, in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

**11. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

### III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for

employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

#### **IV. DAVIS-BACON AND RELATED ACT PROVISIONS**

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

##### **1. Minimum wages**

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

## **2. Withholding**

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same

prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

### **3. Payrolls and basic records**

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee ( e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a “Statement of Compliance,” signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:



(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the “Statement of Compliance” required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

#### **4. Apprentices and trainees**

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise

employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

**5. Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

**6. Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

**7. Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**8. Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

**9. Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

**10. Certification of eligibility.**

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

## V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

**1. Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

**2. Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

**3. Withholding for unpaid wages and liquidated damages.** The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

**4. Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

## VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be

performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;
- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

## **VII. SAFETY: ACCIDENT PREVENTION**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.
2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).
3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

#### **VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

## **IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

## **X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

### **1. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

\* \* \* \* \*



2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

**2. Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and

1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

\* \* \* \* \*

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

\* \* \* \* \*

**XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**EXHIBIT B****TITLE VI CONTRACTOR ASSURANCES  
APPENDIX A**

During the performance of this contract, the contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Regulations relative to Nondiscrimination in Federally-assisted programs of the United States Department of Transportation Federal Highway Administration and Federal Transit Administration, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. **Nondiscrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, national origin, sex, age, disability, income or Limited English Proficiency in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.

4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the Federal Highway Administration or Federal Transit Administration to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor will so certify to the Recipient or the Federal Highway Administration or the Federal Transit Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5. **Sanctions for Non-compliance:** In the event of the contractor's non-compliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the Federal Highway Administration or the Federal Transit Administration may determine to be appropriate, including, but not limited to:

- a. withholding contract payments to the contractor under the contract until the contractor complies; and/or
- b. cancelling, terminating, or suspending a contract, in whole or in part.

6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the Federal Highway Administration or the Federal Transit Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with, litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

## TITLE VI CONTRACTOR ASSURANCES APPENDIX E

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following nondiscrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. § 2000d et seq.), (prohibits discrimination on the basis of race, color, national origin), as implemented by 49 C.F.R. § 21.1 et seq. and 49 C.F.R. part 303;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601) (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973 (23 U.S.C. § 324 et seq.) (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. § 794 et seq.) (prohibits discrimination on the basis of disability); and 49 C.F.R. part 27;
- The Age Discrimination Act of 1975, as amended (42 U.S.C. § 6101 et seq.) (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982 (Pub. L. 97-248 (1982)), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987 (102 Stat. 28) ("*... which restore[d] the broad scope of coverage and to clarify the application of Title IX of the Education Amendments of 1972, section 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, and Title VI of the Civil Rights Act of 1964.*");
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 --12189), as implemented by Department of Justice regulations at 28 C.F.R. parts 35 and 36, and Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;

- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. § 1681 et seq).

## EXHIBIT C

### CONTRACTOR WORKFORCE UTILIZATION (FEDERAL EXECUTIVE ORDER 11246) / EQUAL EMPLOYMENT OPPORTUNITY (Federal - FHWA)

#### 1. Project Workforce Utilization Goals:

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or Federally assisted or funded) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for the geographical area where the work is actually performed.

Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications which contain the applicable goals for minority and female participation.

The goals for minority and female utilization are expressed in percentage terms for the contractor's aggregate work-force in each trade on all construction work in the covered area, are referenced in the attached Appendix A.

#### 2. Executive Order 11246

The Contractor's compliance with Executive Order 11246 and 41-CFR Part 60-4 shall be based on its implementation of the specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(A) and its efforts to meet the goals established for the geographical area where the contract is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project for the sole purpose of meeting the contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hour performed.

If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan.

Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or subcontractors toward a goal in an approved Pan does not excuse any covered Contractor's of subcontractor's failure to take good faith efforts to achieve the plan goals and timetables.

The Contractor shall implement the specific affirmative action standards provided in a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered Construction contractors performing construction work in geographical areas where they do not have a federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form and such notices may be obtained from any Office of Federal Contract Compliance Programs (OFCCP) Office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractors obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant hereto.

In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

- a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites; and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
- b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community

organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

- c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off the street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason thereafter; along with whatever additional actions the Contractor may have taken.
- d. Provide immediate written notification to the Director when the Union or Unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or women sent by the Contractor, or when the Contractor has other information that the Union referral process has impeded the Contractor's efforts to meet its obligations.
- e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under b above.
- f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO Policy on bulletin boards accessible to all employees at each location where construction work is performed.
- g. Review, at least annually, the company EEO Policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment, decisions including specific Foreman, etc. prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h. Disseminate the Contractor's EEO Policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and subcontractors with whom the Contractor does or anticipates doing business.
- i. Direct its recruitment efforts, both oral and written, to minority female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the contractor



shall send written notification to organizations such as the above, describing the openings, screening procedures and tests to be used in the selection process.

- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work-force.
- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
- l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
- m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
- n. Ensure that all facilities and company activities are non-segregated except that separate or single user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
- o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
- p. Conduct a review at least annually of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (a through p). The efforts of a contractor association, joint contractor union, contractor community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under a through p of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female work-force participation, makes a good faith effort to meet with individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of Executive Order 11246 if a particular group is employed in a substantially disparate manner, (for example, even though the

Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is under utilized).

The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status, (e.g. mechanic, apprentice, trainee, helper, or laborer) dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

Nothing herein provided shall be construed as a limitation upon the application of their laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g. those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

The Director of the Office of Federal Contract Compliance Programs, from time to time, shall issue goals and timetables for minority and female utilization which shall be based on appropriate work-force, demographic or other relevant data and which shall cover construction projects or construction contracts performed in specific geographical areas. The goals, which shall be applicable to each construction trade in a covered contractor's or timetables, shall be published as notices in the Federal Register, and shall be inserted by the Contracting officers and applicants, as applicable, in the Notice required by 41 CFR 60-4.2.

**FEDERALLY FUNDED OR ASSISTED PROJECTS**  
**APPENDIX A**  
**(Labor Market Goals)**

**Standard Metropolitan Statistical Area (SMSA)**

**Female**

**Minority**

<b>Bridgeport – Stamford – Norwalk – Danbury</b>	<b>10.2%</b>
<b>6.9%</b>	

Bethel	Bridgeport	Brookfield	Danbury
Darien	Derby	Easton	Fairfield
Greenwich	Milford	Monroe	New Canaan
New Fairfield	Newton	Norwalk	Redding
Shelton	Stamford	Stratford	Trumbull
Weston	Westport	Wilton	

<b>Hartford – Bristol – New Britain</b>	<b>6.9%</b>
<b>6.9%</b>	

Andover	Avon	Berlin	Bloomfield
Bolton	Bristol	Burlington	Canton
Colchester	Columbia	Coventry	Cromwell
East Granby	East Hampton	East Hartford	East Windsor
Ellington	Enfield	Farmington	Glastonbury
Granby	Hartford	Hebron	Manchester
Marlborough	New Britain	New Hartford	Newington
Plainville	Plymouth	Portland	Rocky Hill
Simsbury	South Windsor	Southington	Stafford
Suffield	Tolland	Vernon	West Hartford
Wethersfield	Willington	Windsor	Windsor Locks

<b>New Haven – Waterbury – Meriden</b>	<b>9.0%</b>
<b>6.9%</b>	

Beacon Falls	Bethany	Branford	Cheshire
Clinton	East Haven	Guilford	Hamden
Madison	Meriden	Middlebury	Naugatuck
New Haven	North Branford	North Haven	Orange
Prospect	Southbury	Thomaston	Wallingford
Waterbury	Watertown	West Haven	Wolcott
Woodbridge	Woodbury		

<b>New London – Norwich</b>	<b>4.5%</b>
<b>6.9%</b>	

Bozrah	East Lyme	Griswold	Groton
Ledyard	Lisbon	Montville	New London

Norwich  
Sprague

Old Lyme  
Stonington

Old Saybrook  
Waterford

Preston

**Non-SMSA**

**Female**

**Minority**

<b>Litchfield – Windham</b>			<b>5.9%</b>
<b>6.9%</b>			
Abington	Ashford	Ballouville	Bantam
Barkhamsted	Bethlehem	Bridgewater	Brooklyn
Canaan	Canterbury	Central Village	Cahplin
Colebrook	Cornwall	Cornwall Bridge	Danielson
Dayville	East Canaan	East Killingly	East Woodstock
Eastford	Falls Village	Gaylordsville	Goshen
Grosvenor Dale	Hampton	Harwinton	Kent
Killigly	Lakeside	Litchfield	Moosup
Morris	New Milford	New Preston	New Preston Marble Dale
Norfolk	North Canaan	No. Grosvenordale	North Windham
Oneco	Pequabuck	Pine Meadow	Plainfield
Pleasant Valley	Pomfret	Pomfret Center	Putnam
Quinebaug	Riverton	Rogers	Roxbury
Salisbury	Scotland	Sharon	South Kent
South Woodstock	Sterling	Taconic	Terryville
Thompson	Torrington	Warren	Warrenville
Washington	Washington Depot	Wauregan	West Cornwall
Willimantic	Winchester	Winchester Center	Windham
Winsted	Woodstock	Woodstock Valley	

**EXHIBIT D**

**Health Insurance Portability and Accountability Act of 1996 (“HIPAA”).**

- (a) If the Contactor is a Business Associate under the requirements of the Health Insurance Portability and Accountability Act of 1996 (“HIPAA”), the Contractor must comply with all terms and conditions of this Section of the Contract. If the Contractor is not a Business Associate under HIPAA, this Section of the Contract does not apply to the Contractor for this Contract.
- (b) The Contractor is required to safeguard the use, publication and disclosure of information on all applicants for, and all clients who receive, services under the Contract in accordance with all applicable federal and state law regarding confidentiality, which includes but is not limited to HIPAA, more specifically with the Privacy and Security Rules at 45 C.F.R. Part 160 and Part 164, subparts A, C, and E; and
- (c) The State of Connecticut Agency named on page 1 of this Contract (hereinafter the “Department”) is a “covered entity” as that term is defined in 45 C.F.R. § 160.103; and
- (d) The Contractor, on behalf of the Department, performs functions that involve the use or disclosure of “individually identifiable health information,” as that term is defined in 45 C.F.R. § 160.103; and
- (e) The Contractor is a “business associate” of the Department, as that term is defined in 45 C.F.R. § 160.103; and
- (f) The Contractor and the Department agree to the following in order to secure compliance with the HIPAA, the requirements of Subtitle D of the Health Information Technology for Economic and Clinical Health Act (hereinafter the HITECH Act), (Pub. L. 111-5, sections 13400 to 13423), and more specifically with the Privacy and Security Rules at 45 C.F.R. Part 160 and Part 164, subparts A, C, and E.
- (g) Definitions
  - (1) “Breach shall have the same meaning as the term is defined in section 13400 of the HITECH Act (42 U.S.C. §17921(1))
  - (2) “Business Associate” shall mean the Contractor.
  - (3) “Covered Entity” shall mean the Department of the State of Connecticut named on page 1 of this Contract.
  - (4) “Designated Record Set” shall have the same meaning as the term “designated record set” in 45 C.F.R. § 164.501.
  - (5) “Electronic Health Record” shall have the same meaning as the term is defined in section 13400 of the HITECH Act (42 U.S.C. §17921(5))

- (6) "Individual" shall have the same meaning as the term "individual" in 45 C.F.R. § 160.103 and shall include a person who qualifies as a personal representative as defined in 45 C.F.R. § 164.502(g).
  - (7) "Privacy Rule" shall mean the Standards for Privacy of Individually Identifiable Health Information at 45 C.F.R. part 160 and parts 164, subparts A and E.
  - (8) "Protected Health Information" or "PHI" shall have the same meaning as the term "protected health information" in 45 C.F.R. § 160.103, limited to information created or received by the Business Associate from or on behalf of the Covered Entity.
  - (9) "Required by Law" shall have the same meaning as the term "required by law" in 45 C.F.R. § 164.103.
  - (10) "Secretary" shall mean the Secretary of the Department of Health and Human Services or his designee.
  - (11) "More stringent" shall have the same meaning as the term "more stringent" in 45 C.F.R. § 160.202.
  - (12) "This Section of the Contract" refers to the HIPAA Provisions stated herein, in their entirety.
  - (13) "Security Incident" shall have the same meaning as the term "security incident" in 45 C.F.R. § 164.304.
  - (14) "Security Rule" shall mean the Security Standards for the Protection of Electronic Protected Health Information at 45 C.F.R. part 160 and parts 164, subpart A and C.
  - (15) "Unsecured protected health information" shall have the same meaning as the term as defined in section 13402(h)(1)(A) of HITECH. Act. (42 U.S.C. §17932(h)(1)(A)).
- (h) Obligations and Activities of Business Associates.
- (1) Business Associate agrees not to use or disclose PHI other than as permitted or required by this Section of the Contract or as Required by Law.
  - (2) Business Associate agrees to use appropriate safeguards to prevent use or disclosure of PHI other than as provided for in this Section of the Contract.
  - (3) Business Associate agrees to use administrative, physical and technical safeguards that reasonably and appropriately protect the confidentiality, integrity, and availability of electronic protected health information that it creates, receives, maintains, or transmits on behalf of the Covered Entity.

- (4) Business Associate agrees to mitigate, to the extent practicable, any harmful effect that is known to the Business Associate of a use or disclosure of PHI by Business Associate in violation of this Section of the Contract.
- (5) Business Associate agrees to report to Covered Entity any use or disclosure of PHI not provided for by this Section of the Contract or any security incident of which it becomes aware.
- (6) Business Associate agrees to insure that any agent, including a subcontractor, to whom it provides PHI received from, or created or received by Business Associate, on behalf of the Covered Entity, agrees to the same restrictions and conditions that apply through this Section of the Contract to Business Associate with respect to such information.
- (7) Business Associate agrees to provide access, at the request of the Covered Entity, and in the time and manner agreed to by the parties, to PHI in a Designated Record Set, to Covered Entity or, as directed by Covered Entity, to an Individual in order to meet the requirements under 45 C.F.R. § 164.524.
- (8) Business Associate agrees to make any amendments to PHI in a Designated Record Set that the Covered Entity directs or agrees to pursuant to 45 C.F.R. § 164.526 at the request of the Covered Entity, and in the time and manner agreed to by the parties.
- (9) Business Associate agrees to make internal practices, books, and records, including policies and procedures and PHI, relating to the use and disclosure of PHI received from, or created or received by, Business Associate on behalf of Covered Entity, available to Covered Entity or to the Secretary in a time and manner agreed to by the parties or designated by the Secretary, for purposes of the Secretary determining Covered Entity's compliance with the Privacy Rule.
- (10) Business Associate agrees to document such disclosures of PHI and information related to such disclosures as would be required for Covered Entity to respond to a request by an Individual for an accounting of disclosures of PHI in accordance with 45 C.F.R. § 164.528 and section 13405 of the HITECH Act (42 U.S.C. § 17935) and any regulations promulgated thereunder.
- (11) Business Associate agrees to provide to Covered Entity, in a time and manner agreed to by the parties, information collected in accordance with clause h. (10) of this Section of the Contract, to permit Covered Entity to respond to a request by an Individual for an accounting of disclosures of PHI in accordance with 45 C.F.R. § 164.528 and section 13405 of the HITECH Act (42 U.S.C. § 17935) and any regulations promulgated thereunder. Business Associate agrees at the Covered Entity's direction to provide an accounting of disclosures of PHI directly to an individual in accordance with 45 C.F.R. § 164.528 and section 13405 of the HITECH Act (42 U.S.C. § 17935) and any regulations promulgated thereunder.
- (12) Business Associate agrees to comply with any state or federal law that is more stringent than the Privacy Rule.

- (13) Business Associate agrees to comply with the requirements of the HITECH Act relating to privacy and security that are applicable to the Covered Entity and with the requirements of 45 C.F.R. sections 164.504(e), 164.308, 164.310, 164.312, and 164.316.
- (14) In the event that an individual requests that the Business Associate (a) restrict disclosures of PHI; (b) provide an accounting of disclosures of the individual's PHI; or (c) provide a copy of the individual's PHI in an electronic health record, the Business Associate agrees to notify the covered entity, in writing, within two business days of the request.
- (15) Business Associate agrees that it shall not, directly or indirectly, receive any remuneration in exchange for PHI of an individual without (1) the written approval of the covered entity, unless receipt of remuneration in exchange for PHI is expressly authorized by this Contract and (2) the valid authorization of the individual, except for the purposes provided under section 13405(d)(2) of the HITECH Act,(42 U.S.C. § 17935(d)(2)) and in any accompanying regulations
- (16) Obligations in the Event of a Breach
  - A. The Business Associate agrees that, following the discovery of a breach of unsecured protected health information, it shall notify the Covered Entity of such breach in accordance with the requirements of section 13402 of HITECH (42 U.S.C. 17932(b) and the provisions of this Section of the Contract.
  - B. Such notification shall be provided by the Business Associate to the Covered Entity without unreasonable delay, and in no case later than 30 days after the breach is discovered by the Business Associate, except as otherwise instructed in writing by a law enforcement official pursuant to section 13402 (g) of HITECH (42 U.S.C. 17932(g)) . A breach is considered discovered as of the first day on which it is, or reasonably should have been, known to the Business Associate. The notification shall include the identification and last known address, phone number and email address of each individual (or the next of kin of the individual if the individual is deceased) whose unsecured protected health information has been, or is reasonably believed by the Business Associate to have been, accessed, acquired, or disclosed during such breach.
  - C. The Business Associate agrees to include in the notification to the Covered Entity at least the following information:
    1. A brief description of what happened, including the date of the breach and the date of the discovery of the breach, if known.
    2. A description of the types of unsecured protected health information that were involved in the breach (such as full name, Social Security number, date of birth, home address, account number, or disability code).
    3. The steps the Business Associate recommends that individuals take to protect themselves from potential harm resulting from the breach.



4. A detailed description of what the Business Associate is doing to investigate the breach, to mitigate losses, and to protect against any further breaches.
  5. Whether a law enforcement official has advised either verbally or in writing the Business Associate that he or she has determined that notification or notice to individuals or the posting required under section 13402 of the HITECH Act would impede a criminal investigation or cause damage to national security and; if so, include contact information for said official.
- D. Business Associate agrees to provide appropriate staffing and have established procedures to ensure that individuals informed by the Covered Entity of a breach by the Business Associate have the opportunity to ask questions and contact the Business Associate for additional information regarding the breach. Such procedures shall include a toll-free telephone number, an e-mail address, a posting on its Web site and a postal address. Business Associate agrees to include in the notification of a breach by the Business Associate to the Covered Entity, a written description of the procedures that have been established to meet these requirements. Costs of such contact procedures will be borne by the Contractor.
- E. Business Associate agrees that, in the event of a breach, it has the burden to demonstrate that it has complied with all notifications requirements set forth above, including evidence demonstrating the necessity of a delay in notification to the Covered Entity.
- (i) Permitted Uses and Disclosure by Business Associate.
- (1) General Use and Disclosure Provisions Except as otherwise limited in this Section of the Contract, Business Associate may use or disclose PHI to perform functions, activities, or services for, or on behalf of, Covered Entity as specified in this Contract, provided that such use or disclosure would not violate the Privacy Rule if done by Covered Entity or the minimum necessary policies and procedures of the Covered Entity.
  - (2) Specific Use and Disclosure Provisions
    - (A) Except as otherwise limited in this Section of the Contract, Business Associate may use PHI for the proper management and administration of Business Associate or to carry out the legal responsibilities of Business Associate.
    - (B) Except as otherwise limited in this Section of the Contract, Business Associate may disclose PHI for the proper management and administration of Business Associate, provided that disclosures are Required by Law, or Business Associate obtains reasonable assurances from the person to whom the information is disclosed that it will remain confidential and used or further disclosed only as Required by Law or

for the purpose for which it was disclosed to the person, and the person notifies Business Associate of any instances of which it is aware in which the confidentiality of the information has been breached.

(C) Except as otherwise limited in this Section of the Contract, Business Associate may use PHI to provide Data Aggregation services to Covered Entity as permitted by 45 C.F.R. § 164.504(e)(2)(i)(B).

(j) Obligations of Covered Entity.

(1) Covered Entity shall notify Business Associate of any limitations in its notice of privacy practices of Covered Entity, in accordance with 45 C.F.R. § 164.520, or to the extent that such limitation may affect Business Associate's use or disclosure of PHI.

(2) Covered Entity shall notify Business Associate of any changes in, or revocation of, permission by Individual to use or disclose PHI, to the extent that such changes may affect Business Associate's use or disclosure of PHI.

(3) Covered Entity shall notify Business Associate of any restriction to the use or disclosure of PHI that Covered Entity has agreed to in accordance with 45 C.F.R. § 164.522, to the extent that such restriction may affect Business Associate's use or disclosure of PHI.

(k) Permissible Requests by Covered Entity. Covered Entity shall not request Business Associate to use or disclose PHI in any manner that would not be permissible under the Privacy Rule if done by the Covered Entity, except that Business Associate may use and disclose PHI for data aggregation, and management and administrative activities of Business Associate, as permitted under this Section of the Contract.

(l) Term and Termination.

(1) Term. The Term of this Section of the Contract shall be effective as of the date the Contract is effective and shall terminate when the information collected in accordance with clause h. (10) of this Section of the Contract is provided to the Covered Entity and all of the PHI provided by Covered Entity to Business Associate, or created or received by Business Associate on behalf of Covered Entity, is destroyed or returned to Covered Entity, or, if it is infeasible to return or destroy PHI, protections are extended to such information, in accordance with the termination provisions in this Section.

(2) Termination for Cause Upon Covered Entity's knowledge of a material breach by Business Associate, Covered Entity shall either:

(A) Provide an opportunity for Business Associate to cure the breach or end the violation and terminate the Contract if Business Associate does not cure the breach or end the violation within the time specified by the Covered Entity; or

(B) Immediately terminate the Contract if Business Associate has breached a material term of this Section of the Contract and cure is not possible; or

(C) If neither termination nor cure is feasible, Covered Entity shall report the violation to the Secretary.

(3) Effect of Termination

(A) Except as provided in (1)(2) of this Section of the Contract, upon termination of this Contract, for any reason, Business Associate shall return or destroy all PHI received from Covered Entity, or created or received by Business Associate on behalf of Covered Entity. Business Associate shall also provide the information collected in accordance with clause h. (10) of this Section of the Contract to the Covered Entity within ten business days of the notice of termination. This provision shall apply to PHI that is in the possession of subcontractors or agents of Business Associate. Business Associate shall retain no copies of the PHI.

(B) In the event that Business Associate determines that returning or destroying the PHI is infeasible, Business Associate shall provide to Covered Entity notification of the conditions that make return or destruction infeasible. Upon documentation by Business Associate that return or destruction of PHI is infeasible, Business Associate shall extend the protections of this Section of the Contract to such PHI and limit further uses and disclosures of PHI to those purposes that make return or destruction infeasible, for as long as Business Associate maintains such PHI. Infeasibility of the return or destruction of PHI includes, but is not limited to, requirements under state or federal law that the Business Associate maintains or preserves the PHI or copies thereof.

(m) Miscellaneous Provisions.

- (1) Regulatory References. A reference in this Section of the Contract to a section in the Privacy Rule means the section as in effect or as amended.
- (2) Amendment. The Parties agree to take such action as is necessary to amend this Section of the Contract from time to time as is necessary for Covered Entity to comply with requirements of the Privacy Rule and the Health Insurance Portability and Accountability Act of 1996, Pub. L. No. 104-191.
- (3) Survival. The respective rights and obligations of Business Associate shall survive the termination of this Contract.
- (4) Effect on Contract. Except as specifically required to implement the purposes of this Section of the Contract, all other terms of the Contract shall remain in force and effect.
- (5) Construction. This Section of the Contract shall be construed as broadly as necessary to implement and comply with the Privacy Standard. Any ambiguity in this Section of the Contract shall be resolved in favor of a meaning that complies, and is consistent with, the Privacy Standard.

(6) Disclaimer. Covered Entity makes no warranty or representation that compliance with this Section of the Contract will be adequate or satisfactory for Business Associate's own purposes. Covered Entity shall not be liable to Business Associate for any claim, civil or criminal penalty, loss or damage related to or arising from the unauthorized use or disclosure of PHI by Business Associate or any of its officers, directors, employees, contractors or agents, or any third party to whom Business Associate has disclosed PHI contrary to the provisions of this Contract or applicable law. Business Associate is solely responsible for all decisions made, and actions taken, by Business Associate regarding the safeguarding, use and disclosure of PHI within its possession, custody or control.

(7) Indemnification. The Business Associate shall indemnify and hold the Covered Entity harmless from and against any and all claims, liabilities, judgments, fines, assessments, penalties, awards and any statutory damages that may be imposed or assessed pursuant to HIPAA, as amended or the HITECH Act, including, without limitation, attorney's fees, expert witness fees, costs of investigation, litigation or dispute resolution, and costs awarded thereunder, relating to or arising out of any violation by the Business Associate and its agents, including subcontractors, of any obligation of Business Associate and its agents, including subcontractors, under this section of the contract, under HIPAA, the HITECH Act, the Privacy Rule and the Security Rule.

**Notice to Executive Branch State Contractors and Prospective State  
Contractors of Campaign Contribution and Solicitation Limitations**

This notice is provided under the authority of Connecticut General Statutes §9-612 (f) (2) and is for the purpose of informing state contractors and prospective state contractors of the following law (italicized words are defined on the reverse side of this page).

**CAMPAIGN CONTRIBUTION AND SOLICITATION LIMITATIONS**

No *state contractor, prospective state contractor, principal of a state contractor or principal of a prospective state contractor*, with regard to a *state contract or state contract solicitation* with or from a state agency in the executive branch or a quasi-public agency or a holder, or principal of a holder, of a valid prequalification certificate, shall make a contribution to (i) an exploratory committee or candidate committee established by a candidate for nomination or election to the office of Governor, Lieutenant Governor, Attorney General, State Comptroller, Secretary of the State or State Treasurer, (ii) a political committee authorized to make contributions or expenditures to or for the benefit of such candidates, or (iii) a party committee (which includes town committees).

In addition, no holder or principal of a holder of a valid prequalification certificate, shall make a contribution to (i) an exploratory committee or candidate committee established by a candidate for nomination or election to the office of State senator or State representative, (ii) a political committee authorized to make contributions or expenditures to or for the benefit of such candidates, or (iii) a party committee.

On and after January 1, 2011, no state contractor, prospective state contractor, principal of a state contractor or principal of a prospective state contractor, with regard to a state contract or state contract solicitation with or from a state agency in the executive branch or a quasi-public agency or a holder, or principal of a holder of a valid prequalification certificate, shall **knowingly solicit** contributions from the state contractor's or prospective state contractor's employees or from a *subcontractor or principals of the subcontractor* on behalf of (i) an exploratory committee or candidate committee established by a candidate for nomination or election to the office of Governor, Lieutenant Governor, Attorney General, State Comptroller, Secretary of the State or State Treasurer, (ii) a political committee authorized to make contributions or expenditures to or for the benefit of such candidates, or (iii) a party committee.

**DUTY TO INFORM**

State contractors and prospective state contractors are required to inform their principals of the above prohibitions, as applicable, and the possible penalties and other consequences of any violation thereof.

**PENALTIES FOR VIOLATIONS**

Contributions or solicitations of contributions made in violation of the above prohibitions may result in the following civil and criminal penalties:

**Civil penalties**—Up to \$2,000 or twice the amount of the prohibited contribution, whichever is greater, against a principal or a contractor. Any state contractor or prospective state contractor which fails to make reasonable efforts to comply with the provisions requiring notice to its principals of these prohibitions and the possible consequences of their violations may also be subject to civil penalties of up to \$2,000 or twice the amount of the prohibited contributions made by their principals.

**Criminal penalties**—Any knowing and willful violation of the prohibition is a Class D felony, which may subject the violator to imprisonment of not more than 5 years, or not more than \$5,000 in fines, or both.

**CONTRACT CONSEQUENCES**

In the case of a state contractor, contributions made or solicited in violation of the above prohibitions may result in the contract being voided.

In the case of a prospective state contractor, contributions made or solicited in violation of the above prohibitions shall result in the contract described in the state contract solicitation not being awarded to the prospective state contractor, unless the State Elections Enforcement Commission determines that mitigating circumstances exist concerning such violation.

The State shall not award any other state contract to anyone found in violation of the above prohibitions for a period of one year after the election for which such contribution is made or solicited, unless the State Elections Enforcement Commission determines that mitigating circumstances exist concerning such violation.

Additional information may be found on the website of the State Elections Enforcement Commission, [www.ct.gov/seec](http://www.ct.gov/seec). Click on the link to "Lobbyist/Contractor Limitations."

## DEFINITIONS

“State contractor” means a person, business entity or nonprofit organization that enters into a state contract. Such person, business entity or nonprofit organization shall be deemed to be a state contractor until December thirty-first of the year in which such contract terminates. “State contractor” does not include a municipality or any other political subdivision of the state, including any entities or associations duly created by the municipality or political subdivision exclusively amongst themselves to further any purpose authorized by statute or charter, or an employee in the executive or legislative branch of state government or a quasi-public agency, whether in the classified or unclassified service and full or part-time, and only in such person’s capacity as a state or quasi-public agency employee.

“Prospective state contractor” means a person, business entity or nonprofit organization that (i) submits a response to a state contract solicitation by the state, a state agency or a quasi-public agency, or a proposal in response to a request for proposals by the state, a state agency or a quasi-public agency, until the contract has been entered into, or (ii) holds a valid prequalification certificate issued by the Commissioner of Administrative Services under section 4a-100. “Prospective state contractor” does not include a municipality or any other political subdivision of the state, including any entities or associations duly created by the municipality or political subdivision exclusively amongst themselves to further any purpose authorized by statute or charter, or an employee in the executive or legislative branch of state government or a quasi-public agency, whether in the classified or unclassified service and full or part-time, and only in such person’s capacity as a state or quasi-public agency employee.

“Principal of a state contractor or prospective state contractor” means (i) any individual who is a member of the board of directors of, or has an ownership interest of five per cent or more in, a state contractor or prospective state contractor, which is a business entity, except for an individual who is a member of the board of directors of a nonprofit organization, (ii) an individual who is employed by a state contractor or prospective state contractor, which is a business entity, as president, treasurer or executive vice president, (iii) an individual who is the chief executive officer of a state contractor or prospective state contractor, which is not a business entity, or if a state contractor or prospective state contractor has no such officer, then the officer who duly possesses comparable powers and duties, (iv) an officer or an employee of any state contractor or prospective state contractor who has *managerial or discretionary responsibilities with respect to a state contract*, (v) the spouse or a *dependent child* who is eighteen years of age or older of an individual described in this subparagraph, or (vi) a political committee established or controlled by an individual described in this subparagraph or the business entity or nonprofit organization that is the state contractor or prospective state contractor.

“State contract” means an agreement or contract with the state or any state agency or any quasi-public agency, let through a procurement process or otherwise, having a value of fifty thousand dollars or more, or a combination or series of such agreements or contracts having a value of one hundred thousand dollars or more in a calendar year, for (i) the rendition of services, (ii) the furnishing of any goods, material, supplies, equipment or any items of any kind, (iii) the construction, alteration or repair of any public building or public work, (iv) the acquisition, sale or lease of any land or building, (v) a licensing arrangement, or (vi) a grant, loan or loan guarantee. “State contract” does not include any agreement or contract with the state, any state agency or any quasi-public agency that is exclusively federally funded, an education loan, a loan to an individual for other than commercial purposes or any agreement or contract between the state or any state agency and the United States Department of the Navy or the United States Department of Defense.

“State contract solicitation” means a request by a state agency or quasi-public agency, in whatever form issued, including, but not limited to, an invitation to bid, request for proposals, request for information or request for quotes, inviting bids, quotes or other types of submittals, through a competitive procurement process or another process authorized by law waiving competitive procurement.

“Managerial or discretionary responsibilities with respect to a state contract” means having direct, extensive and substantive responsibilities with respect to the negotiation of the state contract and not peripheral, clerical or ministerial responsibilities.

“Dependent child” means a child residing in an individual’s household who may legally be claimed as a dependent on the federal income tax of such individual.

“Solicit” means (A) requesting that a contribution be made, (B) participating in any fundraising activities for a candidate committee, exploratory committee, political committee or party committee, including, but not limited to, forwarding tickets to potential contributors, receiving contributions for transmission to any such committee, serving on the committee that is hosting a fundraising event, introducing the candidate or making other public remarks at a fundraising event, being honored or otherwise recognized at a fundraising event, or bundling contributions, (C) serving as chairperson, treasurer or deputy treasurer of any such committee, or (D) establishing a political committee for the sole purpose of soliciting or receiving contributions for any committee. Solicit does not include: (i) making a contribution that is otherwise permitted by Chapter 155 of the Connecticut General Statutes; (ii) informing any person of a position taken by a candidate for public office or a public official, (iii) notifying the person of any activities of, or contact information for, any candidate for public office; or (iv) serving as a member in any party committee or as an officer of such committee that is not otherwise prohibited in this section.

“Subcontractor” means any person, business entity or nonprofit organization that contracts to perform part or all of the obligations of a state contractor’s state contract. Such person, business entity or nonprofit organization shall be deemed to be a subcontractor until December thirty first of the year in which the subcontract terminates. “Subcontractor” does not include (i) a municipality or any other political subdivision of the state, including any entities or associations duly created by the municipality or political subdivision exclusively amongst themselves to further any purpose authorized by statute or charter, or (ii) an employee in the executive or legislative branch of state government or a quasi-public agency, whether in the classified or unclassified service and full or part-time, and only in such person’s capacity as a state or quasi-public agency employee.

“Principal of a subcontractor” means (i) any individual who is a member of the board of directors of, or has an ownership interest of five per cent or more in, a subcontractor, which is a business entity, except for an individual who is a member of the board of directors of a nonprofit organization, (ii) an individual who is employed by a subcontractor, which is a business entity, as president, treasurer or executive vice president, (iii) an individual who is the chief executive officer of a subcontractor, which is not a business entity, or if a subcontractor has no such officer, then the officer who duly possesses comparable powers and duties, (iv) an officer or an employee of any subcontractor who has managerial or

discretionary responsibilities with respect to a subcontract with a state contractor, (v) the spouse or a dependent child who is eighteen years of age or older of an individual described in this subparagraph, or (vi) a political committee established or controlled by an individual described in this subparagraph or the business entity or nonprofit organization that is the subcontractor.

**EXHIBIT F**

(Federal wage rate package will be inserted here for final executed contract only. Refer to NTC – Federal Wage Determinations)

**EXHIBIT G**

(State wages will be inserted here)



CITY OF NEW LONDON  
STATE PROJECT NO. 0094-258

**Williams Street Improvements**

**WAGE RATES**

**Federal Wage Rates**  
**State of CT Wage Rates**

"General Decision Number: CT20200002 06/05/2020

Superseded General Decision Number: CT20190002

State: Connecticut

Construction Type: Highway

County: New London County in Connecticut.

HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.80 for calendar year 2020 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.80 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2020. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Modification Number	Publication Date
0	01/03/2020
1	01/17/2020
2	01/24/2020
3	05/08/2020
4	05/15/2020
5	05/22/2020
6	06/05/2020

BRCT0001-003 01/06/2020

Rates

Fringes

BRICKLAYER  
 BRICKLAYERS, CEMENT  
 MASONS, CEMENT FINISHERS,  
 PLASTERERS, STONE MASONS....\$ 35.72 33.16

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 CARP0326-001 05/04/2020

	Rates	Fringes
Carpenters:		
CARPENTERS, PILEDRIVERS.....	\$ 34.53	25.64
DIVER TENDERS.....	\$ 34.53	25.64
DIVERS.....	\$ 42.99	25.64

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 CARP1121-006 01/06/2020

	Rates	Fringes
MILLWRIGHT.....	\$ 34.94	26.19

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 \* ELEC0035-003 06/01/2020

	Rates	Fringes
Electricians:		
Bozrah, Colchester, Franklin, Griswold, Lebanon, Ledyard, Lisbon, Montville, North Stonington, Norwich, Preston, Salem, Sprague, Stonington and Voluntown....	\$ 40.25	3%+29.17

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 \* ELEC0090-003 06/01/2020

East Lyme, Groton, New London, Old Lyme, Waterford, plus the part of Ledyard wherein the property of the Submarine Base is located

	Rates	Fringes
ELECTRICIAN.....	\$ 39.00	3%+29.91

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 ENGI0478-002 04/05/2020

	Rates	Fringes
Power equipment operators:		

GROUP 1.....	\$ 42.45	25.30
GROUP 2.....	\$ 42.11	25.30
GROUP 3.....	\$ 41.32	25.30
GROUP 4.....	\$ 40.91	25.30
GROUP 5.....	\$ 40.28	25.30
GROUP 6.....	\$ 39.95	25.30
GROUP 7.....	\$ 39.59	25.30
GROUP 8.....	\$ 39.17	25.30
GROUP 9.....	\$ 38.71	25.30
GROUP 10.....	\$ 36.54	25.30
GROUP 11.....	\$ 36.54	25.30
GROUP 12.....	\$ 36.48	25.30
GROUP 13.....	\$ 38.11	25.30
GROUP 14.....	\$ 35.86	25.30
GROUP 15.....	\$ 35.53	25.30
GROUP 16.....	\$ 34.66	25.30
GROUP 17.....	\$ 34.23	25.30
GROUP 18.....	\$ 33.54	25.30

Hazardous waste premium \$3.00 per hour over classified rate.

Crane with 150 ft. boom (including jib): \$1.50 extra.  
 Crane with 200 ft. boom (including jib): \$2.50 extra.  
 Crane with 250 ft. boom (including jib): \$5.00 extra.  
 Crane with 300 ft. boom (including jib): \$7.00 extra.  
 Crane with 400 ft. boom (including jib); \$10.00 extra.

All Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra \$4.00 premium in addition to the hourly wage rate and benefit contributions:

- 1) Crane handling or erecting structural steel or stone, hoisting engineer(2 drums or over)
- 2) Cranes(100 ton rated capacity and over) Bauer Drill/Caisson
- 3) Cranes(under 100 ton rated capacity)

a. PAID HOLIDAYS: New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday.

**POWER EQUIPMENT OPERATORS CLASSIFICATIONS**

GROUP 1: Crane Handling or Erecting Structural Steel or tone; Hoisting Engineer (2 drums or over); Front End Loader (7 cubic yards or over) Work Boat 26 ft. & over.

GROUP 2: Cranes (100 ton rated capacity and over); Excavator over 2 cubic yards; Piledriver (\$3.00 premium when operator controls hammer); Bauer Drill/Caisson

GROUP 3: Excavator; Cranes (under 100 ton rated capacity), Gradall; Master Mechanic; Hoisting Engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power of operation), Rubber tire Excavator (Drott-1085 or similar); Grader Operator; Bulldozer Fine Grade (slopes. shaping, laser or GPS, etc.)

GROUP 4: Trenching machines; Lighter Derrick; Concrete Finishing Machine, cmi Machine or Similar; Koehring Loader Skooper).

GROUP 5: Specialty Railroad Equipment; Asphalt Spreader; Asphalt Reclaiming achine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24"" Mandrell); Side Boom; Combination Hoe and Loader; Directional Driller.

GROUP 6: Front End Loader (3 cu. yds. up to 7 cubic yards); Bulldozer (Rough grade dozer).

GROUP 7: Asphalt Roller; Concrete Saws and Cutters (Ride on Types); Vermeer Concrete Cutter; Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24"" and Under Mandrel).

GROUP 8: Mechanic; Grease Truck Operator; Hydroblaster; Barrier Mover; Power Stone Spreader; Welder; Work Boat Under 26 ft.; Transfer Machine.

GROUP 9: Front End Loader (under 3 cubic yards); Skid Steer Loader (regardless of attachments); (Bobcat or similar); Fork Lift; Power Chipper; Landscape Equipment (including Hydroseeder).

GROUP 10: Vibratory Hammer, Ice Machine, Diesel and Air Hammer, etc.

GROUP 11: Conveyor; Earth Roller; Power Pavement Breaker (Whiphammer); Robot Demolition Equipment.

GROUP 12: Wellpoint Operator.

GROUP 13: Portable Asphalt Plant Operator; Portable Concrete Plant Operator; Portable Crusher Plant Operator.

GROUP 14: Compressor Battery Operator.

GROUP 15: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (Minimum for any job requiring a CDL License)

GROUP 16: Elevator Operator; Tow Motor Operator (Solid Tire No Rough Terrain).

GROUP 17: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater operator.

GROUP 18: Maintenance Engineer.

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\* IRON0015-003 06/01/2020

	Rates	Fringes
Ironworkers: (Reinforcing & Structural).....	\$ 36.67	37.62

a. PAID HOLIDAY: Labor Day provided employee has been on the payroll for the 5 consecutive work days prior to Labor Day.

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LAB00056-003 04/05/2020

	Rates	Fringes
Laborers:		
GROUP 1.....	\$ 31.00	22.15
GROUP 2.....	\$ 31.25	22.15
GROUP 3.....	\$ 31.50	22.15
GROUP 4.....	\$ 32.00	22.15
GROUP 5.....	\$ 32.75	22.15
GROUP 6.....	\$ 33.00	22.15
GROUP 7.....	\$ 18.00	22.15

LABORERS CLASSIFICATIONS

GROUP 1: Laborers (Unskilled), acetylene burner, concrete specialist

GROUP 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators and powdermen.

GROUP 3: Pipelayers, Jackhammer/Pavement breaker (handheld), mason tenders/catch basin builders, asphalt rakers, air track operators, block paver and curb setter

- GROUP 4: Asbestos/lead removal
- GROUP 5: Blasters
- GROUP 6: Toxic waste remover
- GROUP 7: Traffic control signalman

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 LAB00056-004 04/05/2020

	Rates	Fringes
Laborers: (TUNNEL CONSTRUCTION)		
CLEANING, CONCRETE AND CAULKING TUNNEL:		
Concrete Workers, Form Movers and Strippers.....	\$ 32.26	22.15
Form Erectors.....	\$ 32.59	22.15
ROCK SHAFT, CONCRETE, LINING OF SAME AND TUNNEL IN FREE AIR:		
Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers.....	\$ 32.26	22.15
Laborers Topside, Cage Tenders, Bellman.....	\$ 32.15	22.15
Miners.....	\$ 33.23	22.15
SHIELD DRIVE AND LINER PLATE TUNNELS IN FREE AIR:		
Brakemen and Trackmen.....	\$ 32.26	22.15
Miners, Motormen, Mucking Machine Operators, Nozzlemen, Grout Men, Shaft and Tunnel, Steel and Rodmen, Shield and Erector, Arm Operator, Cable Tenders.....	\$ 33.23	22.15
TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED AIR:		
Blaster.....	\$ 39.72	22.15
Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders.....	\$ 39.52	22.15
Change House Attendants, Powder Watchmen, Top on Iron Bolt.....	\$ 37.54	22.15

Mucking Machine Operator...\$ 40.31 22.15

a. PAID HOLIDAYS: On tunnel work only: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

No employee shall be eligible for holiday pay when he fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

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\* PAIN0011-002 06/01/2020

	Rates	Fringes
Painters:		
Blast and Spray.....	\$ 38.62	22.55
Brush and Roll.....	\$ 35.62	22.55
Tanks, Towers, Swing.....	\$ 37.62	22.55

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\* PAIN0011-003 06/01/2020

	Rates	Fringes
Painters: (BRIDGE CONSTRUCTION)		
Brush, Roller, Blasting (Sand, Water, etc.) Spray...	\$ 52.25	22.55

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TEAM0064-003 04/05/2020

	Rates	Fringes
Truck drivers:		
2 Axle Ready Mix.....	\$ 29.97	25.79
2 Axle.....	\$ 29.86	25.79
3 Axle Ready Mix.....	\$ 30.03	25.79
3 Axle.....	\$ 29.97	25.79
4 Axle Ready Mix.....	\$ 30.13	25.79
4 Axle.....	\$ 30.08	25.79
Heavy Duty Trailer 40 tons and over.....	\$ 30.35	25.79
Heavy Duty Trailer up to 40 tons.....	\$ 30.08	25.79
Specialized (Earth moving equipment other than conventional type on-the-road trucks and semi-trailers, including Euclids).....	\$ 30.13	25.79



Hazardous waste removal work receives additional \$1.25 per hour.

a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local),

a survey rate (weighted average rate) or a union average rate (weighted union average rate).

#### Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

#### Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

#### Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union

average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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#### WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor

200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

**Minimum Rates and Classifications for Heavy/Highway Construction**

ID#: 20-15645

**Connecticut Department of Labor  
Wage and Workplace Standards Division**

By virtue of the authority vested in the Labor Commissioner under provisions of Section 31-53 of the General Statutes of Connecticut, as amended, the following are declared to be the prevailing rates and welfare payments and will apply only where the contract is advertised for bid within 20 days of the date on which the rates are established. Any contractor or subcontractor not obligated by agreement to pay to the welfare and pension fund shall pay this amount to each employee as part of his/her hourly wages.

Project Number: #0094-258

Project Town: New London

State#: #0094-258

FAP#: New London

Project: William Street Improvements (New London)

<b>CLASSIFICATION</b>	<b>Hourly Rate</b>	<b>Benefits</b>
1) Boilermaker	33.79	34% + 8.96
1a) Bricklayer, Cement Masons, Cement Finishers, Plasterers, Stone Masons	35.72	33.16
2) Carpenters, Piledrivermen	34.53	25.64
2a) Diver Tenders	34.53	25.64
3) Divers	42.99	25.64
03a) Millwrights	34.94	26.19
4) Painters: (Bridge Construction) Brush, Roller, Blasting (Sand, Water, etc.), Spray	52.25	22.55
4a) Painters: Brush and Roller	35.62	22.55
4b) Painters: Spray Only	38.62	22.55
4c) Painters: Steel Only	37.62	22.55
4d) Painters: Blast and Spray	38.62	22.55
4e) Painters: Tanks, Tower and Swing	37.62	22.55

Project: William Street Improvements (New London)

5) Electrician (Trade License required: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9)	39.0	29.91+3% of gross wage
6) Ironworkers: Ornamental, Reinforcing, Structural, and Precast Concrete Erection	36.67	37.62 + a
7) Plumbers (Trade License required: (P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2) and Pipefitters (Including HVAC Work) (Trade License required: S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4 G-1, G-2, G-8, G-9)	44.63	32.95
----LABORERS----		
8) Group 1: Laborer (Unskilled), Common or General, acetylene burner, concrete specialist	31.0	22.15
9) Group 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators, powdermen	31.25	22.15
10) Group 3: Pipelayers	31.5	22.15
11) Group 4: Jackhammer/Pavement breaker (handheld); mason tenders (cement/concrete), catch basin builders, asphalt rakers, air track operators, block paver, curb setter and forklift operators	31.5	22.15
12) Group 5: Toxic waste removal (non-mechanical systems)	33.0	22.15
13) Group 6: Blasters	32.75	22.15
Group 7: Asbestos/lead removal, non-mechanical systems (does not include leaded joint pipe)	32.0	22.15
Group 8: Traffic control signalmen	18.0	22.15
Group 9: Hydraulic Drills	29.3	18.90
----LABORERS (TUNNEL CONSTRUCTION, FREE AIR). Shield Drive and Liner Plate Tunnels in Free Air.----		
13a) Miners, Motormen, Mucking Machine Operators, Nozzle Men, Grout Men, Shaft & Tunnel Steel & Rodmen, Shield & Erector, Arm Operator, Cable Tenders	33.23	22.15 + a
13b) Brakemen, Trackmen	32.26	22.15 + a
----CLEANING, CONCRETE AND CAULKING TUNNEL----		

As of: September 17, 2020

14) Concrete Workers, Form Movers, and Strippers	32.26	22.15 + a
15) Form Erectors	32.59	22.15 + a
----ROCK SHAFT LINING, CONCRETE, LINING OF SAME AND TUNNEL IN FREE AIR:----		
16) Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers	32.26	22.15 + a
17) Laborers Topside, Cage Tenders, Bellman	32.15	22.15 + a
18) Miners	33.23	22.15 + a
----TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED AIR: ----		
18a) Blaster	39.72	22.15 + a
19) Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders	39.52	22.15 + a
20) Change House Attendants, Powder Watchmen, Top on Iron Bolts	37.54	22.15 + a
21) Mucking Machine Operator	40.31	22.15 + a
----TRUCK DRIVERS----(*see note below)		
Two axle trucks	29.86	25.79 + a
Three axle trucks; two axle ready mix	29.97	25.79 + a
Three axle ready mix	30.03	25.79 + a
Four axle trucks, heavy duty trailer (up to 40 tons)	30.08	25.79 + a
Four axle ready-mix	30.13	25.79 + a
Heavy duty trailer (40 tons and over)	30.35	25.79 + a

Specialized earth moving equipment other than conventional type on- the road trucks and semi-trailer (including Euclids)	30.13	25.79 + a
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----POWER EQUIPMENT OPERATORS----

Group 1: Crane handling or erecting structural steel or stone, hoisting engineer (2 drums or over), front end loader (7 cubic yards or over), Work Boat 26 ft. & Over, Tunnel Boring Machines. (Trade License Required)	42.45	25.30 + a
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Group 2: Cranes (100 ton rate capacity and over); Excavator over 2 cubic yards; Piledriver (\$3.00 premium when operator controls hammer); Bauer Drill/Caisson. (Trade License Required)	42.11	25.30 + a
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Group 3: Excavator/Backhoe under 2 cubic yards; Cranes (under 100 ton rated capacity), Gradall; Master Mechanic; Hoisting Engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power of operation), Rubber Tire Excavator (Drott-1085 or similar); Grader Operator; Bulldozer Fine Grade (slopes, shaping, laser or GPS, etc.). (Trade License Required)	41.32	25.30 + a
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Group 4: Trenching Machines; Lighter Derrick; Concrete Finishing Machine; CMI Machine or Similar; Koehring Loader (Skooper)	40.91	25.30 + a
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Group 5: Specialty Railroad Equipment; Asphalt Paver; Asphalt Spreader; Asphalt Reclaiming Machine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24	40.28	25.30 + a
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Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller.	40.28	25.30 + a
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Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).	39.95	25.30 + a
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Group 7: Asphalt Roller; Concrete Saws and Cutters (ride on types); Vermeer Concrete Cutter; Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24	39.59	25.30 + a
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Group 8: Mechanic, Grease Truck Operator, Hydroblaster, Barrier Mover, Power Stone Spreader; Welder; Work Boat under 26 ft.; Transfer Machine.	39.17	25.30 + a
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Group 9: Front End Loader (under 3 cubic yards), Skid Steer Loader regardless of attachments (Bobcat or Similar); Fork Lift, Power Chipper; Landscape Equipment (including hydroseeder).	38.71	25.30 + a
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Group 10: Vibratory Hammer, Ice Machine, Diesel and Air Hammer, etc.	36.54	25.30 + a
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Group 11: Conveyor, Earth Roller; Power Pavement Breaker (whiphammer), Robot Demolition Equipment.	36.54	25.30 + a
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Group 12: Wellpoint Operator.	36.48	25.30 + a
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Group 13: Compressor Battery Operator.	35.86	25.30 + a
Group 14: Elevator Operator; Tow Motor Operator (Solid Tire No Rough Terrain).	34.66	25.30 + a
Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.	34.23	25.30 + a
Group 16: Maintenance Engineer/Oiler	33.54	25.30 + a
Group 17: Portable asphalt plant operator; portable crusher plant operator; portable concrete plant operator.	38.11	25.30 + a
Group 18: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (minimum for any job requiring CDL license).	35.53	25.30 + a
<b>**NOTE: SEE BELOW</b>		
----LINE CONSTRUCTION----(Railroad Construction and Maintenance)---		
-		
20) Lineman, Cable Splicer, Technician	48.19	6.5% + 22.00
21) Heavy Equipment Operator	42.26	6.5% + 19.88
22) Equipment Operator, Tractor Trailer Driver, Material Men	40.96	6.5% + 19.21
23) Driver Groundmen	26.5	6.5% + 9.00
23a) Truck Driver	40.96	6.5% + 17.76
----LINE CONSTRUCTION----		
24) Driver Groundmen	30.92	6.5% + 9.70
25) Groundmen	22.67	6.5% + 6.20
26) Heavy Equipment Operators	37.1	6.5% + 10.70
27) Linemen, Cable Splicers, Dynamite Men	41.22	6.5% + 12.20

28) Material Men, Tractor Trailer Drivers, Equipment Operators

35.04

6.5% + 10.45

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Project: William Street Improvements (New London)

Welders: Rate for craft to which welding is incidental.

\*Note: Hazardous waste removal work receives additional \$1.25 per hour for truck drivers.

\*\*Note: Hazardous waste premium \$3.00 per hour over classified rate

**ALL Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra \$4.00 premium in addition to the hourly wage rate and benefit contributions:**

- 1) Crane handling or erecting structural steel or stone; hoisting engineer (2 drums or over)**
- 2) Cranes (100 ton rate capacity and over) Bauer Drill/Caisson**
- 3) Cranes (under 100 ton rated capacity)**

Crane with 150 ft. boom (including jib) - \$1.50 extra

Crane with 200 ft. boom (including jib) - \$2.50 extra

Crane with 250 ft. boom (including jib) - \$5.00 extra

Crane with 300 ft. boom (including jib) - \$7.00 extra

Crane with 400 ft. boom (including jib) - \$10.00extra

All classifications that indicate a percentage of the fringe benefits must be calculated at the percentage rate times the "base hourly rate".

Apprentices duly registered under the Commissioner of Labor's regulations on "Work Training Standards for Apprenticeship and Training Programs" Section 31-51-d-1 to 12, are allowed to be paid the appropriate percentage of the prevailing journeymen hourly base and the full fringe benefit rate, providing the work site ratio shall not be less than one full-time journeyman instructing and supervising the work of each apprentice in a specific trade.

--Connecticut General Statute Section 31-55a: Annual Adjustments to wage rates by contractors doing

*The Prevailing wage rates applicable to this project are subject to annual adjustments each July 1st for the duration of the project.*

*Each contractor shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.*

*It is the contractor's responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's website.*

*The annual adjustments will be posted on the Department of Labor's Web page: [www.ct.gov/dol](http://www.ct.gov/dol). For those without internet access, please contact the division listed below.*

*The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project.*

*All subsequent annual adjustments will be posted on our Web Site for contractor access.*

*Contracting Agencies are under no obligation pursuant to State labor law to pay any increase due to the annual adjustment provision.*

*Effective October 1, 2005 - Public Act 05-50: any person performing the work of any mechanic, laborer, or worker shall be paid prevailing wage*

All Person who perform work ON SITE must be paid prevailing wage for the appropriate mechanic, laborer, or worker classification.

All certified payrolls must list the hours worked and wages paid to All Persons who perform work ON SITE regardless of their ownership i.e.: (Owners, Corporate Officers, LLC Members, Independent Contractors, et. al)

Reporting and payment of wages is required regardless of any contractual relationship alleged to exist between the contractor and such person.

**As of:** September 17, 2020

Project: William Street Improvements (New London)

**~~Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clause (29 CFR 5.5 (a) (1) (ii)).**

Please direct any questions which you may have pertaining to classification of work and payment of prevailing wages to the Wage and Workplace Standards Division, telephone (860)263-6790.

**As of:** September 17, 2020

## **NOTICE TO CONTRACTOR – DEFINITION OF OWNER**

Whenever the terms Owner, Department, State of Connecticut Department of Transportation, Commissioner, Engineer, and/or State appear in the Contract Documents, it shall be understood to mean the City of New London acting directly or through a construction manager, inspector, engineer, and/or duly authorized representatives.

July 14, 2020  
FEDERAL AID PROJECT NO. PEDS(206) (PE)  
STATE PROJECT NO. 0094-258

**WILLIAMS STREET IMPROVEMENTS**

City of New London

The State of Connecticut, Department of Transportation, Standard Specifications for Roads, Bridges, Facilities and Incidental Construction, Form 817, 2016, is hereby made part of this contract, as modified by the Special Provisions contained herein. Form 817 is available at the following DOT website link <http://www.ct.gov/dot/cwp/view.asp?a=3609&q=430362>. The current edition of the State of Connecticut Department of Transportation's "Construction Contract Bidding and Award Manual" ("Manual"), is hereby made part of this contract. If the provisions of this Manual conflict with provisions of other Department documents (not including statutes or regulations), the provisions of the Manual will govern. The Manual is available at the following DOT website link <http://www.ct.gov/dot/cwp/view.asp?a=2288&q=259258>. The Special Provisions relate in particular to the Williams Street Improvements Project in the City of New London.

**CONTRACT TIME AND LIQUIDATED DAMAGES**

One Hundred Twenty (120) calendar days will be allowed for completion of the work on this Contract and the liquidated damages charge to apply will be One Thousand One Hundred Dollars (\$1,100.00) per calendar day.

STATE PROJECT NO. 0094-258  
WILLIAMS STREET IMPROVEMENTS  
CITY OF NEW LONDON, CT

SPECIFICATIONS AND TECHNICAL SPECIAL PROVISIONS

NOTICE TO CONTRACTOR – DEFINITION OF OWNER  
NOTICE TO CONTRACTOR – CONTRACT TIME AND LIQUIDATED DAMAGES  
NOTICE TO CONTRACTOR – CONTRACT DURATION  
NOTICE TO CONTRACTOR – BUY AMERICA  
NOTICE TO CONTRACTOR – CONTRACTOR TRAINING REQUIREMENT FOR 10-HOUR OSHA  
CONSTRUCTION SAFETY AND HEALTH COURSE  
NOTICE TO CONTRACTOR – REQUIRED CONTRACT PROVISIONS FEDERAL-AID  
CONSTRUCTION CONTRACTS  
NOTICE TO CONTRACTOR – PROCUREMENT OF MATERIALS  
NOTICE TO CONTRACTOR – PROTECTION AND COORDINATION OF EXISTING UTILITIES  
NOTICE TO CONTRACTOR – ALL-INCLUSIVE DRAINAGE  
NOTICE TO CONTRACTOR – PORTLAND CEMENT CONCRETE (PCC) MIX CLASSIFICATIONS  
NOTICE TO CONTRACTOR – GLOBAL POSITIONING SYSTEM (GPS) COORDINATES FOR  
SIGNS  
NOTICE TO CONTRACTOR – UTILITY GENERATED SCHEDULE

SPECIAL PROVISIONS DISADVANTAGED BUSINESS ENTERPRISES FOR FEDERAL FUNDED  
PROJECTS

SECTION 1.05 - CONTROL OF THE WORK  
SECTION 1.06 - CONTROL OF MATERIALS  
SECTION 1.07 – LEGAL RELATIONS AND RESPONSIBILITIES  
SECTION 1.08 – PROSECUTION AND PROGRESS

SECTION 4.06 - BITUMINOUS CONCRETE  
SECTION 5.86 – CATCH BASINS, MANHOLES AND DROP INLETS  
SECTION 12.00 – GLOBAL POSITIONING SYSTEM (GPS) COORDINATES FOR SIGNS

SECTION M.03 – PORTLAND CEMENT CONCRETE  
SECTION M.04 – BITUMINOUS CONCRETE MATERIALS

INTRODUCTION TO THE TECHNICAL SPECIFICATIONS  
GENERAL REQUIREMENTS  
ITEM #0201001A – CLEARING AND GRUBBING  
ITEM #0219011A – SEDIMENTATION CONTROL SYSTEM AT CATCH BASIN  
ITEM #0401000A – DECORATIVE RAISED INTERSECTION  
ITEM #0905007A – RESET STONE WALL  
ITEM #0922024A – GATEWAY PLAZA  
ITEM #0924013A – CONCRETE DRIVEWAY APRON  
ITEM #0947207A – BICYCLE STAND  
ITEM #0949000A – PLANTINGS



City of New London, CT  
Williams Street Improvements

ITEM #0945060A – PINE BARK MULCH  
ITEM #0950019A – TURF ESTABLISHMENT – LAWN  
ITEM #0969060A – CONSTRUCTION FIELD OFFICE  
ITEM #0971001A – MAINTENANCE AND PROTECTION OF TRAFFIC  
ITEM #0992090A – BENCH  
ITEM #1003894A – ORNAMENTAL LIGHTING SYSTEM  
ITEM #1111451a – LOOP DETECTOR SAWCUT  
ITEM #1116100A – 30” SOLAR POWERED FLASHING CROSSWALK SIGN  
ITEM #1206023A – REMOVAL AND RELOCATION OF EXISTING SIGNS  
ITEM #1302061A – ADJUST GATE BOX (WATER)

**NOTICE TO CONTRACTOR - CONTRACT DURATION**

The Contractor is hereby notified that this is not to be considered an ordinary project by any means and that due to the inconvenience to the traveling public that it causes, extra manpower, equipment and workshifts may be required to complete the work in accordance within the specified contract time.

## **NOTICE TO CONTRACTOR – BUY AMERICA**

The Contractor is hereby advised that several items proposed for this project are subject to the Buy America requirements. Please refer to Section 1.06 of the standard specifications and FHWA's regulatory policy regarding Buy America (Title 23 C.F.R. 635.410 and 49 U.S.C. 5323(j)). The Contractor shall also be responsible for compliance by any subcontractor, lower tier subcontractor, or service provider.

## **NOTICE TO CONTRACTOR – CONTRACTOR TRAINING REQUIREMENT FOR 10-HOUR OSHA CONSTRUCTION SAFETY AND HEALTH COURSE**

In accordance with Connecticut General Statute 31-53b and Public Act No. 08-83, the Contractor is required to furnish proof that any person performing the work of a mechanic, laborer or worker pursuant to the classifications of labor under section 31-53, has completed a course of at least ten hours in duration in construction safety and health approved by the Federal Occupational Safety and Health Administration or, has completed a new miner training program approved by the Federal Mine Safety and Health Administration in accordance with 30 CFR 48 or, in the case of telecommunications employees, has completed at least ten hours of training in accordance with 29 CFR 1910.268.

Proof of compliance with the provisions of the statute shall consist of a student course completion card issued by the federal Occupational Safety and Health Administration, or other such proof as deemed appropriate by the Commissioner of the Connecticut Department of Labor, dated no earlier than five years prior to the commencement of the project. Each employer shall affix a copy of the construction safety course completion card for each applicable employee to the first certified payroll submitted to the Department of Transportation on which the employee's name first appears.

Any employee required to complete a construction safety and health course as required that has not completed the course, shall have a maximum of fourteen (14) days to complete the course. If the employee has not been brought into compliance, they shall be removed from the project until such time as they have completed the required training.

This section does not apply to employees of public service companies, as defined in section 16-1 of the 2008 supplement to the General Statutes, or drivers of commercial motor vehicles driving the vehicle on the public works project and delivering or picking up cargo from public works projects provided they perform no labor relating to the project other than the loading and unloading of their cargo.

The internet website for the federal Occupational Safety and Health Training Institute is <http://www.osha.gov/fso/ote/training/edcenters>.

Additional information regarding this statute can be found at the Connecticut Department of Labor website, <http://www.ctdol.state.ct.us/wgwkstnd/wgemenu.htm>.

Any costs associated with this notice shall be included in the general cost of the contract. In addition, there shall be no time granted to the contractor for compliance with this notice. The contractor's compliance with this notice and any associated regulations shall not be grounds for claims as outlined in Section 1.11 – "Claims"

**NOTICE TO CONTRACTOR – REQUIRED CONTRACT PROVISIONS**  
**FEDERAL-AID CONSTRUCTION CONTRACTS**

The Contractor is hereby advised that Form FHWA-1273 “Required Contract Provisions Federal-Aid Construction Contracts” (contained herein) has been deemed to be applicable to this project and is incorporated and made a part of this project. The Contractor shall insert this form in each subcontract and further require its inclusion in all lower tier subcontracts. The Contractor shall be responsible for compliance by any subcontractor, lower tier subcontractor, or service provider.

## **NOTICE TO CONTRACTOR - PROCUREMENT OF MATERIALS**

Upon award, the Contractor shall proceed with shop drawings, working drawings, procurement of materials, and all other submittals required to complete the work in accordance with the contract documents.

## **NOTICE TO CONTRACTOR – PROTECTION AND COORDINATION OF EXISTING UTILITIES**

Existing utilities shall be maintained during construction except as specifically stated herein and/or noted on the plans and as coordinated with the utilities. The Contractor shall verify the location of underground, structure mounted and overhead utilities. Construction work within the vicinity of utilities shall be performed in accordance with current safety regulations.

The Contractor shall notify "Call Before You Dig", telephone 1-800-922-4455 for the location of public utility, in accordance with Section 16-345 of the Regulations of the Department of Utility Control.

Representatives of the various utility companies shall be provided access to the work, by the Contractor.

Contractors are cautioned that it is their responsibility to verify locations, conditions, and field dimensions of all existing features, as actual conditions may differ from the information shown on the plans or contained elsewhere in the specifications.

The Contractor shall notify the Engineer prior to the start of work and shall be responsible for all coordination with the Department. The Contractor shall allow the Engineer complete access to the work.

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

Any damage to any existing private and public utility, as a result of the Contractors operations, shall be repaired to the utilities and Engineer's satisfaction at no cost to the State or the Utilities, including all materials, labor, etc., required to complete the repairs.

The Contractor's attention is directed to the requirements of Section 1.07.13 – "Contractor's Responsibilities for Adjacent Property Facilities and Services".

Prior to opening an excavation, effort shall be made to determine whether underground installations, i.e., water, sanitary, gas, electric ducts, communication ducts, etc., will be encountered and, if so, where such underground installations are located. When the excavation approaches the estimated location of such an installation, the exact location shall be determined by careful probing or hand digging, and when it is uncovered, proper supports shall be provided for the existing installation. Utility companies shall be contacted and advised of proposed work prior to the start of actual excavation, as noted above.

The contractor shall coordinate all utility relocations and grade adjustments with the respective utility company.

The contractor shall notify appropriate utility companies two weeks in advance of the required valve box adjustments as shown on the plans. The contractor will be responsible for coordinating

the resetting of the valve boxes. No separate payment will be made for coordinating with the utility company for their work to relocate and reset their facilities and will be included in the general cost of the work.



## **NOTICE TO CONTRACTOR - ALL-INCLUSIVE DRAINAGE**

### **ADDED SECTIONS:**

#### **2.86 – DRAINAGE TRENCH EXCAVATION**

#### **ROCK IN DRAINAGE TRENCH EXCAVATION**

#### **5.86 – CATCH BASINS, MANHOLES AND DROP INLETS**

#### **6.86 – DRAINAGE PIPES**

#### **DRAINAGE PIPE ENDS**

This Contract contains the above-noted Special Provisions for all-inclusive drainage, developed to replace the following Sections in their entireties:

- Section 5.07 – *Catch Basins, Manholes and Drop Inlets*
- Section 6.51 – *Culverts*
- Section 6.52 – *Culvert Ends*

The Section 5.86 and 6.86 items include excavation and bedding material in the drainage structure, pipe and pipe end unit prices.

Section 2.05 *Trench Excavation* may be included for miscellaneous trenching, where necessary, but will not be used with all-inclusive drainage items.

Other Standard Specifications, Supplemental Specifications or Special Provisions may contain references to Articles or Subarticles from previous versions of Sections 5.07, 6.51 and 6.52 which are no longer valid.

The following Standard Specifications Sections or Supplements contain references to Articles or Subarticles from Section 2.05 which shall remain in effect:

- Section 2.06 – *Ditch Excavation*
- Section 5.06 – *Retaining Walls, Endwalls and Steps*
- Section 7.51 – *Underdrains and Outlets*
- Section 10.01 – *Trenching and Backfilling*

‘Rock in Drainage Trench Excavation’ is now defined in Section 2.86. ‘Rock in Trench Excavation’ will remain in Section 2.05 and may be used with trenching not associated with all-inclusive drainage items.

**Any references to Articles beginning with “5.07,” “6.51,” or “6.52” shall refer to the pertinent topic or materials in the new Special Provisions contained herein.**

## **NOTICE TO CONTRACTOR - PORTLAND CEMENT CONCRETE (PCC) MIX CLASSIFICATIONS**

### ***SECTIONS 6.01 and M.03 MIX CLASSIFICATION EQUIVALENCY***

Sections 6.01 *Concrete for Structures* and M.03 *Portland Cement Concrete* have been revised to reflect changes to item names and nomenclature for standard Portland cement concrete (PCC) mix classifications. Special Provisions, plan sheets and select pay items in this Contract may not reflect this change. Refer to the Concrete Mix Classification Equivalency Table below to associate the Concrete Mix Classifications with Former Mix Classifications that may be present elsewhere in the Contract.

**Concrete Mix Classification Equivalency Table**

New Mix Classification (Class PCCXXXYZ <sup>1</sup> )	Former Mix Classification
Class PCC03340	Class "A"
Class PCC03360	Class "C"
Class PCC04460 <sup>2</sup>	Class "F"
Class PCC04462 <sup>2</sup>	High Performance Concrete
Class PCC04481, PCC05581	Class "S"

Table Notes:

1. See Table M.03.02-1, Standard Portland Cement Concrete Mixes, for the new Mix Classification naming convention.
2. Class PCC04462 (formerly Class "HP1" Concrete; also called low permeability concrete) is to be used for the following cast-in-place bridge components: decks, bridge sidewalks, and bridge parapets.

Where called for in the Contract, **Low Permeability Concrete** shall be used, as specified in Sections 6.01 and M.03. Please pay special attention to the requirements for Class PCC04462, including:

- Submittal of a mix design developed by the Contractor and a concrete supplier **at least 90 days prior to placing the concrete**
- Testing and trial placement of the concrete mix is to be developed and discussed with the Department

The Department will not consider any requests for change to eliminate the use of Low Permeability Concrete on this Project.

**NOTICE TO CONTRACTOR – GLOBAL POSITIONING SYSTEM (GPS)  
COORDINATES FOR SIGNS**

The Contractor shall obtain and provide to the Engineer sign installation data, including Global Positioning System (GPS) latitude and longitude coordinates, for all new State owned and maintained signs. The Engineer shall forward the sign data to the Division of Traffic Engineering for upload into the Highway Sign Inventory and Maintenance Management Program (SIMS). Sign data submissions or questions relating to SIMS or GPS shall be sent to DOT-SignInventory@ct.gov. Refer to the special provision for Section 12.00 General Clauses For Highway Signing.

## **NOTICE TO CONTRACTOR – UTILITY GENERATED SCHEDULE**

The attached project specific utility work schedules were provided to the Connecticut Department of Transportation (Department) by the utility companies regarding their identified work on this project.

The utility scheduling information is provided to assist the Contractor in scheduling its activities. However, the Department does not ensure its accuracy and Section 1.05.06 of the Standard Specifications still is in force.

The utility scheduling information shall be incorporated into the Contractor's pre-award schedule in accordance with the Department's Bidding and Award Manual and Section 1.05.08 of the Contract.

After award, the Contractor shall conduct a utility coordination meeting or meetings to obtain contemporaneous scheduling information from the utilities prior to submitting its baseline schedule to the Department in accordance with Section (*insert 1.05.08 or Project Coordinator here*) of the Contract.

The Contractor shall incorporate the contemporaneous utility scheduling information into its baseline schedule submittal. The baseline schedule shall include Contractor predecessor and successor activities to the utility work in such detail as acceptable to the Engineer.

**UTILITY WORK SCHEDULE** Rev 08 02 2016

CTDOT Project Number:	94-258	Town:	New London
Project Description: William St Improvements			
CTDOT Utilities Engineer:			
Phone:		Email:	
Utility Company: Comcast			
Prepared By: Dean Muratori		Date Prepared: 7/8/2020	
Phone: 413-642-8565		Email: dean_muratori@comcast.com	

**Scope of Work**

The following is a description of all utility work planned to be completed in conjunction with the CTDOT project. The narrative describes all work to be carried out by the utility or its contractor, including temporary and permanent work required by the project as well as any additional utility infrastructure work the utility intends on performing within the project limits during the construction of the project.

Shift facilities on identified poles being relocated and make any necessary adjustments. Poles identified are numbered 32, 33, 34, & 35. Relocate power supply on pole 33 to new pole. Coordinate disconnect and reconnect of power with Eversource.

**Special Considerations and Constraints**

The following describes the limiting factors that must be planned for in the scheduling and performance of the utility work. For example, restrictions on cut-overs, outages, limitations on customer service interruptions (e.g. nights, weekends, holidays), seasonal and environmental shutdown periods, long lead material procurements, etc..

Comcast work schedule is dependent on others moving and adjusting their facilities first and scheduling of service interruptions. Service interruptions can cause a delay if the company is in a moratorium period. Also, disconnection and reconnection of power to the power supply will have to be coordinated with Eversource.



**UTILITY WORK SCHEDULE** Rev 3/2015

CTDOT Project Number:	094-258	Town:	NEW LONDON
Project Description:	WILIAMS STREET REALIGNMENT		
CTDOT Utilities Engineer:	ROBERT NEWTON		
Phone:	860.652.8227	Email:	rnewton@bscgroup.com
Utility Company:	FRONTIER COMMUNICATIONS		
Prepared By:	JOHN PLIKUS	Date Prepared:	7/8/2020
Phone:	860.450.2793	Email:	john.m.plikus@ftr.com

**Scope of Work**

The following is a description of all utility work planned to be completed in conjunction with the CTDOT project. The narrative describes all work to be carried out by the utility or its contractor, including temporary and permanent work required by the project as well as any additional utility infrastructure work the utility intends on performing within the project limits during the construction of the project.

PERMANENT RELOCATION - RELOCATE POLE Nos. 32, 33, 34, 35, AND SHIFT AERIAL CABLES AND GUYING ON WILLIAMS STREET.

**Special Considerations and Constraints**

The following describes the limiting factors that must be planned for in the scheduling and performance of the utility work. For example, restrictions on cut-overs, outages, limitations on customer service interruptions (e.g. nights, weekends, holidays), seasonal and environmental shutdown periods, long lead material procurements, etc..

1. Prior to any temporary/permanent relocation work City of New London to secure ROW in order to proceed.
2. Frontier Communications will schedule its construction as it's workload permits, the DOT will schedule other utilities attached to the pole line (Power Co., CATV, etc... and all State or Municipal owned cables and fixtures). This UWS has been completed using only Preliminary Design Plans. No mark out of edge of road, or construction limits provided and may be subject to change.





rev. 5/20/2013

## UTILITY WORK SCHEDULE

CTDOT Project Number:	094-258	Town:	New London
Project Description:	Williams Street Improvements - New London		
CTDOT Utilities Engineer:	Robert S. Newton - BSC Group		
Phone:	860-652-8227 Ext 4561	Email:	ton, Robert <rnewton@bscgroup.
Utility Company:	CL&P dba Eversource Energy		
Prepared By:	Martin Grzymkowski	Date Prepared:	05/27/2020
Phone:	860.447.5782	Email:	artin.grzymkowski@eversource.cc

### Scope of Work

The following is a description of all utility work planned to be completed in conjunction with the CTDOT project. The narrative describes all work to be carried out by the utility or its contractor, including temporary and permanent work required by the project as well as any additional utility infrastructure work the utility intends on performing within the project limits during the construction of the project.

Shift overhead conductors on poles affected by new sidewalk installation - replace openwire secondary with triplex,

### Special Considerations and Constraints

The following describes the limiting factors that must be planned for in the scheduling and performance of the utility work. For example, restrictions on cut-overs, outages, limitations on customer service interruptions (e.g. nights, weekends, holidays), seasonal and environmental shutdown periods, long lead material procurements, etc..

All permits/ easements required have been obtained by the State or their engineering firm. Inclement weather may cause a change to scheduling. Emergency work, seasonal storms and limitations on outages during times of peak load can affect availability of personnel and arrangements to perform this work.

## UTILITY WORK SCHEDULE

CTDOT Project Number: 094-258

Utility Company: CL&P dba Eversource Energy

Prepared By: Martin Grzymkowski

Total Calendar Days: 11

### Schedule

The following schedule identifies each major activity of utility work in sequential order to be performed by the utility or its contractor. The location of each activity of work is identified by the baseline stationing on the CTDOT plans. All activities identify the predecessor activity which must be completed before a utility work activity may progress. The duration provided is the number of calendar days required to complete the utility work activity based on historical information and production rates.

Location (Station to Station)	Description of Utility Work Activity	Predecessor Activity	Duration (calendar days)
Sta. 81+00 to Sta. 90+00			
Project	Order Material	Permit to proceed issued by State or City	
Project	PRE CONSTRUCTION	District 2 Pre-Con. Meeting - held if needed	
Project	Finalize detailed design -Frontier pole & anchor locations staked.	Edge of road, Backside of sidewalk and limit of ROW staked at pole locations	1
Project	Frontier to place poles & anchors as required	State/BSC written approval of staked locations & CBUD markings completed	5
Project	Frame poles for overhead installation of primary wires.	Adequate tree clearance provided.	5
Project	Other utilities shifted to relocated poles	Eversource utilities shifted to relocated poles	

Schedule 1

SPECIAL PROVISIONS  
DISADVANTAGED BUSINESS ENTERPRISES  
FOR FEDERAL FUNDED PROJECTS

(For Municipal Advertised and Awarded Projects Only)

Revised-February 26, 2009

- NOTE: Certain of the requirements and procedures stated in this Special Provisions are applicable prior to the award and execution of the Contract document

I. ABBREVIATIONS AND DEFINITIONS AS USED IN THIS SPECIAL PROVISION

- A. "ConnDOT" means the Connecticut Department of Transportation.
- B. "DOT" means the U.S. Department of Transportation, including the Office of the Secretary, the Federal Highway Administration ("FHWA"), the Federal Transit Administration ("FTA"), and the Federal Aviation Administration ("FAA").
- C. "Broker" means a party acting as an agent for others in negotiating Contracts, Agreements, purchases, sales, etc., in return for a fee or commission.
- D. "Contract," "Agreement" or "subcontract" means a legally binding relationship obligating a seller to furnish supplies or services (including, but not limited to, construction and professional services) and the buyer to pay for them. For the purposes of this provision, a lease for equipment or products is also considered to be a Contract.
- E. "Contractor," means a prime contractor, consultant, second party or any other entity doing business with or engaged by the Municipality or, as the context may require, with or by another Contractor.
- F. "Disadvantaged Business Enterprise" ("DBE") means a small business concern:
  - 1. That is at least fifty-one percent (51%) owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which fifty-one percent (51%) of the stock of which is owned by one or more such individuals; and
  - 2.. Whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.
- G. "DOT-assisted Contract" means any Contract between a recipient and a Contractor (at any tier) funded in whole or in part with DOT financial assistance, including letters of credit or loan guarantees.

- H. **"Good Faith Efforts"** means efforts to achieve a DBE goal or other requirement of this part which, by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the program requirement. Refer to Appendix A of 49 Code of Federal Regulation ("CFR") Part 26- "Guidance Concerning Good Faith Efforts," a copy of which is attached to this provision, for guidance as to what constitutes good faith efforts.
- I. "Small Business Concern" means, with respect to firms seeking to participate as DBEs in DOT-assisted Contracts, a small business concern as defined pursuant to Section 3 of the Small Business Act and Small Business Administration ("SBA") regulations implementing it (13 CFR Part 121) that also does not exceed the cap on average annual gross receipts specified in 49 CFR Part 26, Section 26.65(b).
- J. "Socially and Economically Disadvantaged Individuals" means any individual who is a citizen (or lawfully admitted permanent resident) of the United States and who is--
1. Any individual who ConnDOT finds on a case-by-case basis to be a socially and economically disadvantaged individual.
  2. Any individuals in the following groups, members of which are reliably presumed to be socially and economically disadvantaged:
    - i. "Black Americans," which includes persons having origin in any of the Black racial groups of Africa;
    - ii. "Hispanic Americans," which includes persons of Mexican, Puerto Rican, Cuban, Dominican, Central or South American, or other Spanish or Portuguese culture or origin, regardless of race;
    - iii. "Native Americans," which includes persons who are American Indians, Eskimos, Aleuts, or Native Hawaiians;
    - iv. "Asian-Pacific Americans," which includes persons whose origins are from Japan, China, Taiwan, Korea, Burma (Myanmar), Vietnam, Laos, Cambodia (Kampuchea), Thailand, Malaysia, Indonesia, the Philippines, Brunei, Samoa, Guam, the U.S. Trust Territories of the Pacific Islands (Republic of Palau), the Commonwealth of the Northern Mariana Islands, Macao, Fiji, Tonga, Kiribati, Tuvalu, Nauru, Federated States of Micronesia, or Hong Kong;
    - v. "Subcontinent Asian Americans," which includes persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka;
    - vi. Women;
    - vii. Any additional groups whose members are designated as socially and economically disadvantaged by the SBA, at such time as the SBA designation becomes effective.

## II. GENERAL REQUIREMENTS

- A. The Contractor, sub recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or SEX in the performance of this Contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted Contracts. Failure by the Contractor to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or such other remedy, as the Municipality and ConnDOT deem appropriate.
- B. The Contractor shall cooperate with the Municipality, ConnDOT and DOT in implementing the requirements concerning DBE utilization on this Contract in accordance with Title 49 of the Code of Federal Regulations, Part 26 entitled "Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs" ("49 CFR Part 26"), as revised. The Contractor shall also cooperate with the Municipality, ConnDOT and DOT in reviewing the Contractor's activities relating to this Special Provision. This Special Provision is in addition to all other equal opportunity employment requirements of this Contract.
- C. The Contractor shall designate a liaison officer who will administer the Contractor's DBE program. Upon execution of this Contract, the name of the liaison officer shall be furnished in writing to the Municipality.
- D. For the purpose of this Special Provision, DBEs to be used to satisfy the DBE goal must be certified by ConnDOT's Division of Contract Compliance for the type(s) of work they will perform.
- E. If the Contractor allows work designated for DBE participation required under the terms of this Contract and required under 49 CFR Part 26 to be performed by other than the named DBE organization without concurrence from the Municipality, the Municipality will not pay the Contractor for the value of the work performed by organizations other than the designated DBE.
- F. At the completion of all Contract work, the Contractor shall submit a final report to the Municipality indicating the work done by, and the dollars paid to DBEs. If the Contractor does not achieve the specified Contract goals for DBE participation, the Contractor shall also submit written documentation to the Municipality detailing its good faith efforts to satisfy the goal that were made during the performance of the Contract. Documentation is to include, but not be limited to the following:
1. A detailed statement of the efforts made to select additional subcontracting opportunities to be performed by DBEs in order to increase the likelihood of achieving the stated goal.
  2. A detailed statement, including documentation of the efforts made to contact and solicit bids with ConnDOT certified DBEs, including the names, addresses, dates and telephone numbers of each DBE contacted, and a description of the information provided to each DBE regarding the scope of services and anticipated time schedule of work items proposed to be subcontracted and nature of response from firms contacted.
  3. Provide a detailed statement for each DBE that submitted a subcontract proposal, which the Contractor considered not to be acceptable stating the reasons for this conclusion.

4. Provide documents to support contacts made with ConnDOT requesting assistance in satisfying the Contract specified goal.
  5. Provide documentation of all other efforts undertaken by the Contractor to meet the defined goal.
- G. Failure of the Contractor, at the completion of all Contract work, to have at least the specified percentage of this Contract performed by DBEs as required in ID-B will result in the reduction in Contract payments to the Contractor by an amount determined by multiplying the total Contract value by the specified percentage required in m-B and subtracting from that result, the dollar payments for the work actually performed by DBEs. However in instances where the Contractor can adequately document or substantiate its good faith efforts made to meet the specified percentage to the satisfaction of the Municipality and ConnDOT, no reduction in payments will be imposed.
- H. All records must be retained for a period of three (3) years following acceptance by the Municipality of the Contract and shall be available at reasonable times and places for inspection by authorized representatives of the Municipality, ConnDOT and Federal agencies. If any litigation, claim or audit is started before the expiration of the three (3) year period, the records shall be retained until all litigation, claims, or audits findings involving the records are resolved.
- I. Nothing contained here is intended to relieve any Contractor or subcontractor or material supplier or manufacturer from compliance with all applicable Federal and State legislation or provisions concerning equal employment opportunity, affirmative action, nondiscrimination and related subjects during the term of this Contract.

**m. SPECIFIC REQUIREMENTS:**

In order to increase the participation of DBBs, the Municipality requires the following:

- A. The Contractor shall assure that certified DBEs will have an opportunity to compete for sub-contract work on this Contract particularly by amending solicitations and time for the preparation of proposals for services to be provided so as to facilitate the participation of DBEs regardless if a Contract goal is specified or not.
- B. The DBE contract goal percentage for the Project is: \_\_\_\_\_ (Construction) and \_\_\_\_\_ (Construction Inspection). The goal shall be based upon the total contract value. Compliance with this provision may be fulfilled when a DBE or any combination of DBEs perform work under contract in accordance with 49 CFR, Part 26, Subpart C Section 26.55, as revised **Only work actually performed by and/or service provided by DBEs which are certified for such work and/or services can be counted toward the DBE goal. Supplies and equipment acquired from the prime Contractor or its affiliate cannot be counted toward the goal.**

If Contractor does not document commitment by subcontracting and/or procurement of material and/or services that at least equal the goal it must document the good faith efforts that outline the steps it took to meet the goal in accordance with V.N.

- C. Within 5 days, after the bid opening, the low bidder shall indicate in writing to the Municipality, on Form 101-III, provide the DBE(s) it will use to achieve the goal indicated in ID-B. The submission include the name and address of each DBE that will participate in this project, a description of the work each will perform, the dollar amount of participation, and the percentage this is of the

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bid amount This information shall be signed by the named DBE and the low bidder. The named DBE shall be from a list of certified DBEs available from ConnDOT. In addition, the named DBE(s) shall be certified to perform the type of work they will be contracted to do.

- D. The prime Contractor shall submit to the Municipality all requests for subcontractor approvals on the standard forms provided by the Municipality.

If the request for approval is for a DBE subcontractor for the purpose of meeting the Contract DBE goal, a copy of the legal Contract between the prime and the DBE subcontractor must be submitted along with the request for subcontractor approval. Any subsequent amendments or modifications of the Contract between the prime and the DBE subcontractor must also be submitted to the Municipality with an explanation of the change(s). The Contract must show items of work to be performed, unit prices and, if a partial item, the work involved by all parties.

In addition, the following documents are to be attached:

- 1 • An explanation indicating who will purchase material.
  - 2 • A statement explaining any method or arrangement for renting equipment. If rental is from a prime, a copy of the Rental Agreement must be submitted.
  3. A statement addressing any special arrangements for manpower.
- E. The Contractor is required, should there be a change in a DBE they submitted in ill-C, to submit documentation to the Municipality which will substantiate and justify the change (i.e., documentation to provide a basis for the change for review and approval by the Municipality) prior to the implementation of the change. The Contractor must demonstrate that the originally named DBE is unable to perform in conformity to the scope of service or is unwilling to perform, or in default of its Contract, or is overextended on other jobs. **The Contractor's ability to negotiate a more advantageous Agreement with another subcontractor is not a valid basis for change.** Documentation shall include a letter of release from the originally named DBE indicating the reason(s) for the release.
- F. Contractors subcontracting with DBEs to perform work or services as required by this Special Provision shall not terminate such firms without advising the Municipality in writing, and providing adequate documentation to substantiate the reasons for termination if the DBE has not started or completed the work or the services for which it has been contracted to perform.
- G. When a DBE is unable or unwilling to perform, or is terminated for just cause, the Contractor shall make good faith efforts to find other DBE opportunities to increase DBE participation to the extent necessary to at least satisfy the goal required by ill-B.
- H. In instances where an alternate DBE is proposed, a revised submission to the Municipality together with the documentation required in ill-C, ill-D, and ill-E, must be made for its review and approval.
- I. Each quarter after execution of the Contract, the Contractor shall submit a report to the Municipality indicating the work done by, and the dollars paid to the DBE for the current quarter and to date.
- J. Each contract that the Municipality signs with a Contractor and each subcontract the Contractor signs with a subcontractor must include the following assurance: *The contractor, sub recipient*



*or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.*

#### IV. MATERIAL SUPPLIERS OR MANUFACTURERS

- A. If the Contractor elects to utilize a DBE supplier or manufacturer to satisfy a portion or all of the specified DBE goal, the Contractor must provide the Municipality with:
1. An executed "Affidavit for the Utilization of Material Suppliers or Manufacturers" (sample attached), and
  2. Substantiation of payments made to the supplier or manufacturer for materials used on the project
- B. Credit for DBE suppliers is limited to 60% of the value of the material to be supplied, provided such material is obtained from a regular DBE dealer. A regular dealer is a firm that owns, operates, or maintains a store, warehouse or other establishment in which the materials or supplies required for the performance of the Contract are bought; kept in stock and regularly sold or leased to the public in the usual course of business. To be a regular dealer, the firm must engage in, as its principal business, and in its own name, the purchase and sale of the products in question. A regular dealer in such bulk items as steel, cement, gravel, stone and petroleum products, need not keep such products in stock if it owns or operates distribution equipment. Brokers and packagers shall not be regarded as material suppliers or manufacturers.
- C. Credit for DBE manufacturers is 100% of the value of the manufactured product. A manufacturer is a firm that operates or maintains a factory or establishment that produces on the premises the materials or supplies obtained by the Municipality, Department of Transportation or Contractor.

#### V. NON-MANUFACTURING OR NON-SUPPLIER DBE CREDIT:

- A. Contractors may count towards their DBE goals the following expenditures with DBEs that are not manufacturers or suppliers:
1. Reasonable fees or commissions charged for providing a bona fide service such as professional, technical, consultant or managerial services and assistance in the procurement of essential personnel, facilities, equipment materials or supplies necessary for the performance of the Contract, provided that the fee or commission is determined by the Municipality to be reasonable and consistent with fees customarily allowed for similar services.
  2. The fees charged for delivery of materials and supplies required on a job site (but not the cost of the materials and supplies themselves) when the hauler, trucker, or delivery service is a DBE but is not also the manufacturer of or a regular dealer in the materials and supplies, provided that the fees are determined by the Municipality to be reasonable and not excessive as compared with fees customarily allowed for similar services.
  3. The fees or commissions charged for providing bonds or insurances specifically required for the performance of the Contract, provided that the fees or commissions are determined by the

Municipality to be reasonable and not excessive as compared with fees currently allowed for similar services.

## VI. BROKERING

- A. Brokering of work by DBEs who have been approved to perform subcontract work with their own workforce and equipment is not allowed, and is a Contract violation.
- B. DBEs involved in the brokering of subcontract work that they were approved to perform may be decertified.
- C. Firms involved in the brokering of work, whether they are DBEs and/or majority firms who engage in willful falsification, distortion or misrepresentation with respect to any facts related to the project shall be referred to the U.S. Department of Transportation's Office of Inspector General for prosecution under Title 18, U.S. Code, Section 10.20.

## VII. REVIEW OF PRE-AWARD GOOD FAITH EFFORTS

- A. If the Contractor does not document pre-award commitments by subcontracting and/or procurement of material and/or services that at least equal the goal stipulated in Bill-B, the Contractor must document the good faith efforts that outline the specific steps it took to meet the goal. The Contract will be awarded to the Contractor if its good faith efforts are deemed satisfactory and approved by ConnDOT. To obtain such an exception, the Contractor must submit an application to the Municipality, which documents the specific good faith efforts that were made to meet the DBE goal. Application form for Review of Pre-Award Good Faith Efforts is attached hereto.

The application must include the following documentation:

1. a statement setting forth in detail which parts, if any, of the Contract were reserved by the Contractor and not available for bid by subcontractors;
2. a statement setting forth all parts of the Contract that are likely to be sublet;
3. a statement setting forth in detail the efforts made to select subcontracting work in order to likely achieve the stated goal;
4. copies of all letters sent to DBEs;
5. a statement listing the dates and DBEs that were contacted by telephone and the result of each contact;
6. a statement listing the dates and DBEs that were contacted by means other than telephone and the result of each contact;
7. copies of letters received from DBEs in which they declined to bid;
8. a **statement** setting forth the facts with respect to each DBE bid received and the reason(s) any such bid was declined;
9. a statement setting forth the dates that calls were made to ConnDOT's Division of Contract Compliance seeking DBE referrals and the **result** of each such call; and

**10. any information of a similar nature relevant to the application.**

The review of the Contractor's good faith efforts may require an extension of time for award of the Contract. In such a circumstance, and in the absence of other reasons not to grant the extension or make the award, the Municipality will agree to the needed extension(s) of time for the award of the Contract, provided the Contractor and the surety also agree to such extension(s).

- B. Upon receipt of the submission of an application for review of pre-award good faith efforts, the Municipality shall submit the documentation to ConnDOT initiating unit for submission to the ConnDOT Division of Contract Compliance. ConnDOT Division of Contract Compliance will review the documents and determine if the package is complete, accurate and adequately documents the Contractor's good faith efforts. Within fourteen (14) days of receipt of the documentation, the ConnDOT Division of Contract Compliance shall notify the Contractor by certified mail of the approval or denial of its good faith efforts.
- C. If the Contractor's application is denied, the Contractor shall have seven (7) days upon receipt of written notification of denial to request administrative reconsideration. The Contractor's request for administrative reconsideration should be sent in writing to the Municipality. The Municipality will forward the Contractor's reconsideration request to the ConnDOT initiating unit for submission to the DBE Screening Committee. The DBE Screening Committee will schedule a meeting within fourteen (14) days from receipt of the Contractor's request for administrative reconsideration and advise the Contractor of the date, time and location of the meeting. At this meeting, the Contractor will be provided with the opportunity to present written documentation and/or argument concerning the issue of whether it made adequate good faith efforts to meet the goal. Within seven (7) days following the reconsideration meeting, the Chairperson of the DBE Screening Committee will send the Contractor, via certified mail, a written decision on its reconsideration request, explaining the basis of finding either for or against the request. The DBE Screening Committee's decision is final. If the reconsideration is denied, the Contractor shall indicate in writing to the Municipality within fourteen (14) days of receipt of the written notification of denial, the DBEs it will use to achieve the goal Indicated in m-B.
- D. Approval of pre-award good faith efforts does not relieve the Contractor from its obligation to make additional good faith efforts to achieve the DBE goal should contracting opportunities arise during actual performance of the Contract work.

## APPENDIX A TO 49 C.F.R. PART 26-- GUIDANCE CONCERNING GOOD FAITH EFFORTS

- L. When, as a recipient, you establish a Contract goal on a DOT-assisted Contract, a bidder must, in order to be responsible and/or responsive, make good faith efforts to meet the goal. The bidder can meet this requirement in either of two ways. First, the bidder can meet the goal, documenting commitments for participation by DBE firms sufficient for this purpose. Second, even if it doesn't meet the goal, the bidder can document adequate good faith efforts. This means that the bidder must show that it took all necessary and reasonable steps to achieve a DBE goal or other requirement of this part which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not fully successful.
- II. In any situation in which you have established a Contract goal, Part 26 requires you to use the good faith efforts mechanism of this part. As a recipient, it is up to you to make a fair and reasonable judgment whether a bidder that did not meet the goal made adequate good faith efforts. It is important for you to consider the quality, quantity, and intensity of the different kinds of efforts that the bidder has made. The efforts employed by the bidder should be those that one could reasonably expect a bidder to take if the bidder were actively and aggressively trying to obtain DBE participation sufficient to meet the DBE Contract goal. Mere nominal efforts are not good faith efforts to meet the DBE Contract requirements. We emphasize, however, that your determination concerning the sufficiency of the firm's good faith efforts is a judgment call: meeting quantitative formulas is not required.
- file; The Department also strongly cautions you against requiring that a bidder meet a Contract goal (i.e., obtain a specified amount of DBE participation) in order to be awarded a Contract, even though the bidder makes an adequate good faith efforts showing. This rule specifically prohibits you from ignoring bona fide good faith efforts.
- N. The following is a list of types of actions which you should consider as part of the bidder's good faith efforts to obtain DBE participation. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.
- A. Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBEs who have the capability to perform the work of the Contract. The bidder must solicit this interest within sufficient time to allow the DBEs to respond to the solicitation. The bidder must determine with certainty if the DBEs are interested by **taking** appropriate steps to follow up initial solicitations.
- B. Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out Contract work items into economically feasible units to facilitate DBE participation, even when the prime Contractor might otherwise prefer to perform these work items with its own forces.

C. Providing interested DBEs with adequate information about the plans, specifications, and requirements of the Contract in a timely manner to assist them in responding to a solicitation.

D. (1) Negotiating in good faith with interested DBEs. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional Agreements could not be reached for DBEs to perform the work.

(2) **A. bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as Contract goals into consideration.** However, the fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a bidder's failure to meet the Contract DBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime Contractor to perform the work of a Contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Prime Contractors are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.

E. Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The Contractor's standing within its industry, membership in specific groups; organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the Contractor's efforts to meet the project goal.

F. Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or Contractor.

G. Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.

H. Effectively using the services of available minority/women community organizations; minority/women Contractors' groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.

V. In determining whether a bidder has made good faith efforts, you may take into account the performance of other bidders in meeting the Contract. For example, when the apparent successful bidder fails to meet the Contract goal, but others meet it, you may reasonably raise the question of whether, with additional reasonable efforts, the apparent successful bidder could have met the goal. If the apparent successful bidder fails to meet the goal, but meets or exceeds the average DBE participation obtained by other bidders, you may view this, in conjunction with other factors, as evidence of the apparent successful bidder having made good faith efforts.

**AFFIDAVIT FOR THE UTILIZATION OF  
MATERIAL SUPPLIERS OR MANUFACTURERS**

This affidavit must be completed by the Municipality Contractor's DBE notarized and attached to the Contractor's request to utilize a DBE supplier or manufacturer as a credit towards its DBE Contract requirements; failure to do so will result in not receiving credit towards the Contract DBE requirement.

State Project No.  
Federal Aid Project No.  
Description of Project

I, \_\_\_\_\_, acting in behalf of \_\_\_\_\_  
(Name of person signing Affidavit) (DBE person, firm, association or organization)  
of which I am the \_\_\_\_\_ certify and affirm that \_\_\_\_\_  
(Title of Person) (DBE person, firm, association or organization)

is a certified Connecticut Department of Transportation DBE. I further certify and affirm that I have read and understand 49 CFR, Sec. 26.55(e)(2), as the same may here revised.

I further certify and affirm **that** \_\_\_\_\_ **will** assume the actual and  
(DBE person, firm, association or organization)

contractual responsibility for the provision of the materials and/or supplies sought by \_\_\_\_\_  
(Municipality Contractor)

If a manufacturer, I produce goods from raw materials or substantially alter them before resale, or if a supplier, I perform a commercially useful function in the supply process.

I understand that false statements made herein are punishable by Law (Sec. 53a-157), CGS, as revised).

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

\_\_\_\_\_  
(Signature & Title of Official making the Affidavit)

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

Notary Public (Commissioner of the Superior Court)  
My Commission Expires \_\_\_\_\_

**CERTIFICATE OF CORPORATION**

I, \_\_\_\_\_, certify that I am the \_\_\_\_\_ (Official)  
of the Organization named in the foregoing instrument; that I have been duly authorized to affix the seal of the Organization to such papers as  
require the seal; that \_\_\_\_\_ who signed said instrument on behalf of the Organization, was then \_\_\_\_\_  
of said Organization; that said instrument was duly signed for and in behalf of said Organization by authority of its governing body and is within  
the scope of its organizational powers.

\_\_\_\_\_  
(Signature of Person Certifying) (Date)

## **SECTION 1.05 - CONTROL OF THE WORK**

*Replace Article 1.05.02 with the following:*

### **1.05.02—Plans, Working Drawings, Shop Drawings, Product Data, Submittal Preparation and Processing - Review Timeframes, Department's Action:**

**1. Plans:** The plans provided by the City show the details necessary to give a comprehensive idea of the construction contemplated under the Contract. The plans will generally show location, character, dimensions, and details necessary to complete the Project. If the plans do not show complete details, they will show the necessary dimensions and details, which when used along with the other Contract documents, will enable the Contractor to prepare Working Drawings, Shop Drawings or Product Data necessary to complete the Project.

The Contractor shall prepare submittals as Portable Document Format (PDF) files.

The submittals shall be sent to the City's reviewer(s) in advance of the work detailed, to allow for their review in accordance with the review periods as specified herein (including any necessary revisions, resubmittal, and final review), and acquisition of materials without causing a delay of the Project.

**2. Working Drawings:** When required by the Contract or when ordered to do so by the Engineer, the Contractor shall prepare and submit the Working Drawings, signed, sealed and dated by a qualified Professional Engineer licensed to practice in the State of Connecticut, for review. The Working Drawings shall be submitted sufficiently in advance of the work detailed, to allow for their review in accordance with the requirements specified in 1.05.02-5 (including any necessary revisions, resubmittal, and final review). There will be no direct payment for furnishing any Working Drawings, procedures or supporting calculations, but the cost thereof shall be considered as included in the general cost of the work.

The Contractor is only required to deliver paper copies that have been stamped with "No Exceptions Noted" or "Exceptions as Noted." Guidance to the Contractor for the number of properly sized paper copies will be provided by the Department.

- a. Working Drawings for Permanent Construction: The Contractor shall supply to the City a certificate of insurance in accordance with 1.03.07 at the time that the Working Drawings for the Project are submitted.

The Contractor's designer, who prepares the working drawings, shall secure and maintain at no direct cost to the State a Professional Liability Insurance Policy for errors and omissions in the minimum amount of \$2,000,000 per error or omission. The Contractor's designer may elect to obtain a policy containing a maximum \$250,000 deductible clause, but if the Contractor's designer should obtain a policy containing such a clause, they shall be liable to the extent of at least the deductible amount. The Contractor's designer shall obtain the appropriate and proper endorsement of its Professional Liability Policy to cover the indemnification clause in this Contract, as the same relates to negligent acts, errors or

omissions in the Project work performed by them. The Contractor's designer shall continue this liability insurance coverage for a period of

- (i) 3 years from the date of acceptance of the work by the Engineer, as evidenced by a State of Connecticut, Department of Transportation form entitled "Certificate of Acceptance of Work," issued to the Contractor; or
  - (ii) 3 years after the termination of the Contract, whichever is earlier, subject to the continued commercial availability of such insurance.
- b. Working Drawings for Temporary Construction: The Contractor shall submit drawings, calculations, procedures and other supporting data to the City in accordance with this Specification, with the exception of requirements defined under a. Working Drawings for Permanent Construction.

**3. Shop Drawings:** When required by the Contract, or when ordered to do so by the Engineer, the Contractor shall prepare and deliver Shop Drawings to the City for review.

Shop Drawings shall be submitted sufficiently in advance of the work detailed, to allow for their review in accordance with the requirements specified in 1.05.02-5 (including any necessary revisions, resubmittal, and final review). There will be no direct payment for furnishing any Shop Drawings but the cost thereof shall be considered as included in the general cost of the work.

**4. Product Data:** When required by the Contract, or when ordered to do so by the Engineer, the Contractor shall prepare and deliver Product Data to the City for review.

Product Data shall be submitted sufficiently in advance of the work detailed, to allow for their review in accordance with the requirements specified in 1.05.02-5 (including any necessary revisions, resubmittal, and final review). There will be no direct payment for furnishing any Product Data but the cost thereof shall be considered as included in the general cost of the work.

The Contractor shall submit the Product Data in a single submittal for each element of construction.

The Contractor shall mark each copy of the Product Data submittal to show applicable choices and options. Where Product Data includes information on several products that are not required, copies shall be marked to indicate the applicable information. Product Data shall include the following information and confirmation of conformance with the Contract to the extent applicable: manufacturer's printed recommendations, compliance with recognized trade association standards, compliance with recognized testing agency standards, application of testing agency labels and seals, notation of coordination requirements, Contract item number, and any other information required by the individual Contract provisions.

**5. Submittal Preparation and Processing – Review Timeframes:** The Contractor shall allow 30 calendar days for submittal review by the City, from the date receipt is acknowledged



by the City. For any submittals stamped with “Revise and Resubmit” or “Rejected,” the City is allowed an additional 20 calendar days for review of any resubmissions.

An extension of Contract time will not be authorized due to the Contractor’s failure to transmit submittals sufficiently in advance of the work to permit processing.

The furnishing of Shop Drawings, Working Drawings or Product Data, or any comments or suggestions by the Designer or Engineer concerning Shop Drawings, Working Drawings or Product Data, shall not relieve the Contractor of any of its responsibility for claims by the State or by third parties, as per 1.07.10.

The furnishing of the Shop Drawings, Working Drawings and Product Data shall not serve to relieve the Contractor of any part of its responsibility for the safety or the successful completion of the Project construction.

**6. City’s Action:** The City will review each submittal, mark each with a self-explanatory action stamp, and return the stamped submittal promptly to the Contractor. The Contractor shall not proceed with the part of the Project covered by the submittal until the submittal is marked “No Exceptions Noted” or “Exceptions as Noted” by the City. The Contractor shall retain sole responsibility for compliance with all Contract requirements. The stamp will be marked as follows to indicate the action taken:

- a. If submittals are marked “No Exceptions Noted,” the Designer or Engineer has not observed any statement or feature that appears to deviate from the Contract requirements. This disposition is contingent on being able to execute any manufacturer’s written warranty in compliance with the Contract provisions.
- b. If submittals are marked “Exceptions as Noted,” the considerations or changes noted by the City’s Action are necessary for the submittal to comply with Contract requirements. The Contractor shall review the required changes and inform the City if they feel the changes violate a provision of the Contract or would lessen the warranty coverage.
- c. If submittals are marked “Revise and Resubmit,” the Contractor shall revise the submittals to address the deficiencies or provide additional information as noted by the City. The Contractor shall allow an additional review period as specified in 1.05.02-5.
- d. If submittals are marked “Rejected,” the Contractor shall prepare and submit a new submittal in accordance with the City’s notations. The resubmissions require an additional review and determination by the City. The Contractor shall allow an additional review period as specified in 1.05.02-5.

## **SECTION 1.06 - CONTROL OF MATERIALS**

### **Article 1.06.07 - Certified Test Reports and Materials Certificates:**

After Article 1.06.07-1 add the following:

1) For the materials in the following items, a Certified Test Report will be required confirming their conformance to the requirements set forth in these plans or specifications or both. Should the consignee noted on a Certified Test Report be other than the Prime Contractor, then Materials Certificates shall be required to identify the shipment.

- Concrete Mix Design
- Hot Mix Asphalt
- Turf Establishment Seed Mix
- Subbase
- Processed Aggregate Base

After Article 1.06.07-2 add the following:

2) For the materials in the following items, a Materials Certificate will be required confirming their conformance to the requirements set forth in these plans or specifications or both.

- Tack Coat
- Pavement Markings

## **SECTION 1.07 - LEGAL RELATIONS AND RESPONSIBILITIES**

**Article 1.07.13** - Contractor's Responsibility for Adjacent Property, Facilities and Services is supplemented as follows:

The following company and representative shall be contacted by the Contractor to coordinate the protection of their utilities on this project 30 days prior to the start of any work on this project involving their utilities:

Mr. Mark Elliott  
District 2 Utility Coordinator  
171 Salem Turnpike  
Norwich, Connecticut  
(860) 823-3254

Mr. Jim Bitzas  
Comcast of Connecticut  
1110 East Mountain Road  
Westfield, MA 01085  
(413) 642-8582

Mr. Eric Clark  
Lighttower Fiber Networks  
dba Crown Castle Fiber

1781 Highland Avenue, Suite 102  
Cheshire, CT 06410  
(203) 649-3904

Mr. James Deacon  
Connecticut Light and Power  
dba Eversource Energy – ElectricDis.

410 Sheldon Street  
Hartford, CT 06103  
(860) 280-2466

Mr. Joseph Lanzafame  
City of New London Dept. of  
Public Utilities – Water and Sewer  
120 Broad Street  
New London, CT 06320  
(860) 437-6365

Mr. Chap Hanley  
Atlantic Broadband  
61 Myrock Avenue  
Waterford, CT 06385  
(860) 629-6782

Ms. Lynne DeLucia  
Southern New England Telephone  
dba Frontier Communications of Connecticut

1441 North Colony Road  
Meriden, CT 06450  
(203) 238-5000

Mr. James Shea  
Yankee Gas Services  
dba Eversource Energy – Gas Dist.

107 Sheldon Street, Mail Stop NUE2  
Berlin, CT 06037  
(860) 665-3332

The following Department representative shall be contacted by the Contractor to coordinate an inspection of the service entrance into the controller/flasher cabinet for controllers within the State right-of-way, when ready for inspection, release, and connection of electrical service. The local Building Department shall be contacted for electrical service inspections for controllers located on Town roads located within the respective municipality.

Mr. Michael LeBlanc  
Property & Facilities  
Department of Transportation  
Newington, CT 06111  
860-594-2238  
Cell 860-983-5114

Please provide the electrical service request number provided by the power company. This is a Work Request (WR) Number provided by Northeast Utilities (CL&P) or a Work Order Number provided by United Illuminating (UI). For State-owned traffic signals in CL&P territory, contact the Department's Traffic Electrical Unit to obtain the WR Number. For State-owned traffic signals in UI territory, contact the Department's Traffic Electrical Unit to obtain a Request for Metered Service to provide to UI to obtain the Work Order Number. The street address is required for release to local power companies (Groton Utilities or Wallingford Electric).

## **SECTION 1.08 - PROSECUTION AND PROGRESS**

### **Article 1.08.03 - Prosecution of Work:**

Add the following:

The Contractor shall stake the limits of the concrete sidewalks and ramps in conjunction with staking the locations of foundations to ensure that pedestrian push buttons will be located appropriately and will be accessible from a landing area.

The Contractor will not be allowed to install traffic signal or pedestrian heads until the controllers are on hand and ready for installation. Once installation of this equipment commences, the Contractor shall complete this work in a most expeditious manner.

The Contractor shall notify the project engineer on construction projects, or the district permit agent on permit jobs, when all traffic signal work is completed. This will include all work at signalized intersections including loop replacements, adjusting existing traffic signals or any relocation work including handholes. The project engineer or district permit agent will notify the Division of Traffic Engineering to coordinate a field inspection of all work. Refer to Section 10.00 – General Clauses For Highway Illumination And Traffic Signal Projects, Article 10.00.10 and corresponding special provision.

## **SECTION 4.06 - BITUMINOUS CONCRETE**

Section 4.06 is being deleted in its entirety and replaced with the following:

**4.06.01 —Description 4.06.02—**

**Materials 4.06.03—**

**Construction Methods**

- 1. Material Documentation**
- 2. Transportation of Mixture**
- 3. Paving Equipment**
- 4. Test Section**
- 5. Transitions for Roadway Surface**
- 6. Spreading and Finishing of Mixture**
- 7. Longitudinal Joint Construction Methods**
- 8. Contractor Quality Control (QC) Requirements**
- 9. Temperature and Seasonal Requirements**
- 10. Field Density**
- 11. Acceptance Sampling and Testing**
- 12. Density Dispute Resolution Process**
- 13. Corrective Work Procedure**
- 14. Protection of the Work**
- 15. Cut Bituminous Concrete Pavement**

**4.06.04—Method of Measurement 4.06.05—**

**Basis of Payment**

**4.06.01 —Description:** Work under this Section shall include the production, delivery, placement and compaction of a uniform textured, non-segregated, smooth bituminous concrete pavement to the grade and cross section shown on the plans.

The following terms as used in this specification are defined as:

Bituminous Concrete: A composite material consisting of prescribed amounts of asphalt binder and aggregates. Asphalt binder may also contain additives engineered to modify specific properties and/or behavior of the composite material. References to bituminous concrete apply to all of its forms, such as those identified as hot-mix asphalt (HMA) or polymer-modified asphalt (PMA).

Bituminous Concrete Plant (Plant): A structure where aggregates and asphalt binder are combined in a controlled fashion into a bituminous concrete mixture suitable for forming pavements and other paved surfaces.

Course: A continuous layer (a lift or multiple lifts) of the same bituminous concrete mixture placed as part of the pavement structure.

Density Lot: The total tonnage of all bituminous concrete placed in a single lift which are:

PWL density lots = When the project total estimated quantity per mixture is larger than 3,500 tons

Simple Average density lots = When the project total estimated quantity per mixture is 3,500 tons or less

Disintegration: Erosion or fragmentation of the pavement surface which can be described as

polishing, weathering-oxidizing, scaling, spalling, raveling, or formation of potholes.

Dispute Resolution: A procedure used to resolve conflicts between the Engineer and the Contractor's results that may affect payment.

Hot Mix Asphalt (HMA): A bituminous concrete mixture typically produced at 325°F.

Job Mix Formula (JMF): A recommended aggregate gradation and asphalt binder content to achieve the required mixture properties.

Lift: An application of a bituminous concrete mixture placed and compacted to a specified thickness in a single paver pass.

Percent Within Limits (PWL): The percentage of the lot falling between the Upper Specification Limit (USL) and the Lower Specification Limit (LSL).

Polymer Modified Asphalt (PMA): A bituminous concrete mixture containing a polymer-modified asphalt binder and using a qualified warm mix technology.

Production Lot: The total tonnage of a bituminous concrete mixture from a single source that may receive an adjustment.

Production Sub Lot: Portion of the production lot typically represented by a single sample.

Quality Assurance (QA): All those planned and systematic actions necessary to provide CTDOT the confidence that a Contractor will perform the work as specified in the Contract.

Quality Control (QC): The sum total of activities performed by the vendor (Producer, Manufacturer, and Contractor) to ensure that a product meets contract specification requirements.

Superpave: A bituminous concrete mix design used in mixtures designated as "S\*" Where "S" indicates Superpave and \* indicates the sieve related to the nominal maximum aggregate size of the mix.

Segregation: A non-uniform distribution of a bituminous concrete mixture in terms of gradation, temperature, or volumetric properties.

Warm Mix Asphalt (WMA) Technology: A qualified additive or technology that may be used to produce a bituminous concrete at reduced temperatures and/or increase workability of the mixture.

**4.06.02 —Materials:** All materials shall meet the requirements of Section M.04.

**1. Materials Supply:** The bituminous concrete mixture must be from one source of supply and originate from one Plant unless authorized by the Engineer.

**2. Recycled Materials:** Reclaimed Asphalt Pavement (RAP), Crushed Recycled Container Glass (CRCG), Recycled Asphalt Shingles (RAS), or crumb rubber (CR) from recycled tires may be incorporated in bituminous concrete mixtures in accordance with Project Specifications.

**4.06.03 —Construction Methods**

**1. Material Documentation:** All vendors producing bituminous concrete must have Plants with automated vehicle-weighting scales, storage scales, and material feeds capable of producing a delivery ticket containing the information below.

- a. State of Connecticut printed on ticket.
- b. Name of Producer, identification of Plant, and specific storage silo if used.
- c. Date and time.
- d. Mixture Designation, mix type and level. Curb mixtures for machine-placed curbing must state "curb mix only."

- e. If WMA Technology is used, “-W” must be listed following the mixture designation.
- f. Net weight of mixture loaded into the vehicle. (When RAP and/or RAS is used, the moisture content shall be excluded from mixture net weight.)
- g. Gross weight (equal to the net weight plus the tare weight or the loaded scale weight).
- h. Tare weight of vehicle (daily scale weight of the empty vehicle).
- i. Project number, purchase order number, name of Contractor (if Contractor other than Producer).
- j. Vehicle number - unique means of identification of vehicle.
- k. For Batch Plants: individual aggregate, recycled materials, and virgin asphalt max/target/min weights when silos are not used.
- l. For every mixture designation: the running daily and project total delivered and sequential load number.

The net weight of mixture loaded into the vehicle must be equal to the cumulative measured weights of its components.

The Contractor must notify the Engineer immediately if, during production, there is a malfunction of the weight recording system in the automated Plant. Manually written tickets containing all required information will be allowed for no more than 1 hour.

The State reserves the right to have an Inspector present to monitor batching and/or weighing operations.

**2. Transportation of Mixture:** The mixture shall be transported in vehicles that are clean of all foreign material, excessive coating or cleaning agents, and that have no gaps through which material might spill. Any material spilled during the loading or transportation process shall be quantified by re-weighing the vehicle. The Contractor shall load vehicles uniformly so that segregation is minimized. Loaded vehicles shall be tightly covered with waterproof covers acceptable to the Engineer. Mesh covers are prohibited. The cover must minimize air infiltration. Vehicles found not to be in conformance shall not be loaded

Vehicles with loads of bituminous concrete being delivered to State projects must not exceed the statutory or permitted load limits referred to as gross vehicle weight (GVW). The Contractor shall furnish a list and allowable weights of all vehicles transporting mixture. The State reserves the right to check the gross and tare weight of any vehicle. If the gross or tare weight varies from that shown on the delivery ticket by more than 0.4%, the Engineer will recalculate the net weight. The Contractor shall correct the discrepancy to the satisfaction of the Engineer.

If a vehicle delivers mixture to the Project and the delivery ticket indicates that the vehicle is overweight, the load may not be rejected but a “Measured Weight Adjustment” will be taken in accordance with Article 4.06.04.

Vehicle body coating and cleaning agents must not have a deleterious effect on the mixture. The use of solvents or fuel oil, in any concentration, is prohibited for the coating of vehicle bodies.

For each delivery, the Engineer shall be provided a clear, legible copy of the delivery ticket.

**3. Paving Equipment:** The Contractor shall have the necessary paving and compaction equipment at the Project Site to perform the work. All equipment shall be in good working order and any equipment that is worn, defective, or inadequate for performance of the work shall be repaired or replaced by the Contractor to the satisfaction of the Engineer. During the paving operation, the use of solvents or fuel oil, in any concentration, is strictly prohibited as a release agent or cleaner on any paving equipment (i.e., rollers, pavers, transfer devices, etc.).



Refueling or cleaning of equipment is prohibited in any location on the Project where fuel or solvents might come in contact with paved areas or areas to be paved. Solvents used in cleaning mechanical equipment or hand tools shall be stored clear of areas paved or to be paved. Before any such equipment and tools are cleaned, they shall be moved off of areas paved or to be paved. Pavers: Each paver shall have a receiving hopper with sufficient capacity to provide for a uniform spreading operation and a distribution system that places the mix uniformly, without segregation. The paver shall be equipped with and use a vibratory screed system with heaters or burners. The screed system shall be capable of producing a finished surface of the required evenness and texture without tearing, shoving, or gouging the mixture. Pavers with extendible screed units as part of the system shall have auger extensions and tunnel extenders as necessary. Automatic screed controls for grade and slope shall be used at all times unless otherwise authorized by the Engineer. The controls shall automatically adjust the screed to compensate for irregularities in the preceding course or existing base. The controls shall maintain the proper transverse slope and be readily adjustable, and shall operate from a fixed or moving reference such as a grade wire or floating beam (minimum length 20 feet).

Rollers: All rollers shall be self-propelled and designed for compaction of bituminous concrete. Roller types shall include steel wheeled, pneumatic, or a combination thereof. Rollers that operate in a dynamic mode shall have drums that use a vibratory or oscillatory system or combination. Vibratory rollers shall be equipped with indicators for amplitude, frequency, and speed settings/readouts to measure the impacts per foot during the compaction process. Oscillatory rollers shall be equipped with frequency indicators. Rollers can operate in the dynamic mode using the oscillatory system on concrete structures such as bridges and catch basins if at the lowest frequency setting.

Pneumatic tire rollers shall be equipped with wide-tread compaction tires capable of exerting an average contact pressure from 60 to 90 psi uniformly over the surface. The Contractor shall furnish documentation to the Engineer regarding tire size, pressure and loading to confirm that the proper contact pressure is being developed and that the loading and contact pressure are uniform for all wheels.

Lighting: For paving operations which will be performed during hours of darkness the paving equipment shall be equipped with lighting fixtures as described below or with an approved equal. Lighting shall minimize glare to passing traffic. The lighting options and minimum number of fixtures are listed in Tables 4.06-1 and 4.06-2.

**TABLE 4.06-1: Minimum Paver lighting**

<b>Option</b>	<b>Fixture Configuration</b>	<b>Fixture Quantity</b>	<b>Requirement</b>
1	Type A	3	Mount over screed area
	Type B (narrow) or Type C (spot)	2	Aim to auger and guideline
	Type B (wide) or Type C (flood)	2	Aim 25feet behind paving machine
2	Type D Balloon	2	Mount over screed area

**TABLE 4.06-2: Minimum Roller Lighting**

Option	Fixture Configuration	Fixture Quantity	Requirement
1	Type B (wide)	2	Aim 50 feet in front of and behind roller
	Type B (narrow)	2	Aim 100 feet in front of and behind roller
2	Type C (flood)	2	Aim 50 feet in front of and behind roller
	Type C (spot)	2	Aim 100 feet in front of and behind roller
3	Type D Balloon	1	Mount above the roller

\*All fixtures shall be mounted above the roller.

Type A: Fluorescent fixture shall be heavy duty industrial type. Each fixture shall have a minimum output of 8,000 lumens. The fixtures shall be mounted horizontally and be designed for continuous row installation.

Type B: Each floodlight fixture shall have a minimum output of 18,000 lumens.

Type C: Each fixture shall have a minimum output of 19,000 lumens.

Type D: Balloon light – each balloon light fixture shall have minimum output of 50,000 lumens and emit light equally in all directions.

Material Transfer Vehicle (MTV): A MTV shall be used when placing bituminous concrete surface course (a lift or multiple lifts) as indicated in the Contract except as noted on the plans or as directed by the Engineer. In addition, continuous paving lengths of less than 500 feet may not require the use of a MTV as determined by the Engineer.

The MTV must be a vehicle specifically designed for the purpose of delivering the bituminous concrete mixture from the delivery vehicle to the paver. The MTV must continuously remix the bituminous concrete mixture throughout the placement process.

The use of a MTV will be subject to the requirements stated in Article 1.07.05 Load Restrictions. The Engineer may limit the use of the vehicle if it is determined that the use of the MTV may damage highway components, utilities, or bridges. The Contractor shall submit to the Engineer at time of pre-construction the following information:

1. The make and model of the MTV.
2. The individual axle weights and axle spacing for each piece of paving equipment (haul vehicle, MTV and paver).
3. A working drawing showing the axle spacing in combination with all pieces of equipment that will comprise the paving echelon.
4. **Test Section:** The Engineer may require the Contractor to place a test section whenever the requirements of this specification or Section M.04 are not met.

The Contractor shall submit the quantity of mixture to be placed and the location of the test section for review and approval by the Engineer. The same equipment used in the construction of a passing test section shall be used throughout production.

If a test section fails to meet specifications, the Contractor shall stop production, make necessary adjustments to the job mix formula, Plant operations, or procedures for placement and compaction. The Contractor shall construct test sections, as allowed by the Engineer, until all the required specifications are met. All test sections shall also be subject to removal as set forth in Article 1.06.04.

**5. Transitions for Roadway Surface:** Transitions shall be formed at any point on the roadway where the pavement surface deviates, vertically, from the uniform longitudinal profile as specified on the plans. Whether formed by milling or by bituminous concrete mixture, all transition lengths shall meet the criteria below unless otherwise specified.

Permanent Transitions: Defined as any gradual change in pavement elevation that remains as a permanent part of the work.

A transition shall be constructed no closer than 75 feet from either side of a bridge expansion joint or parapet. All permanent transitions, leading and trailing ends shall meet the following length requirements:

Posted Speed Limit	Permanent Transition Length Required
> 35 mph	30 feet per inch of elevation change
35 mph or less	15 feet per inch of elevation change

In areas where it is impractical to use the above-described permanent transition lengths, the use of a shorter permanent transition length may be permitted when approved by the Engineer.

Temporary Transitions: Defined as a transition that does not remain a permanent part of the work.

All temporary transitions shall meet the following length requirements:

Posted Speed Limit	Temporary Transition Length Required
> 50 mph	Leading Transition: 15 feet per inch of vertical change (thickness) Trailing Transition: 6 feet per inch of vertical change (thickness)
40, 45 or 50 mph	Leading and Trailing: 4 feet per inch of vertical change (thickness)
35 mph or less	Leading and Trailing: 3 feet per inch of vertical change (thickness)

**Note:** Any temporary transition to be in place over the winter shutdown period or during extended periods of inactivity (more than 14 calendar days) shall meet the greater than 50 mph requirements shown above.

**6. Spreading and Finishing of Mixture:** Prior to the placement of the mixture, the underlying base course shall be brought to the plan grade and cross section within the allowable tolerance. Immediately before placing a bituminous concrete lift, a uniform coating of tack coat shall be applied to all existing underlying pavement surfaces and on the exposed surface of a wedge joint. Such surfaces shall be clean and dry. Sweeping or other means acceptable to the Engineer shall be used.

The mixture shall not be placed whenever the surface is wet or frozen.

Tack Coat Application: The tack coat shall be applied by a pressurized spray system that results in uniform overlapping coverage at an application rate of 0.03 to 0.05 gal./s.y. for a non-milled surface and an application rate of 0.05 to 0.07 gal./s.y. for a milled surface. For areas

where both milled and un-milled surfaces occur, the tack coat shall be an application rate of 0.03 to 0.05 gal /s.y. The Engineer must approve the equipment and the method of measurement prior to use. The material for tack coat shall be heated to  $160^{\circ}\text{F} \pm 10^{\circ}\text{F}$  and shall not be further diluted.

Tack coat shall be allowed sufficient time to break prior to any paving equipment or haul vehicles driving on it.

The Contractor may request to omit the tack coat application between bituminous concrete layers that have not been exposed to traffic and are placed during the same work shift. Requests to omit tack coat application on the upper and lower surfaces of a wedge joint will not be considered.

**Placement:** The mixture shall be placed and compacted to provide a smooth, dense surface with a uniform texture and no segregation at the specified thickness and dimensions indicated in the plans and specifications.

When unforeseen weather conditions prevent further placement of the mixture, the Engineer is not obligated to accept or place the bituminous concrete mixture that is in transit from the Plant. In advance of paving, traffic control requirements shall be set up, maintained throughout placement, and shall not be removed until all associated work including density testing is completed.

The mixture temperature will be verified by means of a probe or infrared type of thermometer. The placement temperature range shall be listed in the quality control plan (QCP) for placement and meet the requirements of Table M.04.03-4. Any HMA material that falls outside the specified temperature range as measured by a probe thermometer may be rejected.

The Contractor shall inspect the newly placed pavement for defects in mixture or placement before rolling is started. Any deviation from standard crown or section shall be immediately remedied by placing additional mixture or removing surplus mixture. Such defects shall be corrected to the satisfaction of the Engineer.

Where it is impracticable due to physical limitations to operate the paving equipment, the Engineer may permit the use of other methods or equipment. Where hand spreading is permitted, the mixture shall be placed by means of suitable shovels and other tools, and in a uniformly loose layer at a thickness that will result in a completed pavement meeting the designed grade and elevation.

**Placement Tolerances:** Each lift of bituminous concrete placed at a specified thickness shall meet the following requirements for thickness and area. Any pavement exceeding these limits shall be subject to an adjustment or removal. Lift tolerances will not relieve the Contractor from meeting the final designed grade. Lifts of specified non-uniform thickness, i.e. wedge or shim course, shall not be subject to thickness and area adjustments.

- a) Thickness: Where the average thickness of the lift exceeds that shown on the plans beyond the tolerances shown in Table 4.06-3, the Engineer will calculate the thickness adjustment in accordance with Article 4.06.04.

**TABLE 4.06-3: Thickness Tolerances**

Mixture Designation	Lift Tolerance
S1	+/- 3/8 inch
S0.25, S0.375, S0.5	+/- 1/4 inch

Where the thickness of the lift of mixture is less than that shown on the plans beyond the

tolerances shown in Table 4.06-3, the Contractor, with the approval of the Engineer, shall take corrective action in accordance with this Section.

- b) Area: Where the width of the lift exceeds that shown on the plans by more than the specified thickness, the Engineer will calculate the area adjustment in Article 4.06.04.
- c) Delivered Weight of Mixture: When the delivery ticket shows that the truck exceeds the allowable gross weight for the vehicle type, the Engineer will calculate the weight adjustment in accordance with Article 4.06.04.

Transverse Joints: All transverse joints shall be formed by saw-cutting to expose the full thickness of the lift. Tack coat shall be applied to the sawn face immediately prior to additional mixture being placed.

Compaction: The Contractor shall compact the mixture to meet the density requirements as stated in Article 4.06.04 and eliminate all roller marks without displacement, shoving cracking, or aggregate breakage.

When placing a lift with a specified thickness less than 1 1/2 inches, or a wedge course, the Contractor shall provide a minimum rolling pattern as determined by the development of a compaction curve. The procedure to be used shall be documented in the Contractor's QCP for placement and demonstrated on the first day of placement.

The use of the vibratory system on concrete structures is prohibited. When approved by the Engineer, the Contractor may operate a roller using an oscillatory system at the lowest frequency setting.

If the Engineer determines that the use of compaction equipment in the dynamic mode may damage highway components, utilities or adjacent property, the Contractor shall provide alternate compaction equipment.

Rollers operating in the dynamic mode shall be shut off when changing directions. These allowances will not relieve the Contractor from meeting pavement compaction requirements.

Surface Requirements:

Each lift of the surface course shall not vary more than 1/4 inch from a Contractor-supplied 10 foot straightedge. For all other lifts of bituminous concrete, the tolerance shall be 3/8 inch. Such tolerance will apply to all paved areas.

Any surface that exceeds these tolerances shall be corrected by the Contractor at its own expense.

**7. Longitudinal Joint Construction Methods:** The Contractor shall use Method I - Notched Wedge Joint (see Figure 4.06-1) when constructing longitudinal joints where lift thicknesses are 1 1/2 inches to 3 inches. S1.0 mixtures shall be excluded from using Method I. Method II - Butt Joint (see Figure 4.06-2) shall be used for lifts less than 1 1/2 inches or greater than 3 inches. Each longitudinal joint shall maintain a consistent offset from the centerline of the roadway along its entire length. The difference in elevation between the two faces of any completed longitudinal joint shall not exceed 1/4 inch at any location.

**Method I - Notched Wedge Joint:**

A notched wedge joint shall be constructed as shown in Figure 4.06-1 using a device that is attached to the paver screed and is capable of independently adjusting the top and bottom vertical notches. The device shall have an integrated vibratory system. The top vertical notch must be located at the centerline or lane line in the final lift. The requirement for paving full width "curb to curb" as described in Method II may be waived if addressed in the QC plan and approved by

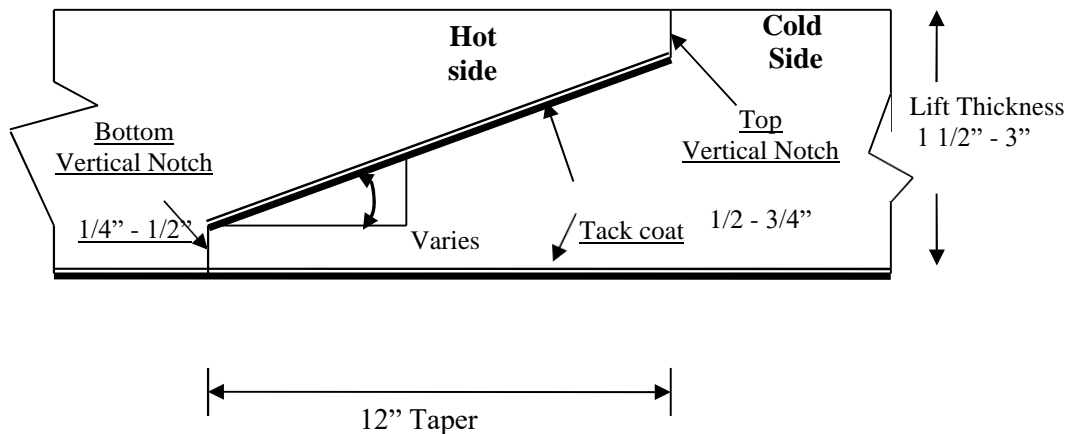
the Engineer.

The taper portion of the wedge joint shall be evenly compacted using equipment other than the paver or notch wedge joint device. The compaction device shall be the same width as the taper and not reduce the angle of the wedge or ravel the top notch of the joint during compaction.

When placed on paved surfaces, the area below the sloped section of the joint shall be treated with tack coat. The top surface of the sloped section of the joint shall be treated with tack coat prior to placing the completing pass.

The taper portion of the wedge joint shall not be exposed to traffic for more than 5 calendar days.

**Figure 4.06-1: Notched Wedge Joint (Not to Scale)**



Any exposed wedge joint must be located to allow for the free draining of water from the road surface.

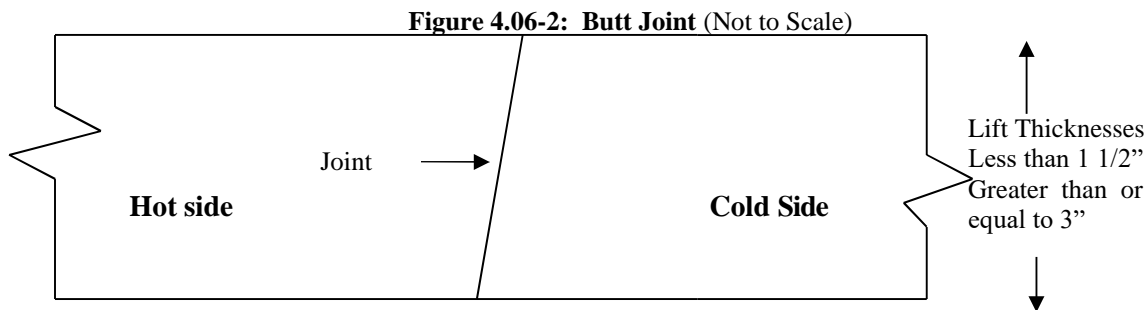
The Engineer reserves the right to define the paving limits when using a wedge joint that will be exposed to traffic.

If Method I cannot be used on those lifts which are  $1\ 1/2$  inches to 3 inches, Method III may be substituted according to the requirements below for "Method III - Butt Joint with Hot Poured Rubberized Asphalt Treatment."

**Method II - Butt Joint:**

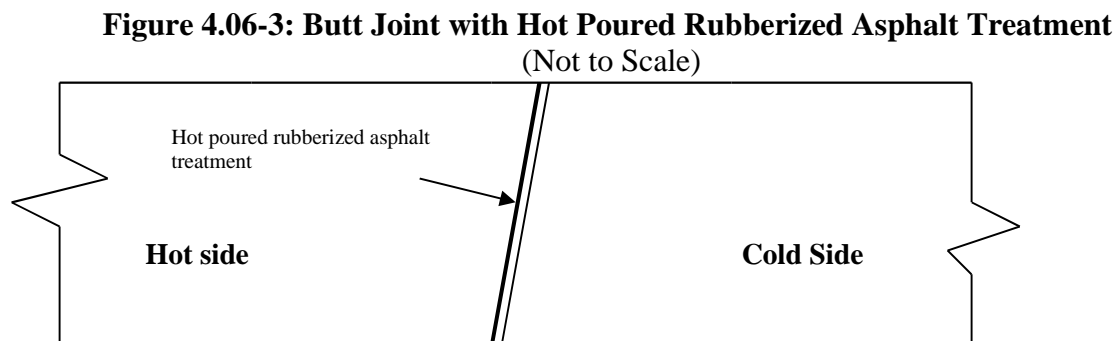
When adjoining passes are placed, the Contractor shall use the end gate to create a near vertical edge (refer to Figure 4.06-2). The completing pass (hot side) shall have sufficient mixture so that the compacted thickness is not less than the previous pass (cold side). During placement of multiple lifts, the longitudinal joint shall be constructed in such a manner that it is located at least 6 inch from the joint in the lift immediately below. The joint in the final lift shall be at the centerline or at lane lines. The end gate on the paver should be set so there is an overlap onto the cold side of the joint.

The Contractor shall not allow any butt joint to be incomplete at the end of a work shift unless otherwise allowed by the Engineer. When using this method, the Contractor is not allowed to leave a vertical edge exposed at the end of a work shift and must complete paving of the roadway full width "curb to curb."



**Method III - Butt Joint with Hot Poured Rubberized Asphalt Treatment:**

If Method I cannot be used due to physical constraints in certain limited locations, the Contractor may submit a request in writing for approval by the Engineer to use Method III as a substitution in those locations. There shall be no additional measurement or payment made when Method III is substituted for Method I. When required by the Contract or approved by the Engineer, Method III (see Figure 4.06-3) shall be used.



All of the requirements of Method II must be met with Method III. In addition, the longitudinal vertical edge must be treated with a rubberized joint seal material meeting the requirements of ASTM D6690, Type 2. The joint sealant shall be placed on the face of the “cold side” of the butt joint as shown above prior to placing the “hot side” of the butt joint. The joint seal material shall be applied in accordance with the manufacturer’s recommendation so as to provide a uniform coverage and avoid excess bleeding onto the newly placed pavement.

**8. Contractor Quality Control (QC) Requirements:** The Contractor shall be responsible for maintaining adequate quality control procedures throughout the production and placement operations. Therefore, the Contractor must ensure that the materials, mixture, and work provided by Subcontractors, Suppliers, and Producers also meet Contract specification requirements.

This effort must be documented in Quality Control Plans (QCP) and must address the actions, inspection, or sampling and testing necessary to keep the production and placement operations in control, to determine when an operation has gone out of control and to respond to correct the situation in a timely fashion.

The Standard QCP for production shall consist of the quality control program specific to the production facility.

There are 3 components to the QCP for placement: a Standard QCP, a Project Summary Sheet

that details Project-specific information, and, if applicable, a separate Extended Season Paving Plan as required in 4.06.03-9 “Temperature and Seasonal Requirements.”

The Standard QCP for both production and placement shall be submitted to the Department for approval each calendar year and at a minimum of 30 days prior to production or placement.

Production or placement shall not occur until all QCP components have been approved by the Engineer.

Each QCP shall include the name and qualifications of a Quality Control Manager (QCM). The QCM shall be responsible for the administration of the QCP, and any modifications that may become necessary.

The QCM shall have the ability to direct all Contractor personnel on the Project during paving operations.

The QCPs shall also include the name and qualifications of any outside testing laboratory performing any QC functions on behalf of the Contractor. The QC Technician performing in-place density testing shall be NETTCP certified as a paving inspector.

Approval of the QCP does not relieve the Contractor of its responsibility to comply with the Project specifications. The Contractor may modify the QCPs as work progresses and must document the changes in writing prior to resuming operations. These changes include but are not limited to changes in quality control procedures or personnel. The Department reserves the right to deny significant changes to the QCPs.

QCP for Production: Refer to M.04.03-1.

QCP for Placement: The Standard QCP, Project Summary Sheet, and Extended Season Paving Plan shall conform to the format provided by the Engineer. The format is available at [http://www.ct.gov/dot/lib/dot/documents/dconstruction/pat/qcp\\_outline\\_hma\\_placement.pdf](http://www.ct.gov/dot/lib/dot/documents/dconstruction/pat/qcp_outline_hma_placement.pdf) The Contractor shall perform all quality control sampling and testing, provide inspection, and exercise management control to ensure that bituminous concrete placement conforms to the requirements as outlined in its QCP during all phases of the work. The Contractor shall document these activities for each day of placement.

The Contractor shall submit complete field density testing and inspection records to the Engineer within 48 hours in a manner acceptable to the Engineer.

The Contractor may obtain 1 mat core and 1 joint core per day for process control, provided this process is detailed in the QCP. The results of these process control cores shall not be used to dispute the Department’s determinations from the acceptance cores. The Contractor shall submit the location of each process control core to the Engineer for approval prior to taking the core. The core holes shall be filled to the same requirements described in Subarticle 4.06.03-10.

**9. Temperature and Seasonal Requirements:** Paving, including placement of temporary pavements, shall be divided into 2 seasons, “In-Season” and “Extended-Season.” In-Season paving occurs from May 1 to October 14, and Extended Season paving occurs from October 15 to April 30. The following requirements shall apply unless otherwise authorized or directed by the Engineer:

- Mixtures shall not be placed when the air or subbase temperature is less than 40°F regardless of the season.
- Should paving operations be scheduled during the Extended Season, the Contractor must submit an Extended Season Paving Plan for the Project that addresses minimum delivered mix temperature considering WMA, PMA, or other additives; maximum paver speed; enhanced rolling patterns; and the method to balance mixture delivery and placement



operations. Paving during Extended Season shall not commence until the Engineer has approved the plan.

10. **Field Density** The Contractor shall obtain cores for the determination of mat and longitudinal joint density of bituminous concrete pavements. Within five calendar days of placement, mat and joint cores shall be extracted on each lift with a specified thickness of 1 1/2 inches or more. Joint cores shall not be extracted on HMA S1.0 lifts.

The Contractor shall extract cores from random locations determined by the Engineer in accordance with ASTM D3665. Four (4) or six (6) inch diameter cores shall be extracted for S0.25, S0.375 and S0.5 mixtures; 6 inch diameter cores shall be required for S1.0 mixtures. The Contractor shall coordinate with the Engineer to witness the extraction, labeling of cores, and filling of the core holes.

Each lift will be separated into lots as follows:

- a. **Simple Average Density Lots:** For total estimated quantities below 2,000 tons, the lift will be evaluated in one lot which will include the total paved tonnage of the lift and all longitudinal joints between the curb lines.  
For total estimated quantities between 2,000 and 3,500 tons, the lift will be evaluated in two lots in which each lot will include approximately half of the total tonnage placed for the full paving width of a lift including all longitudinal joints between the curb lines.
- b. **PWL Density Lots:** Mat density lots will include each 3,500 tons of mixture placed within 30 calendar days. Joint density lots will include 14,000 linear feet of constructed joints. Bridge density lots will always be analyzed using simple average lot methodology.
- c. **Partial Density Lot (For PWL only):** A mat density lot with less than 3,500 tons or a joint density lot with less than 14,000 linear feet due to:
  - completion of the course; or
  - a lot spanning 30 calendar days.

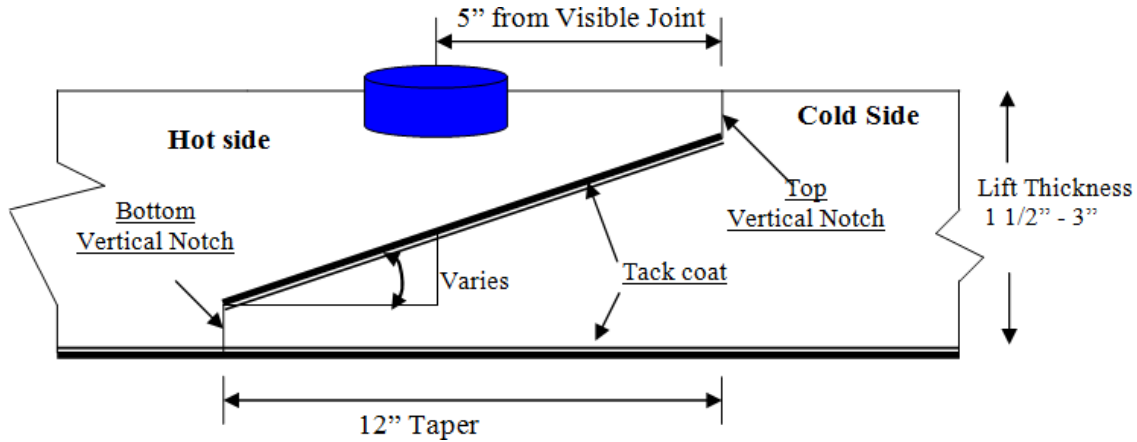
Prior to paving, the type and number of lot(s) will be determined by the Engineer. Noncontiguous areas such as highway ramps may be combined to create one lot.

After the lift has been compacted and cooled, the Contractor shall cut cores to a depth equal to or greater than the lift thickness and shall remove them without damaging the lift(s) to be tested. Any core that is damaged or obviously defective while being obtained will be replaced with a new core from a location within 2 feet measured in a longitudinal direction.

A mat core shall not be located any closer than 1 foot from the edge of a paver pass. If a random number locates a core less than 1 foot from any edge, the location will be adjusted by the Engineer so that the outer edge of the core is 1 foot from the edge of the paver pass.

Method I, Notched Wedge Joint cores shall be taken so that the center of the core is 5 inches from the visible joint on the hot mat side (Figure 4.06-4).

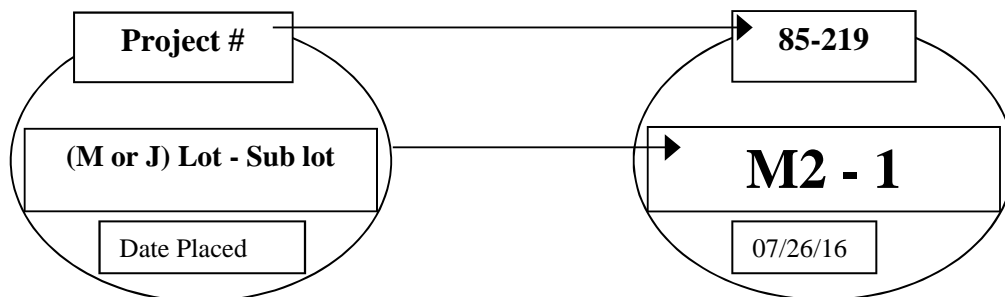
**Figure 4.06-4: Notched Wedge Joint Cores (Not to Scale)**



When Method II or Method III Butt Joint is used, cores shall be taken from the hot side so the edge of the core is within 1 inch of the longitudinal joint.

The cores shall be labeled by the Contractor with the Project number, date placed, lot number, and sub-lot number. The core's label shall include "M" for a mat core and "J" for a joint core. For example, a mat core from the first lot and the first sub-lot shall be labeled with "M1 - 1." A mat core from the second lot and first sub-lot shall be labeled "M2-1" (see Figure 4.06-5). The Engineer shall fill out a MAT-109 to accompany the cores. The Contractor shall deliver the cores and MAT-109 to the Department's Central Lab. The Contractor shall use a container approved by the Engineer. The container shall have a lid capable of being locked shut and tamper proof. The Contractor shall use foam, bubble wrap, or another suitable material to prevent the cores from being damaged during handling and transportation. Once the cores and MAT-109 are in the container the Engineer will secure the lid using security seals at the removable hinges(s) and at the lid opening(s). The security seals' identification number must be documented on the MAT-109. All sealed containers shall be delivered to the Department's Central Lab within two working days from time of extraction. Central Lab personnel will break the security seal and take possession of the cores.

**Figure 4.06-5: Labeling of Cores**



Each core hole shall be filled within 4 hours upon core extraction. Prior to being filled, the hole shall be prepared by removing any free water and applying tack coat using a brush or other

means to uniformly cover the cut surface. The core hole shall be filled using a bituminous concrete mixture at a minimum temperature of 240°F containing the same or smaller nominal maximum aggregate size and compacted with a hand compactor or other mechanical means to the maximum compaction possible. The bituminous concrete shall be compacted to 1/8 inch above the finished pavement.

**Simple Average Density Lots:**

A standard simple average density lot is the quantity of material placed within the defined area excluding any bridge decks.

A combo simple average density lot is the quantity of material placed within the defined area including bridge decks less than or equal to 500 feet long.

A bridge simple average density lot is the quantity of material placed on a bridge deck longer than 500 feet.

The number of cores per lot shall be determined in accordance with Table 4.06-4. If a randomly selected mat or joint core location is on a bridge deck, the core is to be obtained on the bridge deck in addition to the core(s) required on the bridge deck.

The number of cores per lot shall be determined in accordance with Table 4.06-5. Multiple bridge decks can be combined into one lot if the paving and underlying conditions are comparable. If multiple bridge decks are combined into a single bridge lot, at least one mat and joint core shall be obtained on each bridge.

The longitudinal locations of mat cores within a standard, combo, or bridge lot containing multiple paving passes will be determined using the combined length of the paving passes within the lot.

**TABLE 4.06-4: Number of Cores per Lot (Simple Average)**

Lot Type	No. of Mat Cores		No. of Joint Cores	
Standard Lot < 500 Tons	3		3	
Standard Lot ≥ 500 Tons	4		4	
Combo Lot < 500 Tons	2 plus	1 per bridge (≤ 300')	2 plus	1 per bridge (≤ 300')
Combo Lot ≥ 500 Tons <sup>(1)</sup>	4 plus	2 per bridge (301' – 500')	4 plus	2 per bridge (301' – 500')

**TABLE 4.06-5: Number of Core per Bridge Density Lot (Simple Average)**

Length of Bridge(s) (Feet)	Minimum No. of Mat Cores	Minimum No. of Joint Cores
< 500	2	2
501 – 1,500	3	3
1,501 – 2,500	4	4
2,501 and greater	5	5

**PWL Density Lots:**

A PWL mat density lot is 3,500 tons of material placed within the defined area excluding any bridges. One mat core will be obtained per every 500 tons placed.

A PWL joint density lot is 14,000 linear feet of longitudinal joint excluding any joints on bridge decks. One joint core will be obtained per every 2,000 linear feet of joint.

Bridge density lots will always be analyzed as using the simple average lot methodology. The number of cores per lot shall be determined in accordance with Table 4.06-5. Multiple bridge decks can be combined into one lot if the paving and underlying conditions are comparable. If multiple bridge decks are combined into a single bridge lot, at least one mat and joint core shall be obtained on each bridge.

**11. Acceptance Sampling and Testing:** Sampling shall be performed in accordance with ASTM D3665 or a statistically-based procedure of stratified random sampling approved by the Engineer.

**Plant Material Acceptance:** The Contractor shall provide the required sampling and testing during all phases of the work in accordance with M.04. The Department will verify the Contractor's acceptance test results. Should any test results exceed the specified tolerances in the Department's current QA Program for Materials, the Contractor's test results for a subject lot or sub lot may be replaced with the Department's results for the purpose of calculating adjustments. The verification procedure is included in the Department's current QA Program for Materials.

**Density Acceptance:** The Engineer will perform all acceptance testing in accordance with AASHTO T 331. The density of each core will be determined using the daily production's average maximum theoretical specific gravity (Gmm) established during the testing of the parent material at the Plant. When there was no testing of the parent material or any Gmm exceeds the specified tolerances in the Department's current QA Program for Materials, the Engineer will determine the maximum theoretical density value to be used for density calculations.

**12. Density Dispute Resolution Process:** The Contractor and Engineer will work in partnership to avoid potential conflicts and to resolve any differences that may arise during quality control or acceptance testing for density. Both parties will review their sampling and testing procedures and results and share their findings. If the Contractor disputes the Engineer's test results, the Contractor must submit in writing a request to initiate the Dispute Resolution Process within five calendar days of the notification of the test results. No request for dispute resolution will be allowed unless the Contractor provides quality control results from samples taken prior to and after finish rolling, and within the timeframe described in 4.06.03-8 supporting its position. No request for dispute resolution will be allowed for a density lot in which any core was not taken within the required 5 calendar days of placement. Should the dispute not be resolved through evaluation of existing testing data or procedures, the Engineer may authorize the Contractor to obtain a new core or set of core samples per disputed lot. The core samples must be extracted no later than seven calendar days from the date of the Engineer's authorization. All such core samples shall be extracted and the core hole filled using the procedure outlined in 4.06.03-10.

a) **Simple Average Lots:** The Contractor may only dispute any simple average lot that is adjusted at or below 95 percent payment. The number and location (mat, joint, or structure) of the cores taken for dispute resolution must reflect the number and location of the original cores. The location of each core shall be randomly located within the respective original sub lot. The dispute resolution results shall be combined with the original results and averaged for determining the final in-place density value.

b) **PWL Lots:** The Contractor may dispute any PWL subplot when the PWL falls below 50%

calculated in accordance with section 4.06.04.2.b. An additional random core in the subplot may be taken to validate the accuracy of the core in question. The Department will verify the additional core test result and may average the original test result with the additional core result for purpose of calculating adjustments.

**13. Corrective Work Procedure:**

If pavement placed by the Contractor does not meet the specifications, and the Engineer requires its replacement or correction, the Contractor shall:

- a) Propose a corrective procedure to the Engineer for review and approval prior to any corrective work commencing. The proposal shall include:
  - Limits of pavement to be replaced or corrected, indicating stationing or other landmarks that are readily distinguishable.
  - Proposed work schedule.
  - Construction method and sequence of operations.
  - Methods of maintenance and protection of traffic.
  - Material sources.
  - Names and telephone numbers of supervising personnel.
- b) Any corrective courses placed as the final wearing surface shall match the specified lift thickness after completion.

**14. Protection of the Work:** The Contractor shall protect all sections of the newly finished pavement from damage that may occur as a result of the Contractor’s operations for the duration of the Project.

**15. Cut Bituminous Concrete Pavement:** Work under this item shall consist of making a straight-line cut in the bituminous concrete pavement to the lines delineated on the plans or as directed by the Engineer. The cut shall provide a straight, clean, vertical face with no cracking, tearing or breakage along the cut edge.

**4.06.04 —Method of Measurement:**

**1. HMA S\* or PMA S\*:** Bituminous concrete will be measured for payment as the amount of material in tons placed as determined by the net weight on the delivered tickets and adjusted by area, thickness and weight as follows:

Quantity Adjustments: Adjustments may be applied to the placed bituminous concrete quantities that will be measured for payment using the following formulas:

**Yield Factor** for Adjustment Calculation = 0.0575 tons/SY/inch

**Actual Area (SY)** = [(Measured Length (ft)) x (Avg. of width measurements (ft))]/9 s.f./SY

**Actual Thickness (t)** = Total tons delivered / [Actual Area (SY) x 0.0575 tons/SY/inch]

- a) Area: If the average width exceeds the allowable tolerance, an adjustment will be made using the following formula. The tolerance for width is equal to the specified thickness (inch) of the lift being placed.

**Quantity Adjusted for Area (T<sub>A</sub>)** = [(L x W<sub>adj</sub>)/9] x (t) x 0.0575 Tons/SY/inch = (-) tons

Where:L = Length (ft)

(t) = Actual thickness (inches)

W<sub>adj</sub> = (Designed width (ft) + tolerance /12) - Measured Width)

- b) Thickness: If the actual average thickness is less than the allowable tolerance, the Contractor shall submit a repair procedure to the Engineer for approval. If the actual thickness exceeds the allowable tolerance, an adjustment will be made using the following formula:

$$\text{Quantity Adjusted for Thickness (T}_T\text{)} = A \times t_{\text{adj}} \times 0.0575 = (-) \text{ tons}$$

Where: A = Area =  $\{[L \times (\text{Design width} + \text{tolerance (lift thickness)})/12]\} / 9\}$

$t_{\text{adj}}$  = Adjusted thickness =  $[(Dt + \text{tolerance}) - \text{Actual thickness}]$

Dt = Designed thickness (inches)

- c) Weight: If the quantity of bituminous concrete representing the mixture delivered to the Project is in excess of the allowable gross vehicle weight (GVW) for each vehicle, an adjustment will be made using the following formula:

$$\text{Quantity Adjusted for Weight (T}_W\text{)} = \text{GVW} - \text{DGW} = (-) \text{ tons}$$

Where: DGW = Delivered gross weight as shown on the delivery ticket or measured on a certified scale

## 2. Bituminous Concrete Adjustment Cost:

- a) Production Lot Adjustment: An adjustment may be applied to each production lot as follows:

- i. Non-PWL Production Lot (less than 3,500 tons):

The adjustment values in Tables 4.06-6 and 4.06-7 will be calculated for each sub lot based on the Air Void (AV) and Asphalt Binder Content (PB) test results for that sub lot. The total adjustment for each day's production (lot) will be computed as follows:

$$\text{Tons Adjusted for Superpave Design (T}_{SD}\text{)} = [(\text{AdjAV}_t + \text{AdjPB}_t) / 100] \times \text{Tons}$$

Where: AdjAV<sub>t</sub>: Percent adjustment for air voids

AdjPB<sub>t</sub>: Percent adjustment for asphalt binder

Tons: Weight of material (tons) in the lot adjusted by 4.06.4-1

$$\text{Percent Adjustment for Air Voids} = \text{AdjAV}_t = [\text{AdjAV}_1 + \text{AdjAV}_2 + \text{AdjAV}_i + \dots + \text{AdjAV}_n] / n$$

Where: AdjAV<sub>t</sub> = Total percent air void adjustment value for the lot

AdjAV<sub>i</sub> = Adjustment value from Table 4.06-6 resulting from each sub lot or the average of the adjustment values resulting from multiple tests within a sub lot, as approved by the Engineer.

n = number of sub lots based on Table M.04.03-2

**TABLE 4.06-6: Adjustment Values for Air Voids**

Adjustment Value (AdjAV <sub>i</sub> ) (%)	S0.25, S0.375, S0.5, S1 Air Voids (AV)
+2.5	3.8 - 4.2
+3.125*(AV-3)	3.0 - 3.7
-3.125*(AV-5)	4.3 - 5.0
20*(AV-3)	2.3 - 2.9
-20*(AV-5)	5.1 - 5.7
-20.0	≤ 2.2 or ≥ 5.8

Percent Adjustment for Asphalt Binder = AdjPB<sub>t</sub> = [(AdjPB<sub>1</sub> + AdjPB<sub>2</sub> + AdjPB<sub>i</sub> + ... + AdjPB<sub>n</sub>)] / n

Where: AdjPB<sub>t</sub> = Total percent liquid binder adjustment value for the lot  
 AdjPB<sub>i</sub> = Adjustment value from Table 4.06-7 resulting from each sub lot  
 n = number of binder tests in a production lot

**TABLE 4.06-7: Adjustment Values for Binder Content**

Adjustment Value (AdjAV <sub>i</sub> ) (%)	<u>S0.25, S0.375, S0.5, S1</u> Pb
0.0	JMF Pb ± 0.3
- 10.0	≤ JMF Pb - 0.4 or ≥ JMF Pb + 0.4

ii. PWL Production Lot (3500 tons or more):

For each lot, the adjustment values will be calculated using PWL methodology based on AV, VMA, and PB test results. The results will be considered as being normally distributed and all applicable equations in AASHTO R 9 and AASHTO R 42 Appendix X4 will apply.

Only one test result will be considered for each sub lot. The specification limits are listed in M.04.

For AV, PB, and voids in mineral aggregate (VMA), the individual material quantity characteristic adjustment (Adj) will be calculated as follows:

For PWL between 50 and 90%: Adj(AV<sub>t</sub> or PB<sub>t</sub> or VMA<sub>t</sub>) = (55 + 0.5 PWL) - 100

For PWL at and above 90%: Adj(AV<sub>t</sub> or PB<sub>t</sub> or VMA<sub>t</sub>) = (77.5 + 0.25 PWL) - 100

Where: AdjAV<sub>t</sub> = Total percent AV adjustment value for the lot

AdjPB<sub>t</sub> = Total percent PB adjustment value for the lot

AdjVMA<sub>t</sub> = Total percent VMA adjustment value for the lot

A lot with PWL less than 50% in any of the 3 individual material quality characteristics will be evaluated under 1.06.04.

The total adjustment for each production lot will be computed using the following formula:

**Tons Adjusted for Superpave Design (T<sub>SD</sub>)** = [(0.5AdjAV<sub>t</sub> + 0.25AdjPB<sub>t</sub> + 0.25 AdjVMA<sub>t</sub>) / 100] X Tons

Where Tons: Weight of material (tons) in the lot adjusted by 4.06.4-1

iii. Partial Lots:

Lots with less than 4 sub lots will be combined with the prior lot. If there is no prior lot with equivalent material or if the last test result of the prior lot is over 30 calendar days old, the adjustment will be calculated as indicated in 4.06.04-2.a)i.

Lots with 4 or more sub lots will be calculated as indicated in 4.06.04-2.a)ii.

**Production Lot Adjustment:  $T_{SD} \times \text{Unit Price} = \text{Est. (Pi)}$**

Where: Unit Price = Contract unit price per ton per type of mixture

Est. ( Pi)= Pay Unit in dollars representing incentive or disincentive per lot

b) Density Lot Adjustment: An adjustment may be applied to each density lot as follows:

i. Simple Average Density Lot (less than 3500 tons) and Bridge Lots:

The final lot quantity shall be the difference between the total payable tons for the Project and the sum of the previous lots. If either the Mat or Joint adjustment value is “remove and replace,” the density lot shall be removed and replaced (curb to curb).

No positive adjustment will be applied to a density lot in which any core was not taken within the required 5 calendar days of placement.

**Tons Adjusted for Density ( $T_D$ ) =  $[(P_{AM} \times 0.50) + (P_{AJ} \times 0.50)] / 100$  X Tons**

Where:  $T_D$  = Total tons adjusted for density for each lot

$P_{AM}$  = Mat density percent adjustment from Table 4.06-8

$P_{AJ}$  = Joint density percent adjustment from Table 4.06-9

Tons: Weight of material (tons) in the lot adjusted by 4.06.4-1

**TABLE 4.06-8: Adjustment Values for Pavement Mat density**

Average Core Result Percent Mat Density	Percent Adjustment (Bridge and Non-Bridge) <sup>(1)(2)</sup>
97.1 - 100	-1.667*(ACRPD-98.5)
94.5 – 97.0	+2.5
93.5 – 94.4	+2.5*(ACRPD-93.5)
92.0 – 93.4	0
90.0 – 91.9	-5*(92-ACRPD)
88.0 – 89.9	-10*(91-ACRPD)
87.0 – 87.9	-30
86.9 or less	Remove and Replace (curb to curb)

**Notes:**

<sup>(1)</sup> ACRPD = Average Core Result Percent Density

<sup>(2)</sup> All Percent Adjustments to be rounded to the second decimal place; for example round 1.667 to 1.67.



**TABLE 4.06-9: Adjustment Values for Pavement Joint Density**

Average Core Result Percent Joint Density	Percent Adjustment (Bridge and Non-Bridge) <sup>(1)(2)</sup>
97.1 – 100	-1.667*(ACRPD-98.5)
93.5 – 97.0	+2.5
92.0 – 93.4	+1.667*(ACRPD-92)
91.0 – 91.9	0
89.0 – 90.9	-7.5*(91-ACRPD)
88.0 – 88.9	-15*(90-ACRPD)
87.0 – 87.9	-30
86.9 or less	Remove and Replace (curb to curb)

**Notes:**

<sup>(1)</sup> ACRPD = Average Core Result Percent Density

<sup>(2)</sup> All Percent Adjustments to be rounded to the second decimal place; for example round 1.667 to 1.67

Additionally, any subplot with a density result below 87% will be evaluated under 1.06.04.

ii. PWL Density Lot (3,500 tons or more):

For each lot, the adjustment values will be calculated using PWL methodology based on mat and joint density test results. Only one result will be included for each subplot. The results will be considered as being normally distributed and all applicable equations in AASHTO R 9 and AASHTO R 42 Appendix X4 will apply.

The specification limits for the PWL determination are as follows:

Mat Density: 91.5-98%

Joint Density: 90-98%

For mat and joint density, the individual percent adjustment (PA) will be calculated as follows:

For PWL between 50 and 90%:  $PA_{(M \text{ or } J)} = 0.25 * PWL - 22.50$

For PWL at and above 90%:  $PA_{(M \text{ or } J)} = 0.125 * PWL - 11.25$

Where:  $PA_M$  = Total percent mat density adjustment value for the PWL mat density lot

$PA_J$  = Total percent joint density adjustment value for the PWL joint density lot

No positive adjustment will be applied to a density lot in which any core was not taken within the required 5 calendar days of placement.

A lot with PWL less than 50% will be evaluated under 1.06.04.

The total adjustment for each PWL mat density lot will be computed as follows:

**Tons Adjusted for Mat Density ( $T_{MD}$ ) =  $(PA_M / 100) \times \text{Tons}$**

Where: Tons= Weight of material (tons) in the lot adjusted by 4.06.4-1.

The total adjustment for each PWL joint density lot will be computed as follows:

**Tons Adjusted for Joint Density ( $T_{JD}$ ) =  $(PA_J / 100) \times J\_Tons$**

Tons Adjusted for Joint Density will be calculated at the end of each project or project phase.

Where:  $J\_Tons$  = Tons in project or phase adjusted by 4.06.4 – 1 x  $\frac{\text{Lot joint length}}{\text{Joint length in project or phase}}$

All bridge density lot adjustments will be evaluated in accordance with 4.06.04-2.b)i.

Additionally, any subplot with a density result below 87% will be evaluated under 1.06.04.

iii. Partial Lots:

Lots with less than 4 sub lots will be combined with the prior lot. If there is no prior lot with equivalent material and placement conditions or if the last test result of the prior lot is over 30 calendar days old, the mat and joint individual adjustments will be calculated in accordance to Tables 4.06-8 and 4.06-9.  $T_{MD}$  and  $T_{JD}$  will be calculated as indicated in 4.06.04-2.b)i.

Lots with 4 or more sub lots will be calculated as indicated in 4.06.04-2.b)ii.

**Density Lot Adjustment (Simple Average Lots):  $T_D \times \text{Unit Price} = \text{Est. (Di)}$**

**Density Lot Adjustment (PWL Lots):  $(T_{MD} \text{ or } T_{JD}) \times \text{Unit Price} = \text{Est. (DMi or DJi)}$**

Where: Unit Price = Contract unit price per ton per type of mixture

Est. (Di)= Pay Unit in dollars representing incentive or disincentive per simple average density lot

Est. (DMi)= Pay Unit in dollars representing incentive or disincentive per PWL mat lot

Est. (DJi)= Pay Unit in dollars representing incentive or disincentive per PWL joint lot

Additionally, any subplot with a density result below 87% will be evaluated under 1.06.04.

**3. Transitions for Roadway Surface:** The installation of permanent transitions will be measured under the appropriate item used in the formation of the transition.

The quantity of material used for the installation of temporary transitions will be measured for payment under the appropriate item used in the formation of the transition. The installation and removal of a bond breaker and the removal and disposal of any temporary transition formed by milling or with bituminous concrete pavement is not measured for payment.

**4. Cut Bituminous Concrete Pavement:** The quantity of bituminous concrete pavement cut will be measured in accordance with 2.02.04.

**5. Material for Tack Coat:** The quantity of tack coat will be measured for payment by the number of gallons furnished and applied on the Project and approved by the Engineer. No tack coat material shall be included that is placed in excess of the tolerance described in 4.06.03.

- a. Container Method – Material furnished in a container will be measured to the nearest 1/2 gallon. The volume will be determined by either measuring the volume in the original container by a method approved by the Engineer or using a separate graduated container

capable of measuring the volume to the nearest 1/2 gallon. The container in which the material is furnished must include the description of material, including lot number or batch number and manufacturer or product source.

b. Vehicle Method

- i. Measured by Weight: The number of gallons furnished will be determined by weighing the material on calibrated scales furnished by the Contractor. To convert weight to gallons, one of the following formulas will be used:

Tack Coat (gallons at 60°F) = Measured Weight (pounds) / Weight per gallon at 60°F

Tack Coat (gallons at 60°F) = 0.996 x Measured Weight (pounds) / Weight per gallon at 77°F

- ii. Measured by automated metering system on the delivery vehicle:

Tack Coat (gallons at 60°F) = 0.976 x Measured Volume (gallons).

**6. Material Transfer Vehicle (MTV):** The furnishing and use of a MTV will be measured separately for payment based on the actual number of surface course tons delivered to a paver using the MTV.

**4.06.05 —Basis of Payment:**

**1. HMA S\* or PMA S\*:** The furnishing and placing of bituminous concrete will be paid for at the Contract unit price per ton for " HMA S\*" or " PMA S\*."

All costs associated with providing illumination of the work area are included in the general cost of the work.

All costs associated with cleaning the surface to be paved, including mechanical sweeping, are included in the general cost of the work. All costs associated with constructing longitudinal joints are included in the general cost of the work.

All costs associated with obtaining cores for acceptance testing and dispute resolution are included in the general cost of the work.

**2. Bituminous Concrete Adjustment Costs:** This adjustment will be calculated using the formulas shown below if all of the measured adjustments in 4.06.04-2 are not equal to zero. A positive or negative adjustment will be applied to monies due the Contractor.

**Production Lot:  $\Sigma \text{ Est (Pi)} = \text{Est. (P)}$**

**Density Lot (Simple Average Lots):  $\Sigma \text{ Est (Di)} = \text{Est. (D)}$**

**Density Lot (PWL):  $\Sigma \text{ Est (DMi)} + \Sigma \text{ (D)Ji} = \text{Est. (D)}$**

**Bituminous Concrete Adjustment Cost= Est. (P) + Est. (D)**

Where:Est. ( )= Pay Unit in dollars representing incentive or disincentive in each production or density lot calculated in 4.06.04-2

The Bituminous Concrete Adjustment Cost item, if included in the bid proposal or estimate, is not to be altered in any manner by the Bidder. If the Bidder should alter the amount shown, the altered figure will be disregarded and the original estimated cost will be used for the Contract.

**3. Transitions for Roadway Surface:** The installation of permanent transitions will be paid under the appropriate item used in the formation of the transition. The quantity of material used for the installation of temporary transitions will be paid under the appropriate pay item used in the formation of the transition. The installation and removal of a bond breaker, and the removal and disposal of any temporary transition formed by milling or with bituminous concrete

pavement is included in the general cost of the work.

4. The cutting of bituminous concrete pavement will be paid in accordance with 2.02.05.
5. Material for tack coat will be paid for at the Contract unit price per gallon at 60°F for "Material for Tack Coat."
6. The Material Transfer Vehicle (MTV) will be paid at the Contract unit price per ton for "Material Transfer Vehicle."

Pay Item	Pay Unit
HMA S*	ton
PMA S*	ton
Bituminous Concrete Adjustment Cost	est.
Material for Tack Coat	gal.
Material Transfer Vehicle	ton

## **SECTION 5.86 - CATCH BASINS, MANHOLES AND DROP INLETS**

**5.86.01—Description 5.86.02—  
Materials 5.86.03—Construction  
Methods 5.86.04—Method of  
Measurement 5.86.05—Basis of  
Payment**

**58601 —Description:** The work under this Section shall consist of furnishing, preparing, and installing catch basins, manholes and drop inlets (and also the removal, abandonment, alteration, reconstruction, or conversion of such existing structures) in conformity with the lines, grades, dimensions and details shown on the plans.

This Section shall also include resetting or replacing catch basin tops as well as manhole frames and covers.

**58602 —Materials:** The materials for this work shall meet the following requirements: Drainage structures shall meet the requirements of M.08.02 and shall utilize concrete with a 28-day minimum compressive strength of 4000 psi.

Galvanizing shall meet the requirements of M.06.03.

Mortar shall meet the requirements of M.11.04.

Butyl rubber joint seal shall meet the requirements of ASTM C990.

Granular fill, if necessary, shall meet the requirements of M.02.01.

Protective compound material shall be a type appearing on the Department's Qualified Products List and be acceptable to the Engineer, as specified in M.03.09.

**58603 —Construction Methods:** Drainage trench excavation, including rock in drainage trench excavation and backfilling, shall be performed in accordance with 2.86.03 and the requirements of the plans.

Where a drainage structure is to be installed below the surface, a drainage trench shall be excavated to the required depth, the bottom of which shall be graded to the elevation of the bottom of the proposed drainage structure or to ensure a uniform foundation for the structure.

Where a firm foundation is not encountered at the grades established due to unsuitable material, such as soft, spongy, or unstable soil, the unsuitable material shall be removed and replaced with approved granular fill, thoroughly compacted in lifts not to exceed 6 inches. The Engineer shall be notified prior to removal of the unsuitable material in order to determine the depth of removal necessary.

When rock, as defined in 2.86.01-2, is encountered, work shall be performed in accordance with 2.86.03 and the requirements of the plans.

When a drainage structure outside of proposed drainage trench limits is to be removed, it shall be completely removed and all pipes shall be removed or plugged with cement masonry.

When a drainage structure is to be abandoned, the structure shall be removed to a depth 2 feet below the subgrade or as directed by the Engineer. The floor of the structure shall be broken and all pipes shall be plugged with cement masonry.

Drainage structures shall be constructed in accordance with the plans and the requirements contained herein for the character of the work involved. The provisions of 6.02.03 pertaining to bar reinforcement shall apply except that shop drawings need not be submitted for approval unless called for in the plans, Contract or directed by the Engineer. Welding shall be performed in accordance with the applicable sections of the AWS Structural Welding Code, D1.1.

When it becomes necessary to increase the horizontal dimensions of manholes, catch basins and drop inlets to sizes greater than those shown on the plans in order to provide for multiple pipe installations, large pipes or for other reasons, the Contractor shall construct such manholes, catch basins and drop inlets to modified dimensions as directed by the Engineer.

The surfaces of the tops of all catch basins, and drop inlets shall be given a coat of protective compound material, at the manufacturer's recommended application rate, immediately upon completion of the concrete curing period.

All masonry units shall be laid in full mortar beds.

Metal fittings for catch basins, manholes or drop inlets shall be set in full mortar beds or otherwise secured as shown on the plans.

All inlet and outlet pipes shall be set flush with the inside face of the wall of the drainage structure as shown on the plans. The pipes shall extend through the walls for a sufficient distance beyond the outside surface to allow for satisfactory connections, and the concrete or masonry shall be constructed around them neatly to prevent leakage along their outer surfaces.

When constructing a new drainage structure within a run of existing pipe, the section of existing pipe disturbed by the construction shall be replaced with new pipe of identical type and size extending from the drainage structure to the nearest joint of the existing pipe in accordance with 6.86.03 or as directed by the Engineer.

Backfilling shall be performed in accordance with 2.86.03.

Frames, covers and tops which are to be reset shall be removed from their present beds, the walls or sides shall be rebuilt to conform to the requirements of the new construction and the frames, covers and tops shall be reset as shown on the plans or as directed by the Engineer.

#### **5.86.04 —Method of Measurement:**

**Drainage Trench Excavation:** In accordance with 2.86.04, excavation for drainage trench will not be measured for payment but shall be included in the Contract unit price for the type of structure being installed.

**Rock in Drainage Trench Excavation:** Rock in Drainage Trench Excavation will be measured in accordance with the drainage trench excavation limits described in 2.86.03.

**Manholes, Catch Basins and Drop Inlets** will be measured as separate units.

**Resetting of Manholes, Catch Basins and Drop Inlets** will be measured as separate units.

**Replacement of frames, covers, and tops** will be measured as a unit for catch basin top or manhole frame and cover.

**Conversion of drainage structures** as specified on the plans, or as directed by the Engineer, including structure reconstruction will be measured for payment as a unit.

**Removal or abandonment of drainage structures** outside of drainage trench excavation limits, as defined in 2.86.03, will be measured as separate units.

There will be no measurement or direct payment for the application of the protective compound material, the cost of this work shall be considered as included in the general cost of the work.

Measurement for payment for work and materials involved with installing pipes to connect new drainage structures into a run of existing pipe will be as provided for under the applicable Contract items in accordance with 6.86.04.

There will be no measurement or direct payment for plugging existing pipes with cement masonry, the cost of this work will be considered as included in the general cost of the work.

**5.86.05 —Basis of Payment:**

**Drainage Trench Excavation** for the installation of proposed structures described herein will be paid for under the respective drainage Contract item(s) for which the excavation is being performed, in accordance with the provisions of 2.86.05.

**Rock in Drainage Trench Excavation** will be paid for in accordance with the provisions of 2.86.05.

**Manholes and Catch Basins** will be paid for at the Contract unit price for each "Manhole," or "Catch Basin," of the type specified, at "0' to 10' Deep" or "0' to 20' Deep," complete in place, which price shall include all excavation, backfill, materials, equipment, tools and labor incidental thereto.

**Drop Inlets** will be paid for at the Contract unit price for each "Drop Inlet," of the type specified, complete in place, which price shall include all excavation, backfill, materials, equipment, tools and labor incidental thereto.

**Manholes, Catch Basins and Drop Inlets** constructed to modified dimensions as directed by the Engineer, will be paid for as follows:

Where the interior floor area has to be increased to accommodate existing field conditions, as measured horizontally at the top of the base of the completed structure, and does not exceed 125% of the interior floor area as shown on the plans for that structure, then the structure shall be paid for at the Contract unit price for each "Manhole," "Catch Basin," or "Drop Inlet" of the type specified. Where the floor area is greater than 125%, the increase in the unit price for the individual structure shall be in direct proportion to the increase of the completed structure interior floor area as compared to the interior floor area as shown on the plans for that structure. Such increased unit price shall include all excavation, materials, equipment, tools, and labor incidental to the completion of the structure.

**Reset Units** will be paid for at the Contract unit price each for "Reset Manhole," "Reset Catch Basin," or "Reset Drop Inlet," of the type specified, respectively, complete in place, which price shall include excavation, cutting of pavement, removal and replacement of pavement structure, and all materials, equipment, tools and labor incidental thereto, except when the work requires reconstruction greater than 3 feet, measured vertically, then the entire cost of resetting the unit will be paid for as Extra Work in accordance with the provisions of 1.04.05.

**Frames, Covers, and Tops** when required in connection with reset units, will be paid for at the Contract unit price each for such "Manhole Frame and Cover" or "(Type) Catch Basin Top," complete in place, including all incidental expense; or when no price exists, the furnishing and placing of such material will be paid for as Extra Work in accordance with the provisions of 1.04.05.

When the catch basin top has a stone or granite curb in its design, the curb or inlet shall be included in the cost of the "(Type) Catch Basin Top."

**Conversion of drainage structures** will be paid for at the Contract unit price each for "Convert Catch Basin to (Type) Catch Basin," "Convert Catch Basin to (Type) Manhole," or

"Convert Manhole to (Type) Catch Basin," complete in place, which price shall include excavation, cutting of pavement, removal and replacement of pavement, backfill, all alterations to existing structure, all materials including catch basin frame and grate of the type specified, or manhole frame and cover, all equipment, tools and labor incidental thereto.

The maximum change in elevation of frame under these items shall not exceed 3 feet. Greater depth changes, if required, shall be paid for as Extra Work, in accordance with 1.04.05.

**Removal or abandonment of drainage structures** outside of drainage trench excavation limits as defined in 2.86.03 will be paid for at the Contract unit price each for "Remove Drainage Structure – 0' to 10' Deep," "Remove Drainage Structure – 0' to 20' Deep," or "Abandon Drainage Structure," which price shall include excavation, cutting of pavement, removal and replacement of pavement, backfill, and all equipment, tools and labor incidental thereto.

Pay Item	Pay Unit
(Type) Catch Basin – 0' to 10' Deep	ea.
(Type) Catch Basin – 0' to 20' Deep	ea.
Manhole (Size) – 0' to 10' Deep	ea.
Manhole (Size) – 0' to 20' Deep	ea.
(Type) Drop Inlet	ea.
Reset Catch Basin	ea.
Reset Manhole	ea.
Reset Drop Inlet	ea.
Convert Catch Basin to (Type) Catch Basin	ea.
Convert Catch Basin to (Type) Manhole	ea.
Convert Manhole to (Type) Catch Basin	ea.
Manhole Frame and Cover	ea.
(Type) Catch Basin Top	ea.
Remove Drainage Structure – 0' to 10' Deep	ea.
Remove Drainage Structure – 0' to 20' Deep	ea.
Abandon Drainage Structure	ea.



## **SECTION 12.00 – GENERAL CLAUSES FOR HIGHWAY SIGNING**

### **Description:**

Work under this item shall conform to the requirements of Section 12.00 supplemented as follows:

### **12.00.07 – Global Positioning System (GPS) coordinates for signs:**

The Contractor shall obtain and provide to the Engineer sign installation data, including Global Positioning System (GPS) latitude and longitude coordinates, for all new permanent State owned and maintained signs (temporary and construction signs are not to be included) installed in the project. The Engineer shall forward the sign data to the Division of Traffic Engineering for upload into the Highway Sign Inventory and Maintenance Management Program (SIMS). Sign data submissions or questions relating to SIMS or GPS shall be sent to [DOT- SignInventory@ct.gov](mailto:DOT-SignInventory@ct.gov).

The horizontal datum is to be set to the State Plane Coordinate System, North American Datum of 1983 (NAD83) in feet. The minimum tolerance must be within 10 feet. The format of the GPS information shall be provided in a Microsoft Office compatible spreadsheet (Excel) file with data for each sign. The record for each sign installed is to be compatible with the anticipated CTDOT Sign Inventory and Management System (CTSIMS). The following format shall be used. However, the data fields noted by “#” are not required for the project submission. These entries will be completed as part of the Traffic Engineering CTSIMS data upload.

The cost of this work shall be included in the cost of the respective sign face – sheet aluminum and sign face – extruded aluminum items. The receipt of this electronic database must be received and accepted by the Engineer prior to final payment for items involving permanent highway signing. The electronic database information shall detail information regarding the sign actually installed by the project.

Field Number	Type	size	Description
1	text	20	Record Number (starting at 1...)
2	text	20	Sign Catalog Number
# 3	text	10	Size Height
# 4	text	10	Size Width
5	text	25	Legend
# 6	text	10	Background Color
# 7	text	10	Copy Color
8	Link	25	Material (see acceptable categories)
9	text	30	Comments if any
# 10	text	20	MUTCD Type
11	text	15	Town

	12	text	5	Route
	13	text	5	Route direction
#	14	text	10	Highway Log Mileage
	15	text	15	Latitude
	16	text	15	Longitude
	17	text	25	Mounting Type
	18	text	25	Reflective Sheeting Type
	19	date	25	Date Installed
	20	text	10	Number of Posts
	21	text	255	Sheeting Manufacturer name and address
	22	text	15	State Project Number (or)
	23	text	15	Encroachment Permit number.
	24	Graphic	*	Sign Picture Graphic.

\* Graphics provided shall be representative of the sign supplied and be in color. Graphic formats shall be either JPG or TIFF and provided with a recommended pixel density of 800 x 600. The graphic shall be inserted in the supplied media in field 24 for each sign.

## **SECTION M.03 - PORTLAND CEMENT CONCRETE**

*Replace Section M.03 in its entirety with the following:*

### **M.03.01—Component Materials**

### **M.03.02—Mix Design Requirements**

### **M.03.03—Producer Equipment and Production Requirements**

### **M.03.04—Curing Materials**

### **M.03.05 —Non Shrink, Non Staining Grout**

### **M.03.06—Expansive Cement for Anchoring**

### **M.03.07—Chemical Anchors M.03.08—**

### **Joint Materials M.03.09—Protective**

### **Compound/Sealers M.03.10—Formwork**

#### **M.03.01 —Component Materials**

**1. Coarse Aggregate:** Coarse aggregate shall meet the requirements of M.01.

**2. Fine Aggregate:** Fine aggregate shall meet the requirements of M.01.

**3. Cement:**

**(a) Portland:** Types I, II, and III Portland cement shall meet the requirements of AASHTO M 85. Type I and Type III Portland cement shall be used only when required or expressly permitted by the Project specification or the Engineer. The use of Type I or III will require that these mixtures be submitted as Non-standard Mix Designs. All cement shall be provided by a mill participating in the Departments' Cement Certification program. The requirements of the Certification Program are detailed in the Departments' Quality Assurance Program for Materials.

**(b) Pre-Blended Cements:** Binary or Ternary cements consisting of Portland Cement and supplemental cementitious materials may be used provided that all the requirements of M.03.01- 3(a) and -3(c) are met.

**(c) Replacement Materials:** Unless already approved as a Standard Mix Design, any Contractor proposed Mix Designs with partial replacement of Portland Cement (PC) with fly ash or ground granulated blast furnace slag (GGBFS), shall be submitted in writing to the Engineer for approval prior to the start of work, on a project-by-project basis. The type of material, source, and the percentage of the PC replaced shall be clearly indicated. Upon request, a Certified Test Report for the cement replacement material shall be provided to the Engineer for use during the Mix Design review.

1. Fly Ash: Fly ash to be used as a partial replacement for Portland cement shall meet the requirements of AASHTO M 295, either Class C or Class F, including the uniformity requirements of Table 2A. Loss on Ignition for either class of fly ash shall not exceed 4.0%. Fly ash may be used to replace up to a maximum of 20% of the required Portland cement for mixes without permeability requirements. For mixes with permeability requirements, the maximum of 20% may be exceeded. The fly ash shall be substituted on a weight basis, with a minimum of 1 lb. of fly ash for 1 lb. of Portland cement. Different classes of fly ash or the same class from different sources shall not be permitted on any single project without the written approval of the Engineer.

2. Ground Granulated Blast Furnace Slag (GGBFS): GGBFS used as a partial replacement for Portland cement shall meet the requirements of AASHTO M 302/ASTM C989, Grade 100 or 120. As determined by the Engineer, GGBFS may be used to replace a maximum of 30% of the required Portland cement for mixes without permeability requirements. For mixes with permeability requirements, the maximum of 30% may be exceeded. The Engineer may restrict or prohibit the use of GGBFS if ambient temperatures anticipated during the placement and initial curing of the concrete are low. The GGBFS shall be substituted on a weight basis, with a minimum of 1 lb. of slag for 1 lb. of Portland cement. Different sources of GGBFS shall not be permitted on any single project without the written approval of the Engineer.

**4. Water:** All water used in the mixing of concrete shall be odorless and clear in appearance. Surface water may be used if not taken from shallow or muddy sources; classified as Class C or Class D on the Department of Energy and Environmental Protection (DEEP) Water Quality Classification mapping; and accommodations have been made to prevent contaminants from entering the supply to the satisfaction of the Engineer. The Engineer may request that water from any surface or ground source be tested in accordance with AASHTO T26 and AASHTO D512 if the appearance or scent of the water is suspect. To be acceptable, the pH of the water must not be less than 6.0 or greater than 8.0 and Chloride Ion Concentration of the water must not exceed 250ppm. Potable water taken directly from a municipal or regional water supply may be used for mixing concrete without testing. Heating or cooling of water may be required to meet mix temperature requirements at time of placement.

**5. Admixtures:** All admixtures shall perform their function without injurious effects upon the concrete. If requested by the TDC, the Contractor shall present a certified statement from a recognized laboratory attesting to this requirement. A "recognized" laboratory is any cement and concrete laboratory approved and inspected regularly by the Cement and Concrete Reference Laboratory (CCRL). The statement shall contain results of compression tests of cylinder specimens made with concrete utilizing the admixture(s) in proportions equal to those proposed by the Contractor. The results of at least 5 standard 6 inch x 12 inch cylinders of each mix design shall be listed with the results of at least 5 like-sized cylinders not utilizing the admixture(s). Specimens must be made and cured in the laboratory in accordance with AASHTO T 126 and will be tested in accordance with AASHTO T 22.

(a) **Air-Entraining Admixtures:** In the event that air entrained concrete is required, an admixture meeting the requirements of AASHTO M 154 may be used. Tests for 7 and 28-day compressive and flexural strengths and resistance to freezing and thawing are required whereas tests for bleeding, bond strength and volume change will not be required.

(b) **Other Chemical Admixtures:** In the event that concrete properties are specified that require the use of additional admixtures, or the Contractor proposes the use of additional admixtures to facilitate placement, the admixtures shall meet the requirements of AASHTO M194M/M, including the 1 year performance data.

**M.03.02 — Mix Design Requirements**

**1. Standard ConnDOT Mix Designs:** Standard Mix Designs shall be designed in accordance with applicable sections of ACI 211 and ACI 318. The mixtures shall consist of Portland cement, fine aggregate, coarse aggregate, admixtures, and water proportioned in accordance with Table M.03.02-1. The mixtures shall also be designed to obtain the plastic properties of Portland cement concrete as specified in Table 6.01.03-2.

**Table M.03.02-1 Standard Portland Cement Concrete Mixes**

Class <sup>1</sup>	Max. Water/Cement <sup>2</sup> ratio	Min. Cement <sup>2</sup> Content - lb./c.y.	Air Content %	Electrical Resistivity (Permeability)	
				kΩ-cm	AASHTO T 358
PCC0223Z	0.69	455	6 +/- 1.5	NA	
PCC0334Z	0.48	615		NA	
PCC0336Z	0.50	564		NA	
PCC0354Z	0.49	615		NA	
PCC0446Z	0.44	658		NA	
PCC04462	0.42			29 minimum	
PCC0556Z	0.40			NA	
PCC05562	0.40			29 minimum	
PCCXXX81 <sup>3</sup>	0.46			15 maximum	
PCCXXX82	0.40			29 minimum	
			7.5 +/- 1.5		

<sup>1</sup> PCCXYZ where:

PCC = Portland Cement Concrete

XXX = 28-day minimum compressive strength (psi/100)

Y = Nominal Maximum Aggregate Size (U.S. Sieve No. Designation)

Z = Exposure Factor (See Table M.03.02-1a)

<sup>2</sup> Portland Cement may be partially replaced within a Standard Mix Design by other approved cementitious material meeting the requirements of M.03.01-3(c) if permitted by the Engineer.

<sup>3</sup> When this class is paid for in a surface or structural repair concrete item, the plastic properties necessary for confined placement to ensure appropriate workability for consolidation within the forms shall be noted on the delivery ticket by the concrete supplier.

**Table M.03.02-1a Exposure Factor per Application**

<b>Exposure</b>		<b>Application</b>
0	Benign	Elements not exposed to weather (buried, enclosed)
1	Moderate	Elements not in contact with salt water or deicing chemicals
2	Severe	Elements in contact with salt water, deicing chemicals, flowing/standing water

Mix designs shall indicate the dosage of admixtures anticipated to provide plastic properties required in the Project specification. Plastic properties of standard mix classes of concrete in the plastic state are listed in Table 6.01.03-2.

Standard Mix Designs are required to be designed and submitted by the concrete producers, and are approved by the Department on a standing basis. Submittal or re-approval of these Standard Mix Designs on an annual basis is not required. Previously approved producer-designed Standard Mixes that have a record of satisfactory performance may be utilized on Department projects unless there is a change in the gravimetric properties or the sources of any materials. Revisions to the Standard Mix Designs, which include changes in component sources, can be submitted at any time to the TDC, but must be approved prior to use on Department projects.

**2. Non-Standard CTDOT Mix Designs:** Any proposed Mix Designs that do not comply with Table M.03.02-1 are required to be submitted 15 days prior to use on a project-by-project basis and be approved by the TDC prior to use. The use of an approved admixture with an otherwise approved Standard Mix Design is not considered non-standard.

All Non-standard Mix Designs used for load-bearing structures shall contain a minimum of 658 lb./c.y. of cementitious materials.

Concrete used in applications such as flowable fill or controlled low-strength material may be designed with less than 658 lb./c.y. of cementitious materials.

### **M.03.03 —Producer Equipment and Production Requirements**

**1. General Requirements:** The source of the concrete must be approved by the Engineer prior to use on Department projects. Specifically the location and capacity of the central mix or dry batch plant, and complement of truck mixers/haulers, shall be adequate for continuous placement of concrete on a typical Department project. Approval may be revoked at any time in accordance with 1.06.01.

- (a) **Inspection:** The production facility supplying hydraulic cement concrete shall have a current Certification of Ready Mixed Concrete Production Facilities from the National Ready Mixed Concrete Association (NRMCA), or equivalent certification approved by the Engineer.
- (b) In addition to the requirements of approved third party certification, the facility shall produce batch tickets that meet the requirements of 6.01.03-3(a).
- (c) **Quality Control:** The Contractor is responsible for all aspects of Quality Control (QC). As determined by the Engineer, should material delivered to a project not meet specification, the Contractor may be required to submit to the Engineer a corrective procedure for approval within 3 calendar days. The procedure shall address any minor adjustments or corrections made to the equipment or procedures at the facility.
- (d) **Suspension:** As determined by the Engineer, repeated or frequent delivery of deficient material to a Department project may be grounds for suspension of that source of material. A detailed QC plan that describes all QC policies and procedures for that facility may be

required to formally address quality issues. This plan must be approved by the Engineer and fully implemented, prior to reinstatement of that facility.

**2. Hand Mixed Concrete:** Hand mixing shall be permitted only with the permission of the Engineer. Hand mixed batches shall not exceed 1/2 c.y. in volume. Hand mixing will not be permitted for concrete to be placed under water.

#### **M.03.04 —Curing Materials**

**1. Water:** Any water source deemed acceptable by the Engineer for mixing concrete may be used to provide water for curing purposes. Surface water may be used if classified as Class C or Class D on the Department of Energy and Environmental Protection (DEEP) Water Quality Classification mapping and accommodations have been made to prevent contaminants from entering the supply to the satisfaction of the Engineer. In general, water shall not be taken from shallow or muddy sources. In cases where sources of supply are relatively shallow, the intake pipe shall be enclosed to exclude silt, mud, grass, etc.; and the water in the enclosure shall be maintained at a depth of not less than 2 feet under the intake pipe.

**2. Mats:** Mats for curing concrete shall be capable of maintaining moisture uniformly on the surface of the concrete. The mats shall not contain any materials such as dyes, sugar, etc., that may be injurious to the concrete.

The length or width of the mats shall be sufficient to cover all concrete surfaces being cured. Should more than one mat be required, sufficient overlap shall be provided by the Contractor as determined by the Engineer.

**3. Liquid Membrane-Forming Compound:** Liquid membrane-forming compound shall meet the requirements of AASHTO M 148 Type 2, Class B, or shall be a water-soluble linseed oil-based compound meeting the requirements of AASHTO M 148, Type 2.

**4. White Polyethylene Sheeting (Film):** White polyethylene sheeting (film) shall meet the requirements of AASHTO M 171.

#### **M.03.05 —Non Shrink, Non Staining Grout**

**1. Bagged (pre-mixed):** Bagged (pre-mixed) formulations of non-shrink grout shall meet the requirements of ASTM C1107. The grout shall be mixed with potable water for use. The grout shall be mixed to a flowable consistency as determined by ASTM C230. All bagged material shall be clearly marked with the manufacturer's name, date of production, batch number, and written instructions for proper mixing, placement and curing of the product.

**2. Bulk:** The Contractor may formulate and design a grout mix for use on the Project in lieu of using a pre-bagged product. The Contractor shall obtain prior written approval of the Engineer for any such proposed Mix Design. Any such Mix Design shall include the proportions of hydraulic cement, potable water, fine aggregates, expansive agent, and any other necessary additive or admixture. This material shall meet all of the same chemical and physical requirements as shall the pre-bagged grout, in accordance with ASTM C1107.

#### **M.03.06 —Expansive Cement for Anchoring**

The premixed anchoring cement shall be non-metallic, concrete gray in color and prepackaged. The mix shall consist of hydraulic cement, fine aggregate, expansive admixtures and water meeting the following requirements:

**1.** The anchoring cement shall have a minimum 24 hour compressive strength of 2,600 psi when tested in accordance with ASTM C109.

2. The water content of the anchoring cement shall be as recommended by the manufacturer. Water shall meet the requirements of M.03.01-4.

The Contractor shall provide a Certified Test Report and Materials Certificate for the premixed anchoring cement in accordance with 1.06.07. The Contractor shall also provide, when requested by the Engineer, samples of the premixed anchoring cement for testing and approval.

#### **M.03.07 —Chemical Anchors**

Chemical anchor material must be listed on the Departments' Qualified Products List and approved by the Engineer for the specified use.

The chemical anchor material shall be epoxy or polyester polymer resin. It shall not contain any metals or other products that promote corrosion of steel. The Contractor shall supply the Engineer with a Certified Test Report and Materials Certificate for the chemical anchor material in accordance with 1.06.07. When requested by the Engineer, the Contractor shall also provide samples of the chemical anchor material.

#### **M.03.08 —Joint Materials**

**1. Transverse Joints for Concrete Pavement:** Transverse joints shall consist of corrosion resistant load transfer devices, poured joint seal and in addition, in the case of expansion joints, expansion joint filler all meeting the following requirements:

- (a) The corrosion resistant load transfer device shall be coated steel or sleeved steel or be made of corrosion resistant material. The dimensions of any devices used shall be as shown on the plans, exclusive of any coating or sleeving. Core material of coated or sleeved metallic devices shall be steel meeting the requirements of AASHTO M 255M/M 255 Grade 520, or steel having equal or better properties and approved by the Engineer. Nonmetallic devices shall meet the various strength requirements applicable to metallic devices as well as all other requirements stated herein.
- (b) All coated load transfer devices shall meet the requirements of AASHTO M 254. Uncoated or sleeved load transfer devices shall meet the applicable physical requirements of AASHTO M 254. The use of field applied bond breakers will not be permitted.
- (c) The basis of acceptance for corrosion resistant load transfer devices shall be the submission by the Contractor of a minimum of 2 samples accompanied by Certified Test Reports meeting the requirements of 1.06.07 demonstrating that the load transfer device meets the requirements of AASHTO M 254 for the type of device supplied. The Engineer reserves the right to reject any load transfer device deemed unsatisfactory for use.

**2. Joint Filler for Concrete Curbing:** Expansion joint filler shall be either preformed expansion joint filler or wood joint filler as indicated on the plans and shall meet the following requirements:

- (a) Preformed expansion joint filler shall be the bituminous cellular type and shall meet the requirements of AASHTO M 213.
- (b) Boards for wood joint filler shall have 2 planed sides and shall be redwood, cypress or white pine. Redwood and cypress boards shall be of sound heartwood. White pine boards shall be of sound sapwood. Occasional small, sound knots and medium surface checks will be permitted provided the board is free of any defects that will impair its usefulness for the purpose intended. The joint filler may be composed of more than one length of board in the length of the joint, but no board of a length less than 6 feet shall be used; and the



separate boards shall be held securely to form a straight joint. Boards composed of pieces that are jointed and glued shall be considered as one board.

- (c) Dimensions shall be as specified or shown on the plans; and tolerances of plus 1/16 inch thickness, plus 1/8 inch depth and plus 1/4 inch length will be permitted.
- (d) All wood joint filler boards shall be given a preservative treatment by brushing with creosote oil meeting the requirements of AASHTO M 133. After treatment, the boards shall be stacked in piles, each layer separated from the next by spacers at least 1/4 inch thick; and the boards shall not be used until 24 hours after treatment. Prior to concreting, all exposed surfaces of the wood filler shall be given a light brush coating of form oil.
- (e) Testing of board expansion joint filler shall be in accordance with pertinent sections of AASHTO T 42.

**3. Longitudinal Joint Devices:** The metal used in the fabrication of longitudinal joint devices shall meet ASTM requirements for each type of metal used. The dimensions shall be as shown on the plans.

**4. Expansion Joint Fillers for Bridges and Bridge Bearings:**

- (a) Preformed expansion joint filler for bridges shall meet the requirements of AASHTO M 153, Type I or Type II.
- (b) Pre-molded expansion joint filler for bridge bearings shall meet the requirements of AASHTO M 33.

**5. Joint Sealants:**

- (a) **Joint Sealer for Pavement:** The joint sealer for pavement shall be a rubber compound of the hot-poured type and shall meet the requirements of AASHTO M 324 Type II unless otherwise noted on the plans or in the special provisions.
- (b) **Joint Sealer for Structures:** Structure joint sealers shall be one of the following type sealants:
  1. Where "Joint Seal" is specified on the plans, it shall meet the requirements of the Federal Specifications SS-S-200-E (Self-leveling type), TT-S-0227E (COM-NBS) Type II-Class A (Non-sag type), or 1 component polyurethane-base elastomeric sealants conforming to FS TT-S-00230C Type II-Class A or an approved equal.  
A Certified Test Report will be required in accordance with 1.06.07, certifying that the sealant meets the requirements set forth in the Federal Specification. Should the consignee noted on a Certified Test Report be other than the Prime Contractor, a Materials Certificate shall be required to identify the shipment.
  2. Where "Silicone Joint Sealant" is specified on the plans, it shall be one of the following or an approved equal:
    - i. Sealant, manufactured by the Dow Corning Corporation, Midland, Michigan 48686-0994
    - ii. Dow Corning 888 Silicone Joint Sealant or
    - iii. Dow Corning 888-SL Self-Leveling Silicone Joint 48686-0994

**6. Closed Cell Elastomer:** The closed cell elastomer shall meet the requirements of ASTM D1056, Grade RE-41 B2. The elastomer shall have a pressure-sensitive adhesive backing on one side.

The Contractor shall deliver the closed cell elastomer to the job site a minimum of 30 days prior to installation. Prior to the delivery of the closed cell elastomer, the Contractor shall notify the Engineer of the date of shipment and the expected date of delivery. Upon delivery of the closed cell elastomer to the job site, the Contractor shall immediately notify the Engineer.

Each separate length, roll or container shall be clearly tagged or marked with the manufacturer's name, trademark and lot number. A lot is defined as that amount of closed cell elastomer manufactured at 1 time from 1 batch of elastomer. A batch is defined as that amount of elastomer prepared and compounded at 1 time. The Contractor shall furnish a Certified Test Report in accordance with 1.06.07, confirming that the closed cell elastomer meets the requirements set forth in these specifications. Should the co-signee noted on a Certified Test Report be other than the Prime Contractor, a Materials Certificate shall be required to identify shipment.

The Contractor shall furnish a 1 foot length of closed cell elastomer in each lot for purposes of inspection and testing by the Engineer. The Engineer will cut a 1 foot sample from each lot and inspect the sample for conformance to size, and perform physical tests on the sample as deemed necessary.

The Engineer shall reject any lot or portion of a lot that does not meet the requirements stated herein. A rejected lot or portion of a lot may be resubmitted provided the Contractor has removed or corrected, in a manner acceptable to the Engineer, all non-conforming material.

#### **M.03.09 —Protective Compound/Sealers**

The brand and type of material must be listed on the Department's Qualified Products List and approved by the Engineer for the specified use.

#### **M.03.10—Formwork**

**1. Stay-in-place Forms:** Material for stay-in-place metal forms shall be made of zinc-coated (galvanized) steel sheet meeting ASTM Specification A653 (Structural Steel (SS) Grade 33 through 80). The minimum thickness shall be 20 gauge. Coating weight shall meet the requirements of ASTM A924, Class G235, and shall otherwise meet all requirements relevant to steel stay-in-place metal forms and the placing of concrete as specified herein and as noted in the Contract.

Form supports shall either be fabricated and meet the same material requirements as the forms, or be fabricated from structural steel meeting the requirements of ASTM A36 and shall be hot-dip galvanized in accordance with ASTM A123.

Lightweight filler material for forms shall be as recommended by the form manufacturer.

**2. Temporary Forms and Falsework:** Forms and Falsework shall be of wood, steel or other material approved by the Engineer. This approval does not relieve the Contractor from employing adequately sized materials of sufficient rigidity to prevent objectionable distortion of the formed concrete surfaces caused by pressure of the plastic concrete and other loads incidental to the construction operations.

## **SECTION M.04 - BITUMINOUS CONCRETE MATERIALS**

Section M.04 is being deleted in its entirety and replaced with the following:

### **M.04.01—Bituminous Concrete Materials and Facilities**

### **M.04.02—Mix Design and Job Mix Formula (JMF)**

### **M.04.03—Production Requirements**

**M.04.01 —Bituminous Concrete Materials and Facilities:** Each source of material, Plant, and laboratory used to produce and test bituminous concrete must be qualified on an annual basis by the Engineer. AASHTO or ASTM Standards noted with an (M) have been modified and are detailed in Table M.04.03-5.

Aggregates from multiple sources of supply must not be blended or stored in the same stockpile.

**1. Coarse Aggregate:** All coarse aggregate shall meet the requirements listed in M.01.

**2. Fine Aggregate:** All fine aggregate shall meet the requirements listed in M.01.

**3. Mineral Filler:** Mineral filler shall conform to the requirements of AASHTO M 17.

#### **4. Performance Graded (PG) Asphalt Binder:**

##### **(a) General:**

- i. PG asphalt binder shall be uniformly mixed and blended and be free of contaminants such as fuel oils and other solvents. Binder shall be properly heated and stored to prevent damage or separation.
- ii. The binder shall meet the requirements of AASHTO M 332 and shall be graded or verified in accordance with AASHTO R 29. The Contractor shall submit a Certified Test Report and bill of lading representing each delivery in accordance with AASHTO R 26(M). The Certified Test Report must also indicate the binder specific gravity at 77°F; rotational viscosity at 275°F and 329°F; and the mixing and compaction viscosity-temperature chart for each shipment.
- iii. The Contractor shall submit the name(s) of personnel responsible for receipt, inspection, and record keeping of PG binder. Contractor Plant personnel shall document specific storage tank(s) where binder will be transferred and stored until used and provide binder samples to the Engineer upon request. The person(s) shall assure that each shipment is accompanied by a statement certifying that the transport vehicle was inspected before loading was found acceptable for the material shipped and that the binder is free of contamination from any residual material, along with 2 copies of the bill of lading.
- iv. The blending or combining of PG binders in 1 storage tank at the Plant from different suppliers, grades, or additive percentages is prohibited.

**(b) Basis of Approval:** The request for approval of the source of supply shall list the location where the material will be manufactured, and the handling and storage methods, along with necessary certification in accordance with AASHTO R 26(M). Only suppliers/refineries that have an approved “Quality Control Plan for Performance Graded Binders” formatted in accordance with AASHTO R 26(M) may supply PG binders to Department projects.

##### **(c) Standard Performance Grade (PG) Binder:**

- i. Standard PG binder shall be defined as “Neat.” Neat PG binders shall be free from modification with: fillers, extenders, reinforcing agents, adhesion promoters,

thermoplastic polymers, acid modification and other additives such as re-refined motor oil, and shall indicate such information on each bill of lading and Certified Test Report.

ii. The standard asphalt binder shall be PG 64S-22.

(d) Modified Performance Grade (PG) Binder: The modified asphalt binder shall be Performance Grade PG 64E-22 asphalt modified solely with a Styrene-Butadiene-Styrene (SBS) polymer. The polymer modifier shall be added at either the refinery or terminal and delivered to the bituminous concrete production facility as homogenous blend. The stability of the modified binder shall be verified in accordance with ASTM D7173 using the Dynamic Shear Rheometer (DSR). The DSR  $G^*/\sin(\delta)$  results from the top and bottom sections of the ASTM D7173 test shall not differ by more than 10%. The results of ASTM D7173 shall be included on the Certified Test Report. The binder shall meet the requirements of AASHTO M 332 (including Appendix X1) and AASHTO R 29.

(e) Warm Mix Additive or Technology:

- i. The warm mix additive or technology must be listed on the North East Asphalt User Producer Group (NEAUPG) Qualified Warm Mix Asphalt (WMA) Technologies List at the time of bid, which may be accessed online at <http://www.neaupg.uconn.edu>. **Error! Hyperlink reference not valid.**
- ii. The warm mix additive shall be blended with the asphalt binder in accordance with the manufacturer's recommendations.
- iii. The blended binder shall meet the requirements of AASHTO M 332 and shall be graded or verified in accordance with AASHTO R 29 for the specified binder grade. The Contractor shall submit a Certified Test Report showing the results of the testing demonstrating the binder grade. In addition, it must include the grade of the virgin binder, the brand name of the warm mix additive, the manufacturer's suggested rate for the WMA additive, the water injection rate (when applicable), and the WMA Technology manufacturer's recommended mixing and compaction temperature ranges.

## **5. Emulsified Asphalts:**

(a) General:

- i. The emulsified asphalt shall meet the requirements of AASHTO M 140(M) or AASHTO M 208 as applicable.
- ii. The emulsified asphalts shall be free of contaminants such as fuel oils and other solvents.
- iii. The blending at mixing Plants of emulsified asphalts from different suppliers is prohibited.

(b) Basis of Approval:

- i. The request for approval of the source of supply shall list the location where the material is manufactured, the handling and storage methods, and certifications in accordance with AASHTO R 77. Only suppliers that have an approved "Quality Control Plan for Emulsified Asphalt" formatted in accordance with AASHTO R 77 and that submit monthly split samples per grade to the Engineer may supply emulsified asphalt to Department projects.
- ii. Each shipment of emulsified asphalt delivered to the Project site shall be accompanied with the corresponding Certified Test Report listing Saybolt viscosity, residue by evaporation, penetration of residue, and weight per gallon at 77°F and Material Certificate.

- iii. Anionic emulsified asphalts shall meet the requirements of AASHTO M-140. Materials used for tack coat shall not be diluted and meet grade RS-1 or RS-1h. When ambient temperatures are 80°F and rising, grade SS-1 or SS-1h may be substituted if permitted by the Engineer.
- iv. Cationic emulsified asphalt shall meet the requirements of AASHTO M-208. Materials used for tack coat shall not be diluted and meet grade CRS-1. The settlement and demulsibility test will not be performed unless deemed necessary by the Engineer. When ambient temperatures are 80°F and rising, grade CSS-1 or CSS-1h may be substituted if permitted by the Engineer.

**6. Reclaimed Asphalt Pavement (RAP):**

(a) General: RAP is a material obtained from the cold milling or removal and processing of bituminous concrete pavement. RAP material shall be crushed to 100% passing the 1/2 inch sieve and free from contaminants such as joint compound, wood, plastic, and metals.

(b) Basis of Approval: The RAP material will be accepted on the basis of one of the following criteria:

- i. When the source of all RAP material is from pavements previously constructed on Department projects, the Contractor shall provide a Materials Certificate listing the detailed locations and lengths of those pavements and that the RAP is only from those locations listed.
- ii. When the RAP material source or quality is not known, the Contractor shall request approval from the Engineer at least 30 calendar days prior to the start of the paving operation. The request shall include a Material Certificate and applicable test results stating that the RAP consists of aggregates that meet the specification requirements of M.04.01-1 through M.04.01-3 and that the binder in the RAP is substantially free of solvents, tars and other contaminants. The Contractor is prohibited from using unapproved material on Department projects and shall take necessary action to prevent contamination of approved RAP stockpiles. Stockpiles of unapproved material shall remain separate from all other RAP materials at all times. The request for approval shall include the following:
  - 1. A 50-lb. sample of the RAP to be incorporated into the recycled mixture.
  - 2. A 25-lb. sample of the extracted aggregate from the RAP.

**7. Crushed Recycled Container Glass (CRCG):**

(a) Requirements: The Contractor may propose to use clean and environmentally-acceptable CRCG in an amount not greater than 5% by weight of total aggregate.

(b) Basis of Approval: The Contractor shall submit to the Engineer a request to use CRCG. The request shall state that the CRCG contains no more than 1% by weight of contaminants such as paper, plastic, and metal and conforms to the following gradation:

<b>CRCG Grading Requirements</b>	
<u>Sieve Size</u>	<u>Percent Passing</u>
3/8 inch	100
No. 4	35-100
No. 200	0.0-10.0

The Contractor shall submit a Material Certificate to the Engineer stating that the CRCG complies with all the applicable requirements in this Section.

**8. Joint Seal Material:** Joint seal material must meet the requirements of ASTM D6690 - Type 2. The Contractor shall submit a Material Certificate in accordance with 1.06.07 certifying that the joint seal material meets the requirements of this Section.

**9. Recycled Asphalt Shingles (RAS):** RAS shall consist of processed asphalt roofing shingles from post-consumer asphalt shingles or from manufactured shingle waste. The RAS material under consideration for use in bituminous concrete mixtures must be certified as being asbestos-free and shall be entirely free of whole, intact nails. The RAS material shall meet the requirements of AASHTO MP 23.

The Producer shall test the RAS material to determine the asphalt content and the gradation of the RAS material. The Producer shall take necessary action to prevent contamination of RAS stockpiles.

The Contractor shall submit a Material Certificate to the Engineer stating that the RAS complies with all the applicable requirements in this Section.

**10. Plant Requirements:**

(a) General: The Plant producing bituminous concrete shall comply with AASHTO M 156.

(b) Storage Silos: The Contractor may use silos for short-term storage with the approval of the Engineer. A storage silo must have heated cones and an unheated silo cylinder if it does not contain a separate internal heating system. When multiple silos are filled, the Contractor shall discharge 1 silo at a time. Simultaneous discharge of multiple silos for the same Project is not permitted.

Type of silo cylinder	Maximum storage time for all classes (hr)	
	<u>HMA</u>	<u>WMA/PMA</u>
Open Surge	4	Mfg Recommendations*
Unheated - Non-insulated	8	Mfg Recommendations*
Unheated - Insulated	18	Mfg Recommendations*
Heated - No inert gas	TBD by the Engineer	TBD by the Engineer

\*Not to exceed HMA limits

(c) Documentation System: The mixing Plant documentation system shall include equipment for accurately proportioning the components of the mixture by weight and in the proper order, controlling the cycle sequence, and timing the mixing operations. Recording equipment shall monitor the batching sequence of each component of the mixture and produce a printed record of these operations on each Plant ticket, as specified herein.

If recycled materials are used, the Plant tickets shall include their dry weight, percentage, and daily moisture content.

If a WMA Technology is added at the Plant, the Plant tickets shall include the actual dosage rate.

For drum Plants, the Plant ticket shall be produced at 5 minute intervals and maintained by the vendor for a period of 3 years after the completion of the Project.

For batch Plants, the Plant ticket shall be produced for each bath and maintained by the

vendor for a period of 3 years after the completion of the Project. In addition, an asterisk (\*) shall be automatically printed next to any individual batch weight(s) exceeding the following tolerances:

Each Aggregate Component	±1.5% of individual or cumulative target weight for each bin
Mineral Filler	±0.5% of the total batch
Bituminous Material	±0.1% of the total batch
Zero Return (Aggregate)	±0.5% of the total batch
Zero Return (Bituminous Material)	±0.1% of the total batch

The entire batching and mixing interlock cut-off circuits shall interrupt and stop the automatic batching operations when an error exceeding the acceptable tolerance occurs in proportioning. The scales shall not be manually adjusted during the printing process. In addition, the system shall be interlocked to allow printing only when the scale has come to a complete rest. A unique printed character (m) shall automatically be printed on the truck and batch plant printout when the automatic batching sequence is interrupted or switched to auto-manual or full manual during proportioning.

(d) Aggregates: Aggregate stockpiles shall be managed to prevent segregation and cross contamination. For drum Plants only, the percent moisture content, at a minimum prior to production and half way through production, shall be determined.

(e) Mixture: The dry and wet mix times shall be sufficient to provide a uniform mixture and a minimum particle coating of 95% as determined by AASTO T 195(M).

Bituminous concrete mixtures shall contain no more than 0.5% moisture when tested in accordance with AASHTO T 329.

(f) RAP: RAP moisture content shall be determined a minimum of twice daily (prior to production and halfway through production).

(g) Asphalt Binder: A binder log shall be submitted to the Department’s Central Lab on a monthly basis.

(h) Warm mix additive: For mechanically foamed WMA, the water injection rate shall be monitored during production and not exceed 2.0% by total weight of binder. For additive added at the Plant, the dosage rate shall be monitored during production.

(i) Testing Laboratory: The Contractor shall maintain a laboratory to test bituminous concrete mixtures during production. The laboratory shall have a minimum of 300 s.f., have a potable water source and drainage in accordance with the CT Department of Public Health Drinking Water Division, and be equipped with all necessary testing equipment as well as with a PC, printer, and telephone with a dedicated hard-wired phone line. In addition, the PC shall have a high speed internet connection and a functioning web browser with unrestricted access to <https://ctmail.ct.gov> . This equipment shall be maintained in working order at all times and be made available for use by the Engineer.

The laboratory shall be equipped with a heating system capable of maintaining a minimum temperature of 65°F. It shall be clean and free of all materials and equipment not associated

with the laboratory. Sufficient light and ventilation must be provided. During summer months adequate cooling or ventilation must be provided so the indoor air temperature shall not exceed the ambient outdoor temperature.

The laboratory testing apparatus, supplies, and safety equipment shall be capable of performing all the applicable tests in their entirety that are referenced in AASHTO R 35 and AASHTO M 323. The Contractor shall ensure that the Laboratory is adequately supplied at all times during the course of the Project with all necessary testing materials and equipment.

The Contractor shall maintain a list of laboratory equipment used in the acceptance testing processes including, but not limited to, balances, scales, manometer/vacuum gauge, thermometers, and gyratory compactor, clearly showing calibration and/or inspection dates, in accordance with AASHTO R 18. The Contractor shall notify the Engineer if any modifications are made to the equipment within the laboratory. The Contractor shall take immediate action to replace, repair, or recalibrate any piece of equipment that is out of calibration, malfunctioning, or not in operation.

#### **M.04.02 — Mix design and Job Mix Formula (JMF)**

##### **1. Curb Mix:**

(a) Requirements: The Contractor shall use bituminous concrete that meets the requirements of Table M.04.02-1. RAP may be used in 5% increments by weight up to 30%.

(b) Basis of Approval: Annually, an approved JMF based on a mix design for curb mix must be on file with the Engineer prior to use.

The Contractor shall test the mixture for compliance with the submitted JMF and Table M.04.02-1. The maximum theoretical density (Gmm) will be determined by AASHTO T 209. If the mixture does not meet the requirements, the JMF shall be adjusted within the ranges shown in Table M.04.02-1 until an acceptable mixture is produced.

An accepted JMF from the previous operating season may be acceptable to the Engineer provided that there are no changes in the sources of supply for the coarse aggregate, fine aggregate, recycled material (if applicable) and the Plant operation had been consistently producing acceptable mixture.

Any change in component source of supply or consensus properties must be approved by the Engineer. A revised JMF shall be submitted prior to use.



**TABLE M.04.02-1:  
Control Points for Curb Mix Mixtures**

<b>Mix</b>	<b>Curb Mix</b>	<b>Production Tolerances from JMF Target</b>
<b>Grade of PG Binder content %</b>	<b>PG 64S-22 6.5 - 9.0</b>	<b>0.4</b>
<b>Sieve Size</b>		
No. 200	3.0 - 8.0 (b)	2.0
No. 50	10 - 30	4
No. 30	20 - 40	5
No. 8	40 - 70	6
No. 4	65 - 87	7
1/4 inch		
3/8 inch	95 - 100	8
1/2 inch	100	8
3/4 inch		8
1 inch		
2 inch		
<b>Additionally, the fraction of material retained between any 2 consecutive sieves shall not be less than 4%.</b>		
<b>Mixture Temperature</b>		
<b>Binder</b>	325°F maximum	
<b>Aggregate</b>	280-350°F	
<b>Mixtures</b>	265-325°F	
<b>Mixture Properties</b>		
<b>Air Voids (VA) %</b>	0 – 4.0 (a)	
<b>Notes:</b> (a) Compaction Parameter 50 gyrations ( $N_{des}$ ) (b) The percent passing the No. 200 sieve shall not exceed the percentage of bituminous asphalt binder.		

**2. Superpave Design Method – S0.25, S0.375, S0.5, and S1:**

(a) **Requirements:** All designated mixes shall be designed using the Superpave mix design method in accordance with AASHTO R 35. A JMF based on the mix design shall meet the requirements of Tables M.04.02-2 to M.04.02-5. Each JMF and component samples must be submitted no less than 7 days prior to production and must be approved by the Engineer prior to use. All JMFs expire at the end of the calendar year.

All aggregate component consensus properties and tensile strength ratio (TSR) specimens shall be tested at an AASHTO Materials Reference Laboratory (AMRL) by NETTCP Certified Technicians.

All bituminous concrete mixes shall be tested for stripping susceptibility by performing the TSR test procedure in accordance with AASHTO T 283(M) at a minimum every 36 months. The compacted specimens may be fabricated at the Plant and then tested at an AMRL accredited facility. A minimum of 45000 grams of laboratory or plant blended mixture and the

corresponding complete Form MAT-412s shall be submitted to the Division of Material Testing (DMT) for design TSR testing verification. The mixture submitted shall be representative of the corresponding mix design as determined by the Engineer.

- i. Superpave Mixtures with RAP: RAP may be used with the following conditions:
    - RAP amounts up to 15% may be used with no binder grade modification.
    - RAP amounts up to 20% may be used provided a new JMF is approved by the Engineer. The JMF submittal shall include the grade of virgin binder added. The JMF shall be accompanied by a blending chart and supporting test results in accordance with AASHTO M 323 Appendix X1, or by testing that shows the combined binder (recovered binder from the RAP, virgin binder at the mix design proportions, warm mix asphalt additive and any other modifier if used) meets the requirements of the specified binder grade.
    - Two (2) representative samples of RAP shall be obtained. Each sample shall be split, and 1 split sample shall be tested for binder content in accordance with AASHTO T 164 and the other in accordance with AASHTO T 308.
    - RAP material shall not be used with any other recycling option.
  - ii. Superpave Mixtures with RAS: RAS may be used solely in HMA S1 mixtures with the following conditions:
    - RAS amounts up to 3% may be used.
    - RAS total binder replacement up to 15% may be used with no binder grade modification.
    - RAS total binder replacement up to 20% may be used provided a new JMF is approved by the Engineer. The JMF submittal shall include the grade of virgin binder added. The JMF shall be accompanied by a blending chart and supporting test results in accordance with AASHTO M 323 Appendix X1, or by testing that shows the combined binder (recovered binder from the RAP, virgin binder at the mix design proportions, warm mix asphalt additive and any other modifier if used) meets the requirements of the specified binder grade.
    - Superpave Mixtures with RAS shall meet AASHTO PP 78 design considerations.
  - iii. Superpave Mixtures with CRCG: CRCG may be used solely in HMA S1 mixtures. One percent (1%) of hydrated lime, or other accepted non-stripping agent, shall be added to all mixtures containing CRCG. CRCG material shall not be used with any other recycling option.
- (b) Basis of Approval: The following information must be included in the JMF submittal:
- i. Gradation, consensus properties and specific gravities of the aggregate, RAP or RAS.
  - ii. Average asphalt content of the RAP or RAS by AASHTO T 164.
  - iii. Source of RAP or RAS and percentage to be used.
  - iv. Warm mix Technology, manufacturer's recommended additive rate and tolerances, and manufacturer recommended mixing and compaction temperatures.
  - v. TSR test report and anti-strip manufacturer and recommended dosage rate if applicable.
  - vi. Mixing and compaction temperature ranges for the mix with and without the warm-mix technology incorporated.
  - vii. JMF ignition oven correction factor by AASHTO T 308.

With each JMF submittal, the following samples shall be submitted to the Division of Materials Testing:

- 4 - one (1) quart cans of PG binder, with corresponding Safety Data Sheet (SDS)
- 1 - 50 lbs. bag of RAP
- 2 - 50 lbs. bags of Plant-blended virgin aggregate

A JMF may not be approved if any of the properties of the aggregate components or mix do not meet the verification tolerances as described in the Department's current QA Program for Materials, Acceptance and Assurance Testing Policies and Procedures.

Any material based on a JMF, once approved, shall only be acceptable for use when it is produced by the designated Plant, it utilizes the same components, and the production of material continues to meet all criteria as specified in Tables M.04.02-2, M.04.02-3 and M.04.02-4. A new JMF must be submitted to the Engineer for approval whenever a new component source is proposed.

Only 1 mix with 1 JMF will be approved for production at a time. Switching between approved JMF mixes with different component percentages or sources of supply is prohibited.

**TABLE M.04.02-2: Superpave Master Range for Bituminous Concrete Mixture Design Criteria**

Sieve	S0.25		S0.375		S0.5		S1	
	Control Points		Control Points		Control Points		Control Points	
inches	Min (%)	Max (%)	Min (%)	Max (%)	Min (%)	Max (%)	Min (%)	Max (%)
2.0	-	-	-	-	-	-	-	-
1.5	-	-	-	-	-	-	100	-
1.0	-	-	-	-	-	-	90	100
3/4	-	-	-	-	100	-	-	90
1/2	100	-	100	-	90	100	-	-
3/8	97	100	90	100	-	90	-	-
No. 4	72	90	-	72	-	-	-	-
No. 8	32	67	32	67	28	58	19	45
No. 16	-	-	-	-	-	-	-	-
No. 30	-	-	-	-	-	-	-	-
No. 50	-	-	-	-	-	-	-	-
No. 100	-	-	-	-	-	-	-	-
No. 200	2.0	10.0	2.0	10.0	2.0	10.0	1.0	7.0
VMA (%)	16.5 ± 1		16.0 ± 1		15.0 ± 1		13.0 ± 1	
VA (%)	4.0 ± 1		4.0 ± 1		4.0 ± 1		4.0 ± 1	
Gse	JMF value		JMF value		JMF value		JMF value	
Gmm	JMF ± 0.030		JMF ± 0.030		JMF ± 0.030		JMF ± 0.030	
Dust / effective binder	0.6 - 1.2		0.6 - 1.2		0.6 - 1.2		0.6 - 1.2	
TSR	≥ 80%		≥ 80%		≥ 80%		≥ 80%	
T-283 Stripping	Minimal as determined by the Engineer							

(c) Mix Status: Each facility will have each type of bituminous concrete mixture rated based on the results of the previous year of production. Mix status will be provided to each bituminous concrete Producer prior to the beginning of the paving season.

The rating criteria are based on compliance with Air Voids and Voids in Mineral Aggregate (VMA) as indicated in Table M.04.03-4 and are calculated as follows:

Criteria A: Percentage of acceptance test results with compliant air voids.

Criteria B: The average of the percentage of acceptance results with compliant VMA and the percentage of acceptance results with compliant air voids.

The final rating assigned will be the lower of the rating obtained with Criteria A or Criteria B.

Mix status is defined as:

“A” – Approved: Assigned to each mixture type from a production facility with a current rating of 70% or greater, or to each mixture type completing a successful PPT.

“PPT” – Pre-Production Trial: Temporarily assigned to each mixture type from a production facility when:

1. there are no compliant acceptance production test results submitted to the Department from the previous year;
2. there is a source change in one or more aggregate components;
3. there is a component percentage change of more than 5% by weight;
4. there is a change in RAP percentage;
5. the mixture has a rating of less than 70% from the previous season;
6. it is a new JMF not previously submitted; or
7. the average of 10 consecutive acceptance results for VFA, Density to  $N_{ini}$  or dust to effective binder ratio does not meet the criteria in tables M.04.02-2 and M.04.02-4.

Bituminous concrete mixtures rated with a “PPT” status cannot be used on Department projects. Testing shall be performed by the Producer with NETTCP certified personnel on material under this status. Test results must confirm that specification requirements in Tables M.04.02-2 through M.04.02-4 are met and the binder content (Pb) meets the requirements in Table M.04.03-2 before material can be used. One of the following methods must be used to verify the test results:

Option A: Schedule a day when a Department Inspector can be at the facility to witness testing

Option B: When the Contractor or their representative performs testing without being witnessed by an Inspector, the Contractor shall submit the test results and a split sample including 2 gyratory molds, 5,000 grams of boxed bituminous concrete, and 5,000 grams of cooled loose bituminous concrete for verification testing and approval

Option C: When the Contractor or their representative performs testing without being witnessed by a Department Inspector, the Engineer may verify the mix in the Contractor’s laboratory

Witnessing or verifying by the Department of compliant test results will change the mix’s status to “A”

The differences between the Department’s test results and the Contractor’s must be within the “C” tolerances included in the [Department’s QA Program for Materials, Acceptance and Assurance Testing Policies and Procedures](#) in order to be verified.

“U” – Not Approved: Status assigned to a type of mixture that does not have an approved JMF. Bituminous concrete mixtures with a “U” status cannot be used on Department projects.

**TABLE M.04.02-3:  
Superpave Consensus Properties Requirements for Combined Aggregate**

Traffic Level	Design ESALs (80kN) Millions	Coarse Aggregate Angularity <sup>(1)</sup>	Fine Aggregate Angularity AASHTO T 304, Method A Minimum %	Flat and Elongated Particles <sup>(2)</sup> ASTM D4791, Maximum %	Sand Equivalent AASHTO T 176, Minimum %
		ASTM D5821, Minimum %			
1	< 0.3	55/- -	40	10	40
2	0.3 to < 3.0	75/- -	40	10	40
3	≥ 3.0	95/90	45	10	45

Notes:  
<sup>(1)</sup> 95/90 denotes that a minimum of 95% of the coarse aggregate, by mass, shall have one fractured face and that a minimum of 90% shall have two fractured faces.  
<sup>(2)</sup> Criteria presented as maximum Percent by mass of flat and elongated particles of materials retained on the No. 4 sieve, determined at 5:1 ratio.

**TABLE M.04.02-4: Superpave Traffic Levels and Design Volumetric Properties**

Traffic Level	Design ESALs (million)	Number of Gyration by Superpave Gyrotory Compactor			Percent Density of Gmm from HMA/WMA Specimen			Voids Filled with Asphalt (VFA) Based on Nominal Mix Size - Inch			
		N <sub>ini</sub>	N <sub>des</sub>	N <sub>max</sub>	N <sub>ini</sub>	N <sub>des</sub>	N <sub>max</sub>	0.25	0.375	0.5	1
1	<0.3	6	50	75	≤91.5	96.0	≤98.0	70-80	70-80	70-80	67-80
2	0.3 to <3.0	7	75	115	≤90.5	96.0	≤98.0	65-78	65-78	65-78	65-78
3	≥3.0	7	75	115	≤90.0	96.0	≤98.0	65-77	65-76	65-75	65-75

**TABLE M.04.02-5:  
Superpave Minimum Binder Content by Mix Type and Level**

<b>Mix Type</b>	<b>Level</b>	<b>Binder Content Minimum</b>
S0.25	1	5.80
S0.25	2	5.70
S0.25	3	5.70
S0.375	1	5.70
S0.375	2	5.60
S0.375	3	5.60
S0.5	1	5.10
S0.5	2	5.00
S0.5	3	5.00
S1	1	4.60
S1	2	4.50
S1	3	4.50

**M.04.03 —Production Requirements:**

**1. Standard Quality Control Plan (QCP) for Production:** The QCP for production shall describe the organization and procedures, which the Contractor shall use to administer quality control. The QCP shall include the procedures used to control the production process, to determine when immediate changes to the processes are needed, and to implement the required changes. The QCP must detail the inspection, sampling and testing protocols to be used, and the frequency for each.

Control Chart(s) shall be developed and maintained for critical aspect(s) of the production process as determined by the Contractor. The control chart(s) shall identify the material property, applicable upper and lower control limits, and be updated with current test data. As a minimum, the following quality characteristics shall be included in the control charts:

- percent passing No. 4 sieve
- percent passing No. 200 sieve
- binder content
- air voids
- Gmm
- Gse
- VMA

The control chart(s) shall be used as part of the quality control system to document variability of the bituminous concrete production process. The control chart(s) shall be submitted to the Engineer the first day of each month.

The QCP shall also include the name and qualifications of a Quality Control Manager. The Quality Control Manager shall be responsible for the administration of the QCP, including compliance with the plan and any plan modifications.

The Contractor shall submit complete production testing records to the Engineer within 24 hours in a manner acceptable to the Engineer.

The QCP shall also include the name and qualifications of any outside testing laboratory performing any QC functions on behalf of the Contractor. The QCP must also include a list of sampling and testing methods and frequencies used during production, and the names of all Quality Control personnel and their duties.

Approval of the QCP does not imply any warranty by the Engineer that adherence to the plan will result in production of bituminous concrete that complies with these specifications. The Contractor shall submit any changes to the QCP as work progresses.

## **2. Acceptance Requirements:**

### **(a) General:**

For those mixes with a total estimated project tonnage over 500 tons, a NETTCP HMA Paving Inspector certified Contractor representative shall obtain a field sample of the material placed at the project site in accordance with AASHTO T 168 using the procedure indicated in Section 5.2.3 or an alternate procedure approved by the Engineer. Sampling from the truck at the Plant in accordance with AASHTO T 168 using the procedure indicated in Section 5.2.2 will be allowed for those mixes with a total estimated project tonnage equal to or less than 500 tons. Regardless of sampling location, the sample shall be quartered by the Contractor in accordance with AASHTO R 47 and placed in an approved container. The container shall be sealed with a security tape provided by the Department and labelled to include the project number, date of paving, mix type, lot and subplot numbers and daily tonnage. The minimum weight of each quartered sample shall be 14000 grams. The Contractor shall transport one of the containers to the Department's Central Laboratory in Rocky Hill, retain one of the sealed containers for potential use in dispute resolution and test the remaining samples for acceptance in accordance with past practice.

The Contractor shall submit all acceptance test results to the Engineer within 24 hours or prior to the next day's production. All acceptance test specimens and supporting documentation must be retained by the Contractor and may be disposed of with the approval of the Engineer. All quality control specimens shall be clearly labeled and separated from the acceptance specimens. Contractor personnel performing QC and acceptance testing must be present at the facility prior to, during, and until completion of production, and be certified as a NETTCP HMA Plant Technician or Interim HMA Plant Technician and be in good standing. Production of material for use on State projects must be suspended by the Contractor if such personnel are not present. Technicians found by the Engineer to be non-compliant with NETTCP policies and procedures or Department policies may be removed by the Engineer from participating in the acceptance testing process for Department projects until their actions can be reviewed.

Verification and dispute resolution testing will be performed by the Engineer in accordance with the Department's QA Program for Materials.

Should the Department be unable to validate the Contractor's acceptance test result(s) for a lot of material, the Engineer will use results from verification testing and re-calculate the pay adjustment for that lot. The Contractor may request to initiate the dispute resolution process in writing within 24 hours of receiving the adjustment and must include supporting documentation or test results to justify the request.

**(b) Curb Mix Acceptance Sampling and Testing Procedures:** Curb Mixes shall be tested by the Contractor at a frequency of 1 test per every 250 tons of cumulative production, regardless of the day of production.

When these mix designs are specified, the following acceptance procedures and AASHTO test methods shall be used:



**TABLE M.04.03-1: Curb Mix Acceptance Test Procedures**

<b>Protocol</b>	<b>Reference</b>	<b>Description</b>
<b>1</b>	<b>AASHTO T 30(M)</b>	Mechanical Analysis of Extracted Aggregate
<b>2</b>	<b>AASHTO T 168</b>	Sampling of Bituminous Concrete
<b>3</b>	<b>AASHTO T 308</b>	Binder Content by Ignition Oven Method (adjusted for aggregate correction factor)
<b>4</b>	<b>AASHTO T 209(M)<sup>(2)</sup></b>	Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
<b>5</b>	<b>AASHTO T 312<sup>(2)</sup></b>	<sup>(1)</sup> Superpave Gyrotory Molds Compacted to N <sub>des</sub>
<b>6</b>	<b>AASHTO T 329</b>	Moisture Content of Hot-Mix Asphalt (HMA) by Oven Method

**Notes:** <sup>(1)</sup>One (1) set equals 2 each of 6-inch molds. Molds to be compacted to 50 gyrations.

<sup>(2)</sup>Once per year or when requested by the Engineer.

i. Determination of Off-Test Status:

1. Curb Mix is considered “off test” when the test results indicate that any single value for bitumen content or gradation are not within the tolerances shown in Table M.04.02-1 for that mixture. If the mix is “off test,” the Contractor must take immediate actions to correct the deficiency and a new acceptance sample shall be tested on the same day or the following day of production.
2. When multiple silos are located at 1 site, mixture supplied to 1 project is considered as coming from 1 source for the purpose of applying the “off test” status.
3. The Engineer may cease supply from the Plant when test results from 3 consecutive samples are not within the JMF tolerances or the test results from 2 consecutive samples not within the control points indicated in Table M.04.02-1 regardless of production date.

ii. JMF Revisions

1. If a test indicates that the bitumen content or gradation are outside the tolerances, the Contractor may make a single JMF revision as allowed by the Engineer prior to any additional testing. Consecutive test results outside the requirements of Table M.04.02-1 JMF tolerances may result in rejection of the mixture.
2. Any modification to the JMF shall not exceed 50% of the JMF tolerances indicated in Table M.04.02-1 for any given component of the mixture without approval of the Engineer. When such an adjustment is made to the bitumen, the corresponding production percentage of bitumen shall be revised accordingly.

(c) Superpave Mix Acceptance:

i. Sampling and Testing Procedures

Production Lot: The lot will be defined as one of the following types:

- Non-PWL Production Lot for total estimated Project quantities per mixture less than 3500 tons: All mixture placed during a single continuous paving operation.
- PWL Production Lot for total estimated Project quantities per mixture of 3500 tons or more: Each 3500 tons of mixture produced within 30 calendar days.

Production Sub Lot:

- For Non-PWL: As defined in Table M.04.03-2
- For PWL: 500 tons (The last sub lot may be less than 500 tons.)

Partial Production Lots (For PWL only): A Lot with less than 3500 tons due to:

- completion of the course;
- a Job Mix Formula revision due to changes in:
  - o cold feed percentages over 5%,
  - o target combined gradation over 5%,
  - o target binder over 0.15%,
  - o any component specific gravity; or
- a lot spanning 30 calendar days.

The acceptance sample(s) location(s) shall be selected using stratified - random sampling in accordance with ASTM D3665 based on:

- the total daily estimated tons of production for non-PWL lots, or
- the total size for PWL lots.

One (1) acceptance sample shall be obtained and tested per sub lot with quantities over 125 tons. The Engineer may direct that additional acceptance samples be obtained. For non-PWL lots, one (1) acceptance test shall always be performed in the last sub lot based on actual tons of material produced.

For non-PWL lots, quantities of the same mixture per Plant may be combined daily for multiple State projects to determine the number of sub lots.

The payment adjustment will be calculated as described in 4.06.

**TABLE M.04.03-2:  
Superpave Acceptance Testing Frequency per Type/Level/Plant for Non-PWL Lots**

Daily Quantity Produced in Tons (Lot)	Number of Sub Lots/Tests
0 to 125	0, Unless requested by the Engineer
126 to 500	1
501 to 1,000	2
1,001 to 1,500	3
1,500 or greater	1 per 500 tons or portions thereof

The following test procedures shall be used for acceptance:

**TABLE M.04.03-3: Superpave Acceptance Testing Procedures**

Protocol	Procedure	Description
1	AASHTO T 168	Sampling of bituminous concrete
2	AASHTO R 47	Reducing samples to testing size
3	AASHTO T 308	Binder content by ignition oven method (adjusted for aggregate correction factor)
4	AASHTO T 30(M)	Gradation of extracted aggregate for bituminous concrete mixture
5	AASHTO T 312	<sup>(1)</sup> Superpave gyratory molds compacted to $N_{des}$
6	AASHTO T 166	<sup>(2)</sup> Bulk specific gravity of bituminous concrete
7	AASHTO R 35	<sup>(2)</sup> Air voids, VMA
8	AASHTO T 209(M)	Maximum specific gravity of bituminous concrete (average of 2 tests)
9	AASHTO T 329	Moisture content of bituminous concrete

**Notes:** <sup>(1)</sup> One (1) set equals 2 each of 6-inch molds. Molds to be compacted to  $N_{max}$  for PPTs and to  $N_{des}$  for production testing. The first sub lot of the year shall be compacted to  $N_{max}$ .

<sup>(2)</sup> Average value of 1 set of 6-inch molds.

If the average ignition oven corrected binder content differs by 0.3% or more from the average of the Plant ticket binder content in 5 consecutive tests regardless of the production date (moving average), the Contractor shall immediately investigate, determine an assignable cause, and correct the issue. When 2 consecutive moving average differences are 0.3% or more and no assignable cause has been established, the Engineer may require a new ignition oven aggregate correction factor to be performed or to adjust the current factor by the average of the differences between the corrected binder content and production Plant ticket for the last 5 acceptance results.

The Contractor shall perform TSR testing within 30 days after the start of production for all design levels of HMA- and PMA- S0.5 Plant-produced mixtures, in accordance with AASHTO T 283(M). The TSR test shall be performed at an AMRL certified laboratory by NETTCP certified technicians. The compacted specimens may be fabricated at the Plant and then tested at an AMRL accredited facility. A minimum of 45000 grams of plant blended mixture and the corresponding complete Form MAT-412s shall be submitted to the DMT for production TSR testing verification. The mixture submitted shall be representative of the corresponding mix design as determined by the Engineer. Additionally, the TSR test report and tested specimens shall be submitted to the Engineer for review. Superpave mixtures that require anti-strip additives (either liquid or mineral) shall continue to meet all requirements specified herein for binder and bituminous concrete. The Contractor shall submit the name, manufacturer, percent used, technical datasheet and SDS for the anti-strip additive (if applicable) to the Engineer.

i. Determination of Off-Test Status:

1. Superpave mixes shall be considered “*off test*” when any control point sieve, binder content, VA, VMA, and Gmm value is outside of the limits specified in Table M.04.03-4 or the target binder content at the Plant is below the minimum binder

content stated in Table M.04.02-5. Note that further testing of samples or portions of samples not initially tested for this purpose cannot be used to change the status.

2. Any time the bituminous concrete mixture is considered off-test:
  - A. The Contractor shall notify the Engineer when the Plant is “*off test*” for any mix design that is delivered to the Project in any production day. When multiple silos are located at 1 site, mixture supplied to 1 project is considered as coming from 1 source for the purpose of applying the “*off test*” determination.
  - B. The Contractor must take immediate actions to correct the deficiency, minimize “*off test*” production to the Project, and obtain an additional Process Control (PC) test after any corrective action to verify production is in conformance with the specifications. A PC test will not be used for acceptance and is solely for the use of the Contractor in its quality control process.

ii. Cessation of Supply for Superpave Mixtures in Non-PWL Lots:

A mixture **shall not be used** on Department projects when it is “off test” for:

1. four (4) consecutive tests in any combination of VA, VMA or Gmm, regardless of date of production, or
2. two (2) consecutive tests in the control point sieves in 1 production shift.

As a result of cessation of supply, the mix status will be changed to PPT

iii. JMF revisions:

JMF revisions are only permitted prior to or after a production shift. A JMF revision is effective from the time it was submitted and is not retroactive to the previous test(s). JMF revisions shall be justified by a documented trend of test results.

Revisions to aggregate or RAP specific gravities are only permitted when testing is performed at an AMRL certified laboratory by NETTCP certified technicians.

A JMF revision is required when the Plant target RAP or bin percentage deviates by more than 5% or the Plant target binder content deviates by more than 0.15% from the active JMF.

**TABLE M.04.03-4: Superpave Mixture Production Requirements**

	<b>S0.25</b>		<b>S0.375</b>		<b>S0.5</b>		<b>S1</b>		Tolerances
Sieve	Control Points		Control Points		Control Points		Control Points		From JMF Targets <sup>(2)</sup>
inches	Min (%)	Max (%)	Min (%)	Max (%)	Min (%)	Max (%)	Min (%)	Max (%)	+/- Tolerance
1.5	-	-	-	-	-	-	100	-	
1.0	-	-	-	-	-	-	90	100	
3/4	-	-	-	-	100	-	-	90	
1/2	100	-	100	-	90	100	-	-	
3/8	97	100	90	100	-	90	-	-	
No. 4	72	90	-	72	-	-	-	-	
No. 8	32	67	32	67	28	58	19	45	
No. 16	-	-	-	-	-	-	-	-	
No. 200	2.0	10.0	2.0	10.0	2.0	10.0	1.0	7.0	
Pb	JMF value		JMF value		JMF value		JMF value		0.3 <sup>(3)</sup>
VMA (%)	16.5		16.0		15.0		13.0		1.0 <sup>(4)</sup>
VA (%)	4.0		4.0		4.0		4.0		1.0 <sup>(5)</sup>
Gmm	JMF value		JMF value		JMF value		JMF value		0.030
Mix Temp. – HMA <sup>(6)</sup>	265-325°F <sup>(1)</sup>		265-325°F <sup>(1)</sup>		265-325°F <sup>(1)</sup>		265-325°F <sup>(1)</sup>		
Mix Temp. – PMA <sup>(6)</sup>	285-335°F <sup>(1)</sup>		285-335°F <sup>(1)</sup>		285-335°F <sup>(1)</sup>		285-335°F <sup>(1)</sup>		
Prod. TSR	N/A		N/A		≥80%		N/A		
T-283 Stripping	N/A		N/A		Minimal TBD by the Engineer		N/A		

**Notes:** <sup>(1)</sup> 300°F minimum after October 15.

<sup>(2)</sup> JMF tolerances shall be defined as the limits for production compliance.

<sup>(3)</sup> 0.4 for PWL lots

<sup>(4)</sup> 1.3 for all PWL lots except S/P 0.25 mixes. 1.1 for S/P 0.25 Non-PWL lots. 1.4 for S/P 0.25 PWL lots

<sup>(5)</sup> 1.2 for PWL lots

<sup>(6)</sup> Also applies to placement

**Table M.04.03-5:  
Modifications to Standard AASHTO and ASTM Test Specifications and Procedures**

<b>AASHTO Standard Method of Test</b>	
<b>Reference</b>	<b>Modification</b>
<b>T 30</b>	Section 7.2 through 7.4 Samples are not routinely washed for production testing
<b>T 209</b>	Section 7.2 The average of 2 bowls is used proportionally in order to satisfy minimum mass requirements. 8.3 Omit Pycnometer method.
<b>T 283</b>	When foaming technology is used, the material used for the fabrication of the specimens shall be cooled to room temperature, and then reheated to the manufacturer’s recommended compaction temperature prior to fabrication of the specimens.
<b>AASHTO Standard Recommended Practices</b>	
<b>Reference</b>	<b>Modification</b>
<b>R 26</b>	<p>All laboratory technician(s) responsible for testing PG binders shall be certified or Interim Qualified by NETTCP as a PG Asphalt Binder Lab Technician. All laboratories testing binders for the Department are required to be accredited by the AMRL. Sources interested in being approved to supply PG binders to the Department by use of an “in-line blending system” must record properties of blended material and additives used. Each source of supply of PG binder must indicate that the binders contain no additives used to modify or enhance their performance properties. Binders that are manufactured using additives, modifiers, extenders, etc., shall disclose the type of additive, percentage and any handling specifications or limitations required. All AASHTO M 320 references shall be replaced with AASHTO M 332. Once a month, 1 split sample and test results for each asphalt binder grade and each lot shall be submitted by the PG binder supplier to the Department’s Central Lab. Material remaining in a certified lot shall be re-certified no later than 30 days after initial certification. Each April and September, the PG binder supplier shall submit test results for 2 BBR tests at 2 different temperatures in accordance with AASHTO R 29.</p>

STATE PROJECT NO. 0094-258  
WILLIAMS STREET IMPROVEMENTS  
CITY OF NEW LONDON, CT

SPECIFICATIONS AND TECHNICAL SPECIAL PROVISIONS

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NOTICE TO CONTRACTOR – CONTRACT TIME AND LIQUIDATED DAMAGES  
NOTICE TO CONTRACTOR – CONTRACT DURATION  
NOTICE TO CONTRACTOR – BUY AMERICA  
NOTICE TO CONTRACTOR – CONTRACTOR TRAINING REQUIREMENT FOR 10-HOUR OSHA  
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NOTICE TO CONTRACTOR – PORTLAND CEMENT CONCRETE (PCC) MIX CLASSIFICATIONS  
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SPECIAL PROVISIONS DISADVANTAGED BUSINESS ENTERPRISES FOR FEDERAL FUNDED  
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SECTION 4.06 - BITUMINOUS CONCRETE  
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City of New London, CT  
Williams Street Improvements

ITEM #0945060A – PINE BARK MULCH  
ITEM #0950019A – TURF ESTABLISHMENT – LAWN  
ITEM #0969060A – CONSTRUCTION FIELD OFFICE  
ITEM #0971001A – MAINTENANCE AND PROTECTION OF TRAFFIC  
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ITEM #1206023A – REMOVAL AND RELOCATION OF EXISTING SIGNS  
ITEM #1302061A – ADJUST GATE BOX (WATER)



## **INTRODUCTION TO THE TECHNICAL SPECIFICATIONS**

The following Standard Specifications shall apply to the various items of work which constitute the construction contemplated under this Contract except as supplemented and/or amended by the Special Provisions contained herein. In cases of conflict between the Standard Specifications and the Special Provisions, the Special Provisions shall apply.

To avoid excessive overlapping and repetition, there are certain sections and items that are referred to in other sections. In these cases, it is understood that words such as culverts and sewer; sanitary and storm; utility and sewer; manhole and catch basins; structure and culvert; etc., are interchangeable. In cases where references are not given and the need arises for a specification, similar sections or related items shall govern.

Further, it is provided that whenever anything is, or is to be, done if, as, or, when, or where "contemplated, required, determined, directed, specified, authorized, given, designated, indicated, considered necessary, deemed necessary, permitted, reserved, suspended, established, approval, approved, disapproved, acceptable, unacceptable, sufficient, insufficient, rejected, or condemned", it shall be understood as if the expression were followed by the words "by the Engineer" or "to the Engineer".

Within the Technical Specifications and/or Special Provisions of this Contract, the following definitions shall apply:

1. "Standard Specifications": Shall mean the State of Connecticut, Department of Transportation, Bureau of Highways, "Standard Specifications for Roads, Bridges and Incidental Construction, Form 817", including supplemental specifications dated July 2019. All applicable portions of the Standard Specifications not supplemented and/or amended shall apply. Within the applicable portions of the Standard Specifications wherein the following terms are used they shall mean respectively:

State, Department, Commissioner

Local Public Agency

Engineer

City of New London Engineer  
or other authorized  
representative

Inspector

Representatives of the City of  
New London  
Town Engineer or other  
authorized representative

Laboratory

CT DOT Division of Materials  
Testing

2. Applicable Safety Code: Shall mean the latest edition including any and all amendments, revisions and additions thereto of the Federal Department of Labor, Occupational Safety and

Health Administration's "Occupational Safety and Health Standards" and "Safety and Health Regulations for Construction", the State of Connecticut, Labor Department, "Construction Safety Code", or State of Connecticut "Building Code", whichever is the more stringent for the applicable requirements.

3. Items: Reference within the text of these Specifications to Items without a number but title only are Technical Specification Items within this Contract. Sections or Articles referred to with a number refer to the State of Connecticut Department of Transportation, Bureau of Highways Specification Sections or Articles.

4. Local Regulatory agency(ies): Local Regulatory agency(ies) shall be defined as the governing body or authority having jurisdiction over or responsibility for a particular activity within the scope of this Contract. They may be as specifically defined within the Special Conditions, otherwise, the Contractor shall be responsible to determine same in the local area of the Contract.

5. "These Specifications": Where used in the text of the Technical Specifications Items shall mean the Technical Specifications of this Contract.

6. Bid Proposal Items: Payment will only be made for items in the Bid Proposal. Other items may be included in the specifications but payment for items not listed in the Bid proposal will be included in the cost of other items of work. Bid Proposal items shall have the same basic alphanumeric designation as the same item in the specifications with significant suffixes added as required.

## **GENERAL REQUIREMENTS**

### **1.0 DESCRIPTION:**

- a. Scope of Work: TAP-funded Project 0094-258 The Williams Street Improvements Project will begin at Williams Street Roadway Station 32+75, approximately 25 feet south of the intersection with Gordon Court and run north to the New London/Waterford town line at Roadway Station 89+89. The total length of the project is approximately 5714 feet, or 1.1 miles. The proposed design includes new sidewalks, lighting, decorative streetscape elements, granite curbing, and wheel chair ramps. To promote traffic calming, curb lines will be moved inward where the road is excessively wide and a raised decorative intersection will be provided at the entrance to Connecticut College. Five-foot bicycle lanes will be provided where existing roadway width allows. The remainder of the project corridor will be striped for shared use.
- b. Work under this contract shall be performed in accordance with all the Contract Documents, including the attached Specifications and the Standard Specifications.

- c. References to Form 817 or the Standard Specifications mean the State of Connecticut Department of Transportation "Standard Specifications for Roads, Bridges and Incidental Construction, 2016," including the supplemental specifications dated July 2019.
- d. Any conflict between the Form 817, the attached specifications, the special conditions, the plans and other contract documents shall immediately be brought to the attention of the Engineer. The Engineer will determine the correct meaning.
- e. The contract "Bid Form" summarizes the contract items, basis of payment and estimated quantities.
- f. The Contractor shall provide the Engineer, before commencement of construction, a "Construction Schedule" (Bar Type or CPM) showing the start and end date of each sequence, each stage and each major work task within a given sequence. No separate payment will be made for the construction schedule as required.
- g. NOTICE TO CONTRACTOR – TRAFFIC CONTROL

Contractor shall leave 150' open at intersections for left turns. Engineer must approve layout prior to pavement marking installation.

Contractor shall coordinate all major activities, such as driveway relocations, median installations and paving, with adjacent properties to minimize conflicts with delivery trucks and business operations.

- h. NOTICE TO CONTRACTOR – WARNING MARKINGS FOR UNDERGROUND FACILITIES:

In conformance with Section 16-345 of the Regulations of the Department of Public Utility Control, the Contractor shall install a warning tape located a minimum of twelve (12) inches above all conduits, wires, cables, utility pipes, drainage pipes, underdrains or other facilities. The warning tape shall be of durable impervious material, designed to withstand extended underground exposure without material deterioration or color fade. It shall be of the color assigned to the type of facility for surface markings and shall be durably imprinted with an appropriate warning message. The tape shall also comply with the specific requirements of the utility which owns the facility.

All tapes, unless otherwise directed by the specific utility, shall be detectable to a depth of at least three feet with the least expensive commercial radio type metal locator.

Assigned colors are:

Green - Storm and sanitary sewers and drainage systems including force

mains and other non-hazardous materials.

Blue - Water.

Orange - Communication lines or cables, including but not limited to telephone, telegraph, fire signals, cable television, civil defense, data systems, electronic controls and other instrumentation.

Red - Electric power lines, electric power conduits and other electric power facilities.

Yellow - Gas, oil petroleum products, steam, compressed air, compressed gasses and all other hazardous materials except water.

Brown - Other.

Purple - Radioactive materials.

Payment for warning tapes will be included in the bid price for the pay item of the specific facility for which they are installed.

## 2.0 **MATERIALS:**

The Contractor shall be responsible for all materials delivered until project completion and final acceptance. All materials and pieces of equipment delivered to the site shall be properly stored and protected until it is placed into service.

## 3.0 **CONSTRUCTION METHODS:**

The location of existing underground pipes, conduits, wires, and structures as shown on the plans has been collected from the best available sources and field survey. The Engineer/Owner does not imply nor guarantee the accurateness and completeness of this information. The Contractor is solely responsible for determining actual field locations. The Contractor shall contact "Call Before You Dig" (1-800-922-4455) for locations and marking of all existing utilities prior to any excavations.

Dimensions and elevations indicated on the drawings shall be verified by the Contractor. All Contractor observed discrepancies between drawings, specifications and existing conditions shall be referred to the Engineer before affected work is performed. Failure to make such notification shall place responsibility upon the Contractor to carry out the work in a manner acceptable to the Engineer at no additional cost to the Owner.

All staking shall be performed by the Contractor from the information provided on the drawings.

The Contractor shall maintain one copy of all contract documents in good order at the jobsite.

Upon completion of the work, on a 24" x 36" mylar set of the contract drawings, the Contractor shall record any field changes of dimensions and detail that may have occurred, changes by change orders, and details not on the original contract drawings. Specifically, the following information shall be shown on the record drawings for utilities within the contract work area:

- a. As-built surface profile of proposed utility and street centerline.
- b. Stations and elevations of existing and proposed manholes, wyes, and catch basins.

On a set of specifications, the Contractor shall legibly mark each section to record the manufacturer, trade name, catalog number and supplier of products which were actually installed. These record documents consisting of contract drawings and specifications shall be delivered to the Engineer as one of the requirements for final payment.

4.0 **METHOD OF MEASUREMENT:**

This item will not be measured for payment.

5.0 **BASIS OF PAYMENT:**

No separate payment will be made for items outlined in "General Requirements". Compensation for such work including all labor, equipment, and materials shall be considered to be included in the prices bid for the other items of work.

## **ITEM NO. 0201001A – CLEARING AND GRUBBING**

Section 2.01 is supplemented as follows:

### **Article 2.01.01 – Description is supplemented with the following:**

Secure the work area and take precautions for preventing injuries to persons or damage to property in or about the work. Protect structures, utilities, sidewalks, pavements and other facilities or sensitive areas from damage by clearing and grubbing operations.

Establish all required erosion and sedimentation controls prior to initiating work.

### **Article 2.01.02 – Materials is supplemented with the following:**

The materials that will be needed for this item includes all the tools and equipment required to remove the items set herein.

### **Article 2.01.03 – Construction Methods is supplemented with the following:**

Clear, grub, remove, and dispose of all vegetation and debris within the limits of construction, as designated on the plans or as required by Engineer. Contractor shall remove only those trees and shrubs absolutely necessary to allow for the construction. The work shall also include the preservation and protection of all vegetation designated to remain.

1. A preconstruction meeting shall be held with Engineer, Owner, local authorities, property owner(s) and other appropriate personnel, if required, prior to any clearing.
2. The area within the limits of construction or as designated shall be cleared and grubbed of all trees, stumps, roots, brush, undergrowth, hedges, heavy growth of grasses or weeds, debris and rubbish of any nature which, in the opinion of Engineer, is unsuitable for foundation material. Nonperishable items that will be a minimum of five (5) feet below the finish elevation of the earthwork or slope of the embankment may be left in place.
3. Contractor shall provide barricades, fences, coverings, or other types of protection necessary to prevent damage to existing improvements, not indicated to be removed, and improvements on adjoining property. All improvements damaged by this work shall be restored to their original condition or to a condition acceptable to the owner or other parties or authorities having jurisdiction.
4. Protection of Trees and Vegetation: Contractor shall protect existing trees and other vegetation indicated on the Drawings to remain in place against cutting, breaking, or skinning of roots, skinning and bruising of bark, smothering of trees by stockpiling construction materials or excavated materials within drip line, excess foot or vehicular traffic, or parking of vehicles within drip line. Provide temporary fences or barricades as required to protect trees and vegetation to be left standing at no additional cost.
5. Trees and shrubs that are to remain within the construction limits will be indicated on the Drawings or conspicuously marked on the Project Site. Unless otherwise noted, trees within the construction limits shall become the property of the Contractor and shall be removed from the site.
6. Carefully and cleanly cut roots and branches of trees indicated to remain where the roots and branches obstruct construction of utilities or other subsurface improvements.

Contractor shall provide protection for roots and branches over 1 ½ inches diameter that are cut during construction operations. Temporarily cover all exposed roots with wet burlap to prevent roots from drying out. Provide earth cover as soon as possible.

7. Damaged trees and vegetation designated to remain shall be repaired or replaced at Contractor's expense in a manner acceptable to Engineer if they are damaged by construction operations. Repair tree damage as directed by a qualified tree surgeon.
8. Trees and vegetation designated to remain shall be repaired or replaced at Contractor's expense in a manner acceptable to Engineer if they are damaged by construction operations. Repair tree damage as directed by a qualified arborist.
9. All brush, tree tops, stumps, and debris shall be hauled away and disposed of in accordance with all applicable laws and regulations. Contractor shall clean up debris resulting from clearing operations continuously with the progress of the work and remove promptly all salvageable material that becomes his property and is not to be reused in construction. Sale of material on the site is prohibited. Debris from the site shall be removed in such a manner as to prevent spillage. Keep pavement and area adjacent to site clean and free from mud, dirt, dust, and debris at all times.
10. The method of stripping, clearing and grubbing the site shall be at the discretion of the Contractor. However, all stumps, roots and other debris protruding through the ground surface or in excavated areas shall be completely removed to a minimum depth of 18 inches below surface and/or subgrade whichever is lower and disposed of off the site by the Contractor, at his expense.
11. Marginal Areas: In marginal areas, with Engineer's permission, remove trees where the following conditions exist.
  - A. Root Cutting: When clearing up to the "clearing limits," the Contractor shall also remove any tree which is deemed marginal such that when the roots are cut and the tree could be rendered unstable by the effects of high winds and in danger of toppling into either the right-of-way or onto private property.
  - B. Slender Bending Trees: Where young, tall, thin trees are left unsupported by the clearing operation, and are likely to bend over into the right-of-way, Contractor, during the clearing operation, shall selectively remove those trees which are located outside and adjacent to the clearing limits and any right-of-way or easement as well. During the course of construction and during the one-year warranty period, the Contractor shall remove such young trees that overhang into the right-of-way or cleared area.
12. Stripping of Topsoil: Remove the existing topsoil to a depth of 6 inches or to the depth encountered from all areas in which excavation will occur. The topsoil shall be stored in stockpiles, separate from the excavated material, if the topsoil is to be respread. Otherwise material shall be disposed of off-site at Contractor's expense.
13. Included in this item is the removal and disposing of signs where indicated on the plans.

**Article 2.01.04 – Method of Measurement is supplemented with the following:**

This item includes all work indicated on the plans as required for clearing, grubbing, and resetting and as stated in this specification.

**Article 2.01.05 – Basis of Payment is supplemented with the following:**

This item will be paid for at the contract unit price of lump sum.

<u>Pay Item</u>	<u>Pay Unit</u>
Clearing and Grubbing	LS



**ITEM NO. 0219011A – SEDIMENTATION CONTROL SYSTEM AT CATCH BASIN**

Section 2.19 is supplemented as follows:

**Article 2.19.01 – Description is supplemented with the following:**

This work shall consist of furnishing, installing, cleaning, maintaining, replacing, and removing sedimentation control system at catch basins at the locations and *as* shown on plans and *as* directed by the engineer.

**Article 2.19.02 – Materials is supplemented with the following:**

The sack shall be manufactured from a specially designed woven polypropylene geotextile sewn by a double needle machine, using a high strength nylon thread. The sack shall be manufactured by one of the following or an approved equal:

- 1.) Siltsack, SI Geosolutions
- 2.) Dandy Sack™, Dandy Products Inc.
- 3.) FLEXstorm Inlet Filters Inlet & Pipe Protection

The sack will be manufactured to fit the opening of the catch basin. The sack will have the following features:

- 1.) Two dump straps attached at the bottom to facilitate the emptying of sack and lifting loops as an integral part of the system to be used to lift sack from the basin.
- 2.) The sack shall have a restraint cord approximately halfway up the sack to keep the sides away from the catch basin walls, this cord is also a visual means of indicating when the sack should be emptied. Once the strap is covered with sediment, the sack should be emptied, cleaned and placed back into the basin.

**Article 2.19.03 – Construction Method is supplemented with the following:**

Installation, removal, and maintenance shall be per manufacturer instructions and recommendations

**Article 2.19.04 – Method of Measurement is supplemented with the following:**

Sedimentation Control System at Catch Basin will be measured as each installed, maintained, accepted, and removed. There will be no separate measurement for maintenance or replacement associated with this item.

**Article 2.19.05 – Basis of Payment is supplemented with the following:**

Sedimentation Control System at Catch Basin will be paid for at the contract unit price for each complete in place and accepted, which price shall include all maintenance throughout construction, materials, equipment, tools, and labor incidental thereto.

<u>Pay Item</u>	<u>Pay Unit</u>
Sedimentation Control System at Catch Basin	EA.

**ITEM NO. 0401000A – DECORATIVE RAISED INTERSECTION**

**ITEM NO. 0921031A – DECORATIVE CROSSWALK**

Work under this item shall conform to the applicable provisions of the Standard Specifications Form 817 Section 4.01 amended as follows:

**Description:**

The Contractor shall provide concrete pavement with a colored, formliner finish in the location and configuration as indicated on the Drawings.

The Contractor shall remove, cut, and stack existing bluestone pavers to accommodate the decorative raised intersection, and adjacent concrete sidewalk.

The Contractor shall provide a complete shop drawing package, including a 3ft x 5ft mock-up of the selected color, for review and approval by the Engineer prior to initiating construction of the Decorative Raised Intersection.

The Contractor shall establish temporary concrete washout area(s) as required during all concrete pouring operations. All concrete residue within the temporary concrete washout areas will be removed by the Contractor at the end of the concrete work and legally disposed of. The temporary concrete washout areas will be fully restored and seeded at the completion of the concrete work.

**Materials:**

Concrete shall meet the requirements of M.03 of these special provisions, Class “F”.  
Processed Aggregate Base shall meet the requirements of M.05.01  
Bituminous Concrete shall meet the requirements of M.04 of these special provisions.  
Pavement Markings shall meet the requirements of M.07.22  
Concrete Sealer shall meet the requirements of M.03.09  
Reinforcement shall meet the requirements of M.06.01  
Joint Materials shall meet the requirements of M.03.08

**Construction Methods**

The Contractor shall comply with Special Provision Section 0971001A – Maintenance and Protection of Traffic during construction of concrete pavement.

Existing bluestone pavers that are required to be removed shall be removed in complete slabs except where a cut is required. The bluestone slabs will be stacked at a location designated by the Engineer and approved by Connecticut College.

**Method of Measurement**

The work associated with “Decorative Raised Intersection” will not be measured for payment and will be paid for on a lump sum basis. The work associated with “Decorative Crosswalk” will be

measured by the actual number of square feet of complete and accepted decorative crosswalk

**Basis of Payment:**

Construction of the decorative raised intersection will be paid for at the Contract unit price per lump sum for “Decorative Raised Intersection” complete and accepted in place, which price shall include all processed aggregate base, backfill, disposal of surplus material, preparation of the subgrade, portland cement concrete, temporary concrete washout area, reinforcement, formwork, finishing, coloring, equipment tools, materials and labor incidental thereto. Removal of the existing pavement and subbase material to the proposed subgrade shall be paid for under Item No. 0202000 – Earth Excavation.

Construction of decorative crosswalk will be paid for at the Contract unit price per square foot for “Decorative Crosswalk” complete and accepted in place, which price shall include all processed aggregate base, backfill, disposal of surplus material, preparation of the subgrade, portland cement concrete, temporary concrete washout area, reinforcement, formwork, finishing, coloring, equipment tools, materials and labor incidental thereto. Removal of the existing pavement and subbase material to the proposed subgrade shall be paid for under Item No. 0202000 – Earth Excavation.

<u>Pay Items</u>	<u>Pay Unit</u>
ITEM NO. 0401000A – DECORATIVE RAISED INTERSECTION	LS
ITEM NO. 0921031A – DECORATIVE CROSSWALK	SF

**ITEM NO. 0905007A – RESET STONE WALL**

Work under this item shall conform to the applicable provisions of the Standard Specifications Form 817 Section 9.05 amended as follows:

**Description:**

This item shall consist of removal of existing rubble stone wall laid without the use of mortar, stockpiling of the rubble stones on-site, and reconstruction in-kind of the rubble stone wall without the use of mortar.

**Construction Methods:**

The Contractor shall conform with Section 9.05.03 for reconstruction of the stone wall. The existing rubble stones shall be used as the sole material in construction, unless otherwise approved by the Engineer.

**Basis of Payment:**

This work will be paid for at the Contract unit price per linear foot for “Reset Stone Wall,” complete in place, which price shall include materials, equipment, tools, labor, and work incidental thereto: also all necessary excavation, refiling, and disposal of surplus material. If additional material is required to complete the work, and is approved by the Engineer, then it shall be included for payment in the Contract linear foot unit price.

<u>Pay Items</u>	<u>Pay Unit</u>
ITEM NO. 0905007A – RESET STONE WALL	LF

**ITEM NO. 0922024A – GATEWAY PLAZA**

**Description:**

This item shall consist of concrete unit pavers installed in an asphalt setting bed on a reinforced concrete base in the locations and to the dimensions and details shown on the plans or as ordered and in accordance with these specifications.

**Materials:**

Concrete Pavers:

- Concrete Units: ASTM C936.
- Thickness: Minimum 2 3/8"
- Average Compressive Strength, ASTM C140: 8,000 psi min.
- Average Water Absorption, ASTM C140: 5% max.
- Freeze/Thaw Resistance, ASTM C1645: 28 freeze thaw cycles with no greater loss than 225 g/sq. m.

**Manufacturers**

- Yankee Cobble, Beacon Hill Blend as manufactured by Ideal Concrete, 45 Power Road, P.O. Box 747, Westford, MA 01886 (www.idealconcreteblock.com), blend of 9 7/16 inch by 6 5/16 inch units, 6 5/16 inch by 6 5/16 inch units, and 4 3/4 inch by 6 5/16 inch units; or
  - Camelot, Rustic Red as manufactured by Unilock 35 Commerce Drive, Uxbridge, MA 01569 (www.unilock.com), blend of 9 inch by 6 inch units and 6 inch by 6 inch units; or
  - Engineer approved equal.
2. Adhesive: Neoprene-modified asphalt adhesive with 2 percent neoprene, 10 percent asbestos-free fibers and 88 percent asphalt.
  3. Bituminous Setting Bed: Sand/asphalt mixture. Asphalt cement/binder, ASTM D3381 or ASTM D6373; Fine aggregate (sand), ASTM D1073 or ASTM D3515.
  4. Tack-Coat: Emulsified asphalt, ASTM D977, Type SS-1 or SS-1h or cutback asphalt, ASTM D2028.
  5. Concrete Base: Class "F" Concrete, Form 817 M.03.01
  6. Concrete Base Weep Holes: Schedule 40 polyvinyl chloride (PVC) pipe, ASTM D1785.
  7. Processed Aggregate Base: Form 817 M.05.01
  8. Polymeric Joint Stabilizing Sand:

- Polymeric Sand, properties and gradation conforming to ASTM C136.
- Sand and water-activated polymer mixture.
- Color: Grey.
- Gradation:

Sieve Size	Natural Sand Percent Passing	Manufactured
No. 4 (4.75 mm)	100	100
No. 8 (2.36 mm)	95 to 100	95 to 100
No. 16 (1.18 mm)	70 to 100	70 to 100
No. 30 (600 mm)	40 to 75	40 to 75
No. 50 (0.300 mm)	10 to 35	20 to 40
No. 100 (0.150 mm)	2 to 15	10 to 25
No. 200 (0.075 mm)	0 to 10	0 to 10

9. Stone: Form 817 M.01.02, No. 6.

Do not use paver units with excessive chips, cracks, voids, discoloration or other defects, which might be visible or cause staining in finished work. Cut paver units with motor-driven saw equipment to provide clean, sharp, unchipped edges. Cut units to provide pattern shown and to fit adjoining work neatly. Use full units without cutting wherever possible. Set paver units in patterns shown on drawings and with uniform joints of widths indicated herein.

Surface Tolerances: Maintain the surface plane for finished paving not exceeding a tolerance of +/- 1/4" in 10 feet when tested with a 10 foot straight edge.

**Construction Methods:**

1. Use adequate numbers of skilled workmen who are trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods required for proper performance of the work. Use equipment of adequate size, capacity and quantity to accomplish the work in a timely manner.
2. At location of Project selected by Engineer, place and finish 100 square foot mockup section for examination. Fabricate mockup section using materials and construction methods proposed for permanent work, including the full range of color, texture and pattern to be expected. Obtain Engineer's acceptance of visual quality of mockup panel before start of work. Retain mockup panel during construction as a standard for judging completed work. Do not move or destroy panel until work is completed. Mock-up may be retained as part of the finished work.
3. Transportation carrier shall use appropriate methods to ensure materials are properly supported, stacked, and restrained during transport. Carefully pack, band and load unit pavers for shipment on wood pallets or skids. Pallets and skids shall be stacked in such a manner as to evenly distribute the weight of the paver and to prevent breakage, cracking,

and other damage to the paver. Protect pavers during storage and construction against moisture, soiling, staining and physical damage. No material, which may cause staining, or discoloration may be used for blocking, packing or dunnage. Use polyethylene or other suitable plastic to separate dissimilar materials. Deliver packaged materials to the Project Site in their original, unopened package or container-bearing label clearly identifying manufacturer's name, brand name, material, weight or volume, and other pertinent information. Packaged materials shall be stored in their original, unbroken package or container in a weather tight and dry place until ready for use in the work. Deliver unpackaged aggregates in bulk and store to avoid excessive segregation, contamination with other materials or other size aggregates, or freezing.

4. Handle unit pavers so as to prevent chipping, breakage, marring, soiling and other damage. Do not use pinch or wrecking bars without protecting edges of stone with wood or other suitable material. Cracked, badly chipped, or stained units will be rejected and shall not be employed in the work. Protect grout and mortar materials from deterioration due to moisture and/or temperature. Store in a dry location or in waterproof containers. Protect liquid components from freezing.

#### Preparation of Base

5. Excavation, including removal of any existing sidewalk, pavements, and curbing, shall be made to the required depths below the finished grade, as shown on the plans or as directed. All soft and yielding material shall be removed and replaced with suitable material. Compact any disturbed areas of subgrade. Place and compact Processed Aggregate Base per Form 817 Section 3.04.
6. Install reinforced concrete base per the details shown on the plans. Comply with Form 817 Section 9.21. Provide two 2-inch diameter weep holes with schedule 40 Polyvinyl chloride (PVC) pipe.
7. Prepare cured concrete surface with uniform layer of Tack-Coat. Install 3/4-inch Bituminous Setting Bed in uniform layer, and compact. Re-heat, fill, and compact low areas with setting bed materials to conform to slope and elevation shown on the drawings. Re-heat, remove, level, and compact setting bed in high areas to conform to slope and elevation shown on the drawings. Irregularities or evenness in the grade of the concrete base surface may be corrected with setting bed materials only with approval by the Engineer.
8. Install uniform layer of Adhesive only to the area(s) where pavers will be installed within one work day. Apply to cold asphalt setting bed with notched trowel with serrations not exceeding 1/16 in. Do not apply pavers to adhesive until dry skin forms on surface of adhesive.

#### Paver Installation

9. Thoroughly clean all paving units of dirt debris or other contaminants. Install paving units

carefully by hand as shown on the Drawings. Before setting, paver shall be clean and free of dirt and foreign matter on all sides. Each piece shall be carefully bedded in base and tapped home with a rawhide or hardened rubber mallet to a full and solid bearing. Particular care shall be exercised to equalize joint openings. Pavers shall be set true to the required lines and grades. Protect newly laid paving units with panels of plywood or similar material. Do not allow workers on the installed pavers. Advance protective panels as work progresses, but maintain protection in areas subject to continued movement of materials and equipment to avoid creating depressions or disrupting the alignment of paving units. Joint Treatment: Place paving units with hand tight joints. Fill joints with joint stabilizing sand per manufacturer's instructions. Brush joint stabilizing sand to completely fill joints, and ensure no materials remains on paver surface. Following application of dry product, fog water per manufacturer's instructions.

Protection and Adjustment

10. Prevent mortar or joint stabilizing sand from staining the face of pavers and other surfaces to be left exposed. Immediately remove mortar splatter. Contractor shall protect all of the work of this section and keep it in first class condition until the completion of the contract. Exercise particular care to prevent damage to the surface of the pavers. Remove and replace stone or precast concrete units, which are broken, chipped, stained or otherwise damaged. Where directed, remove and replace units, which do not match adjoining stonework or precast concrete units. Provide new matching units, install as specified and point-up joints to eliminate evidence of replacement. Clean work not less than six days after completion of work using clean water and stiff-bristle brushes. Do not use wire brushes, acid type cleaning agents or other cleaning compounds with caustic or harsh fillers.

**Method of Measurement:**

Payment under this item will be at the Contract lump sum price for a completed Gateway Plaza.

**Basis of Payment:**

This item will be paid for as a lump sum. All work associated with the preparation of and installation of the plaza shall be considered incidental, including, but not limited to, excavation of existing ground to proposed subgrade, furnishing and installation of concrete unit pavers, concrete base, bituminous setting bed, No. 6 Stone, PVC pipe weep holes, tack coat, adhesive, stabilizing sand, and concrete sidewalk.

<u>Pay Item</u>	<u>Pay Unit</u>
Gateway Plaza	LS



**ITEM NO. 0924013A – CONCRETE DRIVEWAY APRON**

Work under this item shall conform to the applicable provisions of the Standard Specifications Form 817 Section 9.24 amended as follows:

**Description:**

This item shall consist of concrete driveway ramps constructed on a granular fill base in accordance with the City of New London standard detail, included in the Contract Drawings.

The Contractor shall establish temporary concrete washout area(s) as required during all concrete pouring operations. All concrete residue within the temporary concrete washout areas will be removed by the Contractor at the end of the concrete work and legally disposed of. The temporary concrete washout areas will be fully restored and seeded at the completion of the concrete work.

**Materials:**

**1. Portland Cement Concrete:** Concrete shall meet the requirements of Section M.03 for Class “F” Concrete. Concrete mix shall be an early high-strength mix.

**Method of Measurement:**

**1. Concrete Driveway Apron:** This work will be measured for payment by the area in square feet of completed and accepted concrete driveway apron.

**Basis of Payment:**

This work will be paid for at the Contract unit price per square foot for “Concrete Driveway Apron,” complete in place, which price shall include all excavation as specified above, backfill, bituminous concrete repair, disposal of surplus materials, temporary concrete washout areas, and all materials, equipment, tools, and labor incidental thereto.

<u>Pay Items</u>	<u>Pay Unit</u>
ITEM NO. 0924013A – CONCRETE DRIVEWAY APRON	SF

## **ITEM # 0947207A - BICYCLE STAND**

**Description:** Procurement and installation of bicycle stand of the style and configuration indicated. Contractor shall coordinate work between all Subcontractors, sections, and trades required for the proper completion of the work.

### **Materials:**

Materials shall conform to the following:

1. Tube steel, oval configuration on single tube steel base.
2. Color: Black
3. Mounting: Bolted, surface-mount configuration with extended anchors.

Manufacturers:

- Model 125-30 as manufactured by DuMor, Inc., P.O. Box 142, Mifflintown, PA 17059 (www.dumor.com); or
- Model BR102-S as manufactured by Vista Furnishings, P.O. Box 68, 11 Gilbertson Drive, Simcoe, ON N3Y 4K8, Canada (www.vistafurnishings.com); or
- Engineer approved equal.

### **Construction Methods:**

#### Delivery and Storage

- Transportation carrier shall use appropriate methods to ensure materials are properly packaged, stacked, and restrained during transport. Utilize protective packaging as required.
- Protect materials during storage against moisture, soiling, staining, and physical damage.
- Any product or associated component showing manufacturing flaws upon receipt at the Project Site shall be referred to Engineer for determination as to whether it shall be repaired, rejected, or used.
- Protect materials during storage to avoid damage from moisture, abrasion, and other construction activities.

#### Handling

- Handle materials to prevent abrasion, chipping, marring, soiling and other damage.
- Damaged equipment shall not be installed. Contractor shall bear responsibility for damage to equipment until final acceptance by Owner. Any installed equipment exhibiting damage shall be replaced or repaired to the satisfaction of Engineer, and Contractor shall assume all costs related thereto.

Examination

- Examine areas and conditions for compliance with requirements for correct and level finished grade, mounting surfaces, installation tolerances, and other conditions affecting performance.
- Proceed with installation only after unsatisfactory conditions have been corrected.

Installation, general

- Comply with manufacturer's written installation instructions, unless more stringent requirements are indicated. Complete field assembly of components where required.
- Unless otherwise indicated, install bicycle stand after landscaping and paving have been completed.
- Install bicycle stand at the locations indicated on the Drawings.

Protection and Clean Up

- After completing installation, inspect components. Remove spots, dirt, and debris.
- Protect until acceptance of project. Repair any damaged finishes to match original finish or replace component.

**Method of Measurement:**

The work will be measured for payment by the number of bicycle stands that are installed during construction.

**Basis of Payment:**

This item will be paid for at the unit contract price for each bicycle stand installed, which price shall include all necessary materials and equipment to install the bicycle stands, including the concrete pad.

<u>Pay Item</u>	<u>Pay Unit</u>
Bicycle Stand	EA.

**ITEM NO. 0949221A - ILEX GLABRA 'SHAMROCK' INKBERRY #3**

**ITEM NO. 0949252A - ASTER OBLONGIFOLIUS 'OCTOBER SKY'  
AROMATIC ASTER #1**

**ITEM NO. 0949256A - AMSONIA 'BLUE ICE' BLUE STAR #1**

**ITEM NO. 0949710A – AMELANCHIER CANADENSIS 'AUTUMN  
BRILLIANCE' SERVICEBERRY 5'-6' HT. B.B.**

**ITEM NO. 0949711A – AMELANCHIER CANADENSIS 'GLEN FORM'  
(RAINBOW PILLAR) 6-7' B&B**

**ITEM NO. 0949997A - ZELKOVA SERRATA 'JFS-KW1' TM CITY  
SPRITE ZELKOVA 2"-2.5" CAL. B.B. (ALTERNATE #4)**

**Note: The exact placement of these items will be determined by the Engineer at the time of construction.**

**Construction Methods:**

Construct in accordance with Section 9.49, except as amended below:

- 1. Tagging:** The Contractor shall notify the design team when the plants have been tagged at the nursery. The design team shall have two weeks minimum to review the material prior to delivery.
- 2. Fertilizing:** No fertilizing shall be provided unless directed otherwise by the engineer
- 3. Watering:** All plants shall be watered within 48 hours after planting if conditions warrant, and as many times thereafter as ordered by the Engineer. At each watering, the soil around each plant shall be thoroughly saturated. All plants shall be watered at least twice a week equally distributed throughout the week, from April 1st to October 1st, inclusive, or as directed by the Engineer. Rain events that saturate the soil as required above can be included as a watering event upon approval by the engineer.
- 4. Guying and Staking:** No staking of trees shall be permitted unless specifically directed by the Engineer or the appropriate City Staff.
- 5. Wrapping:** All wrapping shall be removed from the specimens.
- 6. Pruning:** As directed by the Engineer, plants shall be pruned at the project site before or immediately after planting in accordance with the American National Standards Institute ANSI A300. No leader shall be cut unless directed by the Engineer. Broken, or badly bruised branches, sucker growth, etc., shall be removed with clean cuts per the American National Standards Institute ANSI A300.

7. **Mulching:** Following the plant material installation pine bark mulch shall be hand placed and spread to a minimum depth of 3 inches and raked to an even surface over all saucer areas for individual trees and over the entire area of shrub beds and elsewhere as directed except that no mulch shall come in direct contact with the trunk of the tree.
8. **Planting Period:** Planting under this contract will be allowed outside of the spring planting period from March 1 – May 15 and the fall planting period of October 15 – until ground freezes. Engineer must be contacted one week prior to start of planting. Additional measures such as increased watering may be required per current weather conditions.

**Method of Measurement:**

Replace this section with the following:

1. **Planting:** The quantity for which payment will be made will be the number of each size and kind of plants counted in place, planted and accepted.
2. **Mulching:** This work is measured for payment by the number of square yards surface measurement of the specified thickness for the area on which mulch has been completed and accepted.

**Basis of Payment:**

Add the following:

1. **Mulching:** This work will be paid for under Item No. 0949060A – Pine Bark Mulch.

<u>Pay Item</u>	<u>Pay Unit</u>
ITEM NO. 0949221A - ILEX GLABRA 'SHAMROCK' INKBERRY #3 (ALTERNATE #4)	EA.
ITEM NO. 0949252A - ASTER OBLONGIFOLIUS 'OCTOBER SKY' AROMATIC ASTER #1 (ALTERNATE #4)	EA.
ITEM NO. 0949256A - AMSONIA 'BLUE ICE' BLUE STAR #1 (ALTERNATE #4)	EA.
ITEM NO. 0949710A – AMELANCHIER CANADENSIS 'AUTUMN BRILLIANCE' SERVICEBERRY 5'-6' HT. B.B. (ALT. #4)	EA.
ITEM NO. 0949711A – AMELANCHIER CANADENSIS 'GLEN FORM' (RAINBOW PILLAR) 6-7' B&B (ALTERNATE #4)	EA.
ITEM NO. 0949997A - ZELKOVA SERRATA 'JFS-KW1' TM CITY SPRITE ZELKOVA 2"-2.5" CAL. B.B. (ALTERNATE #4)	EA.

**ITEM NO. 0949060A – PINE BARK MULCH**

Section 9.49 is supplemented as follows:

**Section 9.49.02 – Materials is being replaced with the following:**

The Pine Bark Mulch shall comply with the following characteristics:

- Uniform texture composed of pine bark from commercial wood operations
- Sized to 3” or less in any dimension
- Natural Brown to dark brown color

<u>Pay Item</u>	<u>Pay Unit</u>
Pine Bark Mulch	s.y.

**ITEM NO. 0950019A – TURF ESTABLISHMENT - LAWN**

**Description:**

The work included in this section shall consist of providing an accepted stand of grass by furnishing and placing seed as shown on the plans or as directed by the Engineer.

**Materials:**

The materials for this work shall conform to the requirements of Section 9.50 of Form 817 Standard Specifications. The following mix shall be used for this item:

**Turf Seed Mix:**

In order to preserve and enhance the diversity, the source for seed mixtures shall be locally obtained within the Northeast USA including New England, New York, Pennsylvania, New Jersey, Delaware, or Maryland. One approved seed mixture is detailed below. Other proposed mixtures must be approved by the City of New London.

<u>Proportion (Percent)</u>	<u>Species Common name</u>	<u>Scientific name</u>
25	Abbey Kentucky Bluegrass	Poa pratensis
15	Envicta Kentucky Bluegrass	Poa pratensis
25	Pennlawn Red Fescue	Festuca rubra
15	Ambrose Chewing Fescue	Festuca rubra
20	Manhattan Ryegrass	Lolium perenne

**Construction Methods:**

Construction Methods shall be those established as agronomically acceptable and feasible and that are approved by the Engineer. Rate of application shall be field determined in Pure Live Seed (PLS) based on the minimum purity and minimum germination of the seed obtained. Calculate the PLS for each seed species in the mix. Adjust the seeding rate for the above composite mix, based on 250 lbs. per acre. The seed shall be mulched in accordance with Article 9.50.03.

**Method of Measurement:**

This work will be measured for payment by the number of square yards of surface area of accepted established grasses as specified or by the number of square yards of surface area of seeding actually covered and as specified.

**Basis of Payment:**

This work will be paid for at the contract unit price per square yard for Item No. 0950019A – Turf establishment – Lawn, which price shall include all materials maintenance, equipment, tools, labor, and work incidental thereto. Partial payment of up to 60% may be made for work completed, but not accepted.

<u>Pay Item</u>	<u>Pay Unit</u>
Turf Establishment – Lawn	SY

**ITEM #0969060A - CONSTRUCTION FIELD OFFICE, SMALL**  
**ITEM #0969062A - CONSTRUCTION FIELD OFFICE, MEDIUM**  
**ITEM #0969064A - CONSTRUCTION FIELD OFFICE, LARGE**  
**ITEM #0969066A - CONSTRUCTION FIELD OFFICE, EXTRA LARGE**

**Description:** Under the item included in the bid document, adequate weatherproof office quarters with related furnishings, materials, equipment and other services, shall be provided by the Contractor for the duration of the work, and if necessary, for a close-out period determined by the Engineer. The office, furnishings, materials, equipment, and services are for the exclusive use of Town forces and others who may be engaged to augment Town forces with relation to the Contract. The office quarters shall be located convenient to the work site and installed in accordance with Article 1.08.02. This office shall be separated from any office occupied by the Contractor. Ownership and liability of the office quarters shall remain with the Contractor.

**Furnishings/Materials/Supplies/Equipment:** All furnishings, materials, equipment and supplies shall be in like new condition for the purpose intended and require approval of the Engineer.

**Office Requirements:** The Contractor shall furnish the office quarters and equipment as described below:

Description \ Office Size	Small	Med.	Large	Extra Large
Minimum Sq. Ft. of floor space with a minimum ceiling height of 7 ft.	400	400	1000	2000
Minimum number of exterior entrances.	2	2	2	2
Minimum number of parking spaces.	7	7	10	15

**Office Layout:** The office shall have a minimum square footage as indicated in the table above, and shall be partitioned as shown on the building floor plan as provided by the Engineer.

**Tie-downs and Skirting:** Modular offices shall be tied-down and fully skirted to ground level.

**Lavatory Facilities:** For field offices sizes Small and Medium the Contractor shall furnish a toilet facility at a location convenient to the field office for use by Town personnel and such assistants as they may engage; and for field offices sizes Large and Extra Large the Contractor shall furnish two (2) separate lavatories with toilet (men and women), in separately enclosed rooms that are properly ventilated and comply with applicable sanitary codes. Each lavatory shall have hot and cold running water and flush-type toilets. For all facilities the Contractor shall supply lavatory and sanitary supplies as required.

**Windows and Entrances:** The windows shall be of a type that will open and close conveniently, shall be sufficient in number and size to provide adequate light and ventilation, and shall be fitted with locking devices, blinds and screens. The entrances shall be secure, screened, and fitted with a lock for which four keys shall be furnished. All keys to the construction field office shall be furnished to the Town and will be kept in their possession while Town personnel are using the office. Any access to the entrance ways shall meet applicable building codes, with appropriate



handrails. Stairways shall be ADA/ABA compliant and have non-skid tread surfaces. An ADA/ABA compliant ramp with non-skid surface shall be provided with the Extra-Large field office.

Lighting: The Contractor shall equip the office interior with electric lighting that provides a minimum illumination level of 100 foot-candles at desk level height, and electric outlets for each desk and drafting table. The Contractor shall also provide exterior lighting that provides a minimum illumination level of 2 foot-candles throughout the parking area and for a minimum distance of 10 ft. on each side of the field office.

Parking Facility: The Contractor shall provide a parking area, adjacent to the field office, of sufficient size to accommodate the number of vehicles indicated in the table above. If a paved parking area is not readily available, the Contractor shall construct a parking area and driveway consisting of a minimum of 6 inches of processed aggregate base graded to drain. The base material will be extended to the office entrance.

Field Office Security: Physical Barrier Devices - This shall consist of physical means to prevent entry, such as: 1) All windows shall be barred or security screens installed; 2) All field office doors shall be equipped with dead bolt locks and regular day operated door locks; and 3) Other devices as directed by the Engineer to suit existing conditions.

Electric Service: The field office shall be equipped with an electric service panel, wiring, outlets, etc., to serve the electrical requirements of the field office, including: lighting, general outlets, computer outlets, calculators etc., and meet the following minimum specifications:

- A. 120/240 volt, 1 phase, 3 wire
- B. Ampacity necessary to serve all equipment. Service shall be a minimum 100 amp dedicated to the construction field office.
- C. The electrical panel shall include a main circuit breaker and branch circuit breakers of the size and quantity required.
- D. Additional 120 volt, single phase, 20 amp, isolated ground dedicated power circuit with dual NEMA 5-20 receptacles will be installed at each desk and personal computer table (workstation) location.
- E. Additional 120 volt, single phase, 20 amp, isolated ground dedicated power circuit with dual NEMA 5-20 receptacles will be installed, for use by the Telephone Company.
- F. Additional 120-volt circuits and duplex outlets as required meeting National Electric Code requirements.
- G. One exterior (outside) wall mounted GFI receptacle, duplex, isolated ground, 120 volt, straight blade.
- H. After work is complete and prior to energizing, the Town's Building Official, must be contacted at 860-465-3040.

Heating, Ventilation and Air Conditioning (HVAC): The field office shall be equipped with sufficient heating, air conditioning and ventilation equipment to maintain a temperature range of 68°-80° Fahrenheit within the field office.

Telephone Service: The Contractor shall provide telephone service with unlimited nation-wide calling plan. For a Small, Medium and Large field office this shall consist of the installation of two (2) telephone lines: one (1) line for phone/voice service and one (1) line dedicated for the facsimile machine. For an Extra-Large field office this shall consist of four (4) telephone lines: three (3) lines for phone/voice service and one (1) line dedicated for facsimile machine. The Contractor shall pay all charges.

Additional Equipment, Facilities and Services: The Contractor shall provide at the field Office at least the following to the satisfaction of the Engineer:

Furnishing Description	Office Size			
	Small	Med.	Large	Extra Large
	Quantity			
Office desk (2.5 ft. x 5 ft.) with drawers, locks, and matching desk chair that have pneumatic seat height adjustment and dual wheel casters on the base.	1	3	5	8
Standard secretarial type desk and matching desk chair that has pneumatic seat height adjustment and dual wheel casters on the base.	-	-	-	1
Personal computer tables (4 ft. x 2.5 ft.).	2	3	5	8
Drafting type tables (3 ft. x 6 ft.) and supported by wall brackets and legs; and matching drafters stool that have pneumatic seat height adjustment, seat back and dual wheel casters on the base.	1	1	1	2
Conference table, 3 ft. x 12 ft.	-	-	-	1
Table – 3 ft. x 6 ft.	-	-	-	1
Office Chairs.	2	4	8	20
Mail slot bin – legal size.	-	-	1	1
Non-fire resistant cabinet.	-	-	2	4
Fire resistant cabinet (legal size/4 drawer), locking.	1	1	2	3
Storage racks to hold 3 ft. x 5 ft. display charts.	-	-	1	2
Vertical plan racks for 2 sets of 2 ft. x 3 ft. plans for each rack.	1	1	2	2
Double door supply cabinet with 4 shelves and a lock – 6 ft. x 4 ft.	-	-	1	2
Case of cardboard banker boxes (Min 10 boxes/case)	1	1	2	3
Open bookcase – 3 shelves – 3 ft. long.	-	-	2	2
White Dry-Erase Board, 36" x 48" min. with markers and eraser.	1	1	1	1
Interior partitions – 6 ft. x 6 ft., soundproof type, portable and	-	-	6	6

freestanding.				
Coat rack with 20 coat capacity.	-	-	-	1
Wastebaskets - 30 gal., including plastic waste bags.	1	1	1	2
Wastebaskets - 5 gal., including plastic waste bags.	1	3	6	10
Electric wall clock.	-	-	-	2
Telephone.	1	1	1	-
Full size stapler 20 (sheet capacity, with staples)	1	2	5	8
Desktop tape dispensers (with Tape)	1	2	5	8
8 Outlet Power Strip with Surge Protection	3	4	6	9
Rain Gauge	1	1	1	1
Business telephone system for three lines with ten handsets, intercom capability, and one speaker phone for conference table.	-	-	-	1
Mini refrigerator - 3.2 c.f. min.	1	1	1	1
Hot and cold water dispensing unit. Disposable cups and bottled water shall be supplied by the Contractor for the duration of the project.	1	1	1	1
Microwave, 1.2 c.f. , 1000W min.	1	1	1	1
Fire extinguishers - provide and install type and *number to meet applicable Town and local codes for size of office indicated, including a fire extinguisher suitable for use on a computer terminal fire.	*	*	*	*
Electric pencil sharpeners.	1	2	2	2
Electronic office type printing calculators capable of addition, subtraction, multiplication and division with memory and a supply of printing paper.	1	1	2	4
Small Multi-Function Laser Printer/Copier/Scanner/Fax combination unit, network capable, as specified below under <u>Computer Related Hardware and Software</u> .	1	1		
Large Multi-Function Laser Printer/Copier/Scanner/Fax combination unit, network capable, as specified below under <u>Computer Related Hardware and Software</u> .			1	1
Field Office Wi-Fi Connection as specified below under <u>Computer Related Hardware and Software</u>	1	1	1	1
Wi-Fi Printer as specified below under <u>Computer Related Hardware and Software</u> .	1	1	1	1
Digital Camera as specified below under <u>Computer Related Hardware and Software</u> .	1	1	3	3
Video Projector as specified below under <u>Computer Related Hardware and Software</u> .	-	-	-	1
Smart Board as specified below under <u>Computer Related Hardware and Software</u> .	-	-	-	1
Infrared Thermometer, including annual third party certified	1	1	1	2

calibration, case, and cleaning wipes.				
Concrete Curing Box as specified below under Concrete Testing Equipment.	1	1	1	1
Concrete Air Meter and accessories as specified below under Concrete Testing Equipment as specified below. Contractor shall provide third party calibration on a quarterly basis.	1	1	1	1
Concrete Slump Cone and accessories as specified below under Concrete Testing Equipment.	1	1	1	1
First Aid Kit	1	1	1	1
Flip Phones as specified under <u>Computer Related Hardware and Software</u> .	-	-	-	-
Smart Phones as specified under <u>Computer Related Hardware and Software</u> .	-	-	-	-

The furnishings and equipment required herein shall remain the property of the Contractor. Any supplies required to maintain or operate the above listed equipment or furnishings shall be provided by the Contractor for the duration of the project.

Computer Related Hardware and Software:. The Contractor shall supply the Field Office Wi-Fi Connection, Wi-Fi Printer, Digital Camera(s), Flip Phones, Smart Phones, Multifunction Laser Printer/Copier/Scanner/Fax, Video Projectors, and Smart Board(s) as well as associated hardware and software.

Within 10 calendar days after the signing of the Contract but before ordering/purchasing the Wi-Fi Printer (separate from the Multifunction Laser Printer/Copier/Scanner/Fax), Field Office Wi-Fi, Digital Camera(s), Flip Phones, Smart Phones, Multifunction Laser Printer/Copier/Scanner/Fax, Video Projector(s) and Smart Board(s) as well as associated hardware, the Contractor must submit a copy of their proposed order(s) with catalog cuts and specifications to the Town for review and approval. The Wi-Fi Printer, Wi-Fi Router, Flip Phones, Smart Phones, digital cameras, Projector(s) and Smart Board(s) will be reviewed by Town personnel. The Contractor shall not purchase the hardware, software, or services until the Town informs them that the proposed equipment, software, and services are approved. The Contractor will be solely responsible for the costs of any hardware, software, or services purchased without approval.

The Contractor and/or their internet service provider shall be responsible for the installation and setup of the field office Wi-Fi, Wi-Fi printer, and the configuration of the wireless router as directed by the Town. Installation will be coordinated with Town and Project personnel.

After the approval of the hardware and software, the Contractor shall contact the designated representatives of the Town, a minimum of 2 working days in advance of the proposed delivery or installation of the Field Office Wi-Fi Connection, Wi-Fi Printer, Digital Camera(s), Flip Phones, Smart Phones, Multifunction Laser Printer/Copier/Scanner/Fax, Video Projectors and Smart Board(s), as well as associated hardware, software, supplies, and support documentation.

The Contractor shall provide all supplies, paper, maintenance, service and repairs (including labor and parts) for the Wi-Fi printers, copiers, field office Wi-Fi, fax machines and other equipment and facilities required by this specification for the duration of the Contract. All repairs must be performed with-in 48 hours. If the repairs require more than a 48 hours then an equal or better replacement must be provided.

Once the Contract has been completed, the hardware and software will remain the property of the Contractor.

First Aid Kit: The Contractor shall supply a first aid kit adequate for the number of personnel expected based on the size of the field office specified and shall keep the first aid kit stocked for the duration that the field office is in service.

Rain Gauge: The Contractor shall supply install and maintain a rain gauge for the duration of the project, meeting these minimum requirements. The rain gauge shall be installed on the top of a post such that the opening of the rain gauge is above the top of the post an adequate distance to avoid splashing of rain water from the top of the post into the rain gauge. The Location of the rain gauge and post shall be approved by the Engineer. The rain gauge shall be made of a durable material and have graduations of 0.1 inches or less with a minimum total column height of 5 inches. If the rain gauge is damaged the Contractor shall replace it prior to the next forecasted storm event at no additional cost.

Concrete Testing Equipment: If the Contract includes items that require compressive strength cylinders for concrete, in accordance with the Schedule of Minimum Testing Requirements for Sampling Materials for Test, the Contractor shall provide the following equipment.

- A) Concrete Cylinder Curing Box – meeting the requirements of Section 6.12 of the Standard Specifications.
- B) Air Meter – The air meter provided shall be in good working order and meet the requirements of AASHTO T 152.
- C) Slump Cone Mold – Slump cone, base plate, and tamping rod shall be provided in like-new condition and meet the requirements of AASHTO T119, Standard Test Method for Slump of Hydraulic-Cement Concrete.

All testing equipment will remain the property of the Contractor at the completion of the project.

Maintenance: During the occupancy by the Town, the Contractor shall maintain all facilities and furnishings provided under the above requirements, and shall maintain and keep the office quarters clean through the use of weekly professional cleaning to include, but not limited to, washing & waxing floors, cleaning restrooms, removal of trash, etc. Exterior areas shall be mowed and clean of debris. A trash receptacle (dumpster) with weekly pickup (trash removal) shall be provided. Snow removal, sanding and salting of all parking, walkway, and entrance ways areas shall be accomplished during a storm if on a workday during work hours, immediately after a storm and prior to the start of a workday. If snow removal, salting and

sanding are not completed by the specified time, the Town will provide the service and all costs incurred will be deducted from the next payment estimate.

**Method of Measurement:** The furnishing and maintenance of the construction field office will be measured for payment by the number of calendar months that the office is in place and in operation, rounded up to the nearest month.

There will not be any price adjustment due to any change in the minimum computer related hardware and software requirements.

**Basis of Payment:** The furnishing and maintenance of the Construction Field Office will be paid for at the Contract unit price per month for “Construction Field Office, (Type),” which price shall include all material, equipment, labor, service contracts, licenses, software, repair or replacement of hardware and software, related supplies, utility services, parking area, external illumination, trash removal, snow and ice removal, and work incidental thereto, as well as any other costs to provide requirements of this specified this specification.

<u>Pay Item</u>	<u>Pay Unit</u>
Construction Field Office, (Type)	Month

## **ITEM NO. 0971001A – MAINTENANCE AND PROTECTION OF TRAFFIC**

### **Article 9.71.01 – Description** *is supplemented by the following:*

The Contractor shall maintain and protect traffic as described by the following and as limited in the special provision for Section 1.08 - Prosecution and Progress:

#### **I- 5, Exit 34E**

The Contractor shall maintain and protect existing traffic operations, with the following exceptions:

1. During the allowable periods and when the Contractor is actively working, the Contractor will be permitted to maintain and protect a minimum of 1 lane of traffic on a paved travel path not less than 12 feet in width.

#### **Williams Street**

The Contractor shall maintain and protect a minimum of 1 lane of traffic in each direction with each lane on a paved travel path not less than 11 feet in width, with the following exceptions:

1. During the allowable periods and when the Contractor is actively working, the Contractor will be permitted to maintain and protect at least an alternating one-way traffic operation on a paved travel path not less than 11 feet in width and no more than 300 feet in length, unless specified elsewhere in the Contract. There shall be no more than one alternating one-way traffic operation within the Project limits without prior approval of the Engineer.
2. The Contractor will be permitted to close Williams Street to through traffic and detour traffic as shown on the Detour Plans. The Contractor shall notify the Engineer at least 14 days in advance of implementing the detour.

#### **Commercial and Residential Driveways**

The Contractor shall maintain access to and egress from all commercial and residential driveways throughout the Project limits. The Contractor will be permitted to temporarily close affected driveways while actively working with coordination and permission from the owner or proprietor.

#### **Intermediate Term Sidewalk Closures**

The Contractor shall maintain and protect existing pedestrian accommodations, or a minimum of 4 feet in width, on all existing sidewalks, sidewalk ramps, and access to pedestrian pushbuttons, with the following exception:

- During the allowable periods and when the Contractor is actively constructing pedestrian amenities or installing signal equipment, the Contractor will be allowed to close pedestrian sidewalks and sidewalk ramps and restrict access to pedestrian pushbuttons for no more than a continuous 48 hour period of time.

No more than two corners of an intersection may be closed for an intermediate term sidewalk closure at any time. Where all four corners of an intersection have sidewalks and sidewalk ramps, diagonal corners shall not be closed at the same time.

During the intermediate term sidewalk closure, all approaches to the sidewalk shall be blocked by Construction Barricade Detectable with Sidewalk Closed signs.

The Contractor shall ensure that traffic control signals with pedestrian phases where access to the pushbuttons cannot be provided are revised at the start of the closure to automatically activate the pedestrian phase every signal cycle.

Intermediate term sidewalk closures may be extended to 72 hours with prior approval of the Engineer.

**Article 9.71.03 - Construction Methods** *is supplemented as follows:*

**General**

Unpaved travel paths will only be permitted for areas requiring full depth and full width reconstruction. The unpaved section shall be the full width of the road and shall be perpendicular to the travel lanes. The Contractor will be allowed to maintain traffic on processed aggregate for a duration not to exceed 10 calendar days and opposing traffic lane dividers shall be used as a centerline.

The Contractor is required to delineate any raised structures within the travel lanes, so that the structures are visible day and night, unless there are specific Contract plans and provisions to temporarily lower these structures prior to the completion of work.

The Contractor shall schedule operations so that pavement removal and roadway resurfacing shall be completed full width across a roadway or bridge section by the end of a work shift, or as directed by the Engineer.

When the installation of all intermediate courses of bituminous concrete pavement is completed for the entire roadway, the Contractor shall then install the final course of bituminous concrete pavement.

When the Contractor is excavating adjacent to the roadway, the Contractor shall provide a 3 foot shoulder between the work area and travel lanes, with traffic drums spaced every 50 feet. At the end of the work shift if the vertical drop-off exceeds 3 inches, the Contractor shall provide a temporary bituminous concrete traversable slope of 4:1 or flatter that is acceptable to the Engineer. The Contractor, during the course of any active overhead construction work, shall close the lanes directly below the work area for the entire length of time overhead work is being undertaken.

At no time shall an overhead sign be left partially removed or installed.

When an existing sign is to be relocated or replaced, the work shall be completed during the same work shift.

The field installation of a signing pattern shall constitute interference with existing traffic operations and shall not be allowed, except during the allowable periods.

On limited-access highways, construction vehicles entering travel lanes shall not be allowed without a lane closure. The lane closure shall be of sufficient length to allow vehicles to enter or exit the work area at the posted speed limit, in order to merge with existing traffic.



**Existing Signing**

The Contractor shall maintain all existing overhead and side-mounted signs within the Project limits throughout the duration of the Project. The Contractor shall temporarily relocate signs and sign supports as many times as deemed necessary, and shall install temporary sign supports if necessary and as directed by the Engineer.

**Requirements for Winter**

The Contractor shall schedule a meeting with representatives of the Department, including the offices of Maintenance and Traffic, and the Town/City to determine any interim traffic control measures the Contractor shall accomplish prior to winter to provide safety to motorists and permit adequate snow removal procedures. This meeting shall be held prior to October 31 of each year and will include, but not be limited to, discussion of the status and schedule of the following items: lane and shoulder widths, pavement restoration, traffic signal work, pavement markings, and signing.

**Signing Patterns**

The Contractor shall erect and maintain all signing patterns in accordance with the traffic control plans contained herein. Proper distances between advance warning signs and proper taper lengths are mandatory.

### **Pavement Markings - Non-Limited Access Roadways**

During construction, the Contractor shall maintain all pavement markings on paved surfaces on all roadways throughout the limits of the Project.

Temporary pavement markings shall be installed on each intermediate course of bituminous concrete pavement and on any milled surface by the end of the work shift.

Permanent Epoxy Resin Pavement Markings shall be installed on the final course of bituminous concrete pavement within 10 calendar days of the final pavement installation if no Pavement Marking Grooves are proposed.

### **Temporary Pavement Markings**

Temporary pavement markings that will be in place for less than 72 continuous hours may consist of temporary plastic pavement marking tape at the Contractor's expense. Additionally;

1. These temporary pavement markings shall include centerlines, lane lines (solid and broken), and stop bars.
2. Centerlines shall consist of two 4 inch wide yellow markings, 2 feet in length, side by side, 4 inches apart, at 40 foot intervals.
3. Lane lines shall consist of 4 inch wide white markings, 2 feet in length, at 40 foot intervals.
4. No passing zones shall be posted with signs in those areas where the final centerlines have not been established on two-way roadways.
5. Stop bars may consist of two 6 inch wide white markings or three 4 inch wide white markings placed side by side.
6. The temporary plastic pavement marking tape shall be installed in accordance with Section 12.12.
7. The Contractor shall remove and dispose of the temporary plastic pavement marking tape prior to another course of bituminous concrete pavement being installed.

Temporary pavement markings that will be in place for 72 continuous hours or more should consist of temporary painted pavement markings and shall be installed in accordance with Section 12.09. The markings shall include centerlines, edge lines, lane lines (solid and broken), lane-use arrows, and stop bars on each intermediate course of bituminous concrete pavement and on any milled surface by the end of the work shift. Edge lines and lane-use arrows are not required if the next course of bituminous concrete pavement will be placed within 10 calendar days.

All temporary pavement markings exposed throughout the winter shall be Epoxy Resin Pavement Markings, unless directed otherwise by the Engineer.

Temporary pavement markings, as described above, shall be maintained until the permanent pavement markings are installed.

### **Final Pavement Markings**

Refer to Pavement Marking Groove special provisions for pavement marking requirements. Permanent epoxy resin pavement markings shall be installed in accordance with Section 12.10 and the applicable Traffic Engineering Standard Drawings.

If Temporary Plastic Pavement Marking Tape is installed, then the Contractor shall remove and dispose of these markings during the same work shift that the permanent epoxy resin pavement

markings are to be installed. The cost of furnishing, installing and removing the Temporary Plastic Pavement Marking Tape shall be at the Contractor's expense.

## **Traffic Control During Construction Operations**

The following guidelines shall assist field personnel in determining when and what type of traffic control patterns to use for various situations. These guidelines shall provide for a safer and more efficient movement of traffic through work zones and enhance the safety of work forces in the work area.

### **Traffic Control Patterns**

Traffic control patterns shall be used when a work operation requires that all or part of any vehicle or work area protrudes onto any part of a travel lane or shoulder or is within the clear zone. For each situation, the installation of traffic control devices shall be based on the following:

- Speed and volume of traffic.
- Duration of operation.
- Exposure to hazards.

Traffic control patterns shall be uniform, neat, and orderly in order to command respect from the motorist.

Lane reduction tapers should be placed so that the entire length of the taper is installed on a tangent section of roadway and the entire taper area can be seen by the motorist.

All existing conflicting signs shall be removed, covered with an opaque material, or turned so that they are not legible to oncoming traffic prior to implementing a traffic control pattern. The existing signs shall be uncovered or reinstalled once the pattern is removed.

A buffer area should be provided during installation of a traffic control pattern and maintained for the duration of the work. The buffer area shall be free of any equipment, workers, materials, and parked vehicles.

Construction Traffic Control Plans 19 through 25 should be used for moving operations such as line striping, rumble strips, pothole patching, mowing, or sweeping when it is necessary for equipment to occupy a travel lane.

Traffic control patterns are not required for vehicles on an emergency patrol type activity or for a short duration stop of up to one hour, as long as the equipment is contained within the shoulder. Flashing lights, arrow boards, truck-mounted or trailer-mounted impact attenuators, and appropriate Trafficperson(s) shall be used when required.

In a situation not adequately covered by the Construction Traffic Control Plans, the Contractor shall contact the Engineer for assistance prior to setting up a traffic control pattern.

### **Placement of Signs**

Signs shall be placed in a position that allows motorists the opportunity to reduce their speed prior to the work area. Signs shall be installed on the same side of the roadway as the work area. On multi-lane divided highways, advance warning signs shall be installed on both sides of the highway. On directional roadways (on-ramps, off-ramps, one-way roads) where the sight distance to signs is restricted, these signs should be installed on both sides of the roadway.

### **Allowable Adjustment of Signs and Devices Shown on the Construction Traffic Control Plans**

The Construction Traffic Control Plans contained herein show the location and spacing of signs and devices under ideal conditions. Signs and devices should be installed as shown on these plans.

The proper application of the Construction Traffic Control Plans and installation of traffic control devices is dependent upon actual field conditions.

In the case of a horizontal or vertical sight restriction in advance of the work area, the traffic control pattern shall be extended to provide adequate sight distance for approaching traffic.

Adjustments to the Construction Traffic Control Plans shall only be made at the direction of the Engineer.

Table 1 indicates the minimum taper lengths required for a lane closure based on the posted speed limit and lane width of the roadway. These taper lengths shall only be used when the recommended taper lengths shown on the Construction Traffic Control Plans cannot be achieved.

**Table 1 – Minimum Taper Length**

POSTED SPEED LIMIT (MPH)	MINIMUM TAPER LENGTH FOR A SINGLE LANE CLOSURE (FEET)	
	FREEWAYS	SECONDARY ROADS
30 OR LESS	180	165
35	245	225
40	320	295
45	540	495
50	600	550
55	660	605
65	780	715

## **1. Work Zone Safety Meetings**

- 1.a) Prior to the commencement of work, a Work Zone Safety Meeting shall be conducted with representatives from DOT Construction, Connecticut State Police (Local Barracks), Municipal Police, the Contractor (Project Superintendent) and the Traffic Control Subcontractor (if different than the prime Contractor) to review the traffic operations, lines of responsibility, and operating guidelines which will be used on the Project. DOT Traffic Engineering shall be invited to the Work Zone Safety Meeting. Other Work Zone Safety Meetings during the course of the Project should be scheduled as needed.
- 1.b) A Work Zone Safety Meeting Agenda shall be developed and used at the Meeting to outline the anticipated traffic control issues during the construction of this Project. Any issues that can't be resolved at these Meetings will be brought to the attention of the District Engineer and the Office of Construction. The agenda shall include:
  - i. Review Project scope of work and time;
  - ii. Review Section 1.08, Prosecution and Progress;
  - iii. Review Section 9.70, Trafficpersons;
  - iv. Review Section 9.71, Maintenance and Protection of Traffic;
  - v. Review Contractor's schedule and method of operations;
  - vi. Review special concern areas: ramps, turning roadways, medians, lane drops, etc.;
  - vii. Open discussion of work zone questions and issues;
  - viii. Discussion of review and approval process for changes in Contract requirements as they relate to work zone areas.

## **2. General**

- 2.a) Traffic control patterns shall only be installed if the required minimum number of signs, traffic cones, traffic drums, and other equipment (i.e. one Arrow Board for each lane closed, two Truck-Mounted or Trailer-Mounted Attenuators (TMAs), Changeable Message Sign, etc.) are on Site.
- 2.b) The Contractor shall have spare maintenance and protection of traffic equipment (TMAs, Arrow Board, Changeable Message Sign(s), construction signs, traffic cones, traffic drums, etc.) available at all times in case of mechanical failures, etc. Spare maintenance and protection of traffic equipment installed as a result of a sudden equipment breakdown shall be replaced by the Contractor within 24 hours.
- 2.c) Failure of the Contractor to have the required minimum number of signs, personnel, and equipment, which results in the pattern not being installed, shall not be a reason for a time extension or claim for lost time.
- 2.d) In cases of differences of opinion between the Contractor and the Inspection staff, the Contractor shall follow the directions of the Engineer. The matter shall be brought to the District Office for resolution immediately or, in the case of work after regular business hours, on the next business day.

### **3. Installing and Removing Traffic Control Patterns**

- 3.a) Lane closures shall be installed beginning with the advance warning signs and proceeding forward toward the work area.
- 3.b) Lane closures shall be removed in the reverse order, beginning at the end of the work area, or traffic control pattern, and proceeding back toward the advance warning signs.
- 3.c) Stopping traffic may be allowed within the allowable hours stated in Section 1.08.04:
  - i. For those activities stated within the Contract.
  - ii. During paving, milling operations, or similar activities where, in the middle of the operation, it is necessary to flip the pattern to complete the operation on the other half of the roadway so traffic does not travel across the longitudinal joint or difference in roadway elevation.
  - iii. To move slow moving equipment across live traffic lanes into the work area.
- 3.d) The Contractor shall adhere to using the proper signs, placing the signs correctly, and ensuring the proper spacing of signs.
- 3.e) Additional devices are required on entrance ramps, exit ramps, and intersecting roads to warn and/or move traffic into the proper travel path prior to merging with or exiting from the mainline traffic. This shall be completed before installing the mainline pattern past the ramp or intersecting roadway.
- 3.f) Workers are prohibited from crossing the travel lanes on limited access roadways to install and remove signs or other devices on the opposite side of the roadway. Any signs or devices on the opposite side of the roadway shall be installed and removed separately.

### **4. Implementation of Rolling Road Block (RRB)**

- 4.a) Temporary road closures using a RRB may be allowed on limited access highways for operations associated with the installation and removal of temporary lane closures. RRB may be allowed for the installation and removal of lead signs and lane tapers only and shall meet the following requirements:
  - i. Refer to the Limitation of Operations Chart provided in Section 1.08.04 for the hours allowed for implementing a RRB operation. The Contractor shall only implement a RRB operation within the hours shown in the Chart.
  - ii. In areas with good sight lines and full shoulders, signs on the side of the road opposite the traffic pattern should be installed in a separate operation.
  - iii. TMAs equipped with Arrow Boards shall be used to slow traffic to implement the RRB. State Police Officers in marked vehicles may be used to support the implementation of the RRB. The RRB shall start by having all vehicles, including TMAs and police vehicles, leave the shoulder or on-ramp and accelerate to normal roadway speeds in each lane. The vehicles will then position themselves side by side and decelerate to the RRB speed on the highway.

- iv. A Pre-Warning Vehicle, as specified elsewhere in the Contract, shall be used to advise the motorists that sign pattern installation or removal is underway.
- v. The RRB duration shall not exceed 15 minutes from the start of the traffic block until all lanes are opened as designated in the Limitation of Operations chart. If the RRB duration exceeds 15 minutes on 2 successive shifts, no further RRB will be allowed until the Contractor obtains approval for a revised installation procedure from the District.
- vi. RRB shall not be used to expand a lane closure pattern to an additional lane during the shift. The workers and equipment required to implement the additional lane closure should be staged from within the closed lane. TMAs (and State Police if available) shall be used to protect the workers installing the taper in the additional lane.
- vii. Exceptions to these work procedures may be submitted to the District Office for consideration. A minimum of 2 business days shall be allowed for review and comment by the District.
- viii. The Engineer and the Contractor will review and discuss the RRB procedures (including any revisions) in advance of the work. The implementation of the agreed upon plan will be reviewed with the State Police during the Work Zone Safety Meeting held before each shift involving temporary lane closures. If the State Police determine that alternative procedures should be implemented for traffic control during the work shift, the Department and Contractor will attempt to resolve any discrepancies with the duty sergeant at the Troop. If the discrepancies are unable to be resolved prior to the start of the shift, then the work will proceed as recommended by the Department. Any unresolved issues shall be addressed the following day.

## **5. Use of Arrow Boards**

- 5.a) On limited access roadways, one Arrow Board shall be used for each lane that is closed. The Arrow Board shall be installed concurrently with the installation of the traffic control pattern and its placement shall be as shown on the Construction Traffic Control Plans. Additional Arrow Boards shall be deployed if sight distances are limited.
- 5.b) On non-limited access roadways, the use of an Arrow Board for lane closures is optional. The roadway geometry, sight distance, and traffic volume shall be considered in the decision to use the Arrow Board.
- 5.c) A vehicle displaying an arrow board shall be equipped with high-intensity rotating, flashing, oscillating, or strobe lights.
- 5.d) The flashing arrow mode shall be used for lane closure (merge) tapers.
- 5.e) The flashing arrow mode shall not be used for temporary alternating one-way traffic operations or to laterally shift lanes of traffic.



- 5.f) The flashing double arrow mode shall only be used for closing a center lane on a multilane roadway where adjacent left and right lanes remain open.
- 5.g) For shoulder work or roadside work near the shoulder, the Arrow Board shall be positioned in the shoulder and the flashing alternating diamond mode should be used.
- 5.h) The flashing alternating diamond caution mode should also be used when supplemental Arrow Boards are positioned in an already closed lane.

#### **6. Use of Truck-Mounted or Trailer-Mounted Impact Attenuators (TMAs)**

- 6.a) On limited access roadways, lane closures shall use a minimum of two TMAs to install and remove traffic control patterns. If two TMAs are not available, then the pattern shall not be installed.
- 6.b) On non-limited access roadways, the use of TMAs to install and remove patterns closing a lane(s) is optional. The roadway geometry, sight line distance, and traffic volume shall be considered in the decision to utilize the TMAs.
- 6.c) On limited access roadways, one TMA shall be placed on the shoulder and the second TMA shall be approximately 1,000 feet ahead blocking the lane to establish the advance and transition signing. The Arrow Board mounted on the TMA shall be in the arrow mode when taking the lane. The sign truck and workers shall be at sufficient distance ahead of the second TMA. In no case shall the TMA be used as the sign truck or a work truck. Once the transition is in place, the TMAs shall travel in the closed lane until all Portable Changeable Message Signs, signs, Arrow Boards, and cones/drums are installed. The Arrow Board mounted on the TMA should be in the flashing alternating diamond caution mode when traveling in the closed lane.
- 6.d) A TMA shall be placed prior to the first work area in the pattern. If there are multiple work areas within the same pattern, then additional TMAs shall be positioned at each additional work area as needed. The Arrow Board mounted on the TMA should be in the flashing alternating diamond caution mode when in the closed lane.
- 6.e) TMAs shall be positioned a sufficient distance prior to the workers or equipment being protected to allow for appropriate vehicle roll-ahead in the event that the TMA is hit, but not so far that an errant vehicle could travel around the TMA and into the work area. For additional placement and use details, refer to Section 18.06. Some operations, such as paving and concrete repairs, do not allow for placement of the TMA(s) within the specified distances. In these situations, the TMA(s) shall be placed at the beginning of the work area and shall be advanced as the paving or concrete operations proceed.
- 6.f) TMAs will be paid for in accordance with how the unit is used. If it is used as a TMA and is in the proper location as specified, then it will be paid for at the specified hourly rate for Truck-Mounted or Trailer-Mounted Impact Attenuator. When the TMA is used

as an Arrow Board, it will be paid for at the daily rate for Arrow Board. If a TMA is used to install and remove a pattern and is also used as an Arrow Board in the same day, then the unit will be paid for as a Truck-Mounted or Trailer-Mounted Impact Attenuator for the hours used to install and remove the pattern, typically 2 hours (1 hour to install and 1 hour to remove). If the TMA is also used as an Arrow Board during the same day, then the unit will only be paid for at the daily rate as an Arrow Board.

## **7. Use of Traffic Drums and Traffic Cones**

- 7.a) On limited-access highways, ramps, and turning roadways:
  - i. Traffic drums shall be used for taper channelization.
  - ii. Traffic drums shall be used to delineate raised catch basins and other hazards.
  - iii. Traffic cones with a minimum height of 42 inches may be used in place of drums in the tangent section of a closed lane or shoulder.
  - iv. Traffic cones less than 42 inches in height shall not be used.
- 7.b) On all roadways:
  - i. Traffic drums shall be used in place of traffic cones in traffic control patterns that are in effect for more than a 36-hour duration.
  - ii. Traffic cones shall not be left unattended.
  - iii. Traffic cones with a minimum height of 42 inches shall be used when the posted speed limit is 45 MPH or above.
- 7.c) Typical spacing of traffic drums and/or cones shown on the Construction Traffic Control Plans in the Contract are maximum spacings and may be reduced to meet actual field conditions as required.

## **8. Use of Barricade Warning Lights**

- 8.a) Barricade Warning Lights may be installed on channelizing devices when used in a merge taper. The Barricade Warning Lights shall flash in a sequential pattern when used in a merge taper. The successive flashing shall occur from the upstream end (beginning) of the merge taper to the downstream end (end) of the merge taper.
- 8.b) Type C Barricade Warning Lights may be used at night to delineate the edge of the travel way.
- c) Type B Barricade Warning Lights shall be used on post-mounted advanced warning signs.

## **9. Use of Portable Changeable Message Signs (PCMS)**

- 9.a) On limited access roadways, one PCMS shall be used in advance of the traffic control pattern for all lane closures. Prior to installing the pattern, the PCMS shall be installed and in operation, displaying the appropriate lane closure information. The PCMS shall be positioned ½ to 1 mile ahead of the start of the lane closure taper. If the distance to the

nearest exit ramp is greater than the specified ½ to 1 mile distance, then an additional PCMS shall be positioned a sufficient distance ahead of the exit ramp (and before the previous on-ramp where practical) to alert motorists to the work and therefore offer them an opportunity to take the exit.

- 9.b) On non-limited access roadways, the use of PCMS for lane closures is optional. The roadway geometry, sight line distance, and traffic volume shall be considered in the decision to use the PCMS.
- 9.c) PCMS should be placed off the shoulder of the roadway and behind a traffic barrier, if practical. Where a traffic barrier is not available to shield the PCMS, it should be placed off the shoulder and outside of the clear zone. If a PCMS has to be placed on the shoulder of the roadway or within the clear zone, it should be placed on the paved shoulder with a minimum of five traffic drums placed in a taper in front of it to delineate its position. The taper shall meet minimum distance requirements for a shoulder closure. The PCMS shall be protected if it is used for a continuous duration of 36 hours or more.
- 9.d) The PCMS shall be removed from the clear zone and have the display screen cleared and turned 90 degrees away from the roadway when the PCMS is no longer required.
- 9.e) The PCMS should not be used within 1,000 feet of an existing PCMS or Variable Message Sign (VMS).
- 9.f) A PCMS message shall:
  - i. consist of no more than two phases;
  - ii. contain no more than three lines of text per phase;
  - iii. have no more than eight characters per line, including spaces.
- 9.g) The PCMS should be used for specific situations that need to command the motorist's attention which cannot be conveyed with standard construction signs. The PCMS should not be used for generic messages (ex.: Road Work Ahead, Bump Ahead, Gravel Road, etc.) or for messages that need to be displayed for long periods of time, such as during stage construction. These types of messages should be displayed with construction signs. Special signs shall be coordinated with the Office of Construction and the Division of Traffic Engineering for the proper layout/dimensions required.
- 9.h) Typical messages that are allowed on the PCMS are shown below. Approval must be received from the Office of Construction for any message(s) different than the typical messages shown in Figure 1.
- 9.i) All messages shall comply with the information provided in Tables 2 and 3.

	<u>Phase 1</u>	<u>Phase 2</u>	<u>Message No.</u>	<u>Phase 1</u>	<u>Phase 2</u>
1	LEFT LANE CLOSED	MERGE RIGHT	9	LANES CLOSED AHEAD	REDUCE SPEED
2	2 LEFT LANES CLOSED	MERGE RIGHT	10	LANES CLOSED AHEAD	USE CAUTION
3	LEFT LANE CLOSED	REDUCE SPEED	11	EXIT XX CLOSED	USE EXIT YY
4	2 LEFT LANES CLOSED	REDUCE SPEED	12	EXIT XX CLOSED USE YY	FOLLOW DETOUR
5	RIGHT LANE CLOSED	MERGE LEFT	13	2 LANES SHIFT AHEAD	USE CAUTION
6	2 RIGHT LANES CLOSED	MERGE LEFT	14	3 LANES SHIFT AHEAD	USE CAUTION
7	RIGHT LANE CLOSED	REDUCE SPEED			
8	2 RIGHT LANES CLOSED	REDUCE SPEED			

**Figure 1: Typical PCMS Messages**

**Table 2: Acceptable Abbreviations**

<b>Word Message</b>	<b>Standard Abbreviation</b>	<b>Word Message</b>	<b>Standard Abbreviation</b>
Access	ACCS	Minimum	MIN
Afternoon / Evening	PM	Minor	MNR
Ahead	AHD	Minute(s)	MIN
Alternate	ALT	Monday	MON
Avenue	AVE, AV	Morning / Late Night	AM
Bicycle	BIKE	Mount	MT
Blocked	BLKD	Mountain	MTN
Boulevard	BLVD	National	NATL
Bridge	BR	Normal	NORM
CB Radio	CB	North	N
Center	CTR	Northbound	NBND
Center	CNTR	Oversized	OVRSZ
Chemical	CHEM	Parking	PKING
Circle	CIR	Parkway	PKWY
Compressed Natural Gas	CNG	Pavement	PVMT
Condition	COND	Pedestrian	PED
Congested	CONG	Place	PL
Construction	CONST	Pounds	LBS
Court	CT	Prepare	PREP
Crossing	XING	Quality	QLTY
Crossing (other than highway-rail)	XING	Right	RT
Downtown	DWNTN	Road	RD
Drive	DR	Roadwork	RDWK
East	E	Route	RT, RTE
Eastbound	EBND	Saint	ST
Electric Vehicle	EV	Saturday	SAT
Emergency	EMER	Service	SERV
Entrance, Enter	ENT	Shoulder	SHLDR
Exit	EX	Slippery	SLIP
Express	EXP	South	S
Expressway	EXPWY	Southbound	SBND
Feet	FT	Speed	SPD
Freeway	FRWY, FWY	State, county, or other non-US or non-Interstate numbered route	[Route Abbreviation determined by highway agency]**
Friday	FRI	Street	ST
Frontage	FRNTG	Sunday	SUN
Hazardous	HAZ	Telephone	PHONE
Hazardous Material	HAZMAT	Temporary	TEMP
High Occupancy Vehicle	HOV	Terrace	TER
Highway	HWY	Thruway	THWY
Highway-Rail Grade Crossing	RR XING	Thursday	THURS

Hospital	HOSP	Tons of Weight	T
Hour(s)	HR, HRS	Traffic	TRAF
Information	INFO	Trail	TR
International	INTL	Travelers	TRVLRS
Interstate	I-	Tuesday	TUES
Junction / Intersection	JCT	Turnpike	TPK
Lane	LN	Two-Way Intersection	2-WAY
Left	LFT	Two-Wheeled Vehicles	CYCLES
Liquid Propane Gas	LP-GAS	Upper	UPR
Local	LOC	US Numbered Route	US
Lower	LWR	Vehicle(s)	VEH, VEHS
Maintenance	MAINT	Warning	WARN
Major	MAJ	Wednesday	WED
Maximum	MAX	West	W
Mile(s)	MI	Westbound	WBND
Miles Per Hour	MPH		

\*\* A space and no dash shall be placed between the abbreviation and the number of the route.

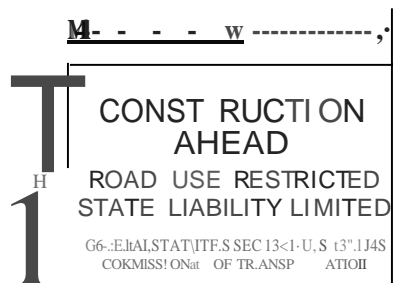
**Table 3: Unacceptable Abbreviations**

<b>Unacceptable Abbreviation</b>	<b>Intended Word</b>	<b>Common Misinterpretation</b>
ACC	Accident	Access (Road)
CLRS	Clears	Colors
DLY	Delay	Daily
FDR	Feeder	Federal
L	Left	Lane (Merge)
LT	Light (Traffic)	Left
PARK	Parking	Park
POLL	Pollution (Index)	Poll
RED	Reduce	Red
STAD	Stadium	Standard
WRNG	Warning	Wrong

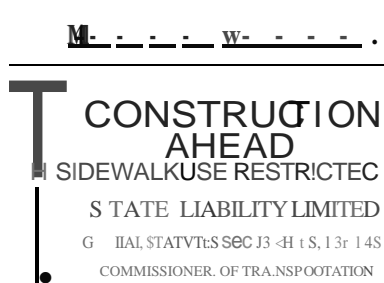
## **10. Use of State Police Officers**

- 10.a) State Police may be used only on limited access highways and secondary roadways that are under their primary jurisdiction. A minimum of one Officer may be used per critical sign pattern; however, a State Police presence is not required. Shoulder closures and right lane closures can generally be implemented without the presence of a State Police Officer. Left lane closures may also be implemented without State Police presence in areas with only moderate traffic and wide, unobstructed medians. It may be desirable to have a State Police presence, when available, under specific situations, such as nighttime lane closures; left lane closures with minimal width for setting up advance signs and staging; lane and shoulder closures on turning roadways/ramps or mainline where sight distance is minimal; and closures where extensive turning movements or traffic congestion regularly occur; however, they are not required.
- 10.b) If a State Police presence is provided, once the pattern is in place, the State Police Officer should be positioned in a non- hazardous location in advance of the pattern to provide advance warning to the motorist. If traffic backs up beyond the beginning of the pattern, then the State Police Officer shall reposition so that they are located prior to the backup. The State Police Officer should not be located immediately behind or within the roll ahead area of any TMA or within the work zone buffer area. The State Police Officer shall not be positioned in such a way that the State Police Officer obstructs any construction warning signs or PCMS from view of the motorist.
- 10.c) Other functions of the State Police Officer(s) may include:
  - i. Assisting construction vehicles entering and exiting the work area.
  - ii. Enforcement of motor vehicle laws within the work area, if specifically requested by the Engineer.
- 10.d) State Police Officers assigned to a work site shall take direction from the Engineer.

# SERIES 16 SIGNS



		W	H
16-E	80-1605	84" X	60"
16-H	80-1608	60" X	42"
16-M	80-1613	30" x	24"



		W	H
16-S	180-1619	48" x	30"

SIGN 16-S SHALL BE USED ON ALL PROJECTS THAT REQUIRE SIDEWALK RECONSTRUCTION OR RESTRICT PEDESTRIAN TRAVEL ON AN EXISTING SIDEWALK.

SERIES 16 SIGNS SHALL BE INSTALLED IN ADVANCE OF THE TRAFFIC CONTROL PATTERNS. SERIES 16 SIGNS SHOULD BE LOCATED TO ALLOW MOTORISTS THE OPPORTUNITY TO AVOID A WORK ZONE. SERIES 16 SIGNS SHOULD BE INSTALLED ON MAJOR INTERSECTING ROADWAYS THAT APPROACH THE WORK ZONE. ON LIMITED-ACCESS HIGHWAYS, THESE SIGNS SHOULD BE LOCATED IN ADVANCE OF THE NEAREST UPSTREAM EXIT RAMP AND ON ANY ENTRANCE RAMPS PRIOR TO OR WITHIN THE WORK ZONE LIMITS.

SIGNS 16-E AND 16-H SHALL BE POST-MOUNTED.

SIGN 16-E SHALL BE USED ON ALL FREEWAYS AND EXPRESSWAYS.

SIGN 16-H SHALL BE USED ON ALL RAMPS, OTHER STATE ROADWAYS AND MAJOR TOWN/ CITY ROADWAYS.

SIGN 16-M SHALL BE USED ON OTHER TOWN ROADWAYS.

CONSTRUCTION TRAFFIC CONTROL PLAN  
**SERIES 16 SIGNS**

SCALE: 1:10

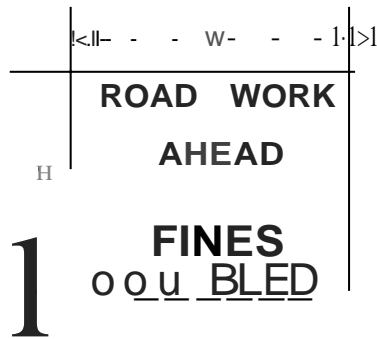


## REGULATORY SIGN "ROAD WORK AHEAD, FINES DOUBLED"

THE REGULATORY SIGN "ROAD WORK AHEAD FINES DOUBLED" SHALL BE INSTALLED FOR ALL WORK ZONES THAT OCCUR ON ANY STATE HIGHWAY AND MUNICIPAL ROAD IN CONNECTICUT WHERE THERE ARE WORKERS PRESENT ON THE HIGHWAY.

THE "ROAD WORK AHEAD FINES DOUBLED" REGULATORY SIGN SHALL BE PLACED AFTER THE SERIES 16 SIGN AND IN ADVANCE OF THE "ROAD WORK AHEAD" SIGN.

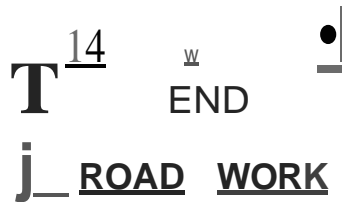
	W	H
31-1906	48"	42"
31-1907	60"	54"



## "END ROAD WORK" SIGN

THE LAST SIGN IN THE PATTERN SHALL BE THE "END ROAD WORK" SIGN.

	W	H
80-9606	36"	18"
80-9612	48"	24"



SCALE: NONF

CONSTRUCTION TRAFFIC CONTROL Pt.AN  
**ROAD WORK AHEAD  
 SIGNS**

## NOTES FOR TRAFFIC CONTROL PLANS

1. IF A TRAFFIC STOPPAGE OCCURS IN ADVANCE OF SIGN **A**, THEN AN ADDITIONAL SIGN **A** SHALL BE INSTALLED IN ADVANCE OF THE STOPPAGE.
2. SIGNS **A**, **B**, AND **C** SHOULD BE OMITTED WHEN THESE SIGNS HAVE ALREADY BEEN INSTALLED IN ADVANCE TO DESIGNATE A LARGER WORK ZONE THAN THE WORK ZONE THAT IS ENCOMPASSED ON THIS PLAN.
3. SEE TABLE 1 FOR ADJUSTMENT OF TAPERS IF NECESSARY.
4. TRAFFIC CONES AND PORTABLE CONSTRUCTION SIGNS SHALL NOT BE LEFT UNATTENDED.
5. ALL CONFLICTING SIGNS WITHIN THE LIMITS OF A ROADWAY / LANE CLOSURE AREA SHALL BE COVERED WITH AN OPAQUE MATERIAL WHILE THE CLOSURE IS IN EFFECT, AND UNCOVERED WHEN THE ROADWAY / LANE CLOSURE IS RE-OPENED TO ALL LANES OF TRAFFIC.
6. IF THIS PLAN REMAINS IN CONTINUOUS OPERATION FOR MORE THAN 48 HOURS, THEN ANY EXISTING CONFLICTING PAVEMENT MARKINGS SHALL BE ERADICATED OR COVERED, AND TEMPORARY PAVEMENT MARKINGS THAT DELINEATE THE PROPER TRAVEL PATHS SHALL BE INSTALLED.
7. DISTANCES BETWEEN SIGNS IN THE ADVANCE WARNING AREA MAY BE REDUCED TO 100' ON LOW-SPEED URBAN ROADS (SPEED LIMIT ≤ 40 MPH).
8. IF THIS PLAN IS TO REMAIN IN OPERATION FROM SUNSET TO SUNRISE, INSTALL BARRICADE WARNING LIGHTS - HIGH INTENSITY ON ALL POST-MOUNTED DIAMOND SIGNS IN THE ADVANCE WARNING AREA.
9. A PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE INSTALLED ONE HALF MILE TO ONE MILE IN ADVANCE OF THE LANE CLOSURE TAPER.
10. SIGN **A** SHALL BE MOUNTED A MINIMUM OF 7 FEET FROM THE PAVEMENT SURFACE TO THE BOTTOM OF THE SIGN.

TABLE 1 - MINIMUM TAPER LENGTHS

POSTED SPEED LIMIT (MILES PER HOUR)	MINIMUM TAPER LENGTH FOR A SINGLE LANE CLOSURE
<b>30 OR LESS</b>	<b>180'</b>
35	245'
<b>40</b>	<b>320'</b>
<b>45</b>	<b>540'</b>
50	600'
55	660'
65	780'

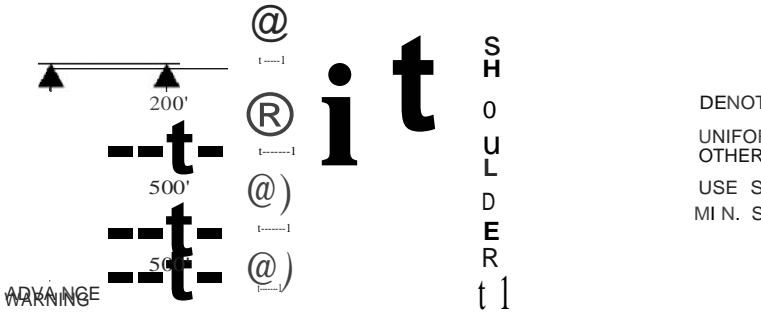
CONSTRUCTION TRAFFIC CONTROL PLAN

### NOTES

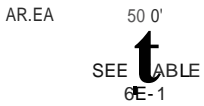
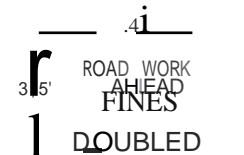
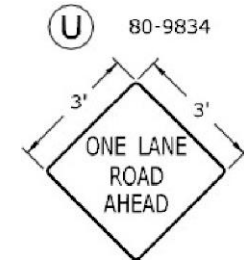
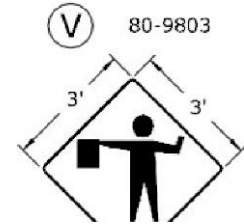
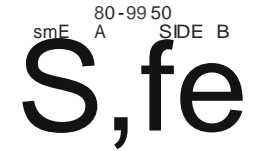
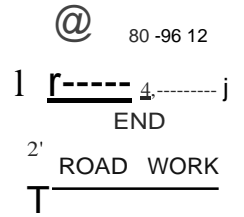
SCALE: NONE

# WORK IN TRAVEL LANE AND SHOULDER TWO LANE HIGHWAY ALTERNATING ONE-WAY TRAFFIC OPERATIONS

SIGN FACE  
108 SQ. FT. (MIN.)

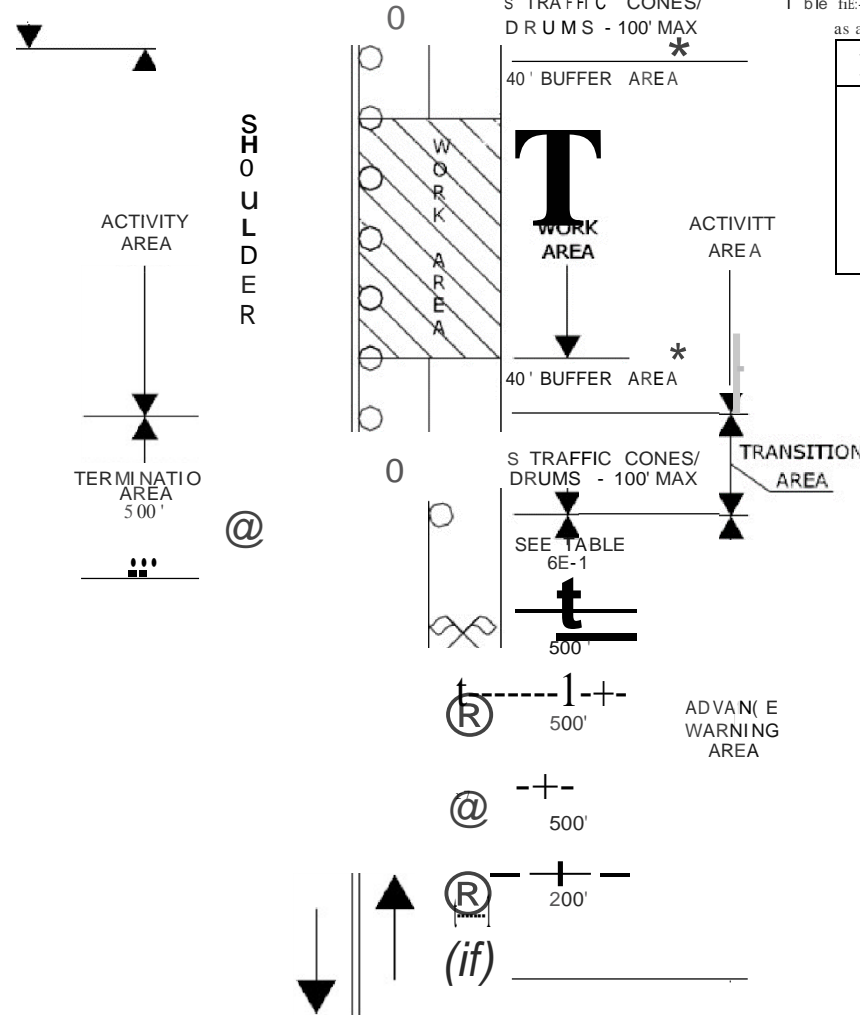


① DENOTES APPROXIMATE LOCATION OF UNIFORMED FLAGGER. TRAFFIC PERSON OTHER THAN POLICE OFFICERS SHALL USE SIGN 80-9950 MOUNTED ON A 6' MIN. SUPPORT.



FROM THE MUTCD (2009 EDITION)  
Table 6E-1. Stopping Sight Distance as a Function of Speed.

Speed (m.p.h)	Distance (ft)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495



\* Q TRAFFIC CONE OR TRAFFIC DRUM  
OPTIONAL OR AFRICA DRUM, PORTABLE SIGN SUPPORT  
HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW



CONSTRUCTION TRAFFIC CONTROL PLAN  
**PLAN 13 - SHEET 1 OF 2**  
SEE NOTES 1, 2, 4, 6, 7, 8

# WORK IN TRAVEL LANE AND SHOULDER TWO LANE HIGHWAY ALTERNATING ONE-WAY TRAFFIC OPERATIONS

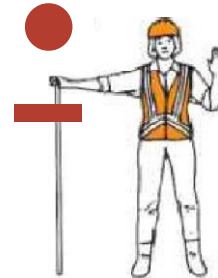
SIGN FACE  
108 SQ. FT (MIN.)

## HAND SIGNAL METHODS TO BE USED BY UNIFORMED FLAGGERS

THE FOLLOWING METHODS FROM SECTION 6E.07, FLAGGER PROCEDURES, IN THE "ANNUAL UNIFORM TRAFFIC CONTROL DEVICES," SHALL BE USED BY UNIFORMED FLAGGERS WHEN DIRECTING TRAFFIC THROUGH A WORK AREA. THE STOP/SLOW SIGN PADDLE (SIGN NO. 80-9950) SHOWN ON THE TRAFFIC STANDARD SHEET "TR-1220 01 ENITITLED, "SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS" SHALL BE USED.

A. TO STOP TRAFFIC

TO STOP ROAD USERS, THE FLAGGER SHALL FACE ROAD USERS AND AIM THE STOP PADDLE FACE TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. THE FREE ARM SHALL BE HELD WITH THE PALM OF THE HAND ABOVE SHOULDER LEVEL TOWARD APPROACHING TRAFFIC.



B. TO DIRECT TRAFFIC TO PROCEED

TO DIRECT STOPPED ROAD USERS TO PROCEED, THE FLAGGER SHALL FACE ROAD USERS WITH THE SLOW PADDLE FACE AIMED TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. THE FLAGGER SHALL MOTION WITH THE FREE HAND FOR ROAD USERS TO PROCEED.



C. TO ALERT OR SLOW TRAFFIC

TO ALERT OR SLOW TRAFFIC, THE FLAGGER SHALL FACE ROAD USERS WITH THE SLOW PADDLE FACE AIMED TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. TO FURTHER ALERT OR SLOW TRAFFIC, THE FLAGGER HOLDING THE SLOW PADDLE FACE TOWARD ROAD USERS MAY MOTION UP AND DOWN WITH THE FREE HAND, PALM DOWN.



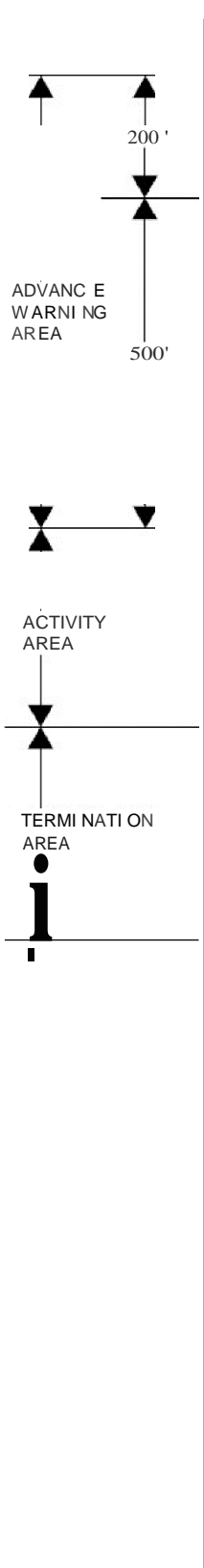
\* Q TRAFFIC CONE OR TRAFFIC DRUM  
OPTIONAL @ TRAFFIC DRUM PORTABLE SIGN SUPPORT  
1E-1 HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARRROW



CONSTRUCTION TRAFFIC CONTROL PLAN  
**PLAN 13 - SHEET 2 OF 2**  
SEE NOTES 1, 2, 4, 6, 7, 8

# WORK IN SHOULDER - TWO LANE HIGHWAY

SIGN FACE  
71 SQ. FT (MIN.)



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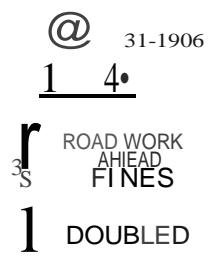
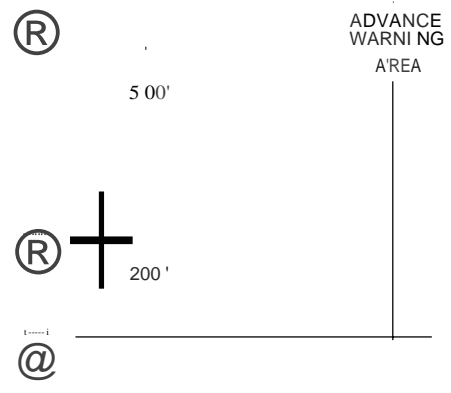
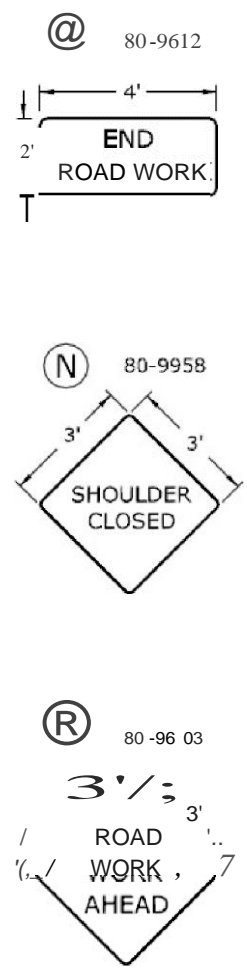
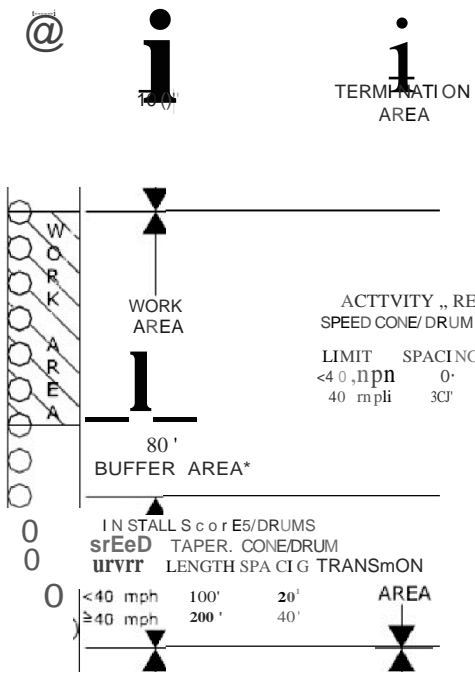
SHOULDER

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\* Q TRAFFIC CONE OR TRAFFIC DRUM  
OPTIONAL @ TRAFFIC DRUM PORTABLE SIGN SUPPORT  
HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW



CONSTRUCTION TRAFFIC CONTROL PLAN  
**PLAN 14**  
SEE NOTES 1, 2, 4, 7, 8

# WORK IN TRAVEL LANE AND SHOULDER TWO LANE HIGHWAY

SIGNATURE  
62 SQ. FT. (MIN.)

# TT

ADVANCE WARNING AREA

500'

TRANSITION AREA

\* BUFFER AREA 120'

ACTIVITY AREA

WORK AREA

\* BUFFER AREA 120'

TERMINATION AREA

SHOULDER

SHOULDER

100'

TERMINATION AREA

INSTALL SIGNS/DRUMS

SPEED LIMIT	TAPER LENGTH	CORNER/DRUM SPACING
40 mph	160'	20"
	320'	4.0'

120'

BUFFER AREA

WORK AREA

ACTIVITY AREA

SPEED LIMIT	DRUM SPACING
<40 mph	4'
40 mph	80'

120' BUFFER AREA

TRANSITION AREA

INSTALL SIGNS/DRUMS

SPEED LIMIT	TAPER LENGTH	CORNER/DRUM SPACING
<40 mph	160'	20"
40 mph	320'	4.0'

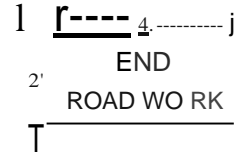
120'

ADVANCE WARNING AREA

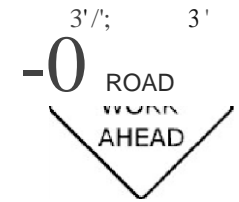
50'

200'

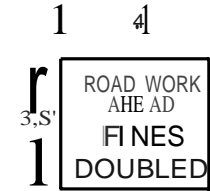
@ 80-9612



@ 80-9603



@ 31-1906



\* 0 TRAFFIC CONE OR TRAFFIC DRUM  
OPTIONAL: ALTERNATE TRAFFIC DRUM, PORTABLE SIGN SUPPORT  
HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW



CONSTRUCTION TRAFFIC CONTROL PLAN  
**PLAN 15**  
SEE NOTES 1, 2, 4, 6, 7, 8

APPROVED

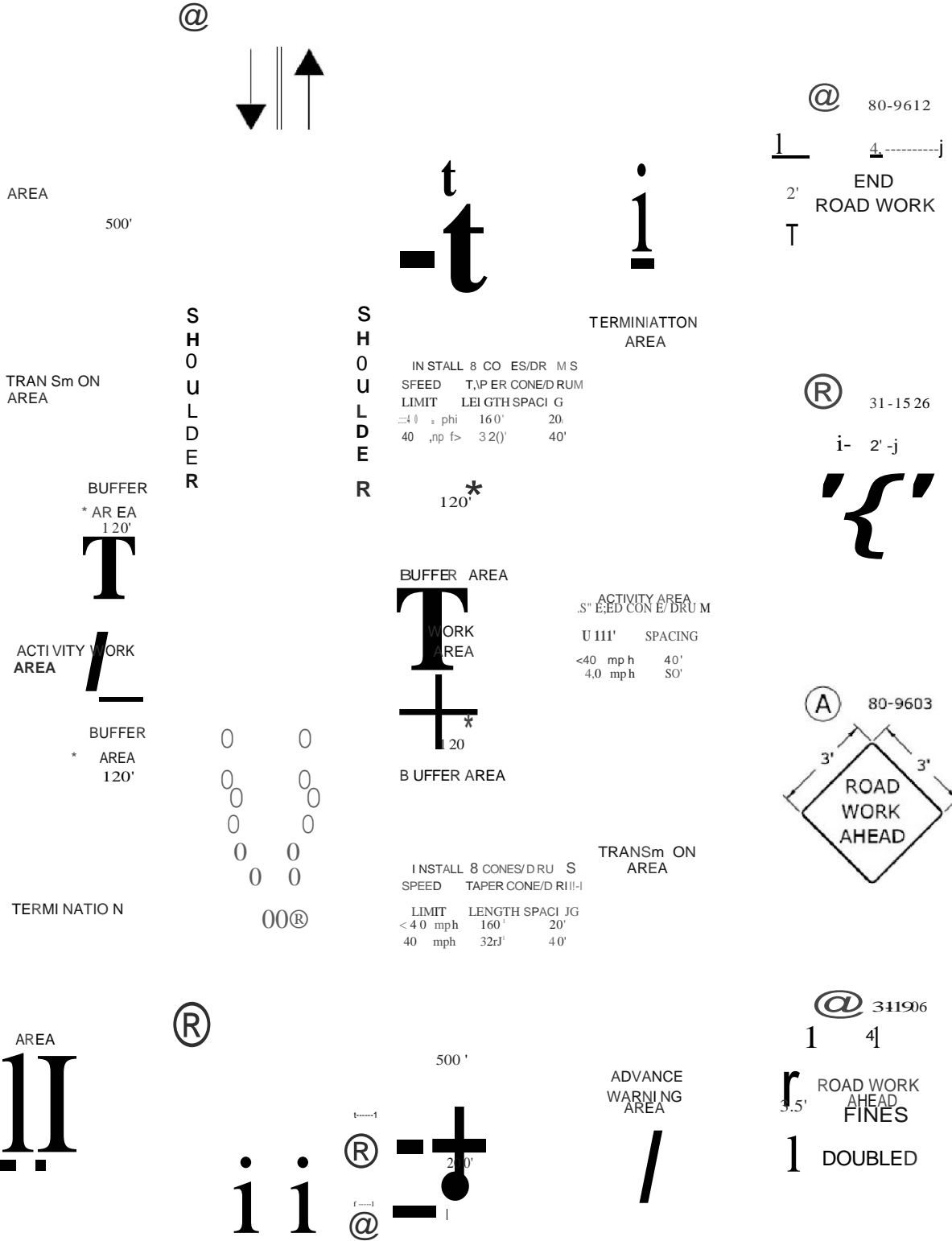
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PRINCIPAL ENGINEER

# WORK IN MIDDLE OF ROADWAY TWO LANE HIGHWAY

SIGNAGE  
72 SQ. Ft (MIN.)

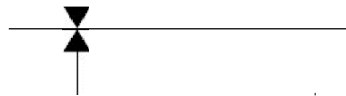
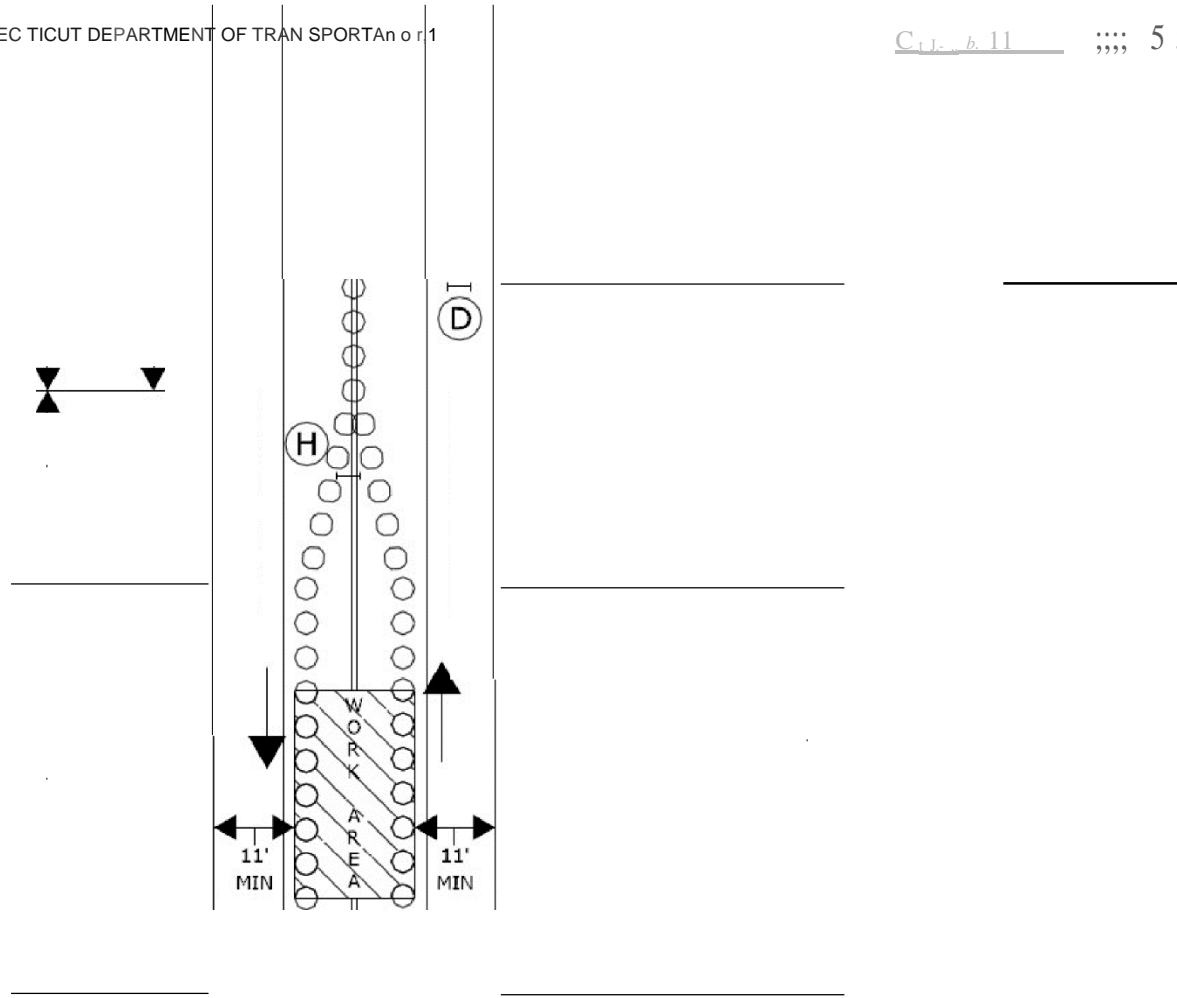


\* 0 TRAFFIC CONE OR TRAFFIC ORUM  
OPTIONAL 0 TRAFFIC DRUM PORTABLE SIGN SUPPORT  
HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW



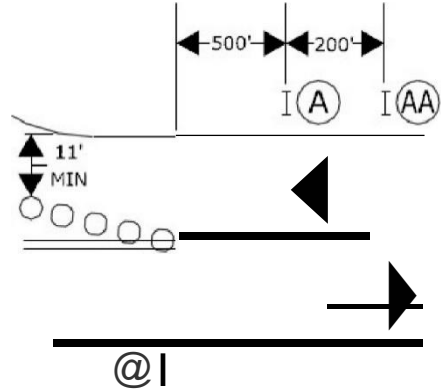
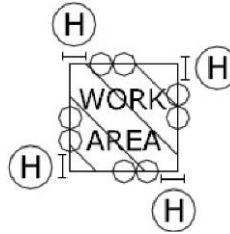
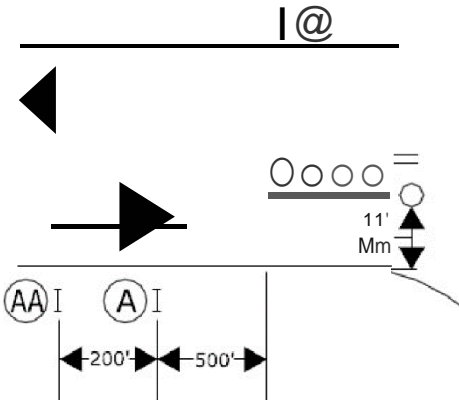
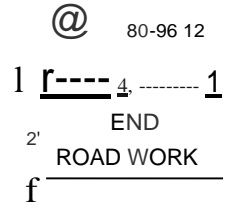
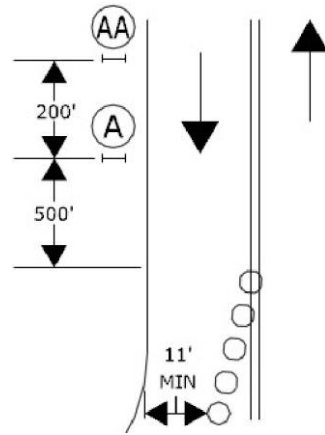
CONSTRUCTION TRAFFIC CONTROL PLAN  
**PLAN 16**  
SEE NOTES 1, 2, 4, 6, 7, 8



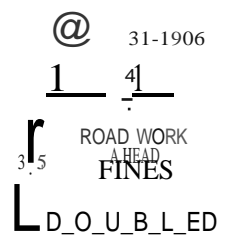
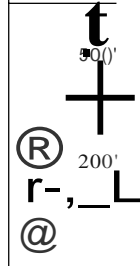
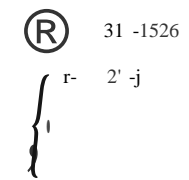


# WORK IN MIDDLE OF ROADWAY AT INTERSECTION

SI GN FACE  
144 SQ. FT (MIN.)



SPEED LIMIT	TAPER LENGTH	CONES/DRUMS PER SPACING
40 mph	320'	40'



\*0 T RAFFI C CONE OR TRAFFIC DRUM  
OPTIONAL @ TRAFFIC DRUM PORTABLE SIGN SUPPORT  
HIGH MOUNTED IN TRAILY ILLUMINATED FLASHING ARROW



CONSTRUCTION TRAFFIC CONTROL PLAN  
**PLAN 17**  
SEE NOTES 1, 2, 4, 6, 7, 8

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**Article 9.71.05 – Basis of Payment** *is replaced by the following:*

When the item of “Maintenance and Protection of Traffic” appears in the Contract, this work will be paid for at the Contract lump sum price for “Maintenance and Protection of Traffic.” This price shall include all costs for labor, equipment and services involved in the erection, maintenance, moving, adjusting, cleaning, relocating and storing of signs, barricades, drums, traffic cones and delineators furnished by the Contractor as well as all costs of labor and equipment involved in the maintenance of traffic lanes and detours, except for pavement markings, ordered or included in the approved scheme for maintenance of traffic. It shall also include the cost of signs, barricades, drums, traffic cones, temporary precast concrete barrier curb, delineators, or the furnishing and placing of materials such as borrow, gravel, crushed stone, bituminous concrete for patching and pipe. If the Engineer requires the Contractor to provide facilities in excess of the requirements of the adopted scheme for maintenance and protection of traffic, the Contractor shall perform the required work; and payment for the cost thereof will be made at applicable Contract unit prices, or in the absence of applicable Contract unit prices, as extra work.

The temporary relocation of signs and supports, and the furnishing, installation and removal of any temporary supports shall be paid for under the item “Maintenance and Protection of Traffic”. Temporary overhead sign supports and foundations shall be paid for under the appropriate item(s).

The cost of furnishing, installing, and removing the material for the 4H:1V traversable slope shall be paid for under the item “Maintenance and Protection of Traffic”.

## **ITEM # 0992090A - BENCH**

**Description:** The benches should be installed where it is indicated on the plans.

### **Materials:**

The 6-ft bench with decorative cast iron or steel powder-coated frame and horizontal recycled plastic slats/straps should include the following specifications:

1. Frame color: Black
2. Slat/strap color: Tan
3. Mounting: Bolted, surface-mount configuration.

### **Manufacturers:**

1. Bench 490 as manufactured by DuMor Site Furnshings, P.O. Box 142, Mifflintown, PA 17059 ([www.dumor.com](http://www.dumor.com)); or
2. Arlington as manufactured by SiteScapes, P.O. Box 22326, Lincoln, NE ([www.sitescapesonline.com](http://www.sitescapesonline.com)); or
3. Engineer approved equal.

### **Construction Methods:**

1.) Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

2.) Comply with manufacturer's written installation instructions, unless more stringent requirements are indicated. Complete field assembly of site and street furnishings, where required. Unless otherwise indicated, install furnishings after landscaping and paving have been completed. Install items per manufacturer's recommendations and at locations approved by Owner.

3.) After completing installation, inspect components. Remove spots, dirt, and debris.

4.) Protect until acceptance of project. Repair any damaged finishes to match original finish or replace component.

### **DELIVERY, STORAGE, AND HANDLING**

Transportation carrier shall use appropriate methods to ensure materials are properly packaged, stacked, and restrained during transport. Utilize protective packaging as required.

Protect materials during storage against moisture, soiling, staining, and physical damage.

Any product or associated component showing manufacturing flaws upon receipt at the Project Site shall be referred to Engineer for determination as to whether it shall be repaired, rejected, or used.

Protect materials during storage to avoid damage from moisture, abrasion, and other construction activities.

Handle materials to prevent abrasion, chipping, marring, soiling and other damage.

Damaged equipment shall not be installed. Contractor shall bear responsibility for damage to equipment until final acceptance by Owner. Any installed equipment exhibiting damage shall be replaced or repaired to the satisfaction of Engineer, and Contractor shall assume all costs related thereto.

#### SUBMITTALS

Shop drawings for all equipment furnished under this Section. Shop drawings shall indicate the configuration, dimensions, layout, and spacing of major and minor equipment components such as posts, supports, rails, brackets, fasteners, foundations, anchorage, and a schedule of such equipment components. Show in large-scale details any unique fabrication, assembly, and/or installation requirements.

Material certificates or other data indicating compliance with these Specifications for finish type, color, size, style, posts, fittings, hardware, and accessories.

Copies of manufacturer-provided installation instructions, operation instructions, and maintenance material for all equipment furnished under this Section.

Manufacturer's warranties and associated warranty registration data in Owner's name. Submit two (2) copies of each warranty to Engineer in the manufacturer's/supplier's standard form or if there is no standard form available, in a form specified by Engineer.

#### WARRANTY

Provide manufacturer's standard warranty, as applicable, for all products furnished under this Section. Warranty shall be registered in Owner's name. Bind warranties in heavy-duty, commercial-quality, durable 3-ring, vinyl-covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product, and the name, address, and telephone number of the Installer. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project title or name, and name of Contractor. When warranted construction requires operation and maintenance manuals, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

#### EXAMINATION

Examine areas and conditions for compliance with requirements for correct and level finished grade, mounting surfaces, installation tolerances, and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

#### **Method of Measurement:**

The work will be measured for payment by the number of benches that are installed during construction.

#### **Basis of Payment:**

This item will be paid for at the unit contract price for each bench installed, which price shall include all necessary materials and equipment to install the benches.

<u>Pay Item</u>	<u>Pay Unit</u>
Bench (Alternate #2)	EA.

## **ITEM #1003680A – ORNAMENTAL LIGHTING SYSTEM**

Work under this item shall conform to the requirements of Section 10.00 and 11.13 of the Standard Specifications, amended and supplemented as follows:

### **Description:**

The work under this item shall consist of furnishing and installing a complete ornamental streetlight system at the locations and to the dimensions and details shown on the plans or as directed by the Engineer and in conformity with these specifications. The work shall include furnishing and installing all necessary components of the system including light poles and fixtures of the height and type specified with pole and LED fixture, integral driver, conductors from the fixture and GFI outlet to the branch circuit in the pole base, fusing, handhole, anchor bolts and cover, tag, grounding wire, trenching and conduits, conductors, connections, power and control cable, lighting controller, controller foundation, metered service, bedding, backfill, aluminum shims and non-shrink grout, light pole concrete foundations, anchor bolts, grounding wire, conduit, ground rod, pull boxes and connections complete in place, at the locations, and as described herein, and to the dimensions and details shown on the plans or as directed by the Engineer for a complete lighting system.

### **Materials:**

The materials for this work shall conform to the following requirements:

1. Ornamental Lighting System:
  - a. Luminaire shall be as manufactured by Spring City Electrical and Manufacturing Company, Spring City, PA, Luminaire Model: William and Mary, Luminaire No.: ALMWML-LE040-EVX-2F2-40-CR3-YPLF-FED-CU.

**This is an approved proprietary item; no substitutions will be allowed.**

- b. Pole shall be as manufactured by Spring City Electrical and Manufacturing Company, Spring City, PA, Pole Model: Edgewater, Pole Height: 12', Pole No.: DPSEDG-20-12.00-TN7.00-0.75-GFWI-CB, Accessory: Flower Bracket, Accessory No.: AARFPB-2S-CM-CB, Finish Color: Classic Black.

**This is an approved proprietary item; no substitutions will be allowed.**

2. Lamps shall be LED.

3. Anchor Bolts: Light Standards shall use four ¾” diameter, hot-dipped galvanized “L” type anchor bolts in accordance with the requirements of ASTM A-153-03, Class C. Field welding and field bending of anchor bolts is prohibited.
4. The fixtures shall be wired using No. 10 AWG stranded copper conductors with 600V, 167-degree F, type THHN/THWN insulation, or as required by the manufacturer. The luminaire shall be connected to the wiring provided within the pole.
5. Cable: The provisions of Sections 10.12.02 and 10.15.02 shall apply.
6. Conduit: The provisions of Sections 10.01.02 and 10.08.02 shall apply.
7. Bedding: the provisions of Section 10.01.02 shall apply.
8. Concrete Handhole: The provisions of Section 10.10.02 shall apply.
9. Light Pole Foundations: The provisions of Section 10.02.02 shall apply.
10. Service Control Box: The provisions of Section 10.17.02 shall apply.

**Construction Methods:**

Construction methods for this work shall be in accordance with the manufacturer’s recommendations. The Contractor shall be responsible for coordinating all necessary prerequisite work with the utility company and Connecticut College. This shall include, but not be limited to, de-energizing existing light poles, energizing new light poles, coordinating and verifying new conduit installations, and coordinating and verifying the location of the service control box. Eversource shall be responsible for pulling new wiring from energy source to service control box location and energizing new lighting system. The Contractor shall be responsible for installing all underground conduit between the service control box and the service pole, in accordance with the Eversource requirements. The Contractor shall be responsible for installing all underground conduit between the Connecticut Colleges existing lighting system in accordance with applicable Eversource requirements.

The Contractor shall be responsible for all coordination with the Utility company that is required to obtain the required metered service connection to the lighting system. This includes any necessary computations, applications, and fees paid on the behalf of the City of New London.



The Contractor shall be responsible for installing the poles plumb, connection to the power supply, wiring, attaching the ground connection to the pole, and all testing.

For trenching and backfilling the provisions within sections 10.01.01 and 10.01.03 shall apply.

**REQUIRED SUBMITTALS:**

The Contractor is responsible for providing the complete lighting design to provide an operational lighting system as shown on the plans and these specifications. The design will include selecting the appropriate load and service equipment to be installed in the service control box, selection of the control box and foundation, and design of all lighting circuits, including cable routing and sizing to supply the luminaires and GFI receptacles at each pole. Structural design computations are to be provided for each pole to demonstrate adequacy of the pole, foundation, and anchor bolt design, taking into account loading produced by the pole accessories, in accordance with AASHTO Standard Specification for Structural Support of Highway Signs, Luminaires, and Traffic Signs. Wind pressures for design purposes shall be determined in accordance with the above AASHTO Standard utilizing a 93-mph wind speed. Details provided with the plans are for guidance only and may be modified as necessary to provide adequate design to meet AASHTO requirements. Proposed modifications should be provided with the design submittal.

All electrical calculations, structural calculations, working drawings, shop drawings, and catalog cuts shall be submitted to the Engineer in a single submittal package for review and approval. The submittal shall demonstrate the adequacy of the design and the adherence to the details provided. The assembly, in its completed form, shall meet the design requirements and style as shown on the plans.

Following approval of the design, the equipment can be ordered. Submit 5 copies of material certificates in accordance with the contract general requirements.

**Method of Measurement:**

This work will not be measured for payment and the cost thereof shall be included in the lump sum cost of the item "Ornamental Lighting System".

**Basis of Payment:**

This work will be paid for at the Contract lump sum price for the Ornamental Lighting System, complete in place, which price shall include all work and materials, including, design, light fixture/poles, foundations, excavation, GFI receptacles, lamps, integral LED drivers, designated optional equipment, conductors, conduit, warning tape, tags, photoelectric controls, handholes, trenching, bedding, and backfilling, fusing, washers, nuts, bolts, bolt covers, grounding, shims, service controller units, cabinets and foundations, service connections, permits, coordination,

City of New London, CT  
Williams Street Improvements

non-shrink grout, connections and all equipment, materials, tools and labor incidental thereto, including pole certification.

<u>Pay Item</u>	<u>Pay Unit</u>
Ornamental Lighting System	LS

## **ITEM #1111451A - LOOP DETECTOR SAWCUT**

### **11.11.02 – Materials:**

Replace Article M.16.12 with the following:

Sawcut:

(a) Wire in sawcut:

- International Municipal Signal Association (IMSA) Specification 51-7, single conductor cross-linked polyethylene insulation inside polyethylene tube.
- # 14 AWG

(b) Sealant:

(1) Polyester Resin Compound

- Two part polyester which to cure, requires a liquid hardener.
- Use of a respirator not necessary when applied in an open air environment.
- Cure time dependent on amount of hardener mixed.
- Flow characteristics to guarantee encapsulation of loop wires.
- Viscosity: 4000 CPS to 7000 CPS at 77 degrees Fahrenheit (25° C).
- Form a tack-free skin within 25 minutes and full-cure within 60 minutes at 77 degrees Fahrenheit (25° C).
- When cured, resist effects of weather, vehicular abrasion, motor oil, gasoline, antifreeze, brake fluid, de-icing chemicals, salt, acid, hydrocarbons, and normal roadway encounters.
- When cured, maintain physical characteristics throughout the ambient temperature ranges experienced within the State of Connecticut.
- When cured, bonds (adheres) to all types of road surfaces.
- Weight per Gallon (3.8 l): 11 lbs ±1 lb (5kg ± .45kg)
- Show no visible signs of shrinkage after curing.
- 12 month shelf life of unopened containers when stored under manufacturers specified conditions.
- Cured testing requirements:
  - Gel time at 77 degrees F (25° C): 15 - 20 minutes, ASTM C881, D-2471
  - Shore D Hardness at 24 hours: 55-78, ASTM D-2240
  - Tensile Strength: > 1000 psi (6895 kPa), ASTM D-638
  - Elongation: 18 - 20 %, ASTM D-638
  - Adhesion to steel: 700 - 900 psi (4826 - 6205 kPa), ASTM D-3163
  - Absorption of water, sodium chloride, oil, and gasoline: < 0.2%, ASTM D-570
- Include in the Certificate of Compliance:
  - Manufacturer's confirmation of the uncured and cured physical properties stated above.
  - Material Safety Data Sheet (MSDS) stating sealant may be applied without a respirator in an open air environment.
- Designed to allow clean-up without the use of solvent that is harmful to the workers and the environment.

(2) Elastomeric Urethane Compound:

- One part urethane which to cure, does not require a reactor initiator, or a source of thermal energy prior to or during its installation.
- Use of a respirator not necessary when applied in an open air environment.

- Cure only in the presence of moisture.
- Flow characteristics to guarantee encapsulation of loop wires.
- Viscosity such that it does not run out of the sawcut in sloped pavement during installation; 5000 CPS to 85,000 CPS.
- Form a tack-free skin within 24 hours and 0.125 inch (0.33mm) cure within 30 hours at 75 degrees Fahrenheit (24° C).
- When cured, resist effects of weather, vehicular abrasion, motor oil, gasoline, antifreeze, brake fluid, de-icing chemicals, salt, acid, hydrocarbons, and normal roadway encounters.
- When cured, maintain physical characteristics throughout the ambient temperature ranges experienced within the State of Connecticut.
- Show no visible signs of shrinkage after curing.
- Shelf life when stored under manufacturers specified conditions:
  - Caulk type cartridges: minimum 9 months
  - Five gallon containers: minimum 12 months
- Designed for application when the pavement surface temperature is between 40 and 100 degrees Fahrenheit (4° and 38° C).
- Uncured testing requirements:
  - Weight/Gallon: ASTM D-1875
  - Determination of Non-volatile Content: ASTM D-2834
  - Viscosity: ASTM D-1048B
  - Tack-free Time: ASTM D-1640
- Cured testing requirements:
  - Hardness: ASTM D-2240
  - Tensile Strength & Elongation: ASTM D-412A
- Include in the Certificate of Compliance:
  - Manufacturer's confirmation of the uncured and cured physical properties stated above.
  - Material Safety Data Sheet (MSDS) stating sealant may be applied without a respirator in an open air environment.
- Designed to allow clean-up without the use of solvent that is harmful to the workers and the environment.

3. Miscellaneous:

- (a) Liquidtight Flexible Nonmetallic Conduit
  - UL listed for direct burial
  - UL 1660
  - Smooth polyvinyl chloride inner surface
- (b) Water Resistant Pressure Type Wire Connector
  - UL listed for direct burial and wet locations
  - UL 486D

**11.11.03** - Construction methods:

2. Loop Detector Sawcut

- Loop size, number of turns, and location is shown on the intersection plan.
- Do not cut through a patched trench, damaged or poor quality pavement without the approval of the Engineer.
- Wet-cut pavement with a power saw using a diamond blade  $\frac{3}{8}$  inch (9.5mm) wide. Dry-cut is not allowed.
- Ensure slot depth is between 1  $\frac{3}{4}$  inch to 2.0 inch (45mm to 50mm).
- Overlap corners to ensure full depth of cut.

- To prevent wire kinking and insulation damage, chamfer inside of corners that are  $\leq 120$  degrees.
- Clean all cutting residue and moisture from slot with oil-free compressed air. Ensure slot is dry before inserting wire and sealing sawcut.
- Cut home-run, from loop to curb or edge-of-road, as shown on the typical installation sheet.
- To prevent cross-talk and minimize electrical interference, twist home-run wires, from edge of road to handhole, with at least 5 turns per foot (16 turns per meter). Tape together twisted home-run wires at 2 foot (0.6 meter)  $\pm$  intervals.
- In new or resurfaced pavement, install loops in the wearing course. If the wearing course is not scheduled for immediate placement (within 24 hours) after the base course, provide temporary detection when directed by the Engineer. Temporary detection may be sawcut loops, preformed loops, microwave sensor, video, or other method approved by the Engineer.
- Splice(s) not allowed anywhere in loop wire either in loop or in home-run.
- Ensure wires are held in place at bottom of slot by inserting at 2 foot (0.6 m) intervals, 1 inch sections of foam backer rod or wedges formed from 1 inch (25mm) sections of the polyethylene tubing. Loop detectors with wires that have floated to the top of the sealant will not be accepted.
- To create a uniform magnetic field in the detection zone, wind adjacent loops in opposite directions.
- Use **polyester compound** as the sealant unless another type is allowed by the Engineer.
- Mix hardening agent into polyester resin with a power mixer or in an application machine designed for this type of sealant in accordance with the manufacturer's instructions.
- Apply the loop sealant in accordance with the manufacturer's instructions and the typical installation sheet. Do not apply sealant when pavement temperature is outside the manufacturer's recommended application range.
- Solder splice the loop wires to the lead-in cable and install water resistant connector as shown on the typical installation sheet.
- Test the loop circuit resistance, inductance, and amplifier power-interruption as shown on the typical installation sheet. Document all test results.

### 3. Damaged, Patched, or Excessively Worn Pavement

- Where the existing pavement is damaged, patched or excessively worn and is found to be not suitable for reliable loop detection, notify the Engineer.
- When directed by the Engineer, remove and replace an area of pavement to allow the proper installation of the loop.
- Remove a minimum of 3 inches (75mm) depth.
- Comply with the applicable construction methods of Section 2.02 Roadway Excavation, Formation Of Embankment and Disposal of Surplus Material, and Section 4.06 Bituminous Concrete, such as:
  - Cut Bituminous Concrete
  - Material for Tack Coat
  - Bituminous Concrete Class 1

### 4. Re-surface/Overlay Project

- Prior to disconnecting the existing loop confirm that the amplifier is operating properly and is programmed according to plan. Document loop operation. Report any discrepancies and malfunctions to Engineer.
- Remove all abandoned sawcut home-run wire from handhole.
- Sawcut new loop according to plan.

- Solder splice new loop wires to the existing lead-in cable and install new water resistant twist connectors as shown on the typical installation sheet. Do not re-use the removed connectors.
- Test the loop circuit resistance and inductance. Document results.
- Ensure the existing loop amplifier has re-tuned to the new loop and is operating according to plan.

**11.11.04 – Method of Measurement:**

Loop Detector Sawcut is measured by the number of linear feet (meters) of installed, tested, operating, and accepted sawcut only where there is loop wire. Over-cuts at corners that do not contain wire are not measured.

**11.11.05 – Basis of Payment:**

Loop Detector Sawcut is paid at the contract unit price per linear foot (meter). The price includes sawcut, loop wire, sealant, liquidtight flexible nonmetallic conduit, duct seal, water resistant splice connectors, testing, incidental material, equipment, and labor.

<u>Pay Item</u>	<u>Pay Unit</u>
Loop Detector Sawcut	l.f. (m)

S:\traffic\1406\SIGNAL SPECS\SPECS\1111451A-LOOP DETECTOR SAWCUT only, rev 1-11, polyester compound

**ITEM NO. 1116100A – 30” SOLAR FLASHING CROSSWALK SIGN**

**Description:** Procurement and installation of a post-mounted speed indicator sign equipped with an integral radar system and solar power/battery assembly of the model indicated. Contractor shall coordinate work between all Subcontractors, sections, and trades required for the proper completion of the work.

**Materials:**

1. Sign Supports
  - x CTDOT Type “B” post as indicated on CTDOT Standard Sheet TR-1208 02.
  - x Post assembled and installed in CTDOT “Breakaway Type II Installation” as indicated on CTDOT Standard Sheet TR-1208 02.
2. Crosswalk Sign
  - x “Shield 12” base unit with mounting bracket(s), Type IX, violator alert flash, solar battery kit, and solar panel as manufactured by TAPCO, 5100 W Brown Deer Road, Brown Deer, WI 53223 (phone number 800-236-0112) or Solar Traffic Systems, Inc. 16135 New Avenue, Unit 2, Lemont, IL 60439 (phone number 877-977-7446), or Engineer-approved equal.

**Construction Methods:**

1. Use adequate numbers of skilled workmen who are trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods required for proper performance of the work.
2. Delivery, Storage, and Handling: Transportation carrier shall use appropriate methods to ensure materials are properly packaged, stacked, and restrained during transport. Utilize protective packaging as required. Protect materials during storage against moisture, soiling, staining, and physical damage. Any product or associated component showing manufacturing flaws upon receipt at the Project Site shall be referred to Engineer for determination as to whether it shall be repaired, rejected, or used. Protect materials during storage to avoid damage from moisture, abrasion, and other construction activities. Handle materials to prevent abrasion, chipping, marring, soiling and other damage. Damaged equipment shall not be installed. Contractor shall bear responsibility for damage to equipment until final acceptance by Owner. Any installed equipment exhibiting damage shall be replaced or repaired to the satisfaction of Engineer, and Contractor shall assume all costs related thereto.
3. Examination: Examine areas and conditions for compliance with requirements for correct and level finished grade, mounting surfaces, installation tolerances, and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

4. Comply with manufacturer's written installation instructions unless more stringent requirements are indicated, provided that such requirements will not void warranty.
5. Install metal signpost and radar-equipped speed sign at the location (s) shown on the plans. Install, commission, configure, or otherwise activate the device to operational condition in accordance with manufacturer's guidelines/instructions.
6. Clean-up and Protection: After completing installation, inspect components. Remove spots, dirt, and debris. Protect until acceptance of project. Repair any damaged finishes to match original finish or replace component.

#### Submittals

1. Shop drawings for all materials furnished under this Item. Shop drawings shall indicate the configuration, dimensions, layout, and spacing of major and minor components. Show in large-scale details any unique fabrication, assembly, and/or installation requirements.
2. Material certificates or other data indicating compliance with these Specifications for finish type, color, size, style, fittings, hardware, and accessories.
3. Copies of manufacturer-provided installation instructions, operation instructions, and maintenance material for all equipment furnished under this Item.
4. Manufacturer's warranties and associated warranty registration data in Owner's name. Submit two (2) copies of each warranty to Engineer in the manufacturer's/supplier's standard form or if there is no standard form available, in a form specified by Engineer.

#### Warranty

Provide manufacturer's standard warranty, as applicable, for all products furnished under this Item. Warranty shall be registered in Owner's name. Bind warranties in heavy-duty, commercial-quality, durable 3-ring, vinyl-covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product, and the name, address, and telephone number of the Installer. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project title or name, and name of Contractor. When warranted construction requires operation and maintenance manuals, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

#### **Method of Measurement:**

This work will not be measured for payment and the cost thereof shall be included in the lump sum cost of the item "Solar Flashing Crosswalk Sign".



**Basis of Payment:**

This work will be paid for at the Contract lump sum price for the solar flashing crosswalk sign, complete in place, which price shall include all work and materials, including, sign fixture/poles, foundations, excavation, solar equipment, integral LED drivers, push button assembly, trenching, bedding, and backfilling, fusing, washers, nuts, bolts, bolt covers, grounding, shims, service controller units, permits, coordination, non-shrink grout, connections and all equipment, materials, tools and labor incidental thereto, including certification.

<u>Pay Item</u>	<u>Pay Unit</u>
30" Solar Powered Flashing Crosswalk Sign	EA

**ITEM NO. 1206023A - REMOVAL AND RELOCATION OF EXISTING SIGNS**

Section 12.06 is supplemented as follows:

**Article 12.06.01 – Description is supplemented with the following:**

Work under this item shall consist of the removal and/or relocation of designated side-mounted extruded aluminum and sheet aluminum signs, sign posts, sign supports, and foundations where indicated on the plans or as directed by the Engineer. Work under this item shall also include furnishing and installing new sign posts and associated hardware for signs designated for relocation.

**Article 12.06.03 – Construction Methods is supplemented with the following:**

The Contractor shall take care during the removal and relocation of existing signs, sign posts, and sign supports that are to be relocated so that they are not damaged. Any material that is damaged shall be replaced by the Contractor at no cost to the City.

Foundations and other materials designated for removal shall be removed and disposed of by the Contractor as directed by the Engineer and in accordance with existing standards for Removal of Existing Signing.

Sheet aluminum signs designated for relocation are to be re-installed on new sign posts.

**Article 12.06.04 – Method of Measurement is supplemented with the following:**

Payment under Removal and Relocation of Existing Signs shall be at the contract lump sum price which shall include all extruded aluminum and sheet aluminum signs, sign posts, and sign supports designated for relocation, all new sign posts and associated hardware for signs designated for relocation, all extruded aluminum signs, sheet aluminum signs, sign posts and sign supports designated for scrap, and foundations and other materials designated for removal and disposal, and all work and equipment required.

**Article 12.06.05 – Basis of Payment is supplemented with the following:**

This work will be paid for at the contract lump sum price for “Removal and Relocation of Existing Signs” which price shall include relocating designated extruded aluminum and sheet aluminum signs, sign posts, and sign supports, providing new posts and associated hardware for relocated signs, removing and disposing of foundations and other materials, and all equipment, material, tools and labor incidental thereto. This price shall also include removing, loading, transporting, and unloading of extruded aluminum signs, sheet aluminum signs, sign posts, and sign supports designated for scrap and all equipment, material, tools and labor incidental thereto.

<u>Pay Item</u>	<u>Pay Unit</u>
Removal and Relocation of Existing Signs	L.S.

**ITEM NO. 1302061A – ADJUST GATE BOX (WATER)**

Work under this item shall conform to the applicable provisions of the Standard Specifications Form 817 amended as follows:

**Description:**

The Contractor shall adjust to intermediate and final grades as required, the gate boxes and covers appurtenant to the water mains as required and furnish and install extension rings, extension stems and air valve extensions, if necessary, as shown on the Contract Drawings or as directed by the Engineer in accordance with these specifications.

**Materials:**

All required materials shall be in conformance to City of New London standards, including any resurfacing materials and any additional fill required, shall be furnished and placed by the Contractor. Gravel shall conform to Article M.02.01.

**Construction Methods:**

The Contractor shall carefully excavate around the gate boxes, remove the boxes, install extension stems and air valve extensions, if necessary, reinstall the present gate box, if reusable, adjust the box to final grade using extension rings, if necessary, and refill the excavation. Care shall be taken to prevent material from filling the inside of the gate box.

Extension stems will be required if the gate box is raised 24-inches or more. Extension stems shall be fabricated according with City of New London standards and details.

Any damage done to Town facilities by the Contractor shall be repaired or replaced by the Contractor at his/her expense.

Contractor shall adjust/lower gate boxes to match the exposed aggregate or milled surface grades where necessary to provide for safe traffic operations. Prior to paving the final course, Contractor shall adjust/raise gate boxes to final grades.

**Method of Measurement:**

The resetting of gate boxes to the final grades, complete with extension stems, air valve extensions, gate box extension rings, and additional top or bottom sections, if necessary, will be measured for payment as a unit.

<u>Pay Item</u>	<u>Pay Unit</u>
Adjust Gate Box (Water)	EA