

**BOROUGH OF NAUGATUCK  
DEPARTMENT OF PUBLIC WORKS**

**REHABILITATION OF  
STRUCTURE**

**MAPLE STREET OVER  
NAUGATUCK RIVER  
BRIDGE No. 04214**

Federal Project No. N. F. A.

State Project No. 9087-4000



## INDEX TO SPECIAL PROVISIONS

Note: This index has been prepared for the convenience of those using this contract with the sole express purpose of locating quickly the information contained herein; and no claims shall arise due to omissions, additions, deletions, etc., as this index shall not be considered part of the contract.

CONTRACT TIME AND LIQUIDATED DAMAGES .....	- 1 -
NOTICE TO CONTRACTOR – STATE SET-ASIDE AND CONTRACT COMPLIANCE REQUIREMENTS ..	- 2 -
NOTICE TO CONTRACTOR - BID REJECTION .....	- 3 -
NOTICE TO CONTRACTOR – TRAFFICPERSON .....	- 3 -
NOTICE TO CONTRACTOR – PRE-AWARD DOCUMENTS / NON-RESPONSIVE BIDDER .....	- 3 -
NOTICE TO CONTRACTOR - VERIFICATION OF EXISTING CONDITIONS.....	- 3 -
NOTICE TO CONTRACTOR – VERIFICATION OF PLAN DIMENSIONS AND FIELD MEASUREMENTS-	3 -
NOTICE TO CONTRACTOR - PROCUREMENT OF MATERIALS.....	- 4 -
NOTICE TO CONTRACTOR – MUNICIPAL PROJECT/FIELD OFFICE .....	- 4 -
NOTICE TO CONTRACTOR - PROTECTION OF WATERWAY.....	- 4 -
NOTICE TO CONTRACTOR – PERMITS/PERMIT APPLICATIONS.....	- 4 -
NOTICE TO CONTRACTOR - RESTRICTIONS AND LIMITATIONS.....	- 5 -
NOTICE TO CONTRACTOR – FLOOD CONTINGENCY PLAN REQUIREMENTS .....	- 5 -
NOTICE TO CONTRACTOR – NO STORAGE OR STAGING OF MATERIALS WITHIN FLOODPLAIN WITHOUT REVIEW AND WRITTEN APPROVAL.....	- 5 -
NOTICE TO CONTRACTOR – STANDARD DRAWINGS .....	- 5 -
NOTICE TO CONTRACTOR - BIDRIGGING AND/OR FRAUDS.....	- 5 -
NOTICE TO CONTRACTOR – SUPERVISION AND INSPECTION.....	- 6 -
NOTICE TO CONTRACTOR – PUBLIC UTILITIES .....	- 6 -
NOTICE TO CONTRACTOR - PROTECTION OF EXISTING UTILITIES .....	- 6 -
NOTICE TO CONTRACTOR – UTILITY COORDINATION .....	- 7 -
NOTICE TO CONTRACTOR - RIGHTS OF WAY RESTRICTIONS .....	- 7 -
NOTICE TO CONTRACTOR - SECTION 4.06 AND M.04 MIX DESIGNATION EQUIVALENCY AND PG BINDER EQUIVALENCY.....	- 8 -
NOTICE TO CONTRACTOR – SUPERPAVE DESIGN LEVEL INFORMATION.....	- 9 -
SECTION 1.02 - PROPOSAL REQUIREMENTS AND CONDITIONS .....	- 11 -
SECTION 1.03 - AWARD AND EXECUTION OF CONTRACT .....	- 12 -
SECTION 1.04 - SCOPE OF WORK .....	- 13 -
SECTION 1.05 - CONTROL OF THE WORK .....	- 14 -
SECTION 1.06 - CONTROL OF MATERIALS .....	- 16 -
SECTION 1.07 - LEGAL RELATIONS AND RESPONSIBILITIES.....	- 17 -
SECTION 1.08 - PROSECUTION AND PROGRESS .....	20
SECTION 1.09 - MEASUREMENT AND PAYMENT .....	22
SECTION 1.10 - ENVIRONMENTAL COMPLIANCE.....	23
SECTION 1.11 - CLAIMS .....	24
DIVISION II - CONSTRUCTION DETAILS .....	25
SECTION 4.06 - BITUMINOUS CONCRETE .....	26
SECTION 6.01 - CONCRETE FOR STRUCTURES.....	47
SECTION M.04 - BITUMINOUS CONCRETE.....	49
NOTICE TO CONTRACTOR - CODE OF ETHICS .....	- 76 -
NOTICE TO CONTRACTOR – REQUIREMENTS OF TITLE 49, CODE OF FEDERAL REGULATIONS PART 26.....	83
INSURANCE .....	83
Item # 90060 A - BRIDGE PLAQUE .....	85
Item # 201013 A - REMOVAL OF EXISTING FENCE .....	86
Item # 202491 A - REMOVAL OF GRANITE STONE CURBING.....	87
Item # 303050 A - CONCRETE PAVER ON 4" CONCRETE BASE SLAB.....	88
Item # 402903 A - BRICK PAVING .....	92

Item # 406272 A - MILLING OF HOT MIX ASPHALT (HMA) - 0-4 INCHES -----	97
Item # 511203 A - POLYVINYL CHLORIDE PLASTIC PIPE WEEPHOLES -----	101
Item # 511211 A - CONSTRUCT WEEP DRAINS -----	102
Item # 514981 A - PRECAST CONCRETE ARCHITECTURAL PANELS (SITE NO. 1) -----	103
Item # 520036 A - ASPHALTIC PLUG EXPANSION JOINT SYSTEM-----	105
Item # 601196 A - VARIABLE DEPTH PATCH-----	112
Item # 601231 A - LIGHTWEIGHT CONCRETE -----	117
Item # 601418 A - BLAST CLEAN EXISTING CONCRETE-----	118
Item # 602910 A - DRILLING HOLES AND GROUTING DOWELS -----	119
Item # 603736 A - SPECIAL PAINTING TREATMENT -----	121
Item # 603893 A - TEMPORARY SLAB SUPPORT-----	123
Item # 605000 A - DIMENSION STONE MASONRY -----	124
Item # 605001 A - BLOCK STONE MASONRY -----	125
Item # 609030 A - REPOINT MORTAR JOINTS-----	256
Item # 703010 A - STANDARD RIPRAP-----	127
Item # 703029 A - ROUNDED STONE RIPRAP -----	128
Item # 818022 A - COLOR ADDITIVE FOR CONCRETE-----	129
Item # 822001 A - TEMPORARY PRECAST CONCRETE BARRIER CURB -----	130
Item # 822005 A - TEMPORARY PRECAST CONCRETE BARRIER CURB (STRUCTURE)-----	131
Item # 822006 A - RELOCATED TEMPORARY PRECAST CONCRETE BARRIER CURB (STRUCTURE) -----	131
Item # 904136 A - REMOVAL OF EXISTING METAL BRIDGE RAIL -----	136
Item # 914017 A - ORNAMENTAL METAL FENCE (5' HIGH) -----	137
Item # 921001 A - CONCRETE SIDEWALK-----	143
Item # 921036 A - RETRO-FIT DETECTABLE WARNING STRIP-----	144
Item # 952100 A - PLANTER – CONCRETE-----	145
Item # 969060 A - CONSTRUCTION FIELD OFFICE, SMALL-----	146
Item # 970006 A - TRAFFICPERSON (MUNICIPAL POLICE OFFICER) -----	155
Item # 971001 A - MAINTENANCE AND PROTECTION OF TRAFFIC-----	157
Item # 974001 A - REMOVAL OF EXISTING MASONRY -----	170
Item # 975002 A – MOBILIZATION -----	171
Item # 1001002 A - TRENCHING AND BACKFILLING (TYPE I)-----	172
Item # 1001003 A - TRENCHING AND BACKFILLING (TYPE II)-----	172
Item # 1001004 A - TRENCHING AND BACKFILLING (TYPE III)-----	172
Item # 1003595 A - DECORATIVE LIGHT POLE AND LIGHT FIXTURE-----	174
Item # 1003906 A - REMOVE LIGHT STANDARD -----	176
Item # 1008138 A - 4" POLYVINYL CHLORIDE CONDUIT IN STRUCTURE -----	177
Item # 1008143 A - 4" POLYVINYL CHLORIDE CONDUIT UNDER ROADWAY-----	177
Item # 1008144 A - 5" POLYVINYL CHLORIDE CONDUIT UNDER ROADWAY-----	177
Item # 1008215 A - 2" RIGID METAL CONDUIT UNDER ROADWAY -----	177
Item # 1008315 A - 2" RIGID METAL CONDUIT IN STRUCTURE-----	177
Item # 1008870 A - 5" FIBERGLASS CONDUIT - HEAVY WALL-----	177
Item # 1010917 A - INSTALL PRECAST CONCRETE MANHOLE -----	179
Item # 1108724 A - PHASE SELECTOR -----	181
Item # 1112410 A - DETECTOR (TYPE A)-----	181
Item # 1112470 A - PRE-EMPTION SYSTEM CHASSIS -----	181
Item # 1113550 A - DETECTOR CABLE (OPTICAL) -----	181
Item # 1116100 A - INTERNALLY ILLUMINATED SIGN (LED) -----	187
Item # 1118051 A - TEMPORARY SIGNALIZATION (SITE 1) -----	189
Item # 1206013 A - REMOVAL OF EXISTING SIGNING -----	194
Item # 1208997 A - ORNAMENTAL SIGN POST -----	195



Item # 1504040 A - TEMPORARY SUPPORT FOR EXISTING TELEPHONE DUCTS ----- 196  
Item # 1807016 A - TEMPORARY IMPACT ATTENUATION SYSTEM TYPE A (TL-2) ----- 199

REQUIRED CONTRACT PROVISIONS, STATE OF CONNECTICUT

SUBSTITUTION OF SECURITIES FOR RETAINAGES ON STATE CONTRACTS AND  
SUBCONTRACTS

NONDISCRIMINATION

NONDISCRIMINATION (SEXUAL ORIENTATION)

RESIDENTS' PREFERENCE IN WORK ON OTHER PUBLIC FACILITIES

CONSTRUCTION, ALTERATION OR REPAIR OF PUBLIC WORKS PROJECTS BY THE  
STATE OR POLITICAL SUBDIVISION

LIMITATION ON AWARDING OF CONTRACTS

RATE OF WAGES FOR WORK ON STATE HIGHWAYS

ANNUAL ADJUSTMENTS TO PREVAILING WAGES

AWARDING OF CONTRACTS TO OCCUPATIONAL SAFETY AND HEALTH LAW  
VIOLATORS PROHIBITED

CONSTRUCTION SAFETY AND HEALTH STANDARDS

SERVICE OF PROCESS

AMERICANS WITH DISABILITIES ACT OF 1990

EXECUTIVE ORDER NO. THREE

EXECUTIVE ORDER 7C

EXECUTIVE ORDER NO. 14

EXECUTIVE ORDER NO. 16 / VIOLENCE IN THE WORKPLACE PREVENTION

EXECUTIVE ORDER NO. SEVENTEEN / LISTING ALL EMPLOYMENT OPENINGS  
WITH THE CONNECTICUT STATE EMPLOYMENT SERVICE

EXECUTIVE ORDER NO. 18

CONNECTICUT REQUIRED CONTRACT / AGREEMENT PROVISIONS

AFFIRMATIVE ACTION REQUIREMENTS

PRIVATIZED PUBLIC RECORDS

OVERSIGHT OF LARGE STATE CONTRACTS

CONSTRUCTION SAFETY AND HEALTH COURSE

CIVIL RIGHTS REVISION – TITLE VI CONTRACTOR ASSURANCE

HEALTH INSURANCE PORTABILITY AND ACCOUNTABILITY ACT OF 1996 (“HIPAA”)

CONNECTICUT REQUIRED CONTRACT PROVISION, STANDARD FEDERAL EQUAL  
EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATION  
(EXECUTIVE ORDER 11246)

CERT – 141, CONTRACTOR’S EXEMPT PURCHASE CERTIFICATE

EXECUTIVE ORDER NO. THREE (of Governor Thomas J. Meskill)

EXECUTIVE ORDER NO. 14 (of Governor M. Jodi Rell)

EXECUTIVE ORDER NO. SIXTEEN (of Governor John G. Rowland)

EXECUTIVE ORDER NO. SEVENTEEN (of Governor Thomas J. Meskill)

EXECUTIVE ORDER NO. 17 (of Governor M. Jodi Rell)

EXECUTIVE ORDER NO. 18 (of Governor M. Jodi Rell)

CONNECTICUT REQUIRED CONTRACT / AGREEMENT PROVISIONS, SPECIFIC  
EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES, March 3, 2009

TITLE VI CONTRACTOR ASSURANCES

## PERMITS

NAUGATUCK INLAND WETLAND PERMIT

FLOOD MANAGEMENT CERTIFICATION APPROVAL

U.S. ARMY CORPS OF ENGINEERS GENERAL PERMIT APPROVAL

CTDEEP STREAM CHANNEL ENCROACHMENT PERMIT APPROVAL

U.S. ARMY CORPS OF ENGINEERS 404, CT GENERAL PERMIT ADDENDUM  
APPROVAL

## STATE AND FEDERAL WAGE SCHEDULES

DATE December 31, 2015  
FEDERAL AID PROJECT NO. N.F.A.  
STATE PROJECT NO. 9087-4000

Rehabilitation of Maple Street Bridge over Naugatuck River  
Bridge No. 04214

Town of Naugatuck

The State of Connecticut, Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction, Form 816, 2004, as revised by the Supplemental Specifications dated July 2015 (otherwise referred to collectively as "ConnDOT Form 816") is hereby made part of this contract, as modified by the Special Provisions contained herein. . The State of Connecticut Department of Transportation's "Construction Contract Bidding and Award Manual" ("Manual"), May 14, 2010 edition or latest issue, is hereby made part of this contract. If the provisions of this Manual conflict with provisions of other documents (not including statutes or regulations), the provisions of the Manual will govern. The Manual is available upon request from the Transportation Manager of Contracts. The Special Provisions relate in particular to the Rehabilitation of Maple Street Bridge over Naugatuck River in the Town of Naugatuck.

This project involves the rehabilitation based on available information and engineering judgement. All bid quantities are subject to variation and the actual quantities will be either more or less than estimated. The contractor will be paid for the actual quantities without adjustment to unit bid price.

#### **CONTRACT TIME AND LIQUIDATED DAMAGES**

Four Hundred Eighty (480) calendar days (two construction seasons) will be allowed for completion of the work on this project and the liquidated damages charge to apply will be Thirteen Hundred Dollars (\$1,300) per calendar day.

## **NOTICE TO CONTRACTOR – STATE SET-ASIDE AND CONTRACT COMPLIANCE REQUIREMENTS**

The contractor who is selected to perform this State project must comply with CONN. GEN. STAT. §§ 4a-60, 4a-60a, 4a-60g, and 46a-68b through 46a-68f, inclusive, as amended by June 2015 Special Session Public Act 15-5. An Affirmative Action Plan must be filed with and approved by the Commission on Human Rights and Opportunities prior to the commencement of construction.

State law requires a minimum of twenty-five (25%) percent of the state-funded portion of the contract for award to subcontractors holding current certification from the Connecticut Department of Administrative Services ("DAS") under the provisions of CONN. GEN. STAT. § 4a-60g, as amended. (25% of the work with DAS certified Small and Minority owned businesses and 25% of that work with DAS certified Minority, Women and/or Disabled owned businesses.) The contractor must demonstrate good faith effort to meet the 25% set-aside goals.

For municipal public works contracts and quasi-public agency projects, the contractor must file a written or electronic non-discrimination certification with the Commission on Human Rights and Opportunities. Forms can be found at [http://www.ct.gov/opm/cwp/view.asp?a=2982&q=390928&opmNav\\_GID=1806](http://www.ct.gov/opm/cwp/view.asp?a=2982&q=390928&opmNav_GID=1806).

This Project has 50% state funding. The required minimum set-aside value will be 13% for DAS certified small and Minority owned businesses with 25% of that work with DAS certified Minority, Women and/or Disabled owned businesses.

### **NOTICE TO CONTRACTOR - BID REJECTION**

Bidders are hereby notified that until the award of the Contract, the Engineer reserves to himself, the right to reject any or all bids for any reason whatsoever, and to waive technicalities as he may deem best for the interests of the Town.

### **NOTICE TO CONTRACTOR – TRAFFICPERSON**

The Contractor is notified that only Borough Police Officers shall be used as Trafficpersons except for emergencies as allowed by the specifications.

### **NOTICE TO CONTRACTOR – PRE-AWARD DOCUMENTS / NON-RESPONSIVE BIDDER**

Bidders are hereby notified that all required pre-award submittals, properly executed on the forms provided by the Town shall be furnished to the Town NO LATER THAN FOURTEEN (14) calendar days after the bid opening. These documents include but are not limited to: Disadvantaged Business Enterprises documentation; Subcontract Certification; Affirmative Action Program Certification; Contractor's Proposed Progress Chart; Anticipated Source of Materials; Statement of Bidders Qualifications.

The Town may reject a bid as non-responsive if the bidder does not make all required pre-award submittals within the herein stipulated 14 calendar days.

### **NOTICE TO CONTRACTOR - VERIFICATION OF EXISTING CONDITIONS**

Included in this contract is the modification, alteration and/or addition to existing structures. 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 information shown on the plans or contained elsewhere in the specifications.

### **NOTICE TO CONTRACTOR – VERIFICATION OF PLAN DIMENSIONS AND FIELD MEASUREMENTS**

Partial plans of the existing structures associated with this project are not available. The Contractor may contact the Town for any information that may be available.

The Contractor is responsible for verifying all dimensions before any work is begun. Dimensions of existing structures shown on the plans are for general reference only, they are not guaranteed. The Contractor shall take all field measurements necessary to assure proper fit of the finished work and shall assume full responsibility of their accuracy. When shop drawings and/or working drawings based on field measurements are submitted for approval and/or review, the field measurements shall also be submitted for reference by the reviewer. In the field, the Contractor shall examine and verify all existing and given conditions and dimensions with those shown on the plans. If field conditions and dimensions differ from those shown on the plans, the Contractor shall use the field conditions and dimensions and make the appropriate changes to those shown on the plans as approved by the Engineer. All field conditions and dimensions shall be so noted on the drawings submitted for approval. There shall be no claim made against the Borough by the Contractor for work pertaining to modifications required by any difference between actual field conditions and those shown by the details and dimensions on the contract plans. The Contractor will be paid at the unit price bid for the actual quantities of materials used or for the work performed, as indicated by the various items in the contract.

## **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 – MUNICIPAL PROJECT/FIELD OFFICE**

Bidders are hereby notified that this is a Municipal project. As such the construction field office requires the approval of the Municipality's electrical inspector instead of the State's ConnDOT electrical inspector. Additionally, the installation of a data communication circuit between the field office and the ConnDOT Data Communications Center in Newington will not be required.

## **NOTICE TO CONTRACTOR - PROTECTION OF WATERWAY**

The Contractor's operations shall conform to the following general conditions:

- a. Positive means shall be taken to prevent any hot work, debris or construction material from entering the waterway.
- b. At no time during the repairs should the waterway be closed to vessel navigation.
- c. No dredging, excavation, filling, riprap, or other work affecting the bottom shall be done in conjunction with this work, other than that shown on the plans and environmental permits.
- d. During the progress of work, should any material, machinery or equipment be lost, dumped, thrown overboard, or sunk so as to obstruct, interfere with or hazard navigation, immediate notice shall be given to the Town and the Water Resources Unit of the Connecticut Department of Energy & Environmental Protection (DEEP), and the object removed immediately. Until removal can be effected, the obstruction shall be properly marked in order to protect navigation. Notice to the Town and the Water Resources Unit shall give a description and location of any such object and the action taken or being taken to protect navigation.
- e. Spillage of oil and hazardous substances is specifically prohibited by Section 311 of the Federal Water Pollution Control Act of 1972, as amended. Measures should be taken including:
  - (1) proper maintenance of construction equipment, (2) arrangement of fuel/hazardous substances handling areas so as to ensure that any spills are contained before reaching navigable waterways or their adjoining shorelines, (3) instructions to personnel not to dispose of oil/hazardous substances into drains or the navigable waterways directly or onto adjoining shorelines, and (4) any other procedures to prohibit spillage. If in spite of such planning oil/hazardous substances are spilled into a navigable waterway or adjoining shoreline, the Town and (DEEP) are to be notified immediately. A supply of an absorbent material should be retained so that it may be rapidly deployed to soak up any possible spillage, pending arrival of Town and DEEP representatives on scene. The use of chemical dispersing agents and emulsifiers is not authorized without prior, specific DEEP approval.

## **NOTICE TO CONTRACTOR – PERMITS/PERMIT APPLICATIONS**

The Contractor is hereby notified that all permit approvals (contained elsewhere in these specifications) and permit applications (available for review at the Town Hall) shall be made a part of this Contract, and that the Contractor shall be bound to comply with all requirements of such permits and permit

applications as though the Contractor were the permittee. If at the time the permit is received its contents differ from that which is outlined in the application, the permit shall govern.

Should the permit be received after the receipt of bids and the permit requirements significantly change the character of the work, adjustment will be made to the contract in accordance with the appropriate articles in Section 1.04. The requirements and conditions set forth in the permit and permit application shall be binding on the Contractor just as any other specification would be. In the case of a conflict between a provision of the environmental permit or permit application and another provision in the contract documents, the former shall govern.

### **NOTICE TO CONTRACTOR - RESTRICTIONS AND LIMITATIONS**

It has been determined that this project is classified as a Category I activity under the U.S Department of the Army Corps of Engineers (USACE) General Permit (GP). Under this category, unconfined instream activity is restricted and can only be performed during the period between June 1 and September 30. The letter approving the USACE GP, and required Appendices 1-A and 5, are contained elsewhere in these specifications. All of the requirements and conditions associated with the GP are available at [www.nae.usace.army.mil/regulatory/sgp/ct.htm](http://www.nae.usace.army.mil/regulatory/sgp/ct.htm). Turbidity Control Curtains are considered to be confinement for the installation and removal of cofferdams (including water diversion barriers).

### **NOTICE TO CONTRACTOR – FLOOD CONTINGENCY PLAN REQUIREMENTS**

The Contractor is hereby made aware that under Article 1.10.03 – Water Pollution Control of Form 816, as amended by the Supplemental Specifications, the Contractor is required to submit in writing to the Engineer for approval, a contingency plan for flood events. The contingency plan must be submitted by the Contractor and approved by the Engineer prior to the commencement of any Project construction in the waterway.

### **NOTICE TO CONTRACTOR – NO STORAGE OR STAGING OF MATERIALS WITHIN FLOODPLAIN WITHOUT REVIEW AND WRITTEN APPROVAL**

The Contractor is hereby made aware that, in conformance with the approved environmental permits and with the Best Management Practices outlined under Section 1.10 – Environmental Compliance of Form 816, as amended by the Supplemental Specifications, the contractor shall not store or stage any materials or equipment within the Floodplain without prior review and written approval by the Engineer.

The Contractor shall submit a written plan detailing the materials and/or equipment to be stored or staged from within the floodplain, including such details as the presence of any materials that are potentially hazardous, buoyant, flammable, explosive, soluble, expansive, radioactive, or which could in the event of a flood be injurious to human, animal or plant life. No materials or equipment shall be stored or staged from within the Floodplain until the plan described above has been reviewed and approved by the Engineer.

### **NOTICE TO CONTRACTOR – STANDARD DRAWINGS**

Bidders are hereby notified that the standard drawings referenced on the plans, or needed to compete work detailed on the plans for this Project are available on the State of Connecticut Department of Transportation's website or are available for purchase from the Department Plans Sales Office at 160 Pascone Place, Newington, CT 06111, telephone number (860) 666-6107.

### **NOTICE TO CONTRACTOR - BIDRIGGING AND/OR FRAUDS**



The Town and the Connecticut Department of Transportation are cooperating with the U.S. Department of Transportation and the Justice Department in their investigation into highway construction contract bidrigging and/or frauds.

A toll-free "HOT LINE" telephone number 1-800-424-9071 has been established to receive information from contractors, subcontractors, manufacturers, suppliers or anyone with knowledge of bidrigging and/or frauds either past or current. The "HOT LINE" telephone number will be manned during normal working hours (8:00 a.m. - 5:00 p.m. EST), and information will be treated confidentially and anonymity respected.

### **NOTICE TO CONTRACTOR – SUPERVISION AND INSPECTION**

This project will be supervised and inspected by a Consultant Engineer. The "Notice to Proceed" stipulating the date on which the Contractor will begin the construction and from which date the contract time will be charged, will be issued by the Town.

### **NOTICE TO CONTRACTOR – PUBLIC UTILITIES**

The actual location of utilities shall be determined by the Contractor. The information shown on the Contract Plans (most data having been furnished by others) is for informational use only and is in no way warranted to be complete or indicate the true conditions. In all cases the Owner accepts no responsibility for the existence or location of underground utilities and, if shown, said locations are to be considered approximate.

The Contractor shall inquire of the utility companies well in advance of actual construction as to the location of their mains, conduits, services and service laterals in and adjacent to the area under construction and request location markings. The cost for obtaining such locations, and any costs for connections or disconnections, shall be paid by the Contractor unless otherwise specified.

### **NOTICE TO CONTRACTOR - PROTECTION OF EXISTING UTILITIES**

The Contractor's attention is directed to the need for the protection of the existing underground and overhead utilities, during the construction of the proposed structures.

Representatives of the various utility companies shall be allowed 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 utility shall be repaired including all materials, labor, etc., to the Engineer's satisfaction at no cost to the Town.

The Contractor's attention is directed to the requirements of Article 1.07.13 - Contractor's Responsibility for Adjacent Property, Facilities and Services. The Contractor shall provide a minimum 3 feet nominal cover, and equipment wheel loads shall not exceed 24,000 lbs. where construction equipment traverses water mains.

Prior to opening an excavation, effort shall be made to determine whether underground installations (i.e., sewer, fuel, electric lines, 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.

In order to notify utility companies, the number 811 or 1-800-922-4455 (Call Before You Dig) must be called at least forty-eight (48) hours prior to the start of excavation. This notification will enable the utility companies to mark out their facilities in the field.

### **NOTICE TO CONTRACTOR – UTILITY COORDINATION**

Overhead, elevated, or underground utility lines may be in conflict with required temporary or permanent construction, or the equipment necessary to perform this required construction. Depending on the Contractor's methods of construction, these utilities may need to be temporarily relocated for portions of the construction period and then moved back to permanent locations which may be other than their current locations. The Contractor is required to coordinate the exact location and timing of all utility relocations with the individual utility owners, and to phase his construction operations as required to accommodate all (temporary or permanent) utility relocations. In addition to field meetings and correspondence, this coordination may include staking of locations, excavation and temporary grading, providing access to existing and future utility pole and conduit locations, or other physical work as required to allow for utility relocation work. The Contractor shall engage in the necessary coordination of utility relocations and associated work at no additional cost to the project or owner, and shall have no right to additional compensation for staging and phasing of his work as a result of utility relocation work. The Contractor is responsible for coordinating utility relocation; the Town has the statutory authority for directing a utility to actually relocate.

### **NOTICE TO CONTRACTOR - RIGHTS OF WAY RESTRICTIONS**

The Contractor is advised that site constraints at the project site will allow for limited storage of equipment and materials.

The Contractor may use the parcel at the southwest corner of the intersection of Maple Street and South Main Street for construction activities. A map showing the parcel is available from the Town.

The Contractor may request use of town property west of the railroad tracks and south of Maple Street for a laydown area. The exact limits of available area will be negotiated with the Town. Following the conclusion of use of the laydown area the Contractor shall restore the site to its previous (or improved) condition.

**NOTICE TO CONTRACTOR - SECTION 4.06 AND M.04 MIX DESIGNATION  
EQUIVALENCY AND PG BINDER EQUIVALENCY**

Sections 4.06 and M.04 have been replaced in their entirety with the Special Provisions included as part of this contract. These Special Provisions reflect changes in mix designations for various types of hot-mix asphalt (HMA) and include the removal of mixes designed and governed by the Marshall Mix Design method. The following table is to be used to associate mix designations noted on the plans with those in the contract specifications and related documents. Mix designations on each row are equivalent and refer to a single mix, which shall be subject to the requirements of the Section 4.06 and M.04 Special Provisions for the Official Mix Designation in the leftmost column of the corresponding row in the table.

**Mix Designation Equivalency Table**

<b>Official Mix Designation</b>	<b>Equivalent Mix Designation (a)</b>	<b>Equivalent Mix Designation (b)</b>
<b>(c)</b>	Superpave 1.5 inch	Superpave 37.5 mm
<b>HMA S1</b>	Superpave 1.0 inch	Superpave 25.0 mm
<b>HMA S0.5</b>	Superpave 0.5 inch	Superpave 12.5 mm
<b>HMA S0.375</b>	Superpave 0.375 inch	Superpave 9.5 mm
<b>HMA S0.25</b>	Superpave 0.25 inch	Superpave 6.25 mm
<b>(c)</b>	Superpave #4	Superpave #4
<b>HMA S0.5 (d)</b>	Bituminous Concrete Class 1 <b>(e)</b>	Bituminous Concrete Class 1 <b>(e)</b>
<b>HMA S0.375 (d)</b>	Bituminous Concrete Class 2 where it is specified in lifts 1.25 or thicker <b>(e)</b>	Bituminous Concrete Class 2 where it is specified in lifts 1.25 or thicker <b>(e)</b>
<b>HMA S0.25 (d)</b>	Bituminous Concrete Class 2 where it is specified in lifts 1.0 inches to less than 1.25 inches <b>(e)</b> ; Bituminous Concrete Class 12 <b>(e)</b>	Bituminous Concrete Class 2 where it is specified in lifts 1.0 inches to less than 1.25 inches <b>(e)</b> ; Bituminous Concrete Class 12 <b>(e)</b>
<b>HMA S1 (d)</b>	Bituminous Concrete Class 4 <b>(e)</b>	Bituminous Concrete Class 4 <b>(e)</b>
<b>Curb Mix</b>	Bituminous Concrete Class 3	Bituminous Concrete Class 3

**Notes**

**(a)** This mix designation is generally included with projects where the English measurement system is used. The mix designation may contain both the English measurement system designation and the SI (metric) measurement system designation, one of which would be in parenthesis.

**(b)** This mix designation is generally included with projects where the SI (metric) measurement system is used. The mix designation may contain both the English measurement system designation and the SI measurement system designation, one of which would be in parenthesis.

**(c)** This mix is no longer in use except by contract-specific Special Provision; if this mix is called for in the Plans but no such Special Provision is included for this contract a suitable substitute must be approved by the Engineer.

**(d)** Unless approved by the Engineer, the Superpave Design Level for the Official Mix Designation bituminous concrete replacing a Marshall mix called for in the plans or other contract documents shall be Design Level 2 for mixes used on mainline or shoulders of state-maintained roadways and Design Level 1 elsewhere, including but not limited to driveways or sidewalks.

(e) All mixes designed under the Marshall mix-design method are no longer covered by the 4.06 Special Provision. Wherever they appear in Contract plans and documents they shall be substituted by the “Official Mix Designation” in the same row of the Mix Designation Equivalency Table. Unless approved by the Engineer, the Superpave Design Level shall be Level 1.

**P G Binder Designation Equivalency Table**

<b>Official Binder Designation</b>	<b>Equivalent Binder Designation</b>	<b>Use</b>
PG 64S-22	PG 64-22	Hot-Mix Asphalt (HMA S* pay items and pay items using HMA S* materials)(a),(b)
PG 64E-22	PG 76-22	Polymer-Modified Asphalt (PMA S* pay items and pay items using HMA S* materials)(a),(b)

**Notes**

- (a) Use the Mix Designation Equivalency Table above to identify the Official Mix Designation for materials using the Marshall mix design method, i.e. “Bituminous Concrete Class \*.”
- (b) Refer to the NTC – Superpave Design Level for the Superpave Design Level to use for each mix on a project. The PG Binder Designation Equivalency Table can be used to obtain the Official Binder Designation for each mix identified in the NTC – Superpave Design Level.

**NOTICE TO CONTRACTOR – SUPERPAVE DESIGN LEVEL INFORMATION**

Hot-Mix Asphalt (HMA) and Polymer-Modified Asphalt (PMA) constructed according to the Superpave mix-design system are required to attain a Superpave Design Level and are required to use a Performance Graded (PG) binder. The Superpave Design Levels required for this project are listed in Table 1. The required PG binder is indicated for each mix with an “X” in the appropriate box in Table 1.

**TABLE 1:  
SUPERPAVE DESIGN LEVEL AND PERFORMANCE GRADED (PG) BINDER**

<b>Project No. 50 - 209 will require the following Superpave Design Level(s):</b>		
<b>Mix Designation</b>	<b>PG Binder</b>	<b>Design Level</b>
	<b>PG64-22</b>	
HMA S0.375	X	2
HMA S0.5	X	2

## SECTION 1.01

### DEFINITIONS OF TERMS AND PERMISSIBLE ABBREVIATIONS

**1.01.01—Definitions:** is amended and supplemented as follows:

Substitute the word "Town" for "Department" wherever "Department" appears in the definitions for each of the following terms: Award, Contract, Highway, Plans, and Project.

Substitute the word "Engineer" for "Commissioner" wherever "Commissioner" appears in the definitions for each of the following terms: Subcontractor and Sub-subcontractor.

Engineer: Delete the definition in its entirety and replace with the following:

The Town's First Selectman, acting directly or through a duly authorized representative.

Add the following:

Municipal: Of or relating to the Municipality.

Municipal Liaison: That individual identified by the Municipality to act as liaison with the State of Connecticut, Department of Transportation.

Municipality: Borough of Naugatuck, Connecticut.

Town: Same definition as Municipality.

Borough: Same definition as Municipality.

## **SECTION 1.02 - PROPOSAL REQUIREMENTS AND CONDITIONS**

Section 1.02, including the "State of Connecticut Department of Transportation Construction Contract Bidding and Award Manual," is supplemented and amended as follows:

Throughout this Section, make the following substitutions for all occurrences of the word(s) identified below for substitution:

Substitute "Engineer" for "Commissioner" and for "Division of Contracts."

Substitute "Town" for "Department" and for "Contract Section."

**1.02.04—Examination of Plans, Specifications, Special Provisions, and Site of Work:** is amended as follows:

Delete the last paragraph and replace with the following:

Bidders and contractors must inform the Town, at the earliest opportunity, in writing, of any and all omissions, errors, and/or discrepancies within or among the plans, specifications, and bidding documents which a bidder or contractor discovers. Such inquiries, in addition to inquiries concerning the conditions of bidding or award or the interpretation of contract documents are to be made in writing and directed to:

Mr. James Stewart, P.E.  
Director of Public Works  
Borough of Naugatuck  
246 Rubber Ave.  
Naugatuck, CT 06770  
Tel: (203) 720-7071  
Email: [jstewart@naugatuck-ct.gov](mailto:jstewart@naugatuck-ct.gov)

The Town cannot ensure a response to inquiries received later than ten (10) days prior to the scheduled bid opening. When warranted, responses to such inquiries that relate to changes in or interpretations of the project documents (plans and specifications) will be issued to all bidders in the form of addenda and made a part of the Contract. Bidders are responsible for ensuring that they are aware of all addenda. Failure by the Town or postal or other courier services to deliver addenda or other information regarding a Contract being bid does not release the bidder from any obligations under the conditions of the bid.

## **SECTION 1.03 - AWARD AND EXECUTION OF CONTRACT**

Section 1.03 is supplemented and amended as follows:

Throughout this Section, make the following substitutions for all occurrences of the word(s) identified below for substitution:

Substitute "Engineer" for "Commissioner," for "Manager of Contracts" and for "Transportation Manager of Contracts."

Substitute "Town" for "Department."

**1.03.04—Requirements of Performance Contract Bond and Payment Bond:** is amended as follows:

Throughout the first and second paragraphs, replace the word "State" with "Town."

**1.03.07—Insurance:** is amended as follows:

Modify Subarticle numbered 4 as follows:

The minimum single occurrence amount shall be One Million Dollars (\$1,000,000). The Minimum Annual Aggregate Amount shall be Two Million Dollars (\$2,000,000)

The Owner's and Contractor's Protective Liability Insurance shall be carried for an on behalf of the Town with the State named as an additional insured party, and each insurance policy shall indicate that the insurance company agrees to investigate and defend the insured against all claims for damages, even if groundless.

Add the following new Subarticles:

**19. Environmental Impairment Liability Policy:** The Contractor shall maintain Environmental Impairment Liability or other equivalent insurance with limits (per claim and aggregate) of at least \$2,000,000. The policy shall name the State, Town, and Engineer, their directors, officers, affiliates and employees as additional insured.

**20. Miscellaneous:** The insurance companies providing the foregoing coverage shall have a Best rating of "A" or better. With the exception of Subarticle 1, each of the insurance policies provided shall afford primary coverage to the Insured and additional insured, irrespective of any other coverage available to or maintained by any of them, and Contractor's self-insured retention shall not exceed \$100,000 for which Contractor expressly assumes responsibility.

## SECTION 1.04 - SCOPE OF WORK

Section 1.04 is supplemented and amended as follows:

Throughout this Section, make the following substitutions for all occurrences of the word(s) identified below for substitution:

Substitute "Engineer" for "Department's Assistant District Engineer."

Substitute "Town" for "Department" and for "State."

**1.04.02—Increase or Decreased Quantities of Minor Items, and Elimination of Minor Items:** Delete this subarticle in its entirety and replace with the following:

Any increase or decrease in quantities including the elimination of an item will be paid for by the actual quantity at the contract bid price.

**1.04.03—Change in Quantities and Significant Changes in the Character of Work:** Delete subarticle 4 (b) in its entirety.

**1.04.06—Removal and Disposal of Structures on the Work Site:** is supplemented as follows:

Prior to construction, the Engineer, the Town and the Contractor shall take an inventory of all items identified below or elsewhere in the Special Provisions, for salvage to determine which items shall be salvaged for the Town. If inspection of an item is not possible prior to construction, it shall be performed at a later date so that a salvage determination can be made.

The Contractor shall load and deliver those salvageable materials, identified above or elsewhere in the Special Provisions, as approved by the Engineer, and unload those salvageable materials where and as directed by the Town within the limits of the Town. The Contractor shall notify the Town seven (7) days prior to the delivery to ascertain the delivery location.

The cost for loading, delivery, and unloading of the salvageable materials will not be measured for payment, but will be distributed among the various items of work.

All other salvageable materials shall become the property of the Contractor.

ITEMS CONSIDERED FOR SALVAGE BY THE TOWN:

1. Granite Curb

## SECTION 1.05 - CONTROL OF THE WORK

Section 1.05 is supplemented and amended as follows:

Throughout this Section, except as noted, make the following substitutions for all occurrences of the word(s) identified below for substitution:

Substitute "Engineer" for "Department's Assistant District Engineer."

Substitute "Town" for "Department," except in Article 1.05.15.

Substitute "Town" for "State," except in Subarticle 1.05.02-2.

**1.05.02 - 2—Working Drawings:** is amended as follows:

Delete the first sentence in the first paragraph and substitute the following:

When required by the Contract or when ordered by the Engineer, the Contractor shall prepare and submit sufficient copies of the working drawings and calculations to the Town's Contracting Engineer for review prior to implementation. Two copies will be retained by the Engineer after review and the rest returned to the contractor:

Clough, Harbour & Associates, LLP  
Attn: Peter Perkins, P.E.  
2139 Silas Deane Highway, Suite 212  
Rocky Hill, Connecticut 06067-2336  
Tel.: (860) 257-4557  
Email: pperkins@chacompanies.com

A copy of the transmittal letter shall be sent to the Town:

Mr. James Stewart, P.E.  
Director of Public Works  
Borough of Naugatuck  
246 Rubber Ave.  
Naugatuck, CT 06770  
Tel: (203) 720-7071  
Email: jstewart@naugatuck-ct.gov

**1.05.02 - 3—Shop Drawings:** is amended as follows:

Delete the first sentence in the first paragraph and substitute the following:

When required by the Contract or when ordered by the Engineer, the Contractor shall prepare and submit sufficient copies of the shop drawings to the Town's Contracting Engineer for review and approval prior to fabrication. Two copies will be retained by the Engineer after review and the rest returned to the contractor:

Clough, Harbour & Associates, LLP  
Attn: Peter Perkins, P.E.  
2139 Silas Deane Highway, Suite 212



Rocky Hill, Connecticut 06067-2336  
Tel.: (860) 257-4557  
Email: pperkins@chacompanies.com

A copy of the transmittal letter shall be sent to the Town:

Mr. James Stewart, P.E.  
Director of Public Works  
Borough of Naugatuck  
246 Rubber Ave.  
Naugatuck, CT 06770  
Tel: (203) 720-7071  
Email: jstewart@naugatuck-ct.gov

Add the following paragraph:

Each Shop Drawing shall include the name and telephone number of the fabricator's contact person who is familiar with the drawing and who will be available to answer questions by the Engineer or Design Engineer should any arise during the review process.

Add the following subarticle:

**1.05.02 - 7—Schedule of Submissions:**

Prior to the submission of any working, shop or erection drawings, the Contractor shall prepare and submit to the Engineer, for approval, a schedule for all proposed working and shop drawings. This initial schedule should be submitted within thirty (30) days of contract award and must be submitted before the Notice to Proceed. The Contractor shall coordinate, schedule and control all submittals of working and shop drawings including those of his various subcontractors, suppliers and engineers to provide for an orderly and balanced distribution of the work.

It is incumbent upon the Contractor to submit his shop drawings in accordance with the approved working and shop drawing schedule to facilitate expeditious review. Voluminous submittals of shop drawings at one time are discouraged and may result in increased review time. In no case will the Borough accept liability for resulting delays, added costs and related damages when the time required for approval extends beyond the approximate times shown herein when the shop drawings are not submitted in conformance with the approved schedule.

**1.05.06—Cooperation with Utilities (Including Railroads):** Modify as follows:

Replace “Engineer” with “Contractor” in the first paragraph.

Add the following:

Within the project there may be public utility structures; and, notwithstanding any other clause or clauses of this Contract, the Contractor cannot proceed with his work until he has made diligent inquiry with the utility companies, municipal authorities or other utility owners to determine their exact location, and notified "Call Before You Dig." The Contractor shall notify, in writing, the utility companies, municipalities or other owners involved of the nature and scope of the project and of his operations that may affect their facilities or property. Two copies of such notices shall be sent to the Engineer.

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

### **1.06.05—Shipping Material:** Add the following:

All vehicles transporting materials on highways and bridges in the State shall comply with all the vehicle regulations of the Connecticut General Statutes and regulations of Connecticut State Agencies as they apply to vehicle length, width, height and weight.

Any vehicle, either loaded or unloaded, will not be allowed to travel across any bridge or on any highway when such vehicle exceeds the legal limits or posted limits of such bridge or highway without a permit. The owner of the vehicle must apply to the Department for a permit for such travel, as provided in the statutes.

#### **The General Statutes include the following limitations:**

Vehicle Width (Section 14-262(a)(1)) - The width of a vehicle and combination vehicle and trailer, including its load, is limited to 8 feet 6 inches, without a permit.

Vehicle Length (Section 14-262(c)) - The length of the semitrailer portion of a tractor-trailer unit, including its load, is limited to 48 feet, without a permit.

Vehicle Height (Section 14-264) - The height of a vehicle, with its load, is limited to 13 feet 6 inches, without a permit.

Vehicle Weight (Section 14-267a(b)(7)) - The gross vehicle weight (weight of vehicle including its load) is limited to 80,000 pounds on 5 axles for vehicles with a 51 foot wheelbase, without a permit.

Axle Weights of Vehicles (Section 14-267a) - For the above five axle vehicle, weight on a single axle may not exceed 22,400 pounds or in the case of axles spaced less than 6 feet apart, 18,000 pounds.

All projects, in accordance with the Commissioner of Transportation's policy, any member or component, either temporary or permanent, that measures 120 feet or less and weighs no greater than 120,000 pounds, is transportable via an authorized permit route established by the Department provided the individual axle weights on the vehicle and trailer transporting the member or component do not exceed 20,000 pounds.

Members and components, shown in the contract documents, that exceed the above length and weight limits have been reviewed by the Department's Oversize and Overweight Permits Section and are transportable via an authorized permit route established by the Department provided the individual axle weights on the vehicle and trailer transporting the member or component do not exceed 20,000 pounds.

All permits to transport materials are subject to shipping times established by the Department's Oversize and Overweight Permits Section.

Applications for permits, required to transport materials, shall be submitted a minimum of two weeks prior to their required use, to the Department's Oversize and Overweight Permits Section.

## SECTION 1.07 - LEGAL RELATIONS AND RESPONSIBILITIES

**1.07.01—Laws to Be Observed:** is amended as follows:

In the second sentence of the first paragraph, replace the word "State" with "Town."

**1.07.03—Proprietary Devices, Materials and Processes:** is amended as follows:

Replace the word "State" with "Town" throughout this Article.

**1.07.04—Restoration of Surfaces Opened Pursuant to Permit or Contract:** is amended as follows:

Replace the word "Department" with "Town" throughout this Article.

**1.07.07—Public Convenience and Safety:** is amended as follows:

In the penultimate paragraph, after the word "Department," add the words "or Town."

**1.07.09—Protection and Restoration of Property:** is supplemented and amended as follows:

Add the words "or Town" after the word "State" wherever the word "State" appears in this Article.

Add the phrase "or Town, as applicable" after the word "Department" wherever the word "Department" appears in this Article.

Add the following:

The Contractor shall notify the Tree Warden of the town in which the bridge project is located, five (5) days prior to flagging so that the Tree Warden may be present during the flagging.

All trees scheduled to be removed outside of the proposed gutter or curb lines of the highway shall be visibly marked or flagged by the Contractor at least five (5) days prior to cutting of such trees.

The Engineer will inspect the identified trees and verify the limits of tree removal prior to the Contractor proceeding with his cutting operation, should such an operation be required elsewhere in this contract.

**1.07.10—Contractor's Duty to Indemnify the State against Claims for Injury or Damage:** is amended as follows:

Revise the title of this Article to read "Contractor's Duty to Indemnify the Town against Claims for Injury or Damage."

In the first sentence, delete the words "the Department."

Replace the word "State" with "Town" throughout this Article.

Replace the word "Commissioner" with "Engineer" throughout this Article.

**1.07.11—Opening of Section of Project to Traffic or Occupancy:** is amended as follows:

Replace the word "State" with "Town" throughout this Article.

**1.07.13—Contractor's Responsibility for Adjacent Property, Facilities and Services:** is supplemented with the following:

The Contractor's attention is directed to the fact that there are utilities on the existing bridge. Overhead utilities (including any utility poles, pole guys and wires) and buried utilities exist in the immediate vicinity of the project. The Contractor shall be liable for all damages and 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. The following companies and their representatives shall be contacted by the Contractor to coordinate the protection of their utilities on the construction site two (2) weeks prior to the start of any work on the project involving their utilities:

**Northeast Utilities Service Company -  
Transmission Department**

Mr. Daniel J. Garstka  
Senior Engineer - Transmission Projects  
107 Selden Street  
Berlin, Connecticut 06037  
PHONE: (860) 665-3515  
E-MAIL: [garstdj@nu.com](mailto:garstdj@nu.com)

**The Connecticut Water Company**

Mr. E. John King,  
Chief of Engineering  
93 West Main Street  
Clinton, CT 06413-1600  
PHONE: (860) 669-8636 EXT: 6066  
FAX: (860) 669-9326  
EMAIL: [jking@ctwater.com](mailto:jking@ctwater.com)

**Comcast of CT**

Mr. Dean Muratori,  
Area Construction Manager  
80 Great Hill Road  
Seymour, CT 06483  
PHONE: (203) 732-0146 EXT: 73802  
FAX:  
EMAIL:  
Dean\_Muratori@cable.comcast.com

**Fiber Technologies Networks, LLC**

Mr. Mark Schnauber  
Controller  
300 Meridian Centre  
Rochester, New York 14624  
PHONE: (585) 697-5107  
FAX: (585) 442-9709  
E-MAIL: [mschnauber@fibertech.com](mailto:mschnauber@fibertech.com)

**AT&T Connecticut (The Southern  
New**

**England Telephone Company)**  
Mr. Eric Clark  
Manager - OSP Engineering  
1441 North Colony Road  
Meriden, Connecticut 06450-4101  
PHONE: (203) 238-7407  
FAX: (203) 237-8902  
E-MAIL: [ec9795@att.com](mailto:ec9795@att.com)

**Yankee Gas Services Company**

Mr. John P. Doherty, Jr.,  
Manager - Capital Construction  
107 Seldon Street, Mail Stop: NUS2  
Berlin, CT 06037  
PHONE: (860) 665-3987  
EMAIL: [Doherjp@nu.com](mailto:Doherjp@nu.com)

**1.07.14—Personal Liability of Representatives of the State:** is amended as follows:

Replace the word "the Department." With "Engineer"

**1.07.15—No Waiver of Legal Rights:** is amended as follows:

Replace the words "Commissioner" and "Department" with "Town" throughout this Article.

**1.07.16—Unauthorized Use of Area(s) within the Project Site:** is amended as follows:

Replace the words "Commissioner" and "State" with "Town" throughout this Article.

Add the following new subarticle:

**1.07.19—Personal Liability of Representatives of the Town:** In carrying out any of the provisions of these specifications, or in exercising any power or authority granted to them by or within the scope of the Contract, the Engineer and his authorized representatives, including consultant engineering firms and their employees, shall be subject to no liability, either personally or as officials of the Town, it being understood that in all such matters they act solely as agents and representatives of the Town.

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

Section 1.08 is supplemented and amended as follows:

Throughout this Section, make the following substitutions for all occurrences of the word(s) identified below for substitution:

Substitute "Town for "Department" and for "State."

Substitute "Engineer" for "Commissioner."

**1.08.01—Transfer of Work or Contract:** Add the following after the last paragraph:

The Contractor shall pay the subcontractor for work performed within thirty (30) days after the Contractor receives payment for the work performed by the subcontractor. Completion of all of the subcontractor's work shall include test, maintenance and other similar periods that are required by the contract documents for the subcontractor's items of work.

For the purpose of this Item, satisfactory completion shall have been accomplished when:

- (1) The subcontractor has fulfilled the contract requirements of both the Town and the subcontract for the subcontracted work, including the submission of all submittals required by the specifications and the Town, and
- (2) The work done by the subcontractor has been inspected and approved by the Town and the final quantities of the subcontractor's work have been determined and agreed upon.

**1.08.03—Prosecution of Work:** is supplemented as follows:

The Contractor shall not be permitted to interrupt traffic for any continuous period of time exceeding an eight (8) hour duration until both of the following conditions are satisfied:

1. The Contractor has secured all of the required approvals from the Engineer, and
2. The Contractor has, as much as practical, all of the required materials needed on the site or readily available for that construction which requires the interruption of traffic.

**1.08.04—Limitation of Operations:** is supplemented by the following:

The Contractor shall schedule his construction operations, so that construction at the site in this contract does not begin, extend into or end during the period from December 1 through March 31, except as approved by the Engineer.

The Contractor's activities on site shall be limited to operations between 7:00 a.m. to 6:00 p.m., Monday through Friday and 8:00 a.m. to 6:00 p.m. Saturday. No work will be allowed Sunday or legal holidays.

Prior to construction, particularly as will affect traffic operations, the Contractor shall submit, for the review and approval of the Engineer, a detailed Progress Schedule. It shall show all fundamental work items and operations as a function of estimated time periods. This submittal shall also include

a listing of shop drawings and other required submittals keyed to the Progress Schedule activities. It shall reflect realistic processing, delivery and construction periods.

The Progress Schedule shall provide ample space for plotting of actual related progress. It shall be prominently displayed in the Construction Field Office and shall be updated by the Contractor on a bi-weekly basis throughout the full period of the project.

The Contractor shall schedule his construction operations so as to cause minimal inconvenience to adjoining property owners. The Contractor shall meet with the owner(s) or his/her agent and discuss their access requirements. The Contractor shall provide temporary access to all properties whose access is disturbed by his construction operations.

All temporary concrete barriers, other protective systems and traffic control devices as called for by the contract or ordered by the Engineer must be on hand and available in sufficient quantity for immediate installation prior to any stage change. Temporary concrete barrier may be salvaged, but must meet all applicable specifications for its item.

All temporary concrete barriers, other protective systems and traffic control devices shall be maintained in a "like new" condition, otherwise they must be replaced.

In order to provide for traffic operations as outlined in the special provisions "Maintenance and Protection of Traffic," the Contractor shall progress his construction activities in accordance with the "Sequence of Operations" as outlined herein or as shown on the plans for Maintenance and Protection of Traffic. Any revisions shall require the written approval of the Town.

The Contractor will be permitted to interfere with normal or staged traffic operations only at the discretion of the Engineer.

**1.08.07—Determination of Contract Time:** is amended as follows:

Delete the second sentence in the first paragraph.

**SECTION 1.09 - MEASUREMENT AND PAYMENT**

Section 1.09 is supplemented and amended as follows:

Throughout this Section, make the following substitutions for all occurrences of the word(s) identified below for substitution:

Substitute "Town" for "Department" and for "State."

Substitute "Engineer" for "Commissioner."



**SECTION 1.10 - ENVIRONMENTAL COMPLIANCE**

**1.10.01—General:** is amended as follows:

In the first paragraph, replace the word "Department's" with "Town's."

In the first sentence of the third paragraph, replace the words "Federal or State" with the words "Federal, State or Local."

**1.10.02—Compliance with Laws and Regulations:** is amended as follows:

In the first sentence of the first paragraph, delete the words "Federal and State" and replace with the words "Federal, State and Local."

In the second paragraph, replace the word "State" with "Town."

Replace the word "Department" with "Town" throughout this Article.

In the last sentence of the last paragraph of this Article, substitute the word "Town" for "Department" and delete the phrase "or under any other State contract."

**1.10.03—Water Pollution Control:** is amended as follows:

The following items may be superseded by specific permits from the Connecticut Department of Energy & Environmental Protection (DEEP) and/or the appropriate local wetlands and watercourses regulatory authority. The Contractor shall not make any design changes in the Contract work which requires a variance from the requirements of the following items until and unless the Contractor has first submitted a detailed written proposal for such changes to the Engineer for his review, and for transmittal to and review by the DEEP and/or the appropriate local wetlands and watercourses regulatory authority, and then received written approval from the Engineer of the proposed variances.

Under Best Management Practices, third and fourth paragraphs, delete the words "Federal and State" and replace with "Federal, State and Local."

In the last sentence of Paragraph No. 6, replace "State right of way" with "State or Town right of way."

**1.10.07—Contaminated and/or Hazardous Material:** is amended as follows:

Replace the word "Department" with "Town" throughout this Article.

**SECTION 1.11 - CLAIMS**

Section 1.11 is supplemented and amended as follows:

Throughout this Section, make the following substitutions for all occurrences of the word(s) identified below for substitution:

Substitute "Chief Administrative Official of the Municipality" for "Commissioner."

Substitute "Town" for "Department."

**DIVISION II - CONSTRUCTION DETAILS**

Throughout all the various Sections contained in Division II, substitute the word "Town" for "Department" wherever "Department" appears, except in those instances where the word "Department" is used to identify a state agency.

## **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**

### **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 and placement of a non-segregated, smooth and dense bituminous concrete mixture brought to proper grade and cross section. This section shall also include the method and construction of longitudinal joints. The Contractor shall furnish ConnDOT with a Quality Control Plan (QCP) as described in Article 4.06.03.

The terms listed below as used in this specification are defined as:

Bituminous Concrete: A concrete material that uses a bituminous material (typically asphalt) as the binding agent and stone and sand as the principal aggregate components. Bituminous concrete may also contain any of a number of additives engineered to modify specific properties and/or behavior of the concrete material. For the purposes of this Specification, references to bituminous concrete apply to all of its sub-categories, for instance those defined on the basis of production and placement temperatures, such as hot-mix asphalt (HMA) or warm-mix asphalt (WMA), or those defined on the basis of composition, such as those containing polymer-modified asphalt (PMA).

Course: A lift or multiple lifts comprised of the same bituminous concrete mixture placed as part of the pavement structure.

Density Lot: All material placed in a single lift and as defined in Article 4.06.03.

Disintegration: Wearing away or fragmentation of the pavement. Disintegration will be evident in the following forms: Polishing, weathering-oxidizing, scaling, spalling, raveling, potholes or loss of material.

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

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

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

Polymer Modified Asphalt (PMA): A bituminous concrete mixture containing a polymer modified asphalt binder in accordance with contract specifications. All PMA mixtures shall incorporate a qualified warm mix technology.

Production Lot: All material placed during a continuous daily paving operation.

Quality Assurance (QA): All those planned and systematic actions necessary to provide confidence that a product or facility will perform as designed.

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): A bituminous concrete mixture that can be produced and placed at reduced temperatures than HMA using a qualified additive or technology.

**4.06.02—Materials:** All materials shall conform to 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. Bituminous Concrete plant QCP requirements are defined in Section M.04.

**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 Section M.04 and Project Specifications. CRCG and RAS shall not be used in the surface course.

**4.06.03—Construction Methods:**

**1. Material Documentation:** All vendors producing bituminous concrete must have their truck-weighing scales, storage scales, and mixing plant automated to provide a detailed ticket.

Delivery tickets shall include the following information:

- a. State of Connecticut printed on ticket.
- b. Name of producer, identification of plant, and specific storage bin (silo) if used.
- c. Date and time of day.
- d. Mixture Designation; Mix type and level Curb mixtures for machine-placed curbing must state "curb mix only".
- e. If RAP is used, the plant printouts shall include the RAP dry weight, percentage and daily moisture content.
- f. If RAS is used, the plant printouts shall include the RAS dry weight and percentage daily moisture content.
- g. The delivery ticket for all mixes produced with Warm Mix Technology must indicate the additive name, and the injection rate (water or additive) incorporated at the HMA plant. The delivery ticket for all mixes produced with pre-blended WMA additive must indicate the name of the WMA Technology.
- h. Net weight of mixture loaded into truck (When RAP and/or RAS is used the moisture content shall be excluded from mixture net weight).
- i. Gross weight (Either equal to the net weight plus the tare weight or the loaded scale weight).
- j. Tare weight of truck – Daily scale weight.

- k. Project number, purchase order number, name of Contractor (if Contractor other than Producer).
- l. Truck number for specific identification of truck.
- m. Individual aggregate, Recycled Materials, and virgin asphalt high/target/low weights. For drum plants and silo loadings, the plant printouts shall be produced at 5 minute intervals maintained by the vendor for a period of three years after the completion of the project.
- n. For every mixture designation the running daily total delivered and sequential load number.

The net weight of mixture loaded into the truck must be equal to the cumulative measured weight of its components.

The Contractor must notify the Engineer immediately if, during the production day, there is a malfunction of the weighing or recording system in the automated plant or truck-weighing scales. Manually written tickets containing all required information will be allowed for one hour, but for no longer, provided that each load is weighed on State-approved scales. At the Engineer's sole discretion, trucks may be approved to leave the plant if a State inspector is present to monitor weighing. If such a malfunction is not fixed within forty-eight hours, mixture will not be approved to leave the plant until the system is fixed to the Engineer's satisfaction. No damages will be considered should the State be unable to provide an inspector at the plant.

The State reserves the right to have an inspector present to monitor batching and /or weighing operations.

**2. Transportation of Mixture:** Trucks 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 of all vehicles and allowable weights transporting mixture.

The State reserves the right to check the gross and tare weight of any delivery truck. A variation of 0.4 percent or less in the gross or tare weight shown on the delivery ticket and the certified scale weight shall be considered evidence that the weight shown on the delivery ticket is correct. If the gross or tare weight varies from that shown on the delivery ticket by more than 0.4 percent, the Engineer will recalculate the net weight. The Contractor shall take action to correct discrepancy to the satisfaction of the Engineer.

If a truck delivers mixture to the project and the ticket indicates that the truck is overweight, the load will not be rejected but a "Measured Weight Adjustment" will be taken in accordance with Article 4.06.04.

The mixture shall be transported from the mixing plant in trucks that have previously been cleaned of all foreign material and that have no gaps through which mixture might inadvertently escape. The Contractor shall take care in loading trucks uniformly so that segregation is minimized. Loaded trucks shall be tightly covered with waterproof covers acceptable to the Engineer. Mesh covers are prohibited. The front and rear of the cover must be fastened to minimize air infiltration. The Contractor shall assure that all trucks are in conformance with this specification. Trucks found not to be in conformance shall not be allowed to be loaded until re-inspected to the satisfaction of the Engineer.

Truck body coating and cleaning agents must not have a deleterious effect on the transported mixture. The use of solvents or fuel oil, in any concentration, is strictly prohibited for the coating of the inside of truck bodies. When acceptable coating or agents are applied, truck bodies shall be raised immediately prior to loading to remove any excess agent in an environmentally acceptable manner.

**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 of equipment is prohibited in any location on the paving project where fuel might come in contact with bituminous concrete mixtures already placed or to be placed. Solvents for use 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 the paved or to be paved area; and they shall not be returned for use until after they have been allowed to dry.

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.

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 and may be capable of operating in a static or dynamic mode. Rollers that operate in a dynamic mode shall have drums that use a vibratory or oscillatory system or combination of. The vibratory system achieves compaction through vertical amplitude forces. Rollers with this system shall be equipped with indicators that provide the operator with amplitude, frequency and speed settings/readouts to measure the impacts per foot during the compaction process. The oscillatory system achieves compaction through horizontal shear forces. Rollers with this system 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 self-propelled and equipped with wide-tread compaction tires capable of exerting an average contact pressure from 60 to 90 pounds per square inch uniformly over the surface, adjusting ballast and tire inflation pressure as required. The Contractor shall furnish evidence regarding tire size; pressure and loading to confirm that the proper contact pressure is being developed and that the loading and contact pressure is 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 approved lighting fixtures of equivalent light output characteristics. Lighting shall maximize the illumination on each task and minimize glare to passing traffic. The Contractor shall provide generators on rollers and pavers of the type, size, and wattage, to adequately furnish electric power to operate the specified lighting equipment. The lighting options and minimum number of fixtures are listed in Tables 4.06-1 and 4.06-2:

**Table 4.06-1: Paver Lighting**

Option	Fixture Configuration	Fixture Quantity	Requirement
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 25 feet behind paving machine
2	Type D Balloon	2	Mount over screed area

**Table 4.06-2: 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 a minimum output of 50,000 lumens, and emit light equally in all directions.

Material Transfer Vehicle (MTV): A MTV shall be used when placing a bituminous concrete surface course as indicated in the contract documents. A surface course is defined as the total thickness of the same bituminous concrete mix that extends up to and includes the final wearing surface whether it is placed in a single or multiple lifts, and regardless of any time delays between lifts.

The MTV must be a self-propelled vehicle specifically designed for the purpose of delivering the bituminous concrete mixture from the delivery truck 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:

- The make and model of the MTV to be used.



- The individual axle weights and axle spacing for each separate piece of paving equipment (haul vehicle, MTV and paver).
- A working drawing showing the axle spacing in combination with all three 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 acceptance by the Engineer. The 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 conform to the criteria below unless otherwise specified.

Permanent Transitions: A permanent transition is defined as any transition that remains as a permanent part of the work. All permanent transitions, leading and trailing ends shall meet the following length requirements:

- a) Posted speed limit is greater than 35 MPH: 30 feet per inch of vertical change (thickness)
- b) Posted speed limit is 35 MPH or less: 15 feet per inch of vertical change (thickness).
- c) Bridge Overpass and underpass transition length will be 75 feet either
  - (1) Before and after the bridge expansion joint, or
  - (2) Before or after the parapet face of the overpass.

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: A temporary transition is defined as a transition that does not remain a permanent part of the work. All temporary transitions shall meet the following length requirements:

- a) Posted speed limit is greater than 50 MPH
  - (1) Leading Transitions = 15 feet per inch of vertical change (thickness)
  - (2) Trailing Transitions = 6 feet per inch of vertical change (thickness)
- b) Posted speed limit is 40, 45, or 50 MPH
  - (1) Leading and Trailing = 4 feet per inch of vertical change (thickness)
- c) Posted speed limit is 35 MPH or less
  - (1) 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 conform to the greater than 50 MPH requirements shown above.

**6. Spreading and Finishing of Mixture:** Prior to the placement of the bituminous concrete, the underlying base course shall be brought to the plan grade and cross section within the allowable tolerance. Immediately before placing the mixture, the area to be surfaced shall be cleaned by sweeping or by other means acceptable to the Engineer. The bituminous concrete mixture shall not be placed whenever the surface is wet or frozen. The Engineer will verify the mix temperature by means of a probe or infrared type of thermometer. A probe type thermometer, verified by the Department on an annual basis, must be used in order to reject a load of mixture based on temperatures outside the range stated in the placement QCP.

Placement: The bituminous concrete 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 mix, 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 daily, maintained throughout placement, and shall not be removed until all associated work including density testing is completed.

The Contractor shall inspect the newly placed pavement for defects in the 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 impractical 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 uniform 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 total thickness of the lift of mixture exceeds that shown on the plans beyond the tolerances shown in Table 4.06-3, the longitudinal limits of such variation including locations and intervals of the measurements will be documented by the Engineer for use in calculating an 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 specification.

- b) Area- Where the width of the lift exceeds that shown on the plans by more than the specified thickness of each lift, the longitudinal limits of such variation including locations and intervals of the measurements will be documented by the Engineer for use in calculating the 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 quantity of tons representing the overweight amount will be documented by the Engineer for use in calculating an adjustment in accordance with Article 4.06.04.

Transverse Joints: All transverse joints shall be formed by saw-cutting a sufficient distance back from the previous run, existing bituminous concrete pavement or bituminous concrete driveways to expose the full thickness of the lift. A brush of tack coat shall be used on any cold joint immediately prior to additional bituminous concrete mixture being placed.

Tack Coat Application: Immediately before application, the area to be tacked shall be cleaned by sweeping or by other means acceptable to the Engineer. A thin uniform coating of tack coat shall be applied to the pavement immediately before overlaying and be allowed sufficient time to break (set) prior to any paving equipment or haul vehicles driving on it. All surfaces in contact with the bituminous concrete that have been in place longer than 3 calendar days shall have an application of tack coat. The tack coat shall be applied by a non-gravity pressurized spray system that results in uniform overlapping coverage at an application rate of 0.03 to 0.05 gallons per square yard for a non-milled surface and an application rate of 0.05 to 0.07 gallons per square yard 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 gallons per square yard. The Engineer must approve the equipment and the method of measurement prior to use. The material for tack coat shall not be heated in excess of 160°F and shall not be further diluted.

Compaction: The Contractor shall compact the mixture to meet the density requirements as stated in Article 4.06.03 and eliminate all roller marks without displacement, shoving, cracking, or aggregate breakage.

When placing a lift with a specified thickness less than one and one-half (1 ½) 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. The Engineer may allow the Contractor to operate rollers in the dynamic mode using the oscillatory system at the lowest frequency setting.

Rollers operating in the dynamic mode shall be shut off when changing directions.

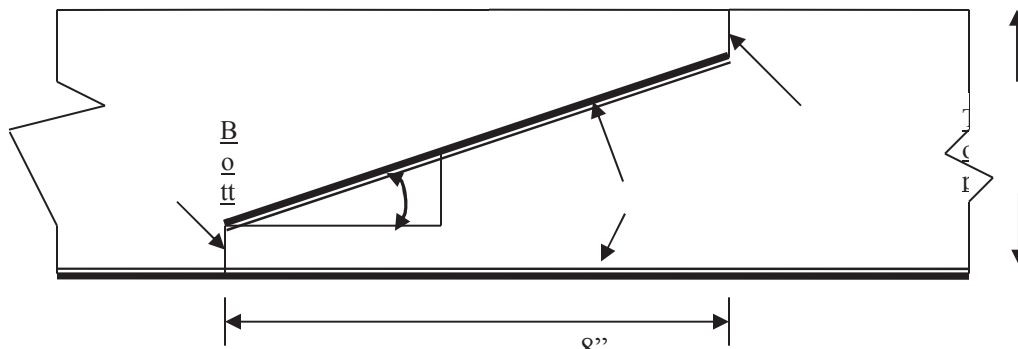
These allowances will not relieve the Contractor from meeting pavement compaction requirements.

**Surface Requirements:** The pavement surface of any lift shall meet the following requirements for smoothness and uniformity. Any irregularity of the surface exceeding these requirements shall be corrected by the Contractor.

- a) Smoothness- Each lift of the surface course shall not vary more than  $\frac{1}{4}$  inch from a Contractor-supplied 10 foot straightedge. For all other lifts of bituminous concrete, the tolerance shall be  $\frac{3}{8}$  inch. Such tolerance will apply to all paved areas.
- b) Uniformity- The paved surface of the mat and joints shall not exhibit segregation, rutting, cracking, disintegration, flushing or vary in composition as determined by the Engineer.

**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 between  $1\frac{1}{2}$  and 3 inches, except for S1mixes. Method II Butt Joint (see Figure 4.06-2) shall be used for lifts less than  $1\frac{1}{2}$  inches or greater than 3 inches, and S1mixes. During placement of multiple lifts of bituminous concrete, the longitudinal joint shall be constructed in such a manner that it is located at least 6 inches from the joint in the lift immediately below. The joint in the final lift shall be at the centerline or at lane lines. 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  $\frac{1}{4}$  of an inch in any location.

**Method I - Notched Wedge Joint:**



**FIGURE 4.06-1: 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 taper portion of the wedge joint must be placed over the longitudinal joint in the lift immediately below. 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 taper portion of the wedge joint shall not be exposed to traffic for more than 5 calendar days.

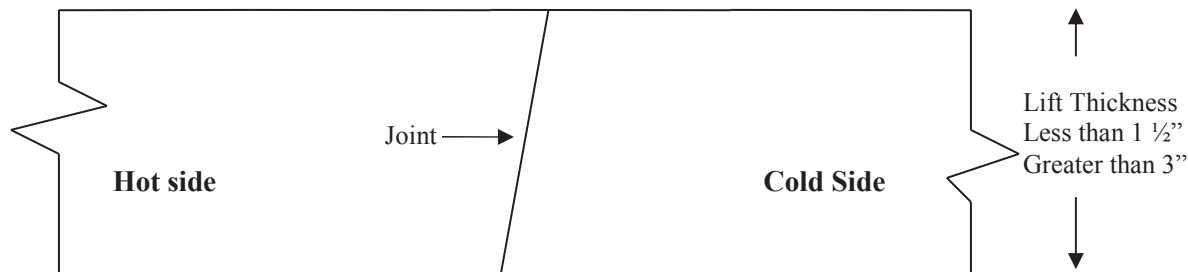
The pavement surface under the wedge joint must have an application of tack coat material. Prior to placing the completing pass (hot side), an application of tack coat must be applied to the exposed surface of the tapered section; regardless of time elapsed between paver passes. The in-place time allowance described in Sub article 4.06.03-7 does not apply to joint construction.

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, Notched Wedge Joint cannot be used on lifts between 1.5 and 3 inches, Method III Butt Joint may be substituted according to the requirements below for “Method III – Butt Joint with Hot Pour Rubberized Asphalt Treatment.”

**Method II - Butt Joint:**

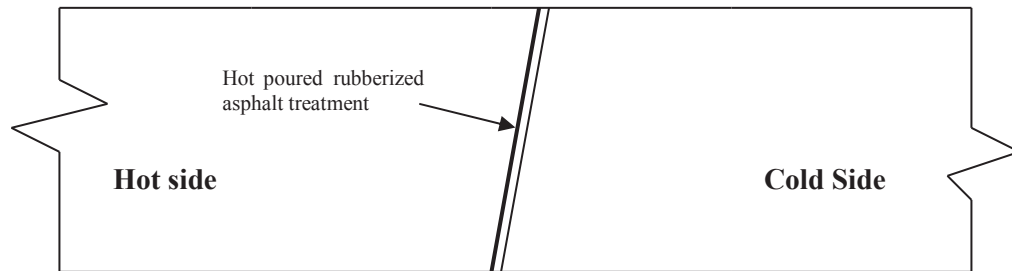


**FIGURE 4.06-2: Butt Joint**

When adjoining passes are placed, the Contractor shall utilize equipment that creates 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). 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 Wedge Joint 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 utilize Method III Butt Joint as a substitution in those locations. There shall be no additional measurement or payment made when the Method III Butt Joint is substituted for the Method I Notched Wedge Joint. When required by the contract or approved by the Engineer, Method III (see Figure 4.06-3) shall be used.



**FIGURE 4.06-3: Butt Joint with Hot Poured Rubberized Asphalt Treatment**

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 D 6690, 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 and 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 three 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 Section 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. All Contractor sampling, inspection and test reports shall be reviewed and signed by the QCM prior to submittal to the Engineer. The QCPs shall also include the name and qualifications of any outside testing laboratory performing any QC functions on behalf of the Contractor.

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 Section 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 one (1) mat core and one (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 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 Sub article 4.06.03-10.

**9. Temperature and Seasonal Requirements:** Paving, including placement of temporary pavements, shall be divided into two seasons, “In-Season” and “Extended-Season”. In-Season paving occurs from May 1 – October 14, and Extended Season paving occurs from October 15- April 30. The following requirements shall apply unless otherwise authorized or directed by the Engineer:

- Bituminous concrete mixes shall not be placed when the air or sub base temperature is below 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.

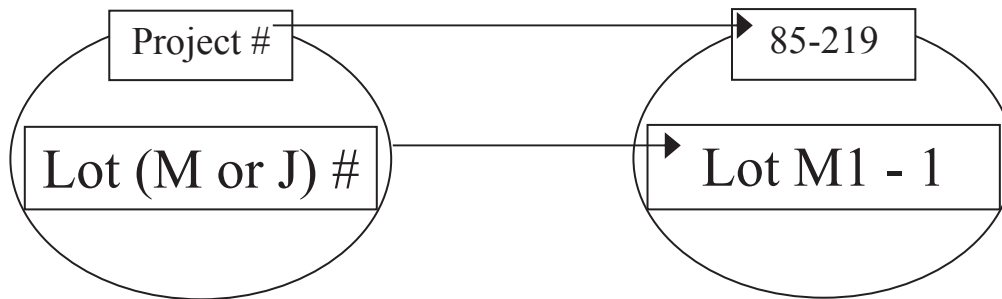
**10. Density Testing of Bituminous Concrete Utilizing Core Samples:** This procedure describes the frequency and the method the Contractor shall use to obtain pavement cores for acceptance from the project.

Coring shall be performed on each lift specified to a thickness of one and one-half (1 ½) inches or more. All material placed in a lift shall be compacted to the degree specified in Tables 4.06-9 and 4.06-10. The density of each core will be determined using the production lot’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. Bituminous concrete HMA S1 mixes are excluded from the longitudinal joint density requirements.

The Contractor shall extract cores (4 or 6 inch diameter for S0.25, S0.375 and S0.5 mixes, 6 inch diameter for S1.0 mixtures -wet sawed) from sampling locations determined by the Engineer. The Engineer must witness the extraction and labeling of cores, as well as the filling of the core holes. The cores shall be labeled by the Contractor with the project number, lot number, and sub-lot number on the top surface of the core. When labeling the core lot number, include whether the core is from a mat lot or joint lot by using an “M” for a mat core and “J” for a joint core. For example, a core from the first sub-lot of the first mat lot shall be labeled with “Lot M1 – 1”. The first number refers to the lot and the second number refers to the sub-lot. Refer to Figure 4.06-4. The side of the cores shall be labeled with the core lot number and date placed. The project inspector shall fill out a MAT-109 containing the same information to accompany the cores. The Contractor shall deliver the cores and MAT-109 to the Department’s Central Testing Lab in a safe manner to ensure no damage occurs to the cores. The Contractor shall use a container approved by the Engineer. In general the container shall consist of an attached lid container made out of plastic 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 transportation. Once the cores and MAT-109 are in the container the Engineer will secure the lid using a security seal. The security seal’s identification number must be documented on the MAT-109. The Central Lab will break the security seal and take possession of the cores upon receipt.



**FIGURE 4.06-4: Labeling of Cores**

Frequency of sampling is in accordance with the following tables:

**TABLE 4.06-4: Testing Requirement for Bridge Density Lot**

Length of Each Structure (Feet)	MAT – No. of Cores	JOINT - No. of cores
≤ 500'	See Table 4.06-5(A or B)	See Table 4.06-5(A or B)
501' – 1500'	3	3
1501' – 2500'	4	4
2501' and greater	5	5

All material placed on structures less than or equal to 500 feet in length shall be included as part of a standard lot as follows:

**TABLE 4.06-5A: Testing requirement for Density Lots > 500 Tons**

Lot Type	No. of Mat Cores	No. of Joint Cores	Target Lot Size (Tons)



Lot Without Bridge <sup>(1)</sup>	4		4		2000
Lot With Bridge(s) <sup>(1)(2)</sup>	4 plus	1 per structure (≤ 300')	4 plus	1 per structure (≤ 300')	2000
		2 per structure (301' – 500')		2 per structure (301' – 500')	

**TABLE 4.06-5B: Testing requirement for Density Lots < 500 Tons**

Lot Type	No. of Mat Cores	No. of Joint Cores	Lot Size (Tons)
Lot Without Bridge <sup>(1)</sup>	3	3	1 per lift
Lot With Bridge(s) <sup>(1)(2)</sup>	3	3	1 per lift

Notes:

<sup>(1)</sup> The number of “Required Paver Passes for Full Width” shall be used to determine the sub-lot sizes within the lot. The number of paver passes for full width is determined by the contractor.

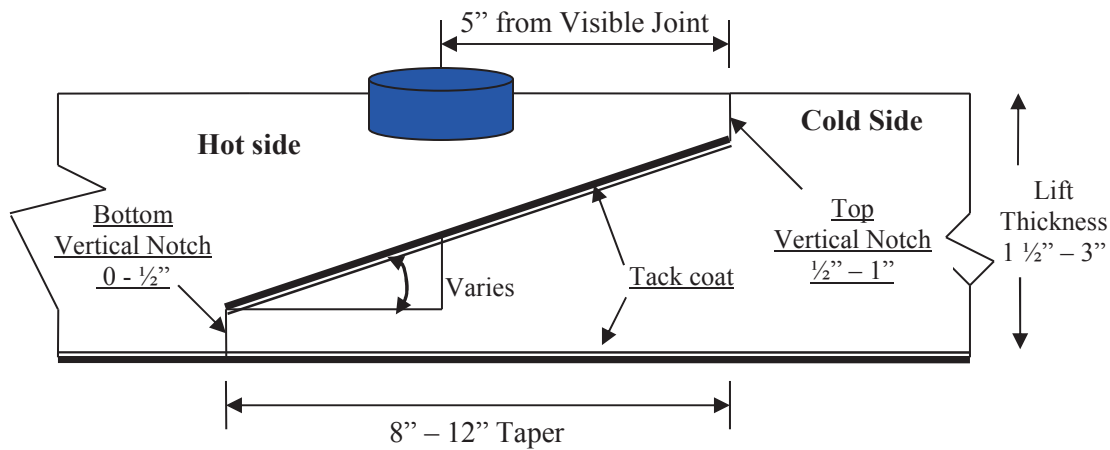
<sup>(2)</sup> If a non-bridge mat or joint core location randomly falls on a structure, the core is to be obtained on the structure in addition to the core(s) required on the structure.

A density lot will be complete when the full designed paving width of the established lot length has been completed and shall include all longitudinal joints that exist between the curb lines regardless of date(s) paved. Quantity of material placed on structures less than or equal to 500 feet long is inclusive of the standard lot. Prior to paving, the total length of the project to be paved shall be split up into lots that contain approximately 2000 tons each. Areas such as highway ramps may be combined to create one lot. In general, combined areas should be set up to target a 2000 ton lot size. One adjustment will apply for each lot. The tons shall be determined using the yield calculation in Article 4.06.04. The last lot shall be the difference between the total payable tons for the project and the sum of the previous lots.

After the compaction process has been completed, the material shall be allowed to cool sufficiently to allow the cutting and removal of the core without damage. The Contractor shall core to a depth that allows extraction so that the uppermost layer being tested for density will not be affected.

A mat core shall not be taken any closer than one foot from the edge of a paver pass. If a random number locates a core less than one foot from any edge, locate the core so that the sample is one foot from the edge.

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. Refer to Figure 4.06-5.



**FIGURE 4.06-5: Notched Wedge Joint Cores**

When Method III Butt Joint is utilized, cores shall be taken from the hot side so the edge of the core is within 1 inch of the longitudinal joint.

All cores must be cut within 5 calendar days of placement. 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.

Each core hole shall be filled within four 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 fill shall be compacted to 1/8 inch above the finished pavement.

**11. Acceptance Inspection, Sampling and Testing:** Inspection, sampling, and testing to be used by the Engineer shall be performed at the minimum frequency specified in Section M.04 and stated herein.

Sampling for acceptance shall be established using ASTM D 3665, or a statistically based procedure of random sampling approved by the Engineer.

Plant Material Acceptance: The Contractor shall provide the required acceptance sampling, testing and inspection during all phases of the work in accordance with Section M.04. The Department will perform verification testing on the Contractor's acceptance test results. Should binder content, theoretical maximum density (Gmm), or air void results exceed the specified tolerances in the Department's current QA Program for Materials, Acceptance and Assurance Testing Policies and Procedures, the Department will investigate to determine an assignable cause. Contractor test results for a subject lot or sub lot may be replaced with the Department's results for the purpose of assessing adjustments. The verification procedure is included in the Department's current QA Program for Materials.

Density Acceptance: The Engineer will perform all acceptance testing on the cores in accordance with AASHTO T 331.

**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 7 calendar days of the notification of the test results. No request for dispute resolution will be allowed unless the Contractor provides quality control results within the timeframe described in Sub article 4.06.03-9 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 set of core samples per disputed lot. The core samples must be extracted no later than 14 calendar days from the date of Engineer's authorization.

The number and type (mat, joint, or structure) of the cores taken for dispute resolution must reflect the number and type of the cores taken for acceptance. The location of each core shall be randomly located within the respective original sub lot. All such core samples shall be extracted and filled using the procedure outlined in Article 4.06.03. The results from the dispute resolution cores shall be added to the results from the acceptance cores and averaged for determining the final in-place density value.

**13. Corrective Work Procedures:** Any portion of the completed pavement that does not meet the requirements of the specification shall be corrected at the expense of the Contractor. Any corrective courses placed as the final wearing surface shall match the specified lift thickness after compaction.

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) Perform all corrective work in accordance with the Contract and the approved corrective procedure.

**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. Prior to the Engineer's authorization to open the pavement to traffic, the Contractor is responsible to protect the pavement from damage.

**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\*:** The quantity of bituminous concrete measured for payment will be determined by the documented net weight in tons accepted by the Engineer in accordance with this specification and Section M.04.

**2. Adjustments:** Adjustments may be applied to bituminous concrete quantities and will be measured for payment using the following formulas:

**Yield Factor** for Adjustment Calculation = 0.0575 Tons/SY/inch

**Actual Area** = [(Measured Length (ft)) x (Avg. of width measurements (ft))]

**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 (in.) of the lift being placed.

**Tons 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 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:

**Tons Adjusted for Thickness (T<sub>T</sub>)** = A x t<sub>adj</sub> x 0.0575 = (-) Tons

Where: A = Area = {[L x (Designed width + tolerance (lift thickness)/12)] / 9}

t<sub>adj</sub> = Adjusted thickness = [(Dt + tolerance) - 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:

**Tons Adjusted for Weight (T<sub>w</sub>)** = GVW – DGW= (-) Tons

Where: DGW = Delivered gross weight as shown on the delivery ticket or measured on a certified scale.

- d) Mixture Adjustment: The quantity of bituminous concrete representing the production lot will be adjusted based on test results and values listed in Tables 4.06-6 and 4.06-7 , . The Department's Division of Material Testing will calculate the daily adjustment value for T<sub>SD</sub>.

The adjustment values in Table 4.06-6 and 4.06-7 shall be calculated for each sub lot based on the Air Void and Liquid Binder Content test results for that sub lot. The total adjustment for each day's production (lot) will be computed using tables and the following formulas:

$$\text{Tons Adjusted for Superpave Design (TSD)} = [(\text{AdjAV}_t + \text{AdjPB}_t) / 100] \times \text{Tons}$$

$$\text{Percent Adjustment for Air Voids} = \text{AdjAV}_t = [\text{AdjAV}_1 + \text{AdjAV}_2 + \text{AdjAV}_i + \dots + \text{AdjAV}_n] / n$$

Where: AdjAV<sub>t</sub> = Total percent air void adjustment value for the lot  
 AdjAV<sub>i</sub> = Adjustment value from Table 4.06-7 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.04.03-1

**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

Positive air void adjustment values will not be calculated for any test that fails to meet gradation or binder content tolerances of the JMF in Table M.04.03- 5.

$$\text{Percent Adjustment for Liquid Binder} = \text{AdjPB}_t = [(\text{AdjPB}_1 + \text{AdjPB}_2 + \text{AdjPB}_i + \dots + \text{AdjPB}_n)] / n$$

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> ) (%)	S0.25, S0.375, S0.5, S1 Pb (refer to Table M.04.02-5)
0.0	Equal to or above the min. liquid content
- 10.0	Below the min. liquid content

- e) Density Adjustment: The quantity of bituminous concrete measured for payment in a lift of pavement specified to be 1½ inches or greater may be adjusted for density. Separate density adjustments will be made for each lot and will not be combined to establish one density adjustment. 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 (TD) = [ {(PAM x .50) + (PAJ x .50)} / 100] X Density Lot Tons**

Where:  $T_D$  = Total tons adjusted for density for each lot

$PA_M$  = Mat density percent adjustment from Table 4.06-9

$PA_J$  = Joint density percent adjustment from Table 4.06-10

**TABLE 4.06-9: 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)

**TABLE 4.06-10: 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)

<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, 1.667 is to be rounded to 1.67.

**3. Transitions for Roadway Surface:** The installation of permanent transitions shall be measured under the appropriate item used in the formation of the transition.

The quantity of material used for the installation of temporary transitions shall 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 Article 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 Article 4.06.03.

Method of Measurement:

- a. Container Method- Material furnished in a container will be measured to the nearest ½ 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 ½ 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. Truck Method- The Engineer will establish a weight per gallon of the tack coat based on the density at 60°F for the material furnished. The number of gallons furnished will be determined by weighing the material on scales furnished by and at the expense of the Contractor, or from the automated metering system on the delivery vehicle.

**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:** The adjustment will be calculated using the formulas shown below if all of the measured adjustments in Article 4.06.04 are not equal to zero. A positive or negative adjustment will be applied to monies due the Contractor.

**Production Lot:**  $[T_T + T_A + T_W + (T_{MD} \text{ or } T_{SD})] \times \text{Unit Price} = \text{Est. (P)}$

**Density Lot:**  $T_D \times \text{Unit Price} = \text{Est. (D)}$

Where: Unit Price = Contract unit price per ton per type of mixture

$T_*$  = Total tons of each adjustment calculated in Article 4.06.04

Est. ( ) = Pay Unit represented in dollars representing incentive or disincentive.

The Bituminous Concrete Adjustment Cost item if included in the bid proposal or estimate is not to be altered in any manner by the Contractor. If the Contractor 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 shall be paid under the appropriate item used in the formation of the transition. The quantity of material used for the installation of temporary transitions shall 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 Article 2.02.05.

5. Material for tack coat will be paid for at the Contract unit price per gallon for "Material for Tack Coat".

6. The Material Transfer Vehicle (MTV) will be paid at the Contract unit price per ton for a "Material Transfer Vehicle".

<u>Pay Item*</u>	<u>Pay Unit*</u>
HMA S*	ton
PMA S*	ton
Bituminous Concrete Adjustment Cost	est.
Material for Tack Coat	gal.
Material Transfer Vehicle	ton

\*For contracts administered by the State of Connecticut, Department of Administrative Services, the pay items and pay units are as shown in contract award price schedule.



## **SECTION 6.01 - CONCRETE FOR STRUCTURES**

**6.01.02—Materials:** is amended as follows:

Add the following:

Joint Seal and Closed Cell Elastomer, where specified on the plans, shall conform to the relevant requirements of Article M.03.01, supplemented and amended as follows:

**M.03.01 – 8(b)—Joint Sealer for Structures:** Add the following:

Where "Joint Seal" is specified on the plans, it shall conform to the Federal Specifications SS-S-200-E (Self-leveling type), TT-S-0227E (COM-NBS) Type II-Class A (Non-sag type), or one component polyurethane-base elastomeric sealants conforming to the Federal Specification TT-S-00230C Type II-Class A.

A Certified Test Report will be required in accordance with Article 1.06.07, certifying the conformance of the sealant to the requirements set forth in the Federal Specification. Should the consignee noted on a Certified Test Report be other than the Prime Contractor, the Materials Certificates shall be required to identify the shipment.

Add the following subarticle:

**M.03.01 - 16—Closed Cell Elastomer:** The closed cell elastomer shall conform to the requirements of ASTM D 1056, Type 2, Class B, Grade 2. The elastomer shall have a pressure-sensitive adhesive backing on one side.

The Contractor shall deliver the elastomer to the job site a minimum of thirty (30) days prior to installation. 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 one time from one batch of elastomer. A batch is defined as that amount of elastomer prepared and compounded at one time. The Contractor shall furnish a Certified Test Report in accordance with Article 1.06.07, confirming the conformance of the closed cell elastomer to the requirements set forth in these Specifications. Should the consignee noted on the Certified Test Report be other than the Prime Contractor, the Materials Certificate shall be required to identify the shipment.

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.

The Contractor shall furnish a 12 inch long extra length of closed cell elastomer in each lot for purposes of inspection and testing by the Engineer. The Engineer will cut a 12-inch 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 conform to 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 nonconforming material.

**6.01.03—Construction Methods:** is amended as follows:

**6.01.03 - 24—Joint Seal:** Add the following:

Sealants shall be applied as outlined in the manufacturer's printed instructions and as directed by the manufacturer's representative.

Primer shall be supplied by the sealant manufacturer and shall be applied on contact surfaces of joints in accordance with the requirements of the particular sealant manufacturer.

The Contractor shall arrange for, and have present at the commencement of the joint-sealing operation, a technically competent manufacturer's representative knowledgeable in the methods of installation of the sealant. The Contractor shall also arrange to have the representative present at such other times as the Engineer may request.

Add the following subarticle:

**6.01.03 - 25—Closed Cell Elastomer:** The closed cell elastomer shall be installed as shown on the plans.

**6.01.04—Method of Measurement:** is amended as follows:

**6.01.04 - 2—Joint Filler:** Delete this entire subarticle and replace it with the following:

**6.01.04 - 2—Joint Filler, Joint Seal, Felt and Closed Cell Elastomer:** Preformed expansion joint filler, joint seal, roofing felt and closed cell elastomer, of the thickness, size and type specified will not be measured for payment.

**6.01.05—Basis of Payment:** is amended as follows:

**6.01.05 - 4—Joint Filler:** Delete this entire subarticle and replace it with the following:

**6.01.05 - 4—Joint Filler, Joint Seal, Felt and Closed Cell Elastomer:** There shall be no direct payment for furnishing and installing preformed expansion joint filler, joint seal, roofing felt and closed cell elastomer, of the thickness, size and type specified, but the cost thereof shall be considered included in the cost of the concrete items.

## **SECTION M.04 - BITUMINOUS CONCRETE**

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, and facility or plant used to produce and test bituminous concrete must be qualified on an annual basis by the Engineer. Test Procedures and Specifications referenced herein are in accordance with the latest AASHTO and ASTM Standard Test Procedures and Specifications. Such references when noted with an (M) have been modified by the Engineer and are detailed in Table M.04.03-7.

The Contractor shall submit to the Engineer all sources of coarse aggregate, fine aggregate, mineral filler, PG binder, and if applicable any additives such as but not limited to anti-strip, warm mix, and polymer modifiers. The Contractor shall submit a Safety Data Sheet (SDS) for each grade of binder, and additive to be used on the Project. The Contractor shall not change any material sources without prior approval of the Engineer.

An adequate quantity of each size aggregate, mineral filler, bitumen, and additives, shall be maintained at the bituminous concrete plant site at all times while the plant is in operation to ensure that the plant can consistently produce bituminous concrete mixtures that meet the job mix formula (JMF) as specified in Article M.04.02. The quantity of such material shall be reviewed by the Engineer on an individual plant basis and is dependent upon the plant's daily production capacity. A total quantity of any material on site that amounts to less than one day's production capacity may be cause for the job mix formula to be rejected.

#### **1. Coarse Aggregate:**

- a. Requirements: The coarse aggregate shall consist of clean, hard, tough, durable fragments of crushed stone or crushed gravel of uniform quality. Aggregates from multiple sources of supply must not be mixed or stored in the same stockpile.
- b. Basis of Approval: The request for approval of the source of supply shall include a washed sieve analysis in accordance with AASHTO T 27. The  $G_{sa}$ ,  $G_{sb}$ , and  $P_{wa}$  shall be determined in accordance with AASHTO T 85. The coarse aggregate must not contain more than 1% crusher dust, sand, soft disintegrated pieces, mud, dirt, organic and other injurious materials. When tested for abrasion using AASHTO T 96, the aggregate loss must not exceed 40%. When tested for soundness using AASHTO T 104 with a magnesium sulfate solution, the coarse aggregate must not have a loss exceeding 10% at the end of 5 cycles.

For all bituminous mixtures, materials shall also meet the coarse aggregate angularity criteria as specified in Tables M.04.02-2 thru M.04.02-4 for blended aggregates retained on the #4 sieve when tested according to ASTM D 5821. The amount of aggregate particles of the coarse aggregate blend retained on the #4 sieve that are flat and elongated shall be determined in accordance with ASTM D 4791 and shall not exceed 10% by weight when tested to a 5:1 ratio, as shown in Tables M.04.02-2 thru M.04.02-4.

#### **2. Fine Aggregate:**

- a. **Requirements:** The fine aggregate from each source quarry/pit deposit shall consist of clean, hard, tough, rough-surfaced and angular grains of natural sand; manufactured sand prepared from washed stone screenings; stone screenings, slag or gravel; or combinations thereof, after mechanical screening or manufactured by a process approved by the Engineer. The Contractor is prohibited from mixing two or more sources of fine aggregate on the ground for the purpose of feeding into a plant.

All fine aggregate shall meet the listed criteria shown in items #1 thru #7 of Table M.04.01-1. Table M.04.01-1 indicates the quality tests and criteria required for all fine aggregate sources. Individually approved sources of supply shall not be mixed or stored in the same stockpile. The fine aggregates must be free from injurious amounts of clay, loam, and other deleterious materials.

For Superpave mixtures, in addition to the above requirements, the fine aggregate angularity shall be determined by testing the materials passing the #8 sieve in accordance with AASHTO T 304, Method A. Qualification shall be based on the criteria listed in Tables M.04.02-2 thru M.04.02-4. The fine aggregate shall also be tested for clay content as a percentage contained in materials finer than the #8 sieve in accordance with AASHTO T 176.

**Table M.04.01-1: Fine Aggregate Criteria by Pit/Quarry Source**

Item	Title	AASHTO Protocol(s)	Criteria
1	Grading	T 27 & T 11	100% Passing 3/8 inch 95% Passing the #4 min.
2	Absorption	T 84	3% maximum
3	Plasticity limits	T 90	0 or not detectable
4	L.A. Wear	T 96	50% maximum(fine agg. particle size # 8 and above)
5	Soundness by Magnesium Sulfate	T 104	20% maximum @ 5 cycles
6	Clay Lumps and Friable Particles	T 112	3% maximum
7	Deleterious Material	As determined by the Engineer	Organic or inorganic calcite, hematite, shale, clay or clay lumps, friable materials, coal-lignite, shells, loam, mica, clinkers, or organic matter (wood, etc). -Shall not contain more than 3% by mass of any individual listed constituent and not more than 5% by mass in total of all listed constituents.
8	Petrographic Analysis	ASTM C 295	Terms defined in Section M.04.01-2c.

- b. **Basis of Approval:** A Quality Control Plan for Fine Aggregate (QCPFA) provided by the Contractor shall be submitted for review and approval for each new source documenting how conformance to Items 1 through 7 as shown in Table M.04.01-1 is monitored. The QCPFA must be resubmitted any time the process, location or manner of how the fine aggregate (FA) is manufactured changes, or as requested by the Engineer. The QCPFA must include the locations and manufacturing processing methods. The QCPFA for any source may be suspended by the Engineer due to the production of inconsistent material.

The Contractor shall submit all test results to the Engineer for review. The Contractor shall also include a washed sieve analysis in accordance with AASHTO T 27/T 11. Any fine aggregate component or final combined product shall have 100% passing the 3/8 inch sieve and a minimum of 95% passing the # 4. The G<sub>sa</sub>, G<sub>sb</sub>, and P<sub>wa</sub> shall be determined in accordance with AASHTO T 84.

The Contractor will be notified by the Engineer if any qualified source of supply fails any portion of Table M.04.01-1. One retest will be allowed for the Contractor to make corrections and/or changes to the process. If, upon retest, the material does not meet the requirements of items 1-7, additional testing will be required in accordance with item 8.

The Contractor may provide a Petrographic analysis of the material performed by a third party acceptable to the Engineer at its' own expense. The Contractor shall submit the results of the analysis with recommended changes to the manufacturing process to the Engineer. The Contractor shall submit fine aggregate samples for testing by the Engineer after the recommended changes have been made.

The Contractor may request the use of such fine aggregate on select project(s) for certain applications of bituminous concrete pavement. Such material will be monitored for a period no less than 48 months, at no cost to the State. Terms of any evaluation and suitable application will be determined by the Engineer.

### **3. Mineral Filler:**

- a. Requirements: Mineral filler shall consist of finely divided mineral matter such as rock dust, including limestone dust, slag dust, hydrated lime, hydraulic cement, or other accepted mineral matter. At the time of use it shall be freely flowing and devoid of agglomerations. Mineral filler shall be introduced and controlled at all times during production in a manner acceptable to the Engineer.
- b. Basis of Approval: The request for approval of the source of supply shall include the location, manufacturing process, handling and storage methods for the material. Mineral filler shall conform to the requirements of AASHTO M 17.

### **4. Performance Graded Asphalt Binder:**

- a. General:
  - i. Liquid PG binders shall be uniformly mixed and blended and be free of contaminants such as fuel oils and other solvents. Binders shall be properly heated and stored to prevent damage or separation.
  - ii. The blending at mixing plants of PG binder from different suppliers is strictly prohibited. Contractors who blend PG binders will be classified as a supplier and will be required to certify the binder in accordance with AASHTO R 26(M). 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 materials. 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 (tanker truck) is accompanied by a statement certifying that the transport vehicle was inspected before loading and was found acceptable for the material shipped and that the binder will be free of contamination from any residual material, along with two (2) copies of the bill of lading.
  - iv. 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) will be allowed to supply PG binders to Department projects.
- b. Neat Performance Grade (PG) Binder:
- i. PG binder shall be classified by the supplier as a “Neat” binder for each lot and be so labeled on each bill of lading. 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 asphalt binder shall be PG 64S-22.
- c. Modified Performance Grade (PG) Binder:
- Unless otherwise noted, the 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.
- d. Warm Mix Additive or Technology:
- i. The warm mix additive or technology must be listed on the NEAUPG Qualified Warm Mix Asphalt (WMA) Technologies List at the time of bid, which may be accessed online at [http://www.neaupg.uconn.edu/wma\\_info.html](http://www.neaupg.uconn.edu/wma_info.html).
  - 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. Emulsified asphalts shall be homogeneous and be free of contaminants such as fuel oils and other solvents. Emulsions shall be properly stored to prevent damage or separation.
- ii. The blending at mixing plants of emulsified asphalts from different suppliers is strictly prohibited. Contractors who blend emulsified asphalts will be classified as a supplier and will be required to certify the emulsion in accordance with AASHTO PP 71. The emulsified asphalt shall meet the requirements of AASHTO M 140(M) or AASHTO M 208 as applicable.

### b. Supplier 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 PP 71. Only suppliers that have an approved "Quality Control Plan for Emulsified Asphalt" formatted in accordance with AASHTO PP 71 will be allowed to supply emulsified asphalt to Department projects.
- ii. The supplier shall submit to the Division Chief a Certified Test Report representing each lot in accordance with AASHTO PP 71. The Certified Test Report shall include test results for each specified requirement for the grade delivered and shall also indicate the density at 60°F. Additionally, once a month one split sample for each emulsified asphalt grade shall be submitted.

### c. Basis of Approval

- i. Each shipment of emulsified asphalt delivered to the project site shall be accompanied with the corresponding SDS and Certified Test Report listing Saybolt viscosity, residue by evaporation, penetration of residue, and weight per gallon at 60°F.
- ii. Anionic emulsified asphalts shall conform to the requirements of AASHTO M-140(M). 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.
- iii. Cationic emulsified asphalt shall conform to 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. Requirements: RAP shall consist of asphalt pavement constructed with asphalt and aggregate reclaimed by cold milling or other removal techniques approved by the Engineer. For bituminous concrete mixtures containing RAP, the Contractor shall submit a JMF in accordance with Article M.04.02 to the Engineer for review.
- 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 test the material and provide the following information along with a request for approval to the Engineer at least 30 calendar days prior to the start of the paving operation. The request shall include a material certificate stating that the RAP consists of aggregates that meet the specification requirements of sub articles M.04.01-1 through 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-pound sample of the RAP to be incorporated into the recycled mixture.
  2. A 25-pound sample of the extracted aggregate from the RAP.
  3. A statement that RAP material has been crushed to 100% passing the ½ inch sieve and remains free from contaminants such as joint compound, wood, plastic, and metals.

**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 conform 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

**8. Joint Seal Material:**

- a. Requirements: Joint seal material shall be a hot-poured rubber compound intended for use in sealing joints and cracks in bituminous concrete pavements. Joint seal material must meet the requirements of ASTM D 6690 – Type 2.

**9. Recycled Asphalt Shingles (RAS)**

- a. Requirements: 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.

**10. Plant Requirements:**

- a. Mixing Plant and Machinery: The mixing plant used in the preparation of the bituminous concrete shall comply with AASHTO M 156/ASTM D 995 for a Batch Plant or a Drum Dryer Mixer Plant, and be approved by the Engineer.
- b. Storage Silos: For all mixes, the Contractor may use silos for short-term storage of Superpave mixtures with prior notification and approval of the Engineer. A silo must have heated cones and an unheated silo cylinder if it does not contain a separate internal heating system. Prior approval must be obtained for storage times greater than those indicated. When multiple silos are filled, the Contractor shall discharge one silo at a time. Simultaneous discharge of multiple silos is not permitted.

<u>Type of silo cylinder</u>	<u>Maximum storage time for all classes (hr)</u>	
	HMA	WMA/PMA
Open Surge	4	Mfg Recommendations
Unheated – Non-insulated	8	Mfg Recommendations
Unheated – Insulated	18	Mfg Recommendations
Heated – No inert gas	TBD by the Engineer	

- 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 delivery ticket, as specified herein. Material feed controls shall be automatically or manually adjustable to provide proportions within the tolerances listed below for any batch size.

An asterisk (\*) shall be automatically printed next to any individual batch weight(s) exceeding the tolerances in ASTM D 995 section 8.7.3. 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.

There must be provisions so that scales are not 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. For each day's production, each project shall be provided a clear, legible copy of these recordings on each delivery ticket.

- d. Aggregates: The Contractor shall ensure that aggregate stockpiles are managed to provide uniform gradation and particle shape, prevent segregation and cross contamination in a manner acceptable to the Engineer. For drum plants only, the Contractor shall determine the percent moisture content at a minimum, prior to production and half way through production.

- e. Mixture: The dry and wet mix times shall be sufficient to provide proper coating (minimum 95% as determined by AASHTO T 195(M)) of all particles with bitumen and produce a uniform mixture.

The Contractor shall make necessary adjustments to ensure all types of bituminous concrete mixtures contain no more than 0.5% moisture throughout when tested in accordance with AASHTO T 329.

- f. RAP: The Contractor shall indicate the percent of RAP, the moisture content (as a minimum determined twice daily prior to production and halfway through production), and the net dry weight of RAP added to the mixture on each delivery ticket. For each day of production, the production shall conform to the job mix formula and RAP percentage and no change shall be made without the prior approval of the Engineer.
- g. Asphalt Binder: The last day of every month, a binder log shall be submitted when the monthly production for the Department exceeds 5000 tons. Blending of PG binders from different suppliers or grades at the bituminous concrete production facility is strictly prohibited.
- h. Warm mix additive: For mechanically foamed WMA, the maximum water injection rate shall not exceed 2.0% water by total weight of binder and the water injection rate shall be constantly monitored during production.
- i. Field Laboratory: The Contractor shall furnish the Engineer an acceptable field laboratory at the production facility to test bituminous concrete mixtures during production. The field laboratory shall have a minimum of 300 square feet, 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 with a minimum upstream of 384 Kbps and a functioning web browser with unrestricted access to <https://ctmail.ct.gov>. This equipment shall be maintained in clean and good working order at all times and be made available for use by the Engineer.

The laboratory shall be equipped with a suitable 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. Windows shall be installed to provide sufficient light and ventilation. During summer months adequate cooling or ventilation must be provided so the indoor air temperature shall not exceed the ambient outdoor temperature. Light fixtures and outlets shall be installed at convenient locations, and a telephone shall be within audible range of the testing area. The laboratory shall be equipped with an adequate workbench that has a suitable length, width, and sampling tables, and be approved by the Engineer.

The field laboratory testing apparatus, supplies, and safety equipment shall be capable of performing all tests in their entirety that are referenced in AASHTO R 35, *Standard Practice for Superpave Volumetric Design for Hot-Mix Asphalt (HMA)* and AASHTO M 323, *Standard Specification for Superpave Volumetric Mix Design*. In addition, the quantity of all equipment and supplies necessary to perform the tests must be sufficient to initiate and complete the number of tests identified in Table M.04.03-2 for the quantity of mixture produced at the facility on a

daily basis. 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, 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 field laboratory. The Contractor shall take immediate action to replace, repair, and/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:** When curb mix is specified, the Contractor shall develop a bituminous concrete mix design that includes a JMF consisting of target values for gradation, binder content and air voids as shown in Table M.04.02-1. The Contractor may use RAP in 5% increments up to a maximum of 30% provided a new JMF is accepted by the Engineer.
- b. **Basis of Approval:** The Contractor shall submit to the Engineer a request for approval of the JMF annually in accordance with one of the methods described herein. Prior to the start of any paving operations, the JMF must be accepted by the Engineer, and the Contractor must demonstrate the ability to meet the accepted JMF. Additionally, the fraction of material retained between any two consecutive sieves shall not be less than 4%.

The Contractor shall test the mixture for compliance with the submitted JMF and Table M.04.02-1. The maximum theoretical density (G<sub>mm</sub>) 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.

The Contractor shall not change sources of supply after a JMF has been accepted. Before a new source of supply for materials is used, a new JMF shall be submitted to the Engineer for approval.

**TABLE M.04.02 – 1:  
Master Ranges for Curb Mix Mixtures**

<b>Notes:</b> (a) Compaction Parameter 50gyration N <sub>des</sub> . (b) The percent passing the #200 sieve shall not exceed the percentage of bituminous asphalt binder determined by AASHTO T 164 or AASHTO T 308.		
<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>		
# 200	3.0 – 8.0 (b)	2.0
# 50	10 - 30	4
# 30	20 - 40	5
# 8	40 - 70	6
# 4	65 - 87	7
1/4"		
3/8 "	95 - 100	8
1/2 "	100	8
3/4"		8
1"		
2"		
<b>Additionally, the fraction of material retained between any two 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>VOIDS %</b>	0 – 4.0 (a)	

## 2. Superpave Design Method – S0.25, S0.375, S0.5, and S1

- a. **Requirements:** The Contractor or its representative shall design and submit Superpave mix designs annually for approval. The design laboratory developing the mixes shall be approved by the Engineer. The mix design shall be based on the specified Equivalent Single-Axle Loads (ESAL). Each bituminous concrete mix type must meet the requirements shown in Tables M.04.02-2 thru Table M.04.02-5 and in accordance with AASHTO M 323 and AASHTO R 35. The mix design shall include the nominal maximum aggregate size and a JMF consisting of target values for gradation and bitumen content for each bituminous concrete mix type designated for the project.

The contractor shall provide test results with supporting documentation from an AASHTO Materials Reference Laboratory (AMRL) with the use of NETTCP Certified Technicians for the following tests:

1. Aggregate consensus properties for each type & level, as specified in Table M.04.02-3 and the specific gravity data.
2. Extracted aggregates from RAP aggregate, when applicable, consensus properties for each type & level, as specified in Table M.04.02-3 and the specific gravity data.

3. New mixes shall be tested in accordance with AASHTO T 283(M) *Standard Method of Test for Resistance of Compacted Hot-Mix Asphalt (HMA) to Moisture-Induced Damage*, (TSR). The compacted specimens may be fabricated at a bituminous concrete facility and then tested at an AMRL accredited facility.

The AASHTO T 283(M) test results, specimens, and corresponding JMF sheet (Form MAT-429s) shall be submitted by the Contractor for review.

In addition, minimum binder content values apply to all types of bituminous concrete mixtures, as stated in Table M.04.02-5. For mixtures containing RAP, the virgin production and the anticipated proportion of binder contributed by the RAP cannot be less than the total permitted binder content value for that type nor the JMF minimum binder content.

- i. Superpave Mixture (virgin): For bituminous concrete mixtures that contain no recycled material, the limits prescribed in Tables M.04.02-2 thru Table M.04.02-5 apply. The Contractor shall submit a JMF, on a form provided by the Engineer, with the individual fractions of the aggregate expressed as percentages of the total weight of the mix and the source(s) of all materials to the Engineer for approval. The JMF shall indicate the corrected target binder content and applicable binder correction factor (ignition oven or extractor) for each mix type by total weight of mix. The mineral filler (dust) shall be defined as that portion of blended mix that passes the #200 sieve by weight when tested in accordance with AASHTO T 30. The dust-to-effective asphalt (D/Pbe) ratio shall be between 0.6 and 1.2 by weight. The dry/wet mix times and hot bin proportions (batch plants only) for each type shall be included in the JMF.

The percentage of aggregate passing each sieve shall be plotted on a 0.45 power gradation chart and shall be submitted for all bituminous concrete mixtures. This chart shall delineate the percentage of material passing each test sieve size as defined by the JMF. The percentage of aggregate passing each standard sieve shall fall within the specified control points as shown in Tables M.04.02-2 thru Table M.04.02-5. A change in the JMF requires that a new chart be submitted.

- ii. Superpave Mixtures with RAP: Use of approved RAP may be allowed 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 test results that show 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 representative samples of RAP shall be obtained. Each sample shall be split and one split sample shall be tested for binder content in accordance with AASHTO T 164 and the other in accordance AASHTO T 308.

Unless approved by the Engineer, RAP material shall not be used with any other recycling option.

- iii. Superpave Mixtures with RAS: Use of RAS may be allowed 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 to AASHTO M 323 appendix X1 or by test results that show 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. The RAS asphalt binder availability factor (F) used in AASHTO PP 78 Equation 2 shall be 0.85.
- iv. Superpave Mixtures with CRCG: In addition to the requirements in M.04.02 – 2 a through c, for bituminous concrete mixtures that contain CRCG, the Contractor shall submit a materials certificate to the Engineer stating that the CRCG complies with requirements stated in Article M.04.01, as applicable. Additionally, 1% 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: On an annual basis, the Contractor shall submit to the Engineer any bituminous concrete mix design, and JMF anticipated for use on Department projects. Prior to the start of any paving operations, the mix design and JMF must be approved by the Engineer. Bituminous concrete mixture supplied to the project without an approved mix design and JMF will be rejected. The following information must be included in the mix design submittal:
- i. Gradation, consensus properties and specific gravities of the aggregate, RAP, and RAS.
  - ii. Average asphalt content of the RAP and RAS by AASHTO T 164.
  - iii. Source of RAP and RAS and percentage to be used.
  - iv. Warm mix Technology and manufacturer's recommended additive rate and tolerances.
  - v. TSR test report, and, if applicable, anti-strip manufacturer and recommended dosage rate.
  - 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.

The JMF shall be accepted if the Plant mixture and materials meet all criteria as specified in Tables M.04.02-2 thru Table M.04.02-5. If the mixture does not meet the requirements, the contractor shall adjust the JMF within the ranges shown in Tables M.04.02-2 thru Table M.04.02-5 until an acceptable mixture is produced. All equipment, tests, and computations shall conform to the latest AASHTO R 35 and AASHTO M 323.

Any JMF, once approved, shall only be acceptable for use when it is produced by the designated plant, it utilizes the same component aggregates and binder source, and it continues to meet all



criteria as specified herein, and component aggregates are maintained within the tolerances shown in Table M.04.02-2.

The Contractor shall not change any component source of supply including consensus properties after a JMF has been accepted. Before a new source of materials is used, a revised JMF shall be submitted to the Engineer for approval. Any approved JMF applies only to the plant for which it was submitted. Only one mix with one JMF will be approved for production at any one time. Switching between approved JMF mixes with different component percentages or sources of supply is prohibited.

- c. Mix Status: Each facility will have each type of bituminous concrete mixture evaluated based on the previous year of production, for the next construction paving season, as determined by the Engineer. Based on the rating a type of mixture receives it will determine whether the mixture can be produced without the completion of a PPT. Ratings will be provided to each bituminous concrete producer annually 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.04.03-3: *Superpave Master Range for Bituminous Concrete Mixture Production*, and are as follows:

Criteria A: Based on Air Voids. Percentage of acceptance results with passing air voids.

Criteria B: Based on Air Voids and VMA. The percentage of acceptance results with passing VMA, and the percentage of acceptance results with passing air voids, will be averaged.

The final rating assigned will be the lower of the rating obtained with Criteria A or Criteria B.

Ratings are defined as:

“A” – Approved:

A rating of “A” is assigned to each mixture type from a production facility with a current rating of 70% passing or greater.

“PPT” – Pre-Production Trial:

Rating assigned to each mixture type from a production facility when:

1. there are no passing acceptance production results submitted to the Department from the previous year;
2. there is a source change in one or more aggregate components from the JMF on record by more than 10% by weight;
3. there is a change in RAP percentage;
4. the mixture has a rating of less than 70% from the previous season;
5. a new JMF not previously submitted.

Bituminous concrete mixtures rated with a “PPT” cannot be shipped or used on Department projects. A passing “PPT” test shall be performed with NETTCP certified personnel on that type of mixture by the bituminous concrete producer and meet all specifications (Table M.04.02-2 Table M.04.02-5) before production shipment may be resumed.

Contractors that have mix types rated as “PPT” may use one of the following methods to change the rating to an “A.”

Option A: Schedule a day when a Department inspector can be at the facility to witness a passing “PPT” test or,

Option B: When the Contractor or their representative performs a “PPT” test 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 for binder and gradation determination, and 5,000 grams of cooled loose bituminous concrete for Gmm determination for verification testing and approval. Passing verifications will designate the bituminous concrete type to be on an “A” status. Failing verifications will require the contractor to submit additional trials.

Option C: When the Contractor or their representative performs a “PPT” test without being witnessed by a Department inspector, the Engineer may verify the mix in the Contractor’s laboratory. Passing verifications will designate the bituminous concrete type to be an “A” status. Failing verifications will require the Contractor to submit additional trials.

When Option (A) is used and the “PPT” test meets all specifications, the “PPT” test is considered a passing test and the rating for that mix is changed to “A”. When the “PPT” test is not witnessed, the “PPT” Option (B) or (C) procedure must be followed. If the “PPT” Option (B) procedure is followed, the mixtures along with the test results must be delivered to the Materials Testing Lab. The test results must meet the “C” tolerances established by the Engineer. The tolerance Table is included in the Department’s current QA Program for Materials, Acceptance and Assurance Testing Policies and Procedures.

“U” – No Acceptable Mix Design on File:

Rating assigned to a type of mixture that does not have a JMF submitted, or the JMF submitted has not been approved, or is incomplete. A mix design or JMF must be submitted annually seven (7) days prior in order to obtain an “A,” or “PPT” status for that mix. A “U” will be used only to designate the mix status until the mix design has been approved, and is accompanied with all supporting data as specified. Bituminous concrete mixtures rated with a “U” cannot be used on Department projects.



**TABLE M.04.02-2: Superpave Master Range for Bituminous Concrete Mixture Design Criteria**

Notes: <sup>(1)</sup> Minimum Pb as specified in Table M.04.02-5. <sup>(2)</sup> Voids in Mineral Aggregates shall be computed as specified in AASHTO R 35. <sup>(3)</sup> Control point range is also defined as the master range for that mix. <sup>(4)</sup> Dust is considered to be the percent of materials passing the #200 sieve. <sup>(5)</sup> For WMA, lower minimum aggregate temperature will require Engineer's approval. <sup>(6)</sup> For WMA and PMA, the mix temperature shall meet manufacturer's recommendations.

Sieve	S0.25		S0.375		S0.5		S1	
	Min (%)	Max (%)	Min (%)	Max (%)	Min (%)	Max (%)	Min (%)	Max (%)
inches								
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	-	-
#4	-	90	-	90	-	-	-	-
#8	32	67	32	67	28	58	19	45
#16	-	-	-	-	-	-	-	-
#30	-	-	-	-	-	-	-	-
#50	-	-	-	-	-	-	-	-
#100	-	-	-	-	-	-	-	-
#200	2.0	10.0	2.0	10.0	2.0	10.0	1.0	7.0
Pb <sup>(1)</sup>	-	-	-	-	-	-	-	-
VMA <sup>(2)</sup> (%)	16.0 ± 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/Pbe <sup>(4)</sup>	0.6 – 1.2		0.6 – 1.2		0.6 – 1.2		0.6 – 1.2	
Agg. Temp <sup>(5)</sup>	280 – 350°F		280 – 350°F		280 – 350°F		280 – 350°F	
Mix Temp <sup>(6)</sup>	265 – 325°F		265 – 325°F		265 – 325°F		265 – 325°F	
Design TSR	> 80%		> 80%		> 80%		> 80%	
T-283 Stripping	Minimal, as determined by the Engineer							

**TABLE M.04.02-3: Superpave Master Range for Consensus Properties of Combined Aggregate Structures**

Notes: (1) If less than 25 % of a given layer is within 4 inches of the anticipated top surface, the layer may be considered to be below 4 inches for mixture design purposes.					
Traffic Level	Design ESALs (80 kN)	Coarse Aggregate Angularity <sup>(1)</sup> ASTM D 5821	Fine Aggregate Angularity <sup>(7)</sup> AASHTO T 304	Flat and Elongated Particles ASTM D 4791	Sand Equivalent AASHTO T 176
-----	(million)			> #4	-----
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
	Design ESALs are the anticipated project traffic level expected on the design lane, projected over a 20 year period, regardless of the actual expected design life of the roadway.	Criteria presented as minimum values. 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.	Criteria presented as minimum percent air voids in loosely compacted fine aggregate passing the #8 sieve.	Criteria presented as maximum Percent by mass of flat and elongated particles of materials retained on the #4 sieve, determined at 5:1 ratio.	Criteria presented as minimum values for fine aggregate passing the #8 sieve.

\* NOTE: Level 1 for use by Towns and Municipalities ONLY.

**TABLE M.04.02-4: Superpave Master Range for 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		
		Nini	Ndes	Nmax	Nini	Ndes	Nmax	0.25	0.375	0.5
1*	< 0.3	6	50	75	≤ 91.5	96.0	≤ 98.0	70 - 80	70 - 80	70 - 80
2	0.3 to < 3.0	7	75	115	≤ 90.5	96.0	≤ 98.0	65 - 78	65 - 78	65 - 78
3	≥ 3.0	8	100	160	≤ 90.0	96.0	≤ 98.0	73 - 76	73 - 76	65 - 75

\* NOTE: Level 1 for use by Towns and Municipalities ONLY.

**TABLE M.04.02– 5:  
Superpave Minimum Binder Content by Mix Type and Level**

Mix Type	Level	Binder Content Minimum <sup>(1)</sup>
S0.25	1*	5.6
S0.25	2	5.5
S0.25	3	5.4
S0.375	1*	5.6
S0.375	2	5.5
S0.375	3	5.4
S0.5	1*	5.0
S0.5	2	4.9
S0.5	3	4.8
S1	1*	4.6
S1	2	4.5
S1	3	4.4

**\* NOTE: Level 1 for use by Towns and Municipalities ONLY.**

**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 #4 sieve, percent passing #200 sieve, binder content, air voids, Gmm and 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 & 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 Sampling & Testing Methods:**

### **i. General:**

Acceptance samples of mixtures shall be obtained from the hauling vehicles and tested by the Contractor at the facility during each day's production.

The Contractor shall submit all acceptance tests 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. Verification testing will be performed by the Engineer in accordance with the Department's QA Program for Materials. Labeled Acceptance test specimens shall be retained at the production facilities 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.

Should the Department be unable to verify the Contractor's acceptance test result(s) due to a failure of the Contractor to retain acceptance test specimens or supporting documentation, the Contractor shall review its quality control plan, determine the cause of the nonconformance and respond in writing within 24 hours to the Engineer describing the corrective action taken at the plant. In addition, the Contractor must provide supporting documentation or test results to validate the subject acceptance test result(s). The Engineer may invalidate any positive adjustments for material corresponding to the acceptance test(s). Failure of the Contractor to adequately address quality control issues at a facility may result in suspension of production for Department projects at that facility.

Contractor personnel performing acceptance sampling and 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 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.

Anytime during production that testing equipment becomes inoperable, production can continue for a maximum of 1 hour. The Contractor shall obtain box sample(s) in accordance with Table M.04.03-1 to satisfy the daily acceptance testing requirement for the quantity shipped to the project. The box sample(s) shall be tested once the equipment issue has been resolved to the satisfaction of the Engineer. Production beyond 1 hour may be considered by the Engineer. Production will not be permitted beyond that day until the subject equipment issue has been resolved.

### **ii. Curb Mix Acceptance Sampling and Testing Procedures:**

Curb Mixes shall be tested by the Contractor at a frequency of one 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 – 2: 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)</b>	Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
<b>5</b>	<b>AASHTO T 312</b>	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

a. Determination of Off-Test Status:

- i. The test results of AASHTO T 308 and T 30(M) will be used to determine if the mixture is within the tolerances shown in Table M.04.02-1. Curb Mixtures are 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.
- ii. When multiple plants and silos are located at one site, mixture supplied to one project is considered as coming from one source for the purpose of applying the “off test” status.
- iii. The Engineer may cease supply from the plant when test results from three consecutive samples are not within the JMF tolerances or the test results from two consecutive samples not within the master range indicated in Table M.04.02-1 regardless of production date.

b. JMF Changes

- i. If a test indicates that the bitumen content or gradation are outside the tolerances, the Contractor may make a single JMF change as allowed by the Engineer prior to any additional testing. A JMF change shall include the date and name of the Engineer that allowed it. Consecutive test results outside the requirements of Table M.04.02-1 JMF tolerances may result in rejection of the mixture.
- ii. 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.

**iii. Superpave Mix Acceptance Sampling and Testing Procedures:**

The hauling vehicle from which samples are obtained shall be selected using stratified – random sampling based on the total estimated tons of production in accordance with ASTM D 3665, except that the first test shall be randomly taken from the first 151 tons or as directed by the Engineer. The Engineer may request a second acceptance test within the first sub lot. One acceptance test shall always be performed in the last sub-lot based on actual tons of material produced.

The number of sub lots/acceptance tests is based on the total production per day as indicated in Table M.04.03-1. Quantities of the same type/level mix per plant may be combined daily for multiple state projects to determine the number of sub lots. The Engineer may direct that additional acceptance samples be obtained to represent materials actually being delivered to the project.

The payment adjustment for air voids and liquid binder will be calculated per sub lot as described in Section 4.06.

An acceptance test shall not be performed within 150 tons of production from a previous acceptance test unless approved by the Engineer. Quality Control tests are not subject to this restriction. Unless otherwise tested, a minimum of one (1) acceptance test shall be performed for every four days of production at a facility for each type/level mix (days of production may or may not be consecutive days).

**Table M.04.03 – 1:  
Superpave Acceptance Testing Frequency per Type/Level/Plant**

<b>Daily quantity produced in tons (lot)</b>	<b>Number of Sub Lots/Tests</b>
0 to 150	0, Unless requested by the Engineer
151 to 600	1
601 to 1,200	2
1,201 to 1,800	3
1,801 or greater	1 per 600 tons or portions thereof

When the Superpave mix design is specified, the following acceptance and AASHTO test procedures shall be used:

**TABLE M.04.03– 3: Superpave Acceptance Testing Procedures**

Protocol	Reference	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	Gradation of extracted aggregate for bituminous concrete mixture
5	AASHTO T 312	<sup>(1)</sup> Superpave Gyratory molds compacted to N <sub>des</sub>
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 two tests)
9	AASHTO T 329	Moisture content of Production bituminous concrete

**Notes:** <sup>(1)</sup> One set equals two six-inch molds. Molds to be compacted to N<sub>max</sub> for PPTs and to N<sub>des</sub> for production testing. The first subplot of the year will be compacted to N<sub>max</sub>  
<sup>(2)</sup> Average value of one set of six-inch molds.

If the average corrected Pb content differs by 0.3% or more from the average bituminous concrete facility production delivery ticket in five (5) consecutive tests regardless of the production date (moving average), the Contractor shall immediately investigate, determine an assignable cause and correct the issue. When two consecutive moving average differences are 0.3% or more, the Engineer may require a new aggregate correction factor.

The test specimen must be ready to be placed in an approved ignition furnace for testing in accordance with AASHTO T 308 within thirty minutes of being obtained from the hauling vehicle and the test shall start immediately after.

The Contractor shall perform moisture susceptibility (TSR) testing annually for all design levels of HMA-, WMA-, and PMA- S0.5 plant-produced mixtures, in accordance with the latest version of AASHTO T 283(M).

If any material source changes from the previous year, or during the production season, a mix design TSR as well as a production TSR is required for the new mixture. The AASHTO T 283(M) test shall be performed at an AASHTO Materials Reference Laboratory (AMRL) by NETTCP Certified Technicians. The test results and specimens shall be submitted to the Engineer for review. This shall be completed within 30 days from the start of production. 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. In addition, compaction of samples shall be accomplished utilizing an accepted Superpave Gyratory Compactor (SGC), supplied by the Contractor. The SGC shall be located at the facility supplying mixture to the project.

a. Determination of Off-Test Status:

- i. Superpave mixes shall be considered “*off test*” when any Control Point Sieve, VA, VMA, and Gmm values are outside of the limits specified in Table M.04.03-4 and the computed binder content (Pb) established by AASHTO T308 or as documented on the vehicle delivery



ticket is below the minimum binder content stated in sub article 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.

ii. Any time the bituminous concrete mixture is considered Off-test:

1. The Contractor shall notify the Engineer (and project staff) when the plant is "off test" for a type of mixture. When multiple plants and silos are located at one site, mixture supplied to one project is considered as coming from one source for the purpose of applying the "off test" determination.
2. 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 to 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.

- b. Cessation of Supply for Superpave Mixtures with no Payment Adjustment: Production of bituminous concrete shall cease for the Project from any plant that consistently fails to produce mixture that meets the JMF and volumetric properties. The quantity of Superpave mixtures shipped to the project that is "off-test" will not be adjusted for deficient mixtures.

A Contractor shall cease to supply mixture from a plant when:

1. Bituminous concrete mixture is "off test" on three (3) consecutive tests for any combination of VMA or Gmm, regardless of date of production.
2. Bituminous concrete mixture is "off test" on two (2) consecutive tests for the Control Point sieves in one day's production.

Following cessation, the Contractor shall immediately make necessary material or process corrections and run a Pre-Production Trial (PPT) for that type of mixture. Use of that type of mixture from that plant will be prohibited on the Project until the Contractor has demonstrated the ability to produce acceptable mixture from that facility. When the Contractor has a passing test and has received approval from the Engineer, the use of that mixture to the Project may resume.

- c. Cessation of Supply for Superpave Mixtures with Payment Adjustment: Production of bituminous concrete shall cease for the Project from any plant that consistently fails to produce mixture that meets the Superpave minimum binder content by mix type and level listed in Table M.04.02-5. The quantity of Superpave mixtures shipped to the project that is "off-test" will be adjusted for deficient mixtures in accordance with Section 4.06.

A Contractor shall cease to supply mixture from a plant when:

1. The binder content (Pb) is below the requirements of Table M.04.02-5 on the ignition oven test result after two (2) consecutive tests, regardless of the date of production.



2. The air voids (VA) is outside the requirements of Table M.04.03-4 after three (3) consecutive tests, regardless of the date of production.

Following cessation, the Contractor shall immediately make necessary material or process corrections and run a Pre-Production Trial (PPT) for that type of mixture. Use of that type of mixture from that plant will be prohibited on the Project until the Contractor has demonstrated the ability to produce acceptable mixture from that facility. When the Contractor has a passing test and has received approval from the Engineer, the use of that mixture to the Project may resume.

- d. JMF Changes for Superpave Mixture Production: It is understood that a JMF change is effective from the time it was submitted forward and is not retroactive to the previous test or tests. JMF changes are permitted to allow for trends in aggregate and mix properties but every effort shall be employed by the Contractor to minimize this to ensure a uniform and dense pavement. A revised JMF submittal shall include the date and name of the Engineer that allowed it.

JMF changes are only permitted prior to or after a production shift for all bituminous-concrete types of mixtures and only when they:

- i. Are requested in writing and pre-approved by the Engineer.
- ii. Are based on a minimum of a two test trend.
- iii. Are documented with a promptly submitted revised JMF on the form provided by the Engineer.
- iv. A revised JMF submittal shall include the date and name of the Engineer that allowed it.

No change will be made on any aggregate or RAP consensus property or specific gravity unless the test is performed at an AASHTO Materials Reference Laboratory (AMRL) by NETTCP Certified Technicians.

A JMF change shall be submitted every time the plant target RAP and/or bin percentage deviates by more than 5% and/or the plant target binder content deviates by more than 0.15% from the active JMF.

**TABLE M.04.03– 4: Superpave Master Range for Bituminous Concrete Mixture Production**

Sieve	S0.25		S0.375		S0.5		S1		Tolerances
	Min(%)	Max(%)	Min(%)	Max(%)	Min(%)	Max(%)	Min(%)	Max(%)	From JMF Targets <sup>(4)</sup>
inches									± Tol
1.5	-	-	-	-	-	-	100	-	
1.0	-	-	-	-	-	-	90	100	
3/4	-	-	-	-	100	-	-	90	
1/2	100	-	100	-	90	100	-	-	
3/8	97	100	90	100	-	90	-	-	
#4	-	90	-	90	-	-	-	-	
#8	32	67	32	67	28	58	19	45	
#16	-	-	-	-	-	-	-	-	
#200	2.0	10.0	2.0	10.0	2.0	10.0	1.0	7.0	
Pb <sup>(2)</sup>	-	-	-	-	-	-	-	-	note (2)
VMA (%)	16.0		16.0		15.0		13.0		1.0
VA (%)	4.0		4.0		4.0		4.0		1.0
Gmm	JMF value		JMF value		JMF value		JMF value		0.030
Agg. Temp <sup>(5)</sup>	280 – 350F		280 – 350F		280 – 350F		280 – 350F		
Mix Temp <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>		
Prod. TSR	N/A		N/A		≥80%		N/A		
T-283 Stripping	N/A		N/A		Minimal as determined by the Engineer		N/A		

**Notes:** (1) 300°F minimum after October 15. (2) Minimum Pb as specified in Table M.04.02-5 (3) Control point range is also defined as the master range for that mix. (4) JMF tolerances shall be defined as the limits for production compliance. VA & Pb payment is subject to adjustments, as defined in sub-article 4.06.04 - 2. (5) For WMA, lower minimum aggregate temperature will require Engineer's approval. (6) For WMA and/or polymer modified asphalt, the mix temperature shall meet manufacturer's recommendations. In addition, for WMA, the maximum mix temperature shall not exceed 325°F once the WMA technology is incorporated.

**TABLE M.04.03– 5:  
JMF Tolerances for Application  
of Positive Adjustments**

<b>Notes:</b> (1) Only for S1 mixes. (2) Only for S0.5 and S1 mixes.	
Sieve	Tolerances
	From JMF Targets
inches	±Tol
3/4	9 <sup>(1)</sup>
1/2	9 <sup>(1)</sup>
3/8	9 <sup>(2)</sup>
#4	8
#8	7
#16	6
#200	3
Pb	0.4

**TABLE M.04.03– 6:  
Superpave Master Range for Traffic Levels and Design Volumetric Properties**

Traffic Level	Design ESALs (million)	Number of Gyration by Superpave Gyratory Compactor	
		Nini	Ndes
1*	< 0.3	6	50
2	0.3 to < 3.0	7	75
3	≥3.0	8	100

\* NOTE: Level 1 for use by Towns and Municipalities ONLY.

**Table M.04.03-7:  
Modifications to Standard AASHTO and ASTM Test Specifications and Procedures**

<b>AASHTO Standard Specification</b>	
<b>Reference</b>	<b>Modification</b>
<b>M 140</b>	Emulsified Asphalt grade RS-1H shall meet all the requirements of the emulsified asphalt grade RS-1 except for the penetration requirement of the residue that will change from 100 to 200 penetration units (0.1 mm) to 40 to 90 penetration units (0.1 mm).
<b>AASHTO Standard Method of Test</b>	
<b>Reference</b>	<b>Modification</b>
<b>T 30</b>	Section 7.2 thru 7.4 Samples are not routinely washed for production testing
<b>T 168</b>	<p>Samples are taken at one point in the pile. Samples from a hauling vehicle are taken from only one point instead of three as specified.</p> <p>Selection of Samples: Sampling is equally important as the testing, and the sampler shall use every precaution to obtain samples that are truly representative of the bituminous mixture.</p> <p>Box Samples: In order to enhance the rate of processing samples taken in the field by construction or maintenance personnel the samples will be tested in the order received and data processed to be determine conformance to material specifications and to prioritize inspections by laboratory personnel.</p>
<b>T 195</b>	Section 4.3 only one truck load of mixture is sampled. Samples are taken from opposite sides of the load.
<b>T 209</b>	<p>Section 7.2 The average of two bowls is used proportionally in order to satisfy minimum mass requirements.</p> <p>8.3 Omit Pycnometer method.</p>
<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 manufactures recommended compaction temperature prior to fabrication of the specimens.
<b>T 331</b>	6.1 Cores are dried to a constant mass prior to testing using a core-dry machine.
<b>AASHTO Standard Recommended Practices</b>	
<b>Reference</b>	<b>Modification</b>
<b>R 26</b>	<p>Quality Control Plans must be formatted in accordance with AASHTO R 26, certifying suppliers of performance-graded asphalt binders, Section 9.0, Suppliers Quality Control Plan, and "NEAUPG Model PGAB QC Plan."</p> <ol style="list-style-type: none"> <li>1. The Department requires that all laboratory technician(s) responsible for testing PG-binders be certified or Interim Qualified by the New England Transportation Technician Certification Program (NETTCP) as a PG Asphalt Binder Lab Technician.</li> <li>2. Sampling of asphalt binders should be done under the supervision of qualified technician. NECTP "Manual of Practice," Chapter 2 Page 2-4 (Key Issues 1-8).</li> <li>3. A copy of the Manual of Practice for testing asphalt binders in accordance with the Superpave PG Grading system shall be in the testing laboratory.</li> <li>4. All laboratories testing binders for the Department are required to be accredited by the AASHTO Materials Reference Laboratory (AMRL).</li> </ol>

5. 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.

6. 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/limitations required.

7. All AASHTO M 320 references shall be replaced with AASHTO M 332.

8. Each year, in April and September, the supplier shall submit test results for two BBR testing at two different temperatures in accordance with AASHTO R 29.

Suppliers shall provide AASHTO M 332 testing results and split samples at a minimum of once per lot.

## **NOTICE TO CONTRACTOR - CODE OF ETHICS**

The Contractor shall comply with the provisions contained in Section 1-86e of the Connecticut General Statutes, which provides as follows:

- (a) No person hired by the state as a Contractor or independent contractor shall:
  - (1) Use the authority provided to the person under the contract, or any confidential information acquired in the performance of the contract, to obtain financial gain for the person, an employee of the person or a member of the immediate family of any such person or employee;
  - (2) Accept another state contract which would impair the independent judgment of the person in the performance of the existing contract; or
  - (3) Accept anything of value based on an understanding that the actions of the person on behalf of the state would be influenced.
- (b) No person shall give anything of value to a person hired by the state as a Contractor or independent contractor based on an understanding that the actions of the Contractor or independent contractor on behalf of the state would be influenced.

*The following clause is applicable to those contracts with a value of five hundred thousand dollars (\$500,000) or more:*

The Contractor shall comply with the Code of Ethics for Public Officials, Conn. Gen. Stat. §§ 1-79 *et seq.*, and Code of Ethics for Lobbyists, Conn. Gen. Stat. §§1-91 *et seq.*, when and where applicable. Insofar as state contractors are concerned, a summary of the most relevant provisions of the Codes of Ethics is contained in the Summary of State Ethics Laws for Current and Potential State Contractors. The Contractor acknowledges receiving such Summary, which is incorporated herein by reference. The Summary may change from time to time and may be accessed via the Internet at [www.ethics.state.ct.us](http://www.ethics.state.ct.us).

The Contractor agrees that the above clause will also be incorporated in all of its contracts with its subcontractors and consultants.

The Contractor agrees that any instance of its violating the Code of Ethics or the Department of Transportation Ethics Policy will be sufficient cause for the Department to terminate any or all of the Contractor's pending contracts with the Department.

In addition, the Contractor hereby acknowledges and agrees to comply with the policies enumerated in "Connecticut Department of Transportation Policy Statement Policy No. F&A-10, Subject: Code of Ethics Policy", dated June 1, 2007, a copy of which is attached hereto and made a part hereof.



## CONNECTICUT DEPARTMENT OF TRANSPORTATION POLICY STATEMENT

POLICY NO. F&A-10  
June 1, 2007

**SUBJECT: Code of Ethics Policy**

The purpose of this policy is to establish and maintain high standards of honesty, integrity, and quality of performance for all employees of the Department of Transportation ("DOT" or "Department"). Individuals in government service have positions of significant trust and responsibility that require them to adhere to the highest ethical standards. Standards that might be acceptable in other public or private organizations are not necessarily acceptable for the DOT.

It is expected that all DOT employees will comply with this policy as well as the Code of Ethics for Public Officials, and strive to avoid even the appearance of impropriety in their relationships with members of the public, other agencies, private vendors, consultants, and contractors. This policy is, as is permitted by law, in some cases stricter than the Code of Ethics for Public Officials. Where that is true, employees are required to comply with the more stringent DOT policy.

The Code of Ethics for Public Officials is State law and governs the conduct of all State employees and public officials regardless of the agency in which they serve. The entire Code, as well as a summary of its provisions, may be found at the Office of State Ethics' web site: [www.ct.gov/ethics/site/default.asp](http://www.ct.gov/ethics/site/default.asp). For formal and informal interpretations of the Code of Ethics, DOT employees should contact the Office of State Ethics or the DOT's Ethics Compliance Officer or her designee.

All State agencies are required by law to have an ethics policy statement. Additionally, all State agencies are required by law to have an Ethics Liaison or Ethics Compliance Officer. The DOT, because of the size and scope of its procurement activities, has an Ethics Compliance Officer who is responsible for the Department's: development of ethics policies; coordination of ethics training programs; and monitoring of programs for agency compliance with its ethics policies and the Code of Ethics for Public Officials. At least annually, the Ethics Compliance Officer shall provide ethics training to agency personnel involved in contractor selection, evaluation, and supervision. A DOT employee who has a question or is unsure about the provisions of this policy, or who would like assistance contacting the Office of State Ethics, should contact the Ethics Compliance Officer or her designee.

**The DOT Ethics Compliance Officer is:**

Denise Rodosevich, Managing Attorney  
Office of Legal Services

**For questions, contact the Ethics  
Compliance Officer's Designee:**

Alice M. Sexton, Principal Attorney  
Office of Legal Services  
2800 Berlin Turnpike  
Newington, CT 06131-7546  
Tel. (860) 594-3045

**To contact the Office of State Ethics:**

Office of State Ethics  
20 Trinity Street, Suite 205  
Hartford, CT 06106  
Tel. (860) 566-4472  
Facs. (860) 566-3806  
Web: [www.ethics.state.ct.us](http://www.ethics.state.ct.us)



3. ***Gift Exchanges Between Subordinates and Supervisors/Senior Staff:*** A recent change in the Code of Ethics prohibits exchanges of gifts valued at \$100 or more between (*i.e.*, to and from) supervisors and employees under their supervision. The Citizen's Ethics Advisory Board has advised that: (1) the monetary limit imposed by this provision is a per-gift amount; (2) gifts given between supervisors and subordinates (or *vice versa*) in celebration of a "major life event," as defined in the Code of Ethics, need not comply with the \$100 limit; and (3) the limitations imposed by this provision apply to a direct supervisor and subordinate *and to any individual up or down the chain of command*. The Citizen's Ethics Advisory Board has also advised that supervisors or subordinates may not pool their money to give a collective or group gift valued at \$100 or more, even though each of the individual contributions is less than \$100.
4. ***Acceptance of Gifts to the State:*** A recent change to the Code of Ethics for Public Officials modified the definition of the term "gift" to limit the application of the so-called "gift to the State" exception. In general, "gifts to the State" are goods or services given to a State agency for use on State property or to support an event and which facilitate State action or functions. Before accepting any benefit as a "gift to the State," DOT employees should contact the Ethics Compliance Officer.
5. ***Charitable Organizations and Events:*** No DOT employee shall knowingly accept any gift, discount, or other item of monetary value for the benefit of a charitable organization from any person or entity seeking official action from, doing or seeking business with, or conducting activities regulated by, the Department.
6. ***Use of Office/Position for Financial Gain:*** DOT employees shall not use their public office, position, or influence from holding their State office/position, nor any information gained in the course of their State duties, for private financial gain (or the prevention of financial loss) for themselves, any family member, any member of their household, nor any "business with which they are associated." In general, a business with which one is associated includes any entity of which a DOT employee or his/her immediate family member is a director, owner, limited or general partner, beneficiary of a trust, holder of 5 percent or more stock, or an officer (president, treasurer, or executive or senior vice president).

DOT employees shall not use or distribute State information (except as permitted by the Freedom of Information Act), nor use State time, personnel, equipment, or materials, for other than State business purposes.

7. ***Other Employment:*** DOT employees shall not engage in, nor accept, other employment that will either impair their independence of judgment with regard to their State duties or require or induce them to disclose confidential information gained through their State duties.

Any DOT employee who engages in or accepts other employment (including as an independent contractor), or has direct ownership in an outside business or sole proprietorship, shall complete an Employment/Outside Business Disclosure Form (see attached) and submit it to the Department's Human Resources Administrator. Disclosure of other employment to the DOT Human Resources Administrator shall *not* constitute approval of the other employment for purposes of the Code of Ethics for Public Officials.

Inquiries concerning the propriety of a DOT employee's other employment shall be directed to the Office of State Ethics to assure compliance with the Code of Ethics for Public Officials. Employees anticipating accepting other employment as described above should give ample time (at least one month) to the Office of State Ethics to respond to such outside employment inquiries.



No employee of the DOT shall allow any private obligation of employment or enterprise to take precedence over his/her responsibility to the Department.

8. **Outside Business Interests:** Any DOT employee who holds, directly or indirectly, a financial interest in any business, firm, or enterprise shall complete an Employment/Outside Business Disclosure Form (see attached) and submit it to the Department's Human Resources Administrator. An indirect financial interest includes situations where a DOT employee's spouse has a financial interest in a business, firm, or enterprise. A financial interest means that the employee or his spouse is an owner, member, partner, or shareholder in a non-publicly traded entity. Disclosure of such outside business interests to the DOT Human Resources Administrator shall *not* constitute approval of the outside business interest under this Policy or the Code of Ethics for Public Officials. DOT employees shall not have a financial interest in any business, firm, or enterprise which will either impair their independence of judgment with regard to their State duties or require or induce them to disclose confidential information gained through their State duties. Inquiries concerning the propriety of a DOT employee's outside business interests shall be directed to the Office of State Ethics to assure compliance with the Code of Ethics for Public Officials.
9. **Contracts With the State:** DOT employees, their immediate family members, and/or a business with which a DOT employee is associated, may not enter into a contract with the State, other than pursuant to a court appointment, valued at \$100 or more unless the contract has been awarded through an open and public process.
10. **Sanctioning Another Person's Ethics Violation:** No DOT official or employee shall counsel, authorize, or otherwise sanction action that violates any provision of the Code of Ethics.
11. **Certain Persons Have an Obligation to Report Ethics Violations:** If the DOT Commissioner, Deputy Commissioner, or "person in charge of State agency procurement" and contracting has reasonable cause to believe that a person has violated the Code of Ethics or any law or regulation concerning ethics in State contracting, he/she *must* report such belief to the Office of State Ethics. All DOT employees are encouraged to disclose waste, fraud, abuse, and corruption about which they become aware to the appropriate authority (see also Policy Statement EX.O.-23 dated March 31, 2004), including, but not limited to, their immediate supervisor or a superior of their immediate supervisor, the DOT Office of Management Services, the Ethics Compliance Officer, the Auditors of Public Accounts, the Office of the Attorney General, or the Office of the Chief State's Attorney.
12. **Post-State Employment Restrictions:** In addition to the above-stated policies of the Department, DOT employees are advised that the Code of Ethics for Public Officials bars certain conduct by State employees *after they leave State service. Upon leaving State service:*
  - **Confidential Information:** DOT employees must never disclose or use confidential information gained in State service for the financial benefit of any person.
  - **Prohibited Representation:** DOT employees must *never* represent anyone (other than the State) concerning any "particular matter" in which they participated personally and substantially while in State service and in which the State has a substantial interest.

DOT employees also must not, for one year after leaving State service, represent anyone other than the State for compensation before the DOT concerning a matter in which the State has a substantial interest. In this context, the term "represent" has been very broadly defined. Therefore, any former DOT employee contemplating post-State employment work that might involve interaction with any bureau of DOT (or any Board or Commission administratively under the DOT) within



their first year after leaving State employment should contact the DOT Ethics Compliance Officer and/or the Office of State Ethics.

- **Employment With State Vendors:** DOT employees who participated substantially in, or supervised, the negotiation or award of a State contract valued at \$50,000 or more must not accept employment with a party to the contract (other than the State) for a period of one year after resigning from State service, if the resignation occurs within one year after the contract was signed.

13. **Ethical Considerations Concerning Bidding and State Contracts:** DOT employees also should be aware of various provisions of Part IV of the Code of Ethics that affect any person or firm who: (1) is, or is seeking to be, prequalified by DAS under Conn. Gen. Stat. §4a-100; (2) is a party to a large State construction or procurement contract, or seeking to enter into such a contract, with a State agency; or (3) is a party to a consultant services contract, or seeking to enter into such a contract, with a State agency. These persons or firms shall not:

- With the intent to obtain a competitive advantage over other bidders, solicit any information from an employee or official that the contractor knows is not and will not be available to other bidders for a large State construction or procurement contract that the contractor is seeking;
- Intentionally, willfully, or with reckless disregard for the truth, charge a State agency for work not performed or goods not provided, including submitting meritless change orders in bad faith with the sole intention of increasing the contract price, as well as falsifying invoices or bills or charging unreasonable and unsubstantiated rates for services or goods to a State agency; and
- Intentionally or willfully violate or attempt to circumvent State competitive bidding and ethics laws.

Firms or persons that violate the above provisions may be deemed a nonresponsible bidder by the DOT.

In addition, no person with whom a State agency has contracted to provide consulting services to plan specifications for any contract, and no business with which such person is associated, may serve as a consultant to any person seeking to obtain such contract, serve as a contractor for such contract, or serve as a subcontractor or consultant to the person awarded such contract.

DOT employees who believe that a contractor or consultant may be in violation of any of these provisions should bring it to the attention of their manager.

### **Training for DOT Employees**

A copy of this policy will be posted throughout the Department, and provided to each employee either in hard copy or by e-mail. As set forth above, State law requires that certain employees involved in contractor/consultant/vendor selection, evaluation, or supervision must undergo annual ethics training coordinated or provided by the Ethics Compliance Officer. If you believe your duties meet these criteria, you should notify your Bureau Chief to facilitate compilation of a training schedule. In addition, the DOT Ethics Compliance Officer can arrange for periodic ethics training provided by the Office of State Ethics. Finally, the Department will make available, on its web site or otherwise, a copy of this policy to all vendors, contractors, and other business entities doing business with the Department.

### Important Ethics Reference Materials

It is strongly recommended that every DOT employee read and review the following:

- Code of Ethics for Public Officials, Chapter 10, Part 1, Conn. General Statutes Sections 1-79 through 1-89a found at: [www.ct.gov/ethics/site/default.asp](http://www.ct.gov/ethics/site/default.asp)
- Ethics Regulations Sections 1-81-14 through 1-81-38, found at: [www.ct.gov/ethics/site/default.asp](http://www.ct.gov/ethics/site/default.asp)
- The Office of State Ethics web site includes summaries and the full text of formal ethics advisory opinions interpreting the Code of Ethics, as well as summaries of previous enforcement actions: [www.ct.gov/ethics/site/default.asp](http://www.ct.gov/ethics/site/default.asp). DOT employees are strongly encouraged to contact the Department's Ethics Compliance Officer or her designee, or the Office of State Ethics with any questions or concerns they may have.

(This Policy Statement supersedes Policy Statement No. F&A-10 dated January 6, 2006)

  
Ralph J. Carpenter  
COMMISSIONER

#### Attachment

#### List 1 and List 3

(Managers and supervisors are requested to distribute a copy of this Policy Statement to all employees under their supervision.)

cc: Office of the Governor, Department of Administrative Services, Office of State Ethics



## Department of Transportation Employment & Outside Business Disclosure Form

In accordance with Department of Transportation (Department) Policy Statement No. F&A-10, Code of Ethics Policy, I am hereby advising the Department that in addition to my current DOT position, I have other employment and/or a direct or indirect financial interest in an outside business as follows:

1. Full name of outside employer, or entity in which I or my spouse have a financial interest (e.g., ownership or member/partner): \_\_\_\_\_

2. Location of Employer/Entity disclosed above: \_\_\_\_\_

3. Nature of my/my spouse's relationship to employer/entity disclosed above (check at least one):

- Employee or Independent Contractor (circle one)
- Owner/Member/Partner/etc.
- Family Member of Owner/Member/Partner/etc.

4. State agency(ies) with which above employer/entity is doing business or seeking Business (write "N/A" if not applicable): \_\_\_\_\_

5. Job Title at Outside Employer: \_\_\_\_\_

6. Job Responsibilities at Outside Employer: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

7. Current State Title: \_\_\_\_\_

8. Current State Job Responsibilities: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

9. Name/Title of Current State Supervisor: \_\_\_\_\_

I understand that the filing of this Disclosure with the DOT Human Resources Administrator does not relieve me of any obligations I have to comply with the Code of Ethics for Public Officials, and does not constitute approval of my outside employment and/or financial interests under the Code of Ethics for Public Officials. *Employees engaging in outside employment are strongly urged to seek written approval of their outside employment from the Office of State Ethics, 20 Trinity Street, Hartford, CT 06106.* I also understand that if either my State or outside employment/financial interest changes in location or function I am required to notify the Department immediately.

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

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

**NOTICE TO CONTRACTOR – REQUIREMENTS OF TITLE 49, CODE OF FEDERAL REGULATIONS PART 26**

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 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.

**INSURANCE**

The Certificate of Insurance form furnished by the Town shall be the only acceptable form as evidence of insurance. A copy of this form is attached hereto and made a part hereof.

The continuance of the required insurance during the entire term of the contract shall be the responsibility of the Contractor and is a condition of the contract.

The Contractor is required to name all property owners involved in the course of construction activities as additional insured parties of liability on their properties. Additionally, following the award of the contract, the Contractor, is to provide a copy of the executed Insurance Certificate to the Town.

**CERTIFICATE OF INSURANCE**

This is to certify that the Insurance Company named herein has issued to the named insured the policies listed below, that these policies are written in accordance with the Insurance Company's standard policies and endorsements, except as indicated below or as noted in the attachments hereto, which policies and endorsements will be made available to the City/Town of \_\_\_\_\_ upon request, that they provide coverages and limits of liability shown with respect to the hazards indicated, that they are in force on this date, that all deductible amounts are indicated below, and that this Certificate is furnished in accordance with and for the purpose of satisfying the requirements of the City/Town of \_\_\_\_\_ in connection with the award and performance of any contract or agreement, or the issuance of any permit or authorization by the City/Town's duly authorized official. The Insurance Company agrees to investigate and defend the insured against all claims for damages, even if groundless.

NAME OF INSURED \_\_\_\_\_  
 ADDRESS \_\_\_\_\_ CITY \_\_\_\_\_ STATE \_\_\_\_\_

HAZARDS	Policy Number	Effective Date	Expiration Date	Coverage and Limits of Liability	
				All Persons/All Damages Each Accident or Occurrence	AGGREGATE
*A Owner's and Contractor's Protective Liability for and in the Name of the City/Town of _____ with the State of Connecticut named as Additional Insured. (1) (2) See Below					
*B Commercial General Liability (1) See Below					
*C Explosion, Collapse, or Underground Damage Liability (1) See Below					
*D Automobile Liability Owned Automobiles Hire automobiles Non-Owned Automobiles (1) See Below					
*E Railroad Protective Liability (1) (2) See Below					
*F Excess/Umbrella Liability (1) See Below					
G Valuable Papers and Records Valuable Papers and Records	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	Possession	All Other
H Blasting (1) See Below					
I **Workers Compensation				Statutory Coverages and Limits	
J **Builder's Risk					

\* City/Town of \_\_\_\_\_ and the State of Connecticut are Named as Additional Insured

\*\* Compensation Commissioner's Certificate shall be supplied herewith by self-insured party.

**Note: If Excess/Umbrella Liability Insurance is needed to meet the Agreement/Contract, etc. minimum requirements, complete Section F above.**

This Certificate is issued in accordance with the items of:

Check  
 1 Construction Contracts \_\_\_\_\_ 1 Lease Agreement Rights of Way \_\_\_\_\_ 1 Agree No. \_\_\_\_\_  
 1 Permit Work No. \_\_\_\_\_ 1 Project No. \_\_\_\_\_ 1 Engineering \_\_\_\_\_  
 1 Demolition Contracts \_\_\_\_\_ 1 Other (Specify) \_\_\_\_\_ & including all operations incidental thereto.

PARTY FOR NOTICE Office: \_\_\_\_\_ Title: \_\_\_\_\_ Name: \_\_\_\_\_

(1) It is agreed that the herein named Insurance Company will not use the defense of sovereign immunity in the adjustment of claims or in the defense of any suit brought against the City/Town unless the (authorized official representing the City/Town) consents in writing to do so.

(2) It is agreed that the Insurance Company will bill premium s and audit charges earned under the protective liability policy(ies) to the above named insured; however, if named insured is different form the vendor, consultant, contractor or party of record, the vendor, consultant, contractor or party of record will be \_\_\_\_\_.

IN THE EVENT OF ANY RESTRICTIVE AMENDMENT TO, ANY CHANGE IN, CANCELLATION OF OR FAILURE TO RENEW ANY ONE OR MORE OF SAID POLICIES, THE \_\_\_\_\_ (Insurance Company) SHALL GIVE NOT LESS THAN THIRTY DAYS WRITTEN NOTICE TO THE PARTY FOR NOTICE TO WHOM THIS CERTIFICATION IS ISSUED OF SUCH AMENDMENT, CHANGE, CANCELLATION, OR FAILURE TO RENEW.

DATED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 200\_\_.

\_\_\_\_\_  
 (INSURANCE COMPANY)  
 \_\_\_\_\_  
 (ADDRESS)  
 \_\_\_\_\_  
 (AGENCY)  
 \_\_\_\_\_  
 (ADDRESS)  
 \_\_\_\_\_  
 (AUTHORIZED AGENTS NAME & SIGNATURE)

**ITEM #0090060A – BRIDGE PLAQUE**

**01 - Description:** This item consists of providing and installing a bronze plaque as shown on the plans and described herein.

**02 – Materials:** Materials shall conform to the following:

Bronze Plaque:	C92200
Anchors:	Stainless steel expansion type concrete anchor with 2 ½“ minimum embedment

**03 – Construction Methods:** The plaque shall be a sand cast bronze plaque matching the existing plaque mounted on the northwest corner of the bridge. The text shall match the wording, text size and spacing of the existing plaque. The plaque shall not be thinner than the existing plaque. A template may be made from the existing plaque. The contractor shall mount the new plaque on the bridge as shown on the plans. The contractor may set bolt sleeves by template prior to pouring the concrete or shall use stainless steel expansion anchors with flat head bolts to mount the plaque. The plaque shall be mounted with a minimum of six, 3/8” diameter bolts.

The plaque fabricator shall have a minimum of five years experience in the casting and fabrication of bronze plaques. The fabricator shall be approved by the Engineer.

The contractor shall submit a proof of the plaque and receive acceptance from the engineer prior to fabrication.

**04 – Method of Measurement:** This item will be measured for each plaque provided, installed, and accepted by the Engineer.

**05 – Basis of Payment:** This item will be paid for at the contract price for each bridge plaque installed and accepted, which price shall include all materials, tools, equipment, and labor incidental thereto.

Pay Item	Pay Unit
Bridge Plaque	EA.

**ITEM #0201013A – REMOVAL OF EXISTING FENCE**

**01 - Description:** This work shall consist of removing existing fence and tensioning the remaining fence at the last post at the limit of removal as shown on the Plans or as directed by the Engineer.

**02 – Construction Methods:** The fencing shall be removed to an existing post at the direction of the Engineer. The existing fence fabric remaining shall be knuckled as necessary and retensioned at the limit of removal. Existing hardware from the fence removal may be reused. Existing posts to be removed that are set in concrete may be cut off flush with the concrete and filled with grout. All fencing material not reused shall be properly disposed of.

**03 – Method of Measurement:** This work will be measured for payment by the actual number of linear feet of fencing removed between post centers. Measurements shall be made along the top line of the fence.

**04 – Basis of Payment:** This work will be paid for at the Contract unit price per linear foot for “Removal of Existing Fence” complete in place, which price shall include all materials, equipment, tools, and labor for the removal of the fence, cutting posts and grouting holes, tensioning fence to remain and properly disposing of the material.

Pay Item	Pay Unit
Removal of Existing Fence	L.F.



**ITEM #0202491A – REMOVAL OF GRANITE STONE CURBING**

**01 - Description:** This work shall consist of removing and salvaging granite stone curbing as shown on the Plans or as directed by the Engineer.

**02 – Construction Methods:** The curbing shall be removed, salvaged and delivered to the Owner (Borough of Naugatuck) at the direction of the Engineer. The curbing to be removed shall be removed with care to avoid damage and brushed clean of loose debris. Removed curbing shall be delivered to a location within the borough designated by the Borough of Naugatuck. Contact shall be made with the Borough at least 24 hours in advance to coordinate unloading and storage. The Contractor shall load, transport, and unload the curbing, which shall be stacked and stored according to the directions of the Borough. Should the curbing not be retained by the Borough, the curbing shall be properly disposed of at no additional cost to the Borough.

**03 – Method of Measurement:** This work will be measured for payment by the actual number of linear feet of granite stone curbing measured prior to removal. Measurements shall be made along the top arris line of the face of curb.

**04 – Basis of Payment:** This work will be paid for at the Contract unit price per linear foot for “Removal of Granite Stone Curbing,” complete in place, which price shall include all materials, excavation, equipment, tools, and labor incidental to the removal of the granite stone curbing, and any costs associated with delivering salvaged material to the Owner, or properly disposing of the material.

Pay Item	Pay Unit
Removal of Granite Stone Curbing	L.F.

## **ITEM #0303050A – CONCRETE PAVER ON 4” CONCRETE BASE SLAB**

**01 - Description:** This work shall consist of installing cement concrete pavers in bituminous concrete leveling course on cement concrete slab to the limits shown on the plans or as directed by the Engineer.

Installation shall be by a contractor and crew with at least three years of experience in placing interlocking concrete pavers on projects of similar nature or dollar cost.

**02 – Materials:** The material shall conform to the following:

### Cement Concrete Pavers:

Pavers shall be supplied by: Hanover Architectural Products  
5000 Hanover Road  
Hanover, PA 17331  
717-637-0500

Products from qualified manufacturers having a minimum of 5 years experience manufacturing unit pavers will be acceptable by the Engineer as equal, if they meet the following specifications for design, size, color and fabrication.

#### Paver Field

Model: Apian Brick – Tumbled Finish  
Size: Mixed  
Color: Salmon/Charcoal  
Pattern: Random  
Or approved equal

#### Paver Banding

Model: Halifax Flagstone  
Size: 12”x12” and 8”x12”  
Color: South Mountain Sand  
Pattern: Soldier Course  
Or approved equal

Pavers shall meet the minimum material and physical properties set forth in ASTM C 936, Standard Specification for Interlocking Concrete Paving Units.

1. Average compressive strength 8000 psi with no individual unit under 7,200 psi.
2. Average absorption of 5% with no unit greater than 7% when tested according to ASTM C 140.

3. Resistance to 50 freeze-thaw cycles, when tested according to ASTM C 67, with no breakage greater than 1.0% loss in dry weight of any individual unit. This test method shall be conducted not more than 12 months prior to delivery of units.

Pigment in concrete pavers shall conform to ASTM C 979. ACI Report No. 212.3R provides guidance on the use of pigments.

Processed Aggregate Base:

Processed Aggregate Base shall conform to the requirements of Section 3.04 of the Standard Specifications.

Concrete:

The concrete shall conform to the requirements of Section 9.21 of the Standard Specifications.

Reinforcing:

The reinforcing shall conform to the requirements of Article M.06.01 of the Standard Specifications.

Setting Bed:

Bituminous concrete leveling course: Class 12 per DOT Form 816.

Neoprene Tack Coat shall meet the following requirements:

1. Mastic (asphaltic adhesive):
  - a) Solids (base) content by volume =  $75 \pm 1\%$ .
  - b) Weight = 8 to 8.5 lb./gal
  - c) Solvent vehicle – Varsol (over 75 degrees F flash)
2. Base (2% neoprene, 10% fibers, 82% asphalt):
  - a) Melting point (ASTM D-36-95) = 200 degrees F, minimum
  - b) Penetration at 77 degrees F 3.5 oz. load 5 second = 23 to 27.
  - c) Ductility (ASTM D-113-99 at 77 degrees F 3/16"/minute = 50 in. minimum.

Joint Sand:

Unilock® Unicare Polymeric Sand Plus (for Heavy Traffic Areas), color: Tan, or approved equivalent.

Paver Edge Restraint:

Paver edge restraint to be Pave Edge Rigid as manufactured from Pave Tech, Inc., 8626 Hollander Drive, Franksville, Wisconsin 53126, Phone: (262)-884-800, Fax: (262)-884-8006, or approved equivalent.

**03 – Construction Methods:**

Site Preparation:

The site must be stripped of all topsoil and other objectionable materials to the grades required for paver system installation.

After trimming to the grades required, the subgrade is to be proof rolled to 95 percent Standard Proctor Density in the presence of the Engineer, with soft spots or localized pockets of objectionable material excavated and properly replaced with approved processed aggregate base. The subgrade shall be trimmed to within 0 to ½ in. of the required grades. The surface of the prepared subgrade shall not deviate by more than 3/8 in. from the bottom edge of a 10 ft. straight edge laid in any direction.

The Contractor shall ensure that the prepared subgrade is protected from damage from inundation by surface water. No traffic shall be allowed to cross the prepared subgrade. Repair of any resulting damage shall be the responsibility of the Contractor and shall be repaired.

Under no circumstances shall further paver construction proceed until the Owner and/ or the Consultant has inspected the subgrade.

Processed Aggregate Base:

Install processed aggregate base in conformance with Section 3.04 of the Standard Specifications and as shown on the details.

Concrete Base Installation:

The concrete base shall be installed in conformance with Section 9.21 of the Standard Specifications and as shown on the details. The concrete base shall be finished to within 0 to 3/8 in. of the specified grade. The surface of the prepared concrete base shall not deviate more than 3/8 in. from the bottom edge of a 10 ft. straight edge laid in any direction. The concrete surface shall be float finished.

Paver Installation:

The existing pavers on the northeast corner shall be the standard from which the work will be judged. Do not install pavers during heavy rain or snowfall.

Before placing pavers, the concrete base shall be inspected by the Engineer. Install a bituminous concrete leveling course as detailed on the plans.

A coating of neoprene-modified asphalt setting adhesive shall be applied by mopping, squeegeeing or troweling over the top surface of the bituminous concrete leveling course so as to provide a bond under the pavers. If adhesive is trowel-applied, trowel shall be serrated type with serration not to exceed 1/16".

Pavers shall be installed in patterns similar to the existing pavers on the northeast corner of the project. In areas where standard patterns do not apply, Contractor shall obtain design modifications from the Engineer prior to the installation of the pavers. Where required, cut pavers with an approved cutter to fit accurately, neatly and without damaged edges. After a

section of the sidewalk has been completed, fill joints by sweeping in dry clean polymeric sand and tamp down pavers uniformly with a mechanical vibrator to true grade and free of movement. It is the responsibility of the Contractor to discard all damaged pavers during the installation process. The Contractor shall replace any damaged pavers identified by the Engineer during final inspection.

Along all edges where pavers do not abut any other pavement, curbing, structures, or any stable materials, the Contractor shall install edging in order to retain pavers, regardless if edging is identified on drawings.

Submittals: The Contractor shall submit the following:

1. Shop or product drawings and product data.
2. Full size samples of concrete paving units to indicate color and shape selections.
3. Test results from an independent testing laboratory for compliance of paving unit requirements to ASTM C 936 or other applicable requirements.

**04 – Method of Measurement:** This work will be measured for payment by the actual number of square yards of pavers installed and accepted, which price shall include, subgrade compaction, concrete base, expansion and construction joints, reinforcing and dowels, bituminous concrete leveling course, neoprene tack coat, polymeric sand, pavers, paver edge restraints, all other materials, equipment, tools, and labor incidental thereto. Excavation and granular fill will be measured under separate items.

**05 – Basis of Payment:** This work will be paid for at the Contract unit price per square yard for “Concrete Paver On 4” Concrete Pavement” complete in place, which price shall include all materials, equipment, tools, and labor necessary for the installation. Excavation will be paid under earth excavation, rock or concrete excavation will be paid under rock excavation.

Pay Item	Pay Unit
Concrete Paver On 4” Concrete Pavement	S.Y.

**ITEM #0402903A – BRICK PAVING**

**01 - Description:** This item consists of providing and installing a cement brick wearing surface over bedding on a drainage blanket as shown on the plans and described herein.

**02 – Materials:** Materials shall conform to the following:

Cement Brick paver: Nominal size 4”x8”x3” thick. The Color shall be selected by Engineer from manufacturer’s available colors.

Pavers shall meet the following physical requirements set forth in ASTM C936 Standard Specification for Solid Concrete Interlocking Paving Units.

Average compressive strength of three pavers to be greater than 8000 psi with no individual unit under 7250 psi when tested in accordance with ASTM C140.

Average absorption of three pavers to be less than 5% with no unit greater than 7% when tested in accordance with ASTM C 140.

Maximum 1.0 % weight loss of five specimens subjected to 50 freeze-thaw cycles when tested in accordance with ASTM C 67.

Bedding:

bedding shall be as hard as practically available, washed, clean, non-plastic, free from deleterious or foreign matter, symmetrically shaped, natural or manufactured from crushed rock.

Do not use limestone screenings, stone dust, or sand for the bedding that does not conform to the grading requirements of ASTM C33.

Do not use mason sand or sand conforming to ASTM C144 for the bedding.

Conform to the grading requirements shown in the following table:

ASTM C 33	
Sieve Size	Percent Passing
3/8 in. (9.5 mm)	100
No. 4 (4.75 mm)	95 to 100
No. 8 (2.36 mm)	85 to 100
No. 16 (1.18 mm)	50 to 85
No. 30 (0.600 mm)	25 to 60
No. 50 (0.300 mm)	10 to 30
No. 100 (0.150 mm)	2 to 10
No. 200 (0.075 mm)	0 to 1

Joint Sand:

Joint sand shall conform to the grading requirements shown in the following table:

	ASTM C 144 Natural Sand	ASTM C 144 Manufactured Sand
Sieve Size	Percent Passing	Percent Passing
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 (0.600 mm)	40 to 75	40 to 100
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 1	0 to 10

Drainage Blanket: The drainage blanket shall be a prefabricated drainage blanket meeting the following criteria:  
 Compressive strength (ASTM D1621) perpendicular to the core 125psi  
 Horizontal In plane flow rate (ASTM D4716) @ 0.05 gradient 3gal/min  
 Apparent opening size (ASTMD4751) 80 US STD. Sieve  
 Grab tensile strength (ASTM D4632) 200 lbs  
 Grab elongation (ASTM D4632) 50%  
 Puncture resistance (ASTM D4833) 130lbs  
 Replacement warranty for defective material: 5 years

Sand Stabilizer: Water based epoxy.

**03 – Construction Methods:** The brick paving system shall consist of cement brick pavers laid in a herringbone pattern on 1” bedding on a prefabricated drainage blanket.

Drainage blanket:

The contractor shall submit manufacturer product data certificates of compliance with a 1sf sample for approval. The contractor shall submit shop drawings that show the layout of the sheets, orientation of drainage pathways, methods of splicing sheets, and any accessories.

The contractor shall coordinate a pre-installation meeting to verify project requirements, installation instructions, and warranty requirements. The contractor shall have a manufacturer’s representative present at the beginning of the installation to assist and train the contractor in the installation and splicing of the product and to validate the manufacturer warranty.

The surface to receive the drainage blanket shall be smooth, free of depressions, protrusions, and other contaminants that may impair the performance or void the warranty. The substrate surface shall be swept clean prior to installation.

The material shall be handled and stored in accordance with the manufacturers recommendations.

Attach drainage blanket panels by either placing temporary ballast on top or adhering the panels to the bituminous paving with contact adhesive. Connect adjacent panels at the longitudinal edge by pulling the filter fabric back to expose the flange. The panel edge should be butted to the edge of the adjacent panel dimple to dimple or the edge of the next panel may be placed over two dimples and interlocked. Panel ends are to be attached in the same manner. Connections should be completed in shingle fashion so that moisture will flow with the overlap and not against it. Overlap fabric in the direction of water flow. Cover all terminal edges with the filter fabric flap by tucking the fabric behind the core. Bedding sand and pavers may be placed directly on woven fabric side. Caution should be taken not to place point loads on the blanket that might puncture the filter fabric. Any punctured or damaged blanket shall be replaced at no additional cost. Create openings in the blanket core to correspond with all weepholes in the deck. Fabric must be placed over these holes to prevent intrusion of sand into the drainage core. Upon completion and acceptance of the work, the manufacturer shall issue a warranty agreeing to promptly replace defective materials for a period of 5 years.

Cement Pavers:

Contractor shall submit the following:

- Sieve analysis per ASTM C136 for grading of bedding and joint sand.
- Four full-size pavers that represent the range of color variation and texture expected in the finished installation.
- Test results from an independent testing laboratory for compliance of concrete pavers with ASTM C936.
- Manufacturer's catalog product data, installation instructions, and material safety data sheets for the safe handling of the specified materials and products.
- Product data sheet for water based epoxy for sand stabilization.
- A copy of the installer's current certificate from the Interlocking Concrete Pavement Institute Concrete Paver Installer Certification program.

The paver installer shall have successfully completed concrete paver installation similar in design, material, and extent indicated on this project, and hold a current certificate from the Interlocking Concrete Pavement Institute Concrete Paver Installer Certification program.

Materials shall be delivered in manufacturer's original, unopened, undamaged containers/packaging with identification labels intact. Contractor shall handle material in such a manner that no damage occurs to the product. Contractor shall store materials per manufacturer's instructions and protected such that they are kept free from mud, dirt, and other foreign materials. Bedding and joint sand shall be covered with waterproof covering secured in place to prevent exposure to rainfall or wind.

Contractor shall not install sand or pavers during heavy rain or snowfall; install frozen or saturated base material or sand; install pavers on frozen or saturated sand.

Contractor shall spread the bedding evenly over the base course and screed to a nominal 25 mm (1") thickness, not exceeding 40 mm (1 1/2") thickness. Spread bedding evenly over the base



course and screed rails, using the rails to produce a nominal 25 mm (1") thickness allowing for specified variation in the base surface. Do not use bedding to fill depressions in the base surface.

Do not disturb screeded bedding. Screeded area shall not substantially exceed that which can be covered by pavers in one day.

Lay the pavers in a herringbone pattern. Start pattern at curb line so that cut pavers shall be no smaller than one third of a whole paver. Place units hand tight without using hammers. Make horizontal adjustments to placement of laid pavers with rubber hammers and pry bars as required to straighten and align bond lines. Bond lines shall not deviate more than +/- 5/8" over 50 ft from string lines.

Provide joints between the pavers between 1/16" to 3/16" wide. No more than 5% of the joints shall exceed 6 mm (1/4") wide to achieve straight bond lines.

Fill gaps at the edges of the paved area with cut pavers. Pavers shall be cut full depth with a masonry saw.

Keep skid steer and forklift equipment off newly laid pavers that have not received initial compaction and joint sand.

Spread, sweep and compact dry joint sand into joints continuously until full. This will require at least 4-6 passes with a plate compactor. Do not compact within 6 ft of unrestrained edges of paving units.

Use a low amplitude plate compactor capable of at least 4000 lbf compaction at a frequency of 75 hz – 100 hz to vibrate the pavers into the bedding. Use a cushion between the compactor and pavers to prevent damage to the pavers. Remove any cracked or damaged pavers and replace with new units at no additional cost to the town.

All work to within 6 ft of the laying face must be left fully compacted with sand-filled joints at the end of each day or re-compacted upon acceptance of work. Cover the laying face or any incomplete areas with plastic sheets overnight to prevent exposed bedding sand from becoming saturated by rainfall.

Pavers shall be installed after all other trades have finished work to prevent damage. Pavers damaged by contractors operations shall be replaced at no cost to the Towns.

The final surface elevations shall not deviate more than 3/8" under a 10 ft long straightedge. The difference in height between pavers shall not exceed 1/8". Pavers not meeting the tolerance shall be lifted and adjusted at no additional cost.

Joint sand shall be stabilized with a water based epoxy. The epoxy system shall be compatible with the pavers and sand gradation used. Apply joint sand stabilization materials between concrete pavers in accordance with the manufacturer's written recommendations.

**04 – Method of Measurement:** This item will be measured for by the square foot of completed bridge paving structure accepted by the Engineer.

**05 – Basis of Payment:** This item will be paid for at the contract unit price per square foot of brick paving structure installed and accepted, which price shall include all materials, tools, equipment, and labor incidental thereto.

Pay Item	Pay Unit
Brick Paving	SF

**ITEM #0406267A - MILLING OF HOT MIX ASPHALT (HMA) – (0- 4 INCHES)**

**ITEM #0406268A - MILLING OF HOT MIX ASPHALT (HMA) – (OVER 4 TO 8 INCHES)**

**ITEM #0406269A - MILLING OF HOT MIX ASPHALT (HMA) – (GREATER THAN 8 INCHES)**

**Description:** This work shall consist of the milling, removal, and disposal of existing HMA pavement.

**Materials:** The existing HMA surface shall be disposed of offsite by the Contractor at an approved disposal facility unless otherwise stated in the contract documents.

**Construction Methods:** The Contractor shall remove the HMA material using means acceptable to the Engineer. The pavement surface shall be removed to the line, grade, and existing or typical cross-section shown on the plans or directed by the Engineer.

The equipment for milling the pavement surface shall be designed and built for milling flexible pavements. It shall be self propelled with sufficient power, traction, and stability to maintain depth and slope and shall be capable of removing the existing HMA pavement.

The milling machine shall be equipped with a built-in automatic grade averaging control system that can control the longitudinal profile and the transverse cross-slope to produce the specified results. The longitudinal controls shall be capable of operating from any longitudinal grade reference, including string line, contact ski (30 feet minimum), non-contact ski (20 feet minimum), or mobile string line (30 feet minimum). The transverse controls shall have an automatic system for controlling cross-slope at a given rate. The Engineer may waive the requirement for automatic grade or slope controls where the situation warrants such action.

The rotary drum of the machine shall utilize carbide tip tools spaced not more than  $\frac{5}{8}$  inches apart. The forward speed of the milling machine shall be limited to no more than 45 feet/minute. The tools on the revolving cutting drum must be continually maintained and shall be replaced as warranted to provide a uniform pavement texture. The Contractor may request to perform a test strip to demonstrate that the same surface tolerance can be attained at an increased forward speed. The test strip shall be a maximum length of 500 feet and shall have the same criteria for surface tolerance as noted in this specification. The final decision for implementing the increased forward speed will be at the discretion of the Engineer.

The machine shall be equipped with an integral pickup and conveying device to immediately remove material being milled from the surface of the roadway and discharge the millings into a truck, all in one operation. The machine shall also be equipped with a means of effectively limiting the amount of dust escaping from the milling and removal operation.

When milling smaller areas or areas where it is impractical to use the above described equipment, the use of a lesser equipped milling machine may be permitted when approved by the Engineer.

Protection shall be provided around existing catch basin inlets, manholes, utility valve boxes, and any similar structures. Any damage to such structures as a result of the milling operation is the Contractor's responsibility and shall be repaired at the Contractor's expense.

To prevent the infiltration of milled material into the storm drainage system, the Contractor shall take special care to prevent the milled material from falling into the inlet openings or inlet grates. Any milled material that has fallen into inlet openings or inlet grates shall be removed at the Contractor's expense.

**Surface Tolerance:** The milled surface shall provide a satisfactory riding surface with a uniform textured appearance. The milled surface shall be free from gouges, longitudinal grooves and ridges, oil film, and other imperfections that are a result of defective equipment, improper use of equipment, or poor workmanship. The Contractor, under the direction of the inspector, shall perform random spot-checks with a Contractor supplied ten-foot straightedge to verify surface tolerances at a minimum of five locations per day. The variation of the top of two ridges from the testing edge of the straightedge, between any two ridge contact points, shall not exceed  $\frac{3}{8}$  inch. The variation of the top of any ridge to the bottom of the groove adjacent to that ridge shall not exceed  $\frac{3}{8}$  inch. Any unsatisfactory surfaces produced are the responsibility of the Contractor and shall be corrected at the Contractor's expense and to the satisfaction of the Engineer.

The depth of removal will be verified by taking a measurement every 250 feet per each pass of the milling machine, or as directed by the Engineer. These depth measurements shall be used to monitor the average depth of removal.

Where a surface delamination between HMA layers or a surface delamination of HMA on Portland cement concrete causes a non-uniform texture to occur, the depth of milling shall be adjusted in small increments to a maximum of a +/-  $\frac{1}{2}$  inch to eliminate the condition.

When removing a HMA pavement entirely from an underlying Portland cement concrete pavement, all of the HMA pavement shall be removed leaving a uniform surface of Portland cement concrete, unless otherwise directed by the Engineer.

Any unsatisfactory surfaces produced by the milling operation are the Contractor's responsibility and shall be corrected at the Contractor's expense and to the satisfaction of the Engineer.

No vertical faces, transverse or longitudinal, shall be left exposed to traffic unless it meets the requirements below. This shall include roadway structures (catch basins, manholes, utility valve boxes, etc.). If any vertical face is formed in an area exposed to traffic a temporary paved transition will be established according to the requirements shown on the plans. If the milling machine is used to form a temporary transition, the length of the temporary transition shall conform to Special Provision Section 4.06 - Bituminous Concrete, "Transitions for Roadway Surface", the requirements shown on the

plans, or as directed by the Engineer. At all permanent limits of removal, a clean vertical face shall be established by saw cutting prior to paving.

Roadway structures shall not have a vertical face of greater than 1 inch exposed to traffic as a result of milling. All structures within the roadway that are exposed to traffic and greater than 1 inch above the milled surface shall receive a transition meeting the following requirements:

For roadways with a posted speed limit of 35 mph or less\*:

1. Round structures with a vertical face of greater than 1 inch to 2.5 inches shall be transitioned with a hard rubber tapered protection ring of the appropriate inside diameter designed specifically to protect roadway structures.
2. Round structures with a vertical face greater than 2.5 inches shall receive a transition of bituminous concrete formed at a minimum 24 to 1 taper.
3. All rectangular structures shall receive a transition of bituminous concrete formed at a minimum 24 to 1 taper.

\*Bituminous concrete tapers at a minimum 24 to 1 taper may be substituted for the protection rings if approved by the Engineer.

For roadways with a posted speed limit of greater than 35 mph:

1. All structures shall receive a transition of bituminous concrete meeting the temporary transition requirements in Special Provision Section 4.06- Bituminous Concrete, "Transitions for Roadway Surface".

The milling operation shall proceed in accordance with the requirements of the "Maintenance and Protection of Traffic" and "Prosecution and Progress" specifications, or other contract requirements. The more stringent specification shall apply.

Prior to opening an area which has been milled to traffic, the pavement shall be thoroughly swept with a sweeper. The sweeper shall be equipped with a water tank and be capable of removing the millings and loose debris from the surface. Other sweeping equipment may be provided in lieu of the sweeper where acceptable by the Engineer.

Any milled area that will not be exposed to live traffic for a minimum of 48 hours prior to paving shall require a vacuum sweeper truck in addition to, or in lieu of, mechanical sweeping. The vacuum sweeper truck shall have sufficient power and capacity to completely remove all millings from the roadway surface including any fine particles within the texture of the milled surface. Vacuum sweeper truck hose attachments shall be used to clean around pavement structures or areas that cannot be reached effectively by the main vacuum. Compressed air may be used in lieu of vacuum attachments if approved by the Engineer.

**Method of Measurement:** This work will be measured for payment by the number of square yards of area from which the milling of asphalt has been completed and the work accepted. No area deductions will be made for minor unmilled areas such as catch basin inlets, manholes, utility boxes and any similar structures.

The depth of removal will be calculated by taking a measurement at a minimum every 250 feet per each pass of the milling machine, or as directed by the Engineer. The average depth of each section will determine which payment item is applicable.

**Basis of Payment:** This work will be paid for at the contract unit price per square yard for “Milling of HMA (0 to 4 inches) (Over 4 to 8 inches) (greater than 8 inches)”. This price shall include all equipment, tools, labor, and materials incidental thereto.

No additional payments will be made for multiple passes with the milling machine to remove the bituminous surface.

No separate payments will be made for cleaning the pavement prior to paving; providing protection and doing handwork removal of bituminous concrete around catch basin inlets, manholes, utility valve boxes and any similar structures; repairing surface defects as a result of the Contractors negligence; providing protection to underground utilities from the vibration of the milling operation; removal of any temporary milled transition; removal and disposal of millings; furnishing a sweeper and sweeping after milling. The costs for these items shall be included in the contract unit price.

Pay Item	Pay Unit
Milling of Hot Mix Asphalt (HMA) – (0- 4 inches)	Sq. Yd
Milling of Hot Mix Asphalt (HMA) – (Over 4 to 8 inches)	Sq. Yd
Milling of Hot Mix Asphalt (HMA) – (greater than 8 inches)	Sq. Yd

**ITEM #0511203A – POLYVINYL CHLORIDE PLASTIC PIPE  
WEEPHOLES**

**01 - Description:** This item consists of providing and installing a 1 ½” PVC pipe in new concrete for weepholes through the deck as shown on the plans and described herein.

**02 – Materials:** Materials shall conform to the following:

PVC Pipe:                   ASTM D1785, Schedule 40

**03 – Construction Methods:** The PCV pipe weepholes shall be located as shown on the plans or as directed. The pipe shall be secured inside the formwork prior to placing the concrete in a way that prevents movement.

**04 – Method of Measurement:** This item will be measured for each pipe provided, installed, and accepted by the Engineer.

**05 – Basis of Payment:** This item will be paid for at the contract price for each PVC Weephole installed and accepted, which price shall include all materials, tools, equipment, and labor incidental thereto.

Pay Item	Pay Unit
Polyvinyl Chloride Plastic Pipe Weepholes	EA.

**ITEM #0511211A – CONSTRUCT WEEP DRAINS**

**01 - Description:** This item consists of providing and installing 1 ½” PVC pipe for weepholes by drilling through existing concrete deck as shown on the plans and described herein.

**02 – Materials:** Materials shall conform to the following:

PVC Pipe:	ASTM D1785, Schedule 40
Epoxy Grout:	Non-Aluminum powder, Expansive grout, 1% min and 4% max when tested under ASTM C827

**03 – Construction Methods:** The PCV pipe weepholes shall be located as shown on the plans or as directed. The holes shall be core drilled through the existing concrete. Existing reinforcing shall not be cut. The angle or location of the hole may be required to avoid cutting existing reinforcing. The PVC Pipe shall be placed in the hole and grouted in place. A liquid tight seal shall be provided around the bottom of pipe to prevent the grout from running out. The pipe shall be secured in place to prevent vibration or movement until the grout cures.

Contractor shall submit a certificate of compliance for the grout.

The grout shall be handled and stored in accordance with the manufacturer recommendations.

The diameter of the hole shall provide the minimum gap thickness for the grout as specified by the grout manufacturer. The hole shall be blown clean of all dust with air just prior to grouting. The surface of the hole shall be in compliance with manufacturer recommendations. Re-cleaning of the hole shall be done at no additional cost. The pipe shall be wiped clean prior to installation. The pipe shall not be installed in the hole until ready to be grouted.

The grout shall be mixed, placed, and cured following all manufacturer recommendations.

**04 – Method of Measurement:** This item will be measured for each weep drain provided, constructed, and accepted by the Engineer.

**05 – Basis of Payment:** This item will be paid for at the contract price for each Weep Drain installed and accepted, which price shall include all materials, tools, equipment, and labor incidental thereto.

Pay Item	Pay Unit
Construct Weep Drains	EA.



**ITEM #0514981A – PRECAST CONCRETE ARCHITECTURAL PANELS**  
**(SITE NO. 1)**

**01 - Description:** This item consists of providing and installing precast concrete architectural panels on either side of the plaque support at the mid-span of the bridge as shown on the plans and described herein.

**02 – Materials:** Materials shall conform to the following:

Precast Concrete: Portland Cement Concrete, 3000psi, 4% air min.  
Non-Shrink Grout: M.03.01-12

**03 – Construction Methods:** The contractor shall provide and install two ornamental panels, one each side of the plaque support. The panels shall be made of Portland cement concrete. The concrete shall be durable with low water absorption and be resistant to freeze thaw damage.

The panels shall create a fillet appearance between the top of the parapet and the plaque support. The panels shall be approximately 3'-6" x 3'-6" x 9" thick. The panels shall be created to simulate previous panels lost in the flood. Pictures of the previous panels will be provided for the manufacturer's use in designing the panels. In general the panels shall resemble draped cloth and have a cylindrical shape at each end. Additional details necessary to construct the panels shall be worked out by the manufacturer and shall have the appearance indicated on the plans or described herein.

The panels shall be formed by the use of reverse moulds. The panels shall be produced by a qualified manufacturer approved by the Engineer. The manufacturer shall have a minimum of five years experience in producing ornamental concrete. The panels shall be carefully built by the most approved modern methods and in accordance with the general dimensions shown on the plans. The manufacturer shall prepare all detailed drawings that he may require for his guidance, and all such drawings as well as all carvings that he may prepare shall be approved by the Engineer before the panels are made.

Panels shall be carefully handled, shipped and stored so as to prevent all damage to the ornaments. They shall be delivered at the site of the work completely assembled and of the required size and shape in order to facilitate their proper placing. The Contractor shall be responsible for their condition at all times, and he will be required to remove and replace any damaged or defective panels at his own expense.

The panels shall be fitted into the surrounding concrete work so that they will be securely fastened on the bottom and side. The panel shall be secured to the bridge on the bottom of the panel by dowels in the parapet grouted into sleeves in the panels. The side of the panel shall be

secured to the plaque support by a grouted keyway. Alternate method of attachment may be proposed by the panel manufacturer.

**04 – Method of Measurement:** This item will be measured for payment by the lump sum which includes two panels.

**05 – Basis of Payment:** This item will be paid for at the contract lump sum price for precast concrete architectural panels installed and accepted, which price shall include all materials, tools, equipment, and labor incidental thereto to install panels on both sides of the plaque support.

Pay Item	Pay Unit
Precast Concrete Architectural Panels (Site No. 1)	LS

## **ITEM #0520036A - ASPHALTIC PLUG EXPANSION JOINT SYSTEM**

**Description:** Work under this item shall consist of furnishing and installing an asphaltic plug expansion joint system (APJ) in conformance with ASTM D6297, as shown on the plans, and as specified herein.

Work under this item shall also consist of the removal and disposal of bituminous concrete, membrane waterproofing, existing joint components and sealing elements, cleaning and sealing median barrier joints, parapet joints, and sidewalk joints.

Work under this item excludes the removal of Portland cement concrete headers.

**Materials:** The APJ component materials shall conform to ASTM D6297 and the following:

Aggregate: The aggregate shall meet the following requirements:

- a) Loss on abrasion: The material shall show a loss on abrasion of not more than 25% using AASHTO Method T96.
- b) Soundness: The material shall not have a loss of more than 10% at the end of five cycles when tested with a magnesium sulfate solution for soundness using AASHTO Method T 104.
- c) Gradation: The aggregate shall meet the requirements of Table A below:
- d) Dust: aggregate shall not exceed 0.5% of dust passing the #200 sieve when tested in accordance with AASHTO T-11.

**Table A**

<b><u>Square Mesh Sieves</u></b>	<b>1" (25.0 mm)</b>	<b>¾" (19.0 mm)</b>	<b>½" (12.5 mm)</b>	<b>⅜" (9.5 mm)</b>	<b>No. 4 (4.75 mm)</b>
<b>% passing</b>	<b>100</b>	<b>90 - 100</b>	<b>20 - 55</b>	<b>0 - 15</b>	<b>0 - 5</b>

A sample of the aggregate shall be submitted to the Department with a Certified Test Report in accordance with Article 1.06.07 for each 20 tons of loose material or its equivalent number of bags delivered to the job site. The Certified Test report must include a gradation analysis resulting from a physical test performed on the actual material that accompanies the report.

Anti-Tacking Material: This material shall be a fine graded granular material with 100% passing the 3/16" sieve and no more than 5% passing the #200 when tested in accordance with AASHTO T-27.

Backer Rod: All backer rods shall satisfy the requirements of ASTM D5249, Type 1.

Bridging Plate: The bridging plates shall be steel conforming to the requirements of ASTM A36 and be a minimum ¼" thick and 8" wide. For joint openings in excess of 3" the minimum plate dimensions shall be ⅜" thick by 12" wide. Individual sections of plate shall

not exceed 4' in length. Steel locating pins for securing the plates shall be size 16d minimum, hot-dip galvanized, and spaced no more than 12" apart.

**Concrete Leveling Material:** Shall be a cementitious-based material that conforms to ASTM C928 Standard Specification for Packaged, Dry, Rapid-Hardening Cementitious Materials for Concrete Repair, for R3 performance requirements in Table 1 and achieve the following:

- a. Final set in 45 Minutes
- b. 2500 psi compressive strength in 24 hours
- c. 5000 psi compressive strength in 7 days

**Parapet Sealant:** The sealant used in parapet joint openings shall be a single component non-sag silicone sealant that conforms to the requirements of ASTM D5893.

**Sidewalk Sealant:** The sealant used in sidewalk joint openings shall be a rapid cure, self-leveling, cold applied, two-component silicone sealant. The silicone sealant shall conform to the requirements listed in Table B:

**Table B**

<b>Properties - As Supplied</b>	<b>Test Method</b>	<b>Requirement</b>
Extrusion Rate	ASTM C1183	200-600 grams/min
Leveling	ASTM C639	Self-Leveling
Specific Gravity	ASTM D792	1.20 to 1.40
<b>Properties - Mixed</b>	<b>Test Method</b>	<b>Requirement</b>
Tack Free Time	ASTM C679	60 min. max.
Joint Elongation – Adhesion to concrete	ASTM D5329 <sup>1,2,3</sup>	600% min
Joint Modulus @ 100% elongation	ASTM D5329 <sup>1,2,3</sup>	15 psi max
Cure Evaluation	ASTM D5893	Pass @ 5 hours

1. Specimens cured at 77±3<sup>0</sup>F and 50±5% relative humidity for 7 days
2. Specimens size: ½" wide by ½" thick by 2" long
3. Tensile Adhesion test only

The date of manufacture shall be provided with each lot. No sealant shall be used beyond its maximum shelf-life date.

The two-part silicone sealants shown in Table C are known to have met the specified requirements:

**Table C**

<b>Product</b>	<b>Supplier</b>
Dow Corning 902RCS	Dow Corning Corporation 2200 W Salzburg Road Auburn, Michigan 48611
Wabo SiliconeSeal	BASF/Watson Bowman Acme Corporation 95 Pineview Drive Amherst, New York 14228

Other two-component silicone joint sealants expressly manufactured for use with concrete that conform to the aforementioned ASTM requirements will be considered for use provided they are submitted in advance for approval to the Engineer. Other joint sealants will be considered for use only if a complete product description is submitted, as well as documentation describing at least five installations of the product. These documented installations must demonstrate that the product has performed successfully for at least three years on similar bridge expansion joint applications.

A Materials Certificate and Certified Test Report for the asphaltic binder shall be submitted by the Contractor in accordance with the requirements of Article 1.06.07 certifying that the asphaltic binder satisfies the requirements of the most current version of ASTM D6297.

A Materials Certificate for all other components of the APJ, leveling material, backer rod and sealant used in sealing parapet and sidewalk joint openings, shall be submitted by the Contractor in accordance with the requirements of Article 1.06.07

**Construction Methods:** The APJ shall be installed at the locations shown on the plans and in stages in accordance with the traffic requirements in the special provisions “Maintenance and Protection of Traffic” and “Prosecution and Progress”.

At least 30 days prior to start of the work, the Contractor shall submit to the Engineer for approval a detailed Quality Control Plan for the installation of the APJ. The submittal shall include:

- a) A list of all manufactured materials and their properties to be incorporated in the joint system, including, but not limited to the asphaltic binder, anti-tack material, backer rod, sealant, leveling material, as well as the aggregate’s source.
- b) A detailed step by step installation procedure and a list of the specific equipment to be used for the installation. The Quality Control Plan must fully comply with the specifications and address all anticipated field conditions, including periods of inclement weather.

The APJ shall not be installed when bituminous concrete overlay or joint cutout is wet. The APJ shall only be installed when the bridge superstructure surface temperature is within the limits specified in Table D and when the ambient air temperature is within the range of 45<sup>0</sup>F to 95<sup>0</sup>F.

The bridge superstructure surface temperature range is determined using the thermal movement range provided on the contract plans for the proposed APJ deck installation location and the selected APJ product.

**Table D**

<b>Installation Restrictions</b>	
<b>Designed Deck Joint Thermal Movement Range<sup>2</sup></b>	<b>Bridge Superstructure Surface Temperature<sup>1</sup></b>
0" to 1"	45° F to 95° F
1-1/8"	45° F to 90° F
1-1/4"	45° F to 80° F
1-3/8"	45° F to 70° F
1-1/2"	45° F to 65° F

- 1. The superstructure surface temperature shall be determined from the average of three or more surface temperature readings taken at different locations on the interior girder surfaces by the Contractor as directed by the Engineer. Temperature measurements of the superstructure shall be taken by the contractor with a calibrated hand held digital infrared laser-sighted thermometer on the surfaces of an interior steel girder, or interior concrete girder protected from direct sunlight. The infrared thermometer to be supplied by the Contractor for this purpose shall meet certification requirements of EN61326-1, EN61010-1, and EN60825-1 maintained by the European Committee for Electrotechnical Standardization (CENELEC). The thermometer shall have a minimum distance-to-spot ratio of 50:1 and shall have adjustable emissivity control. The thermometer shall have a minimum accuracy value of  $\pm 1\%$  of reading or  $\pm 2^{\circ}\text{F}$ , whichever is greater. The thermometer shall be used in strict accordance with the manufacturer's written directions. An additional infrared thermometer satisfying the same standards to be used in this application shall also be provided to the Engineer for quality assurance purposes.*
- 2. Linear interpolation may be used to determine an allowable surface temperature range for thermal movement ranges in between values shown in the table, as approved by the Engineer.*

Prior to installing the APJ, the Contractor shall determine the exact location of the deck joint beneath the bituminous concrete overly.

The APJ shall be installed symmetrically about the deck joint opening to the dimensions shown on the plans or as directed by the Engineer; not to exceed 24 inches measured perpendicular to the deck joint. The proposed saw cut lines shall be marked on the bituminous concrete overlay by the Contractor and approved by the Engineer, prior to saw-cutting. The saw-cuts delineating the edges of the APJ shall extend full depth of the bituminous concrete overlay.

The existing bituminous concrete overlay, waterproofing membrane and/or existing expansion joint material, within the saw cut limits shall be removed and disposed of by the Contractor to create the joint cutout.

Concrete surfaces that will support the bridging plates shall be smooth and form a plane along and across the deck joint. Rough or damaged concrete surfaces shall be repaired with a leveling compound meeting the requirements of this specification. Deteriorated concrete areas within the joint limits shall be repaired as directed by the Engineer: such repairs, when deemed necessary by the Engineer, shall be compensated for under the applicable concrete deck repair items in the Contract. The existing and repaired concrete surfaces shall provide continuous uniform support for the bridging plate and prevent the plate from rocking and deflecting.

Prior to the installation of the backer rod, all horizontal and vertical surfaces of the joint cutout shall be abrasive blast cleaned using an oil-free, compressed air supply. The entire cutout shall then be cleared of all loose blast media, dust, debris and moisture using an oil-free, hot air lance capable of producing an air stream at 3,000°F with a velocity of 3,000 feet per second.

A single backer rod, with a diameter at least 25% greater than the existing joint opening at the time of installation, shall be installed at an inch below the bridging plate in the existing deck joint opening between the concrete edges.

Asphaltic binder shall be heated to a temperature within the manufacturer's recommended application temperature range which shall be provided in the Quality Control Plan. During application, the temperature of the binder shall be maintained within this range. In no case shall the temperature of the binder go below 350° F nor exceed the manufacturer's recommended maximum heating temperature.

Asphaltic binder shall then be poured into the joint opening until it completely fills the gap above the backer rod. A thin layer of binder shall next be applied to the all horizontal and vertical surfaces of the joint cutout.

Bridging plates shall be abrasive blast-cleaned on-site prior to installation and then placed over the deck joint opening in the joint cutout. The plates shall be centered over the joint opening and secured with locating pins along its centerline. The plates shall be placed end to end, without overlap, such that the gap between plates does not exceed 1/4". The plates shall extend to the gutter line and be cut to match the joint's skew angle, where concrete support exists on both sides of the joint. Within APJ installation limits, where concrete support does not exist at both sides of the joint opening (such as where a bridge deck end abuts a bituminous concrete roadway shoulder), bridging plates shall not be installed. Installed bridging plates shall not rock or deflect

in any way. After installation of bridging plates, a thin layer of asphaltic binder shall be applied to all exposed surfaces of the plates.

The remainder of the joint cutout shall then be filled with a mixture of hot asphaltic binder and aggregate prepared in accordance with the submitted Quality Control Plan and the following requirements:

- The aggregate shall be heated in a vented, rotating drum mixer by the use of a hot-compressed air lance to a temperature of between 370° F. to 380° F. This drum mixer shall be dedicated solely for the heating and, if necessary, supplemental cleaning of the aggregate. Venting of the gas and loose dust particles shall be accomplished through ¼” drilled holes spaced no more than 3” on center in any direction along the entire outside surface of the drum
- Once the aggregate has been heated, it shall then be transferred to a secondary drum mixer where it shall be fully coated with asphaltic binder. A minimum of two gallons of binder per 100lbs of stone is required.
- The temperature of the aggregate and binder shall be monitored by the contractor with a calibrated digital infrared thermometer.
- The coated aggregate shall be loosely placed in the joint cutout in lifts not to exceed 2 inches.
- Each lift shall be leveled, compacted and then flooded with hot asphaltic binder to the level of the aggregate to fill all voids in the coated aggregate layer. The surface of each lift shall be flooded until only the tips of the aggregate protrude out of the surface.
- The final lift shall be placed such that no stones shall project above the level of the adjacent overlay surface following compaction of the coated aggregate.
- Following installation of the final lift, sufficient time and material shall be provided to allow all voids in the mixture to fill. This step may be repeated as needed.
- The joint shall then be top-dressed by heating the entire area with a hot-compressed air lance and applying binder. The final joint surface must be smooth with no protruding stones and be absent of voids.
- Once top-dressed, the joint shall have an anti-tack material spread evenly over the entire surface to prevent tracking.

The Contractor shall be responsible for removing all binder material that leaks through the joint and is deposited on any bridge component, including underside of decks, headers, beams, diaphragms, bearings, abutments and piers.

Traffic shall not be permitted over the joint until it has cooled to 130° F when measured with a digital infrared thermometer. Use of water to cool the completed joint is permitted.

#### Sidewalk, parapet, and/or curb joint openings

Before placement of any sealing materials in parapets, curbs, or sidewalks, the joints shall be thoroughly cleaned of all scale, loose concrete, dirt, dust, or other foreign matter by abrasive blast cleaning. Residual dust and moisture shall then be removed by blasting with oil free



compressed air using a hot air lance. Projections of concrete into the joint space shall also be removed. The backer rod shall be installed in the joint as shown on the plans. The joint shall be clean and dry before the joint sealant is applied. Under no circumstances is the binder material to be used as a substitute for the joint sealant.

Whenever abrasive blast cleaning is performed under this specification, the Contractor shall take adequate measures to ensure that the abrasive blast cleaning will not cause damage to adjacent traffic or other facilities.

The joint sealant shall be prepared and placed in accordance with the manufacturer's instructions and with the equipment prescribed by the manufacturer. Extreme care shall be taken to ensure that the sealant is placed in accordance with the manufacturer's recommended thickness requirements.

The joint sealant shall be tooled, if required, in accordance with the manufacturer's instructions.

Primer, if required, shall be supplied by the sealant manufacturer and applied in accordance with the manufacturer's instructions.

When the sealing operations are completed, the joints shall be effectively sealed against infiltration of water. Any sealant which does not effectively seal against water shall be removed and replaced at the Contractor's expense.

Any installed joint that exhibits evidence of failure, as determined by the Engineer, such as debonding, cracking, rutting, or shoving of the APJ mixture shall be removed and replaced full-width and full-depth to a length determined by the Engineer at no additional cost to the State.

**Method of Measurement:** This work will be measured for payment by the number of linear feet of "Asphaltic Plug Expansion Joint System" installed and accepted between curbs. No additional measurement will be made for furnishing and installing backer rod and joint sealant in the parapets, concrete medians, curbs and/or sidewalks.

**Basis of Payment:** This work will be paid for at the contract unit price per linear foot for "Asphaltic Plug Expansion Joint System," complete in place, which price shall include the saw-cutting, removal and disposal of bituminous concrete, membrane waterproofing, existing joint components and sealing elements, the furnishing and placement of the leveling compound, cleaning of the joint surfaces, furnishing and installing bridging plates, the furnishing and installing of the asphaltic plug joint mixture, the cost of furnishing and installing joint sealant in the parapets, concrete medians, curbs and sidewalks, and all other materials, equipment including, but not limited to, portable lighting, tools, and labor incidental thereto. No additional payment shall be made for the bridging plates that are required for deck joint openings with widths in excess of 3".

If directed by the Engineer, additional deck repairs will be addressed and paid for under the applicable concrete deck repair items in the Contract.

## **ITEM # 0601196A – VARIABLE DEPTH PATCH**

**01 - Description:** This item shall consist of the saw cutting concrete, removal of all deteriorated concrete as determined by the Engineer, straightening reinforcing, and reconstructing with new concrete, where directed by the Engineer and as hereinafter specified.

Providing and installing reinforcing shall be paid under separate items.

**02 - Materials:** The materials shall conform to the following requirements:

Concrete – The concrete shall meet the properties of Class F concrete with the following modifications:

The size of coarse aggregate may be reduced to improve workability in thin patches.

The mix shall contain between 4 and 7 percent-entrained air

The mix shall contain shrinkage compensating additives such that there will be no separation of the patched area from the parent concrete. This shrinkage-compensating additive shall be utilized so as to produce expansion in the concrete of no more than 3 percent.

The Contractor may propose a high early strength concrete mix that will meet the same physical requirements as Class F concrete. A mix design shall be submitted for this material, stating the percentage of each component to be utilized.

Regardless of the type of concrete proposed by the Contractor, substantive data that demonstrates the ability of the material to meet the specification requirements shall be submitted with the proposed mix design at least two weeks prior to its use.

**03 - Construction Methods:** Construction methods shall conform to the following requirements:

1. Inspection of the Structural Slab: Before any existing concrete is removed from the structural slab, the Contractor will provide the Engineer clear access to the bridge deck. During this time, the Engineer and Contractor shall perform an inspection of the structural slab and determine areas where concrete removal will be required. Due to the nature of the operations, the inspection can be performed only after some existing materials, notably overlays and waterproofing systems, have first been removed from the structural slab. It shall be the responsibility of the Contractor to arrange the construction schedule so that the required operations may be performed without causing delay to the work.

No operations will be performed by the Engineer until after the existing bituminous overlay and concrete fill has been removed. The removal of this material will be paid for under other applicable items.

It shall be the responsibility of the Contractor to inform the Engineer, in writing, of the date that a structure will be available for inspection operations. Notification shall be given to the Engineer at least seven (7) days prior to the date that the area in question will be in a condition acceptable to the Engineer.

The Contractor is hereby informed that one working day with suitable weather conditions per each two thousand square feet, or portion thereof, of surface area will be necessary to perform the required inspection operations.

The Contractor will not be allowed to do any further work to the structural slab, until all necessary inspection operations have been performed, unless given permission by the Engineer. The Contractor will include any costs related to the allowance for this inspection in the general cost of the work.

2. Removal of Deteriorated Concrete: All deteriorated concrete shall be removed within the limits shown on the plans and where ordered by the Engineer. The lateral limits of each area to be repaired will be delineated by the Engineer and suitably marked. Where several areas to be repaired are very close together, the Engineer may combine these individual patches into a large area. The outlines of each such area shall first be cut to a depth of one-half (1/2) inch with an approved power-saw capable of making straight cuts. In the event that reinforcing steel is encountered within the upper 1/2 inch depth during sawing operations, the depth of saw-cut shall immediately be adjusted to a shallower depth so as not to damage the steel bars. If so directed by the Engineer, saw cutting shall again be carried down to the 1/2 inch depth at other locations of repair provided reinforcing steel is not again encountered. Where over-breakage occurs resulting in a featheredge, the featheredge be squared up to a vertical edge in an approved manner. Where sawing is impractical as determined by the Engineer, the areas shall be outlined by chisel or other approved means.

The removal of concrete shall be by pneumatic hammer methods. The Contractor may propose alternate methods of demolition for approval.

The weight of pneumatic hammers shall not exceed 30 pounds for concrete removal above the top reinforcing steel nor 15 pounds for concrete removal below the top reinforcing steel. Chisel point bits shall be used. Chisel points shall be sharpened when directed by the engineer at no additional cost. Bits shall be angled to the surface more than 30 degrees from perpendicular so as not to fracture concrete to remain.

The depth of concrete removal shall be at least 1 inch below the top reinforcing steel mat but shall be such as to include all spalled, delaminated, or otherwise deteriorated concrete. The Engineer will be sole determiner of what constitutes deteriorated concrete, using sounding methods or other evaluation measures at his discretion.

Within one hour following the initiation of demolition operation in any patch area, all loose concrete debris should be removed, followed by water flushing of the existing concrete bonding surface to completely remove all traces of concrete debris and cement residue so that rebonding

to the surface of the remaining sound concrete will be prevented. If it is not convenient to clean and flush the patch area within this time framework, all steel reinforcing and concrete bonding surfaces shall be cleaned subsequently by high pressure water blasting at a nozzle pressure not less than 3,000 psi with a sufficient volume to completely remove all rebonded debris and laitance.

Where the existing reinforcing steel is damaged, corroded, or has insufficient cover as determined by the Engineer, it shall be cut out and replaced with new reinforcing steel of the same size. Any sound reinforcing steel damaged during the concrete removal operations, shall be repaired or replaced by the Contractor at his expense as directed by the Engineer. New steel shall be attached beneath or besides existing steel with a minimum splice length or mechanical connectors as indicated on the plans, or as directed by the Engineer. Cost of all reinforcing steel and connectors are not included in this item but shall be paid under separate items.

The Contractor shall take adequate measures to contain and remove concrete debris that falls into the river. All debris shall be promptly cleaned up and removed from the site. All material removed shall be satisfactorily disposed of by the Contractor.

3. Surface Preparation: Sound reinforcing steel which is in the proper position in the slab shall be left in place and cleaned of all concrete. The smaller fragments shall be removed with hand tools or by water blast cleaning.

The newly exposed reinforcing steel and concrete faces shall be cleaned of loose or powder-like rust, oil solvent, grease, dirt, dust, bitumen, loose particles, and foreign matter by sandblasting or water blasting just prior to patching. All blasting operations shall be performed using techniques approved by the Engineer, taking care to protect all pedestrians, traffic, and adjacent property. All compressed air sources shall have properly sized and designed oil separators, attached and functional, to allow delivered air at the nozzle to be oil-free.

Forms shall conform to the pertinent requirements of Article 6.01.03-3. Forms under the deck shall fit tight to the existing deck to match the existing profile of the arch.

The cleaned concrete surface area to receive patching material shall be wetted for a one hour period immediately prior to placement of the concrete patch. Any standing water shall be blown out with compressed air prior to application of binding grout and patch material.

After wetting of the deck patch area to receive patching, and removal of the standing water, cement binding grout shall be scrubbed into the concrete patch bonding surface with stiff bristled brushes. All bonding surfaces in the patch area shall receive a coating of bonding grout within a time period not to exceed five (5) minutes prior to placement of the concrete patch material.

4. Mixing, Placing, and Finishing: Mixing and placing concrete shall be done in accordance with the applicable portions of Article 6.01.03. Mixing and placing shall not be executed unless the ambient temperature is above 40 degrees F. and rising.

The concrete mix shall be properly placed to insure complete contact around all reinforcing steel and against existing concrete at patch edges and compacted to a level slightly above the surrounding deck surface. Vibrators of the appropriate size shall be used for all consolidation of the concrete, regardless of the size of the patch area. Hand tamping and rodding may be used to thoroughly compact concrete and fill the entire patch area. Concrete may be moved horizontally with the aid of hand tools, but not with the use of vibrators (excessive vibration shall be avoided).

Vibrating plates or vibrating screed may be used on the surface of all patches for strike off and consolidation. After the concrete has been spread evenly and compacted to a level slightly above the adjacent concrete surface, the plate or screed shall be drawn over the surface at a uniform speed without stopping, in order to finish the surface smooth and even with adjacent concrete. The surface shall be float finished. Finishing operations shall be completed before initial set takes place.

5. Curing: Immediately after finishing of the patch area, a sheet of 4 mil polyethylene shall be placed over the repair area, in conjunction with insulating curing material. It shall be weighted down with sandbags to keep it in-place on the patch area.

Cured patches, having a hollow sound when chain dragged or tapped (indicating delamination), shall be replaced by the Contractor at his expense until a patch acceptable to the Engineer is in place.

6. Tolerances in Finished Patch Surfaces: The surface profile of the patched area shall not vary more than one-eighth inch in a distance of 10 feet, when a 10 foot long straightedge is placed on the surface at any angle relative to the centerline of the bridge. Humps in the patch that exceed the one-eighth inch tolerance shall be ground down by approved machinery. Sags or depressions in the surface of the patch area that exceed one-eighth inch tolerance as determined by the Engineer shall be repaired by removal of the concrete in the depression to a depth of one inch and repaired in the previously described manner.
7. Testing: The Contractor shall form, cure and test all concrete test cylinders under supervision of the Engineer. The dimensions, type of cylinder mold, number of cylinders, and method of curing shall be as directed by the Engineer.

The Contractor shall provide a portable compressive testing machine, on site, for the purpose of testing all compressive strength cylinders. All testing shall be in accordance with the requirements of ASTM C39. NOTE: This compressive testing machine must be calibrated in accordance with the provisions of Section 5, ASTM C39.

8. Time Schedule: Traffic will not be allowed on any areas where the Contractor has placed and finished concrete until the material has properly cured as specified, and has developed the required strength of 2,500 psi as determined by the compressive strength test, or until the Engineer authorizes its opening to traffic.

All work shall proceed as required by the “Maintenance and Protection of Traffic” and “Prosecution and Progress” specifications elsewhere within the contract documents.

**04 - Method of Measurement:** This work will be measured for payment by the actual volume in cubic feet of replacement concrete, complete and accepted. No deduction will be made for the volume of reinforcing steel. Removal of concrete will not be measured for payment. Reinforcing steel will be measured under separate items.

**05 - Basis of Payment:** This work will be paid for at the contract unit price per cubic foot for “Variable Depth Patch” complete in place, which price shall include saw cutting and removal of concrete, surface preparation, concrete replacement, all equipment, tools, labor and work incidental thereto.

<u>Pay Item</u>	<u>Pay Unit</u>
Variable Depth Patch	C.F.

**ITEM #0601231A – LIGHTWEIGHT CONCRETE**

This item shall conform to the requirements of Section 6.01 amended as follows:

**6.01.01 - Description:** Add the following:

This item consists of providing and installing lightweight concrete as shown on the plans and described herein. The lightweight concrete may be used for fill over the arch instead of Class F concrete at the discretion of the Borough.

**6.01.02 – Materials:** Add the following:

Concrete shall generally conform to the requirements of Class F concrete except it shall have a cured weight between 90 and 115 lb/cf. The weight shall be achieved by using lightweight coarse and fine aggregate and admixtures or combinations thereof. The contractor shall submit a mix design for approval.

**6.01.05 – Basis of Payment:** Add the following:

Pay Item	Pay Unit
Lightweight Concrete	CY



**ITEM #0601418A – BLAST CLEAN EXISTING CONCRETE**

**01 - Description:** This item consists of blast cleaning finished surfaces of the existing bridge, as identified by the Engineer, to remove calcium and dirt deposits.

**03 – Construction Methods:** The contractor shall use cleaning methods capable of removing the deposits on the granite and concrete surfaces of the structure that will not damage the underlying surface to remain. The finished surface of cleaned areas shall be uniform in color and texture after cleaning. The contractor shall employ methods to contain and collect solids from the cleaning operation.

**04 – Method of Measurement:** This item will be measured by the square foot of surface area identified by the Engineer, complete and accepted by the Engineer.

**05 – Basis of Payment:** This item will be paid for at the contract price per square foot of surface completed and accepted, which price shall include all materials, tools, equipment, and labor incidental thereto. Areas cleaned beyond limits identified by the Engineer will not be paid for.

Pay Item	Pay Unit
Blast Clean Existing Concrete	SF

## **ITEM #0602910A – DRILLING HOLES AND GROUTING DOWELS**

**01 - Description:** Work under this item shall consist of drilling holes in concrete and grouting dowels at the locations shown on the plans, in accordance with the plans, the manufacturer's recommendations, and as directed by the Engineer. For the purposes of this specification, a dowel may be a reinforcing bar, anchor bolt or threaded rod. The dowels are not included in this specification but will be pay for under separate items.

**02 – Materials:** Cement anchoring material shall conform to Subarticle M.03.01-14 of Form 816. Chemical anchoring material shall conform to Subarticle M.03.01-15 of Form 816.

**03 – Construction Methods:** Before fabricating any materials, the Contractor shall submit manufacturer's specifications and installation procedures for the chemical anchoring material to the Engineer for review in accordance with Article 1.05.02.

Holes for the dowels shall be located as directed. The holes shall clear the existing reinforcement and provide the minimum cover as shown on the plans. A pachometer shall be used to locate existing reinforcing steel. If existing reinforcing is encountered during the drilling operation, the holes shall be relocated and the uncompleted holes shall be filled with the chemical anchoring material and finished smooth and flush with the adjacent surface.

The depth of the holes will be 9" max. The diameter of each hole will be 7/8" max. The diameter of the hole shall conform to the manufacturer's recommendations for the diameter of the dowel being anchored. The depth shall conform to the manufacturer's recommendations for the diameter of the dowel being anchored such that the grouted dowels will be able to develop 125% percent of its specified tensile strength.

Hole drilling methods shall not cause spalling, cracking, or other damage to the existing concrete. The weight of the drill shall not exceed 20 pounds. Those areas damaged by the Contractor shall be repaired in a manner suitable to the Engineer and at no additional cost.

Prior to placing the anchoring material in the holes, the holes shall be cleaned of all dirt, moisture, concrete dust and other foreign material. The dowel and the anchoring material shall be installed in the holes in accordance with the anchoring material manufacturer's recommendations.

The Contractor shall take adequate precautions to prevent any materials from dropping to the area below, which may result in damage to any existing construction or to adjoining property, and as directed by the Engineer. Should any damage occur to the structure as a result of the Contractor's operations, the Contractor shall make repairs at his own expense. The repair work shall be approved in advance and shall be of a quality acceptable to the Engineer.

**04 – Method of Measurement:** This work will be measured for payment by the actual number of drilled holes in which dowels are embedded and accepted. The dowels will be measured under separate items.

**05 – Basis of Payment:** This work will be paid for at the contract unit price each for "Drilling Holes and Grouting Dowels," which price shall include drilling and preparing holes, furnishing and installing the anchoring material, and all material, equipment, tools and labor incidental thereto. Dowels will be paid for under separate items.

Pay Item	Pay Unit
Drilling Holes And Grouting Dowels	EA.

## **ITEM #0603736A – SPECIAL PAINTING TREATMENT**

**01 - Description:** This item consists of cleaning concrete surfaces, applying a multi-coat color paint system with a sealer top coat in conformance with this specification.

**02 – Materials:** Paint system shall conform to the following:

Contractor may submit a multi-coat staining system that replicates the existing speckled rose colored granite.

The following is an acceptable product color:

ARMORPOXY  
805 Lehigh Ave.  
Union, NJ 07083  
Product: ArmorGranite  
Color: Moonstone

All materials shall have a minimum 1 year warrantee.

**03 – Construction Methods:**

The paint system shall consist of a primer, color coat(s), and a Clear UV-protection top coat. The contractor shall coordinate to have a manufacturer's representative on site to review the surface preparation and the application of the coating system.

If multi-coat staining is selected, the staining shall be performed or designed and directed by a commercial artist with a minimum of ten years experience in coloring concrete. He shall have completed at least three projects of creating granite looking finishes on smooth concrete.

Contractor shall prepare a mock-up of 30sf prior to painting the bridge. The contractor may not proceed until receiving acceptance of the mock-up coloration from the Engineer. The Engineer shall be given at least three working days to review the mock-up. If the coloration is not acceptable the contractor shall make changes and restart with a new mock-up.

All adjacent areas not receiving paint shall be masked so as to prevent coating with over-spray. Any area coated with over-spray, drips, or spills shall be abrasive cleaned to remove all trace of coating at no additional cost.

All products shall be handled and stored in accordance with the manufacturer's recommendations. The products shall be installed following all manufacturer's instructions.

Contractor shall wait for appropriate atmospheric conditions to allow proper curing and prevent debris from blowing into the new paint. Any surface with debris shall be cleaned and recoated following all manufacturer's recommendations at no additional cost.

**04 – Method of Measurement:** This item will be measured by the actual square foot of completed area accepted by the Engineer. The mock-up wall will not be measured for payment. Areas recoated due to defects will not be measured.

**05 – Basis of Payment:** This item will be paid for at the contract price for the actual SF area completed and accepted, which price shall include all cleaning, multiple coats, materials, tools, equipment, and labor incidental thereto. Corrective procedures or re-coats will not be paid for.

Pay Item	Pay Unit
Special painting Treatment	SF.

**ITEM #0603893A – TEMPORARY SLAB SUPPORT**

**01 - Description:** This item consists of providing and installing a temporary transverse supports under the bridge during concrete repair operations as shown on the plans and described herein.

**02 – Materials:** Material used shall be of suitable quality for structural support of bridges. The contractor may use timber, metal, or masonry or combinations thereof.

**03 – Construction Methods:** The Engineer will direct the contractor on the length of slab that is to be supported. The need for support will depend on the amount of slab repaired. The granite portion of the arch shall not be supported. Not all supports shown on the plans may be required. The support shall be capable of providing continuous transverse support to the bridge. The support shall be designed to bear on the river bottom within cofferdams. The method of applying load to the continuous support shall be capable of providing continuous reading of load through load cells, pressure gages, of other means that can be easily read by the Engineer in the field. No part of the support shall penetrate or be connected to the permanent structure without approval from the Engineer. The contractor shall submit drawings and calculations for the supports sealed by a professional engineer licensed in the state of Connecticut. Contractor shall completely remove all components of the support when no longer needed.

**04 – Method of Measurement:** This item will be measured by the actual lineal foot of slab the Engineer instructs the Contractor to support and support that is provided, installed, and accepted by the Engineer. The supports will be measured each time they are installed.

**05 – Basis of Payment:** This item will be paid for at the contract unit price per lineal foot of support installed, accepted, and removed which price shall include all materials, tools, equipment, and labor incidental thereto.

Pay Item	Pay Unit
Temporary Slab Support	LF

**ITEM #0605000A – DIMENSION STONE MASONRY**

This item shall conform to Section 6.05 modified as follows:

**6.05.01 - Description:** This item consists of providing and installing granite seat at the mid-span bench as shown on the plans and described herein.

**6.05.02 – Materials:** Add the Following:

Color shall be charcoal to black.

**6.05.03 – Construction Methods:** Add the following:

The granite shall be a smooth machine finish on the seat area and a rough split finish on the exposed edge. The butting edges shall be sawn to fit tight. The granite shall be provided in 5 ft minimum lengths. Each section of granite shall be set on a minimum of two 5/8” diameter pintles to secure the seat from sliding. The granite shall be set on a mortar bed so that the elevation difference between all pieces does not exceed 1/8” from the lowest point to the highest point.

**6.05.04 – Method of Measurement:** Delete and replace with the following:

This item will be measured by the square yard of seat area provided, installed, and accepted by the Engineer.

**6.05.05 – Basis of Payment:** Delete and replace with the following:

This item will be paid for at the contract unit price per square yard of granite installed and accepted, which price shall include all materials, grout, pintles, tools, equipment, and labor incidental thereto.

Pay Item	Pay Unit
Dimension Stone Masonry	SY



**ITEM #0605001A – BLOCK STONE MASONRY**

**01 - Description:** This item shall consists of providing and placing 17”x17”x6’ granite blocks to be used as sitting benches in the locations shown on the plans and described herein.

**02 – Materials:** The materials for this work shall conform to the requirements of Article M.11.01 for granite.

Color shall be charcoal to black.

**03 – Construction Methods:**

The top face shall be thermal finish. The side faces shall be split face. The bottom may be finished by any method provided the block will sit on a level surface without rocking. All edges shall rounded to approximately a 1” radius. No lifting holes shall be in visible faces. The finished granite blocks shall be positioned in the pocket park as shown on the plans after the cement pavers are installed.

**04 – Method of Measurement:**

This item will be measured by the each granite block of the required size placed in its final position, and accepted by the Engineer.

**05 – Basis of Payment:**

This item will be paid for at the contract unit price per each block of granite installed and accepted, which price shall include all materials, tools, equipment, and labor incidental thereto.

Pay Item	Pay Unit
Block Stone Masonry	EA

**ITEM #0609030A – REPOINT MORTAR JOINTS**

This item shall conform to Section 6.09 modified as follows:

**6.09.01 - Description:**

**6.09.02 – Materials:**

**6.09.03 – Construction Methods:**

**6.09.04 – Method of Measurement:** Delete and replace with the following:

This item will be measured by the lineal foot of joint completed and accepted by the Engineer.

**6.09.05 – Basis of Payment:** Delete and replace with the following:

This item will be paid for at the contract unit price per lineal foot of mortar joint raked, cleaned, mortared, and accepted, which price shall include all materials, tools, equipment, and labor incidental thereto.

Pay Item	Pay Unit
Repoint Mortar Joints	LF

**ITEM #0703010A – STANDARD RIPRAP**

Work under this item shall conform to the requirements of Section 7.03 amended as follows:

**7.03.04 – Method of Measurement:** Replace with the following: The quantity of riprap measured for payment shall be the number of TONS by weight tickets that is installed to the length, width and the thickness as shown on the plans and accepted by the engineer.

**7.03.05 – Basis of Payment:** Replace with the following: This work will be paid for at the contract unit price per TON for the type of riprap indicated, complete in place, including all materials, equipment, tools and labor incidental thereto.

Excavation material will be measured and each paid for under its particular pay item.

Payment will be made under:

Pay Item	Pay Unit
Standard Riprap	TON

**ITEM #0703029A – ROUNDED STONE RIPRAP**

Work under this item shall conform to the requirements of Section 7.03 amended as follows:

**7.03.01 - Description:** Delete the first sentence and replace with the following:  
Riprap shall consist of round shaped stones used to protect foundations of piers, abutments, walls, slopes of embankments and waterways from water damage.

**7.03.02 – Materials:** Add the following to the end of the last sentence:  
Except that the stones shall be rounded and not angular. The rounded stones shall meet the size and grading of Standard Riprap

**7.03.04 – Method of Measurement:** Replace with the following: The quantity of riprap measured for payment shall be the number of TONS by weight tickets that is installed to the length, width and the thickness as shown on the plans and accepted by the engineer.

**7.03.05 – Basis of Payment:** Replace with the following: This work will be paid for at the contract unit price per TON for the type of riprap indicated, complete in place, including all materials, equipment, tools and labor incidental thereto.

Excavation material will be measured and each paid for under its particular pay item.

Payment will be made under:

Pay Item	Pay Unit
Rounded Stone Riprap	TON

**ITEM #0818022A – COLOR ADDITIVE FOR CONCRETE**

**01 – Description:**

This work shall consist of furnishing and adding a color additive to new concrete as directed by the Engineer. Sidewalk and parapet concrete may be considered for coloring.

**02 – Materials:**

The color additive shall be an industry standard pigment typically used for the purpose of coloring concrete prior to placement. The color shall be full depth and shall not be added to the surface.

**03 – Construction Methods:**

Coloring for concrete shall be added to the concrete so that the cured concrete color closely matches the color of the existing cleaned granite. The contractor shall provide a professional experienced in coloring concrete with additives to recommend the product type and quantities to add to the concrete that results in the final color matching the existing granite.

All concrete for a contiguous colored concrete surface shall come from the same batch plant using the same cement lot and aggregates. Water in the concrete mixture shall be maintained a constant across all trucks for the entire area of contiguous concrete. Admixtures shall be used to adjust slump and surface evaporation. Curing compounds shall be non-yellowing designed specifically for colored concrete.

**04 – Method of Measurement:**

This work will be measured for payment by the number of square feet of concrete surface colored complete and accepted in place.

**05 – Basis of Payment:**

This work will be paid for at the Contract unit price per square foot of concrete surface colored, complete in place, which price shall include all materials, equipment, tools, labor and work incidental thereto. The volume of concrete used will be paid separately in addition to this item.

Pay Item	Pay Unit
Color Additive for Concrete	S.F.

**ITEM # 0822001A - TEMPORARY PRECAST CONCRETE BARRIER CURB**

This work shall conform to the requirements of Section 8.22 of the Standard Specifications supplemented with the following:

**Article 8.22.03 – Construction Methods, 3. Delineator:** Replace the first sentence of the first paragraph with the following:

The delineator shall be installed in the center on top of the barrier. The spacing and color of the delineators shall be in conformance with the plans or as directed by the Engineer.

**Article 8.22.04 – Method of Measurement:** Delete the second and third paragraphs and replace with the following:

Relocation of installed temporary concrete barrier curb; storage of temporary concrete barrier curb; and delineators will not be measured separately for payment.

**Article 8.22.05 – Basis of Payment:** Delete the article in its entirety and replace with the following:

This work will be paid for at the contract unit price per linear foot for “Temporary Precast Concrete Barrier Curb” complete in place, which price shall include all furnishing, transportation, initial installation, temporary or permanent relocation, final removal, storage, materials, reinforcing steel, connecting rods, delineators, equipment, tools and labor incidental thereto. Each temporary precast concrete barrier curb will be paid for once regardless of the number of times it is used or relocated on the project. Any temporary precast concrete barrier curbs that become lost, damaged or defaced shall be replaced by the Contractor at no cost to the Town.

Pay Item  
Temporary Precast Concrete Barrier Curb

Pay Unit  
L.F.

**ITEM #0822005A – TEMPORARY PRECAST CONCRETE BARRIER CURB (STRUCTURE)**

**ITEM #0822006A – RELOCATED TEMPORARY PRECAST CONCRETE BARRIER CURB (STRUCTURE)**

**01 - Description:** Work under this item shall consist of furnishing, installing, and removing temporary precast concrete barrier curb (typical 24” wide curbing or modified 15” wide curbing) for use on structures as shown on the plans or as directed by the Engineer. This work shall also include the drilling, grouting, and later removal of anchor bolts, and the cleaning and subsequent grouting and sealing of anchor bolt holes after the barrier is removed. External clips that are surface mounted to the barrier and protrude from the surface of the barrier for attachment to the deck are not allowed.

If called for on the plans, the temporary concrete barrier shall also be relocated as necessary to accommodate stage construction conditions.

**02 - Materials:**

1. The barrier shall be precast concrete conforming to Article 8.21.02-1.
2. Manufacturer identification and casting date shall be permanently marked on each barrier unit by means of a non-corrosive metal or plastic tag in the location shown on the plan. When used barrier is furnished, the Contractor shall provide documentation stating from where the material came, what project it will be used on, the casting dates, and certification that the barrier conforms to all NCHRP 350 & State requirements.
3. Reinforcing steel shall conform to the requirements of ASTM A615, Grade 60.
4. Lifting hooks, keys, bolts, devices and attachments shall be of the size indicated on the plans or of a design satisfactory for the purpose intended as approved by the Engineer.
5. Anchor bolts shall conform to ASTM A307. Heavy hex nuts shall conform to AASHTO M291. The plate washers shall conform to AASHTO M223, Grade 50. The anchor bolts, nuts, and plate washers shall be hot-dip galvanized in accordance with AASHTO M232 and M111 as applicable.



6. Loop bars shall be bent from smooth bar steel conforming to AISI 1018 (Hot-rolled). Ends of the bars with less than 3" concrete cover shall be hot-dip galvanized in accordance with AASHTO M111.
7. Threaded connection rods shall be steel conforming to AASHTO M 314 (ASTM F1554) Grade 55. The rod shall be threaded for a minimum of 4 inches at each end. Plain steel washers shall be manufactured in accordance with ANSI B18.22. Heavy hex nuts shall conform to AASHTO M291 for Class 10S. The threaded connection rods, washers, and nuts shall be hot-dip galvanized after fabrication in accordance with the requirements of Class C of AASHTO M232.
8. The chemical anchor material shall be a resin compound specially formulated to secure bolts in concrete against tension pull-out. The Contractor shall select the chemical anchor material in accordance with Article M.03.01-15.
9. Non-shrink grout shall conform to Article M.03.01-12.
10. Barrier shall be accepted on the basis of the manufacturer's certification, as defined in Article M.08.02-4.
11. Sealant for patching holes in bituminous overlays shall be a cold-applied bituminous sealer conforming to Article M.08.01-18.
12. Anchor Bolts/Threaded Connection Rods-Certified Test Reports: The Contractor shall submit a Certified Test Report and a Materials Certificate in conformance with Article 1.06.07 and a sample of all anchor bolts, threaded connection rods, nuts, and washers for testing prior to their installation. The Contractor shall not install any anchor bolts or threaded connection rods prior to receipt of the approved test results and approval by the Engineer.
13. Delineators shall conform to Article 8.22.02.

**03 - Construction Methods:**

1. Fabrication: The barrier shall be precast concrete in conformance with the pertinent requirements of Article 8.21.03 and the plans, except that penetrating sealer protective compound is not required.
2. Installation: The barrier shall be placed as shown on the plans or as directed by the Engineer.

The barriers shall be anchored to the concrete deck slab in accordance with the plans and the following:

- a) Chemical Anchoring: This consists of drilling holes in concrete deck slabs, placing anchor bolts in the holes, and securing the bolts with a pre-approved chemical anchor material.

The Contractor shall submit the following to the Engineer for approval: type of drill, diameter of bit, method of cleaning holes, and method of placement of chemical anchor material. Also include specification and recommendation for the coating material from the chemical anchor material manufacturer.

Drilling methods shall not cause spalling, cracking, or other damage to the concrete. Those areas damaged by the Contractor shall be repaired by him in a manner suitable to the Engineer and at no expense to the Borough.

Care shall be taken not to drill holes into or through structural steel.

The Contractor shall take the necessary precautions to prevent materials from falling onto the roadway or waterway below.

When reinforcing steel is encountered during the drilling of the holes, the Contractor shall attempt to angle the hole to by-pass the bar. If this cannot be accomplished, then the bar shall be drilled through.

The anchor bolts shall extend to the bottom of the holes and be hammer tapped to insure full penetration. The chemical anchor material shall be installed in accordance with the written directions supplied by the manufacturer of the chemical anchor material.

The barrier shall be anchored down by torquing the bolts "snug tight", which is defined as the tightness attained after several impacts from an impact wrench. No part of the bolt head shall project above the outer surface of the barrier.

- b) Through-Bolting: This consists of drilling completely through the deck slab and securing anchor bolts on the underside with plate washers and nuts. Through-Bolting is not permitted on new construction or prestressed concrete. Measures shall be taken to insure that no damage occurs to property below the bridge.

Care shall be taken not to drill holes into or through structural steel.

The barrier shall be anchored down by torquing the bolts "snug tight", which is defined as the tightness attained after several impacts from an impact wrench. No part of the bolt head shall project above the outer surface of the barrier.

3. Connection of Barrier Units: The barrier shall be joined together with threaded connection rods, washers, and heavy hex nuts in accordance with the plans.

4. Cutting of Anchor Bolts: Where ordered by the Engineer, protruding anchor bolts shall be cut off flush with the surface of the concrete deck. The bolts shall then be ground down below the surface of the deck and the space filled in with non-shrink grout. At the Contractor's option, the anchor bolts may be pre-coated with a material recommended by the chemical anchoring material's manufacturer which will allow for complete removal of the anchor bolts.
5. Patching with Non-Shrink Grout: After removal of the barrier, holes in newly constructed concrete decks and threaded inserts shall be blown clean with an air jet and filled in with non-shrink grout. The non-shrink grout shall be mixed and placed in strict accordance with the manufacturer's directions. The non-shrink grout shall be finished flush with the deck surface. Allow grout to cure a minimum of 24 hours before placing sealant in any remaining hole in the bituminous wearing surface.
6. Delineators: Delineators shall be installed on top of the barrier in accordance with Article 8.22.03-3 and the plans.
7. General: The barrier shall be kept in good condition at all times by the Contractor during all stages of construction. Any damaged material shall be replaced by the Contractor at his expense.

When the barrier is no longer required, it shall be removed from the work site and become the property of the Contractor.

8. Relocation of Barrier: If called for on the plans, the Contractor shall relocate the barrier and its appurtenances to locations within the project limits as shown on the plans or as ordered by the Engineer.

**04 - Method of Measurement:** Temporary barrier curbing (structure) will be measured for payment along the centerline at the top of the barrier and will be the actual number of feet of temporary barrier (structure) of the applicable size furnished, installed, and accepted.

Relocated temporary barrier (structure) will be measured for payment along the centerline at the top of the barrier each time the barrier has been satisfactorily relocated and anchored in a new position as indicated on the plans. Storage of the temporary structure barrier will not be measured for payment.

**05 - Basis of Payment:** This work will be paid for at the contract unit price per linear foot for "Temporary Precast Concrete Barrier Curb (Structure)" or "Temporary Precast Concrete Barrier Curb (Structure) - (15" x 32")", whichever is applicable, complete in place, which price shall include all furnishing, transportation, initial installation, final removal, storage, materials, reinforcing steel, connection rods, delineators, and all equipment, tools, and labor incidental thereto. The cost of furnishing, installing, and cutting of anchor bolts shall also be included for payment under this item. Each temporary barrier (structure) will be paid for once regardless of the number of times it is used on the project. Any barrier units that

become lost, damaged or defaced shall be replaced by the Contractor at no cost to the Borough.

The relocation of the temporary structure barrier will be paid for at the contract unit price per foot for “Relocated Temporary Precast Concrete Barrier Curb (Structure)”, which price shall include removing, transporting and re-anchoring the barrier units, and all other materials, equipment, tools, and labor incidental thereto.

Pay Item	Pay Unit
Temporary Precast Concrete Barrier Curb (Structure)	L.F.
Relocated Temporary Precast Concrete Barrier Curb (Structure)	L.F.

**ITEM #0904136A – REMOVAL OF EXISTING METAL BRIDGE RAIL**

This item shall conform to the requirements of Section 5.03 modified as follows:

**5.03.04 – Method of Measurement:** This item will be measured for by the LF of railing removed measured horizontally along the top rail.

**5.03.05 – Basis of Payment:** This item will be paid for at the contract unit price for LF of rail satisfactorily removed and accepted, which price shall include all materials, tools, equipment, and labor incidental thereto.

Pay Item	Pay Unit
Removal of Existing Metal Bridge Rail	LF

**ITEM #0914017A – ORNAMENTAL METAL FENCE (5’HIGH)**

**01 - Description:** Work under this item shall consist of furnishing and installing metal fencing as shown on the plans or as directed by the Engineer. This work shall also include the drilling and installing anchor bolts.

**02 - Materials:** Shop drawings and data sheets shall be submitted in accordance with 1.05.02.3 listing all materials and products proposed for use.

Metal fence shall match the existing fence on the northeast corner of the project. In general acceptable models and manufacturers of ornamental metal fence are:

1. Model: Aberdeen 3 Rail Color: Black. As manufactured by: Iron World, 9390 Davis Avenue, Laurel, Maryland 20723, P: 866-310-2747
2. Model: Montage Industrial 3 Rail Majestic, Color Black. Ameristar Fence Products, Inc, 1555 N. Mingo Rd. Tulsa, Oklahoma 74116, P: 888-333-3422
3. Model: Classic Premier Universal 3 Rail, Color Black. As Manufactured by: Master Halco, 60 Belamose Ave. Rocky Hill, Connecticut 06067, P: 860-257-4449

Or approved equivalent.

All primary fence components, pickets, rails and posts shall be manufactured from carbon steel having minimum yield strength of 36 ksi, unless otherwise approved.

Primary fence components; pickets, rails and posts shall be galvanized by the hot-dip process to meet the requirements of ASTM A 123 and shall have the minimum zinc coating thickness indicated in Table 1 of that standard.

1. Refer to Ornamental Metal Fence details on sheet SD-3 for required picket, rail, and posts sizes.
2. Bolts, nuts, and other hardware shall be hot-dip galvanized in accordance with ASTM A 153.
3. Touch-up galvanized coating shall conform to the requirements of ASTM A 780 using material conforming to Federal Specification TT-P-641, Type I. The use of Aerosol spray cans shall not be permitted.

4. After the fencing components have been completely fabricated and all welds ground smooth, the components shall be hot-dip galvanized in accordance with ASTM A 123. The dry kettle process shall be used. Water quenching of galvanized steel shall be prohibited.
5. Material for galvanizing shall be suitably fabricated for galvanizing in accordance with the most efficient provisions and requirements of ASTM A 385, as approved by the Engineer.

Pickets shall be steel bars conforming to ASTM A 36/A 36M or ASTM A 108, Grade 1022.

Rails shall be made of not less than cold rolled steel conforming to ASTM A 108, Grade 1022. The cross-sectional shape of the rails shall conform to that indicated or the manufacturer's standard design, as approved.

Posts shall be tubular steel conforming to ASTM A 36.

Brackets for field assembling picket panels shall conform to ASTM A36. Unless otherwise approved by the Engineer, all joints with posts shall be welded all around so as to prevent bare spots, or locations free of zinc.

1. On the same side of the post, one side of each bracket shall be provided with a slotted hole for expansion. On the other side of the post the hole shall be square, just large enough to allow for the bolt installation.

All flat bars and shapes shall conform to ASTM A36.

Bolts for field assembling fence shall be round head square neck type conforming to ANSI/ASME B18.5, nuts shall be heavy hex type conforming to ANSI/ASME B18.2.2, unless otherwise approved.

Anchor bolts where indicated for anchoring base plates of posts to concrete shall be either threaded rod expansion-type or an adhesive capsule with threaded rod with nut type. In either case, when installed that portion of the threaded rod extending beyond nut shall be nicked or otherwise deformed to prevent the nut from being removed.

Grout shall be provided for anchoring of all fence posts, unless otherwise directed by the Engineer.

1. Grout shall be non-shrink, made from factory-premixed material containing no corrosive irons, aluminums, or gypsums, with the following properties:
  - a. Non-shrink from time of mixing ASTM C827  
No expansion after set ASTM C827  
Initial set time ASTM C191



Compressive Strength ASTM C109

- b. An effective bearing area (EBA) of 95 to 100 percent.
  - c. Grout that contains water reducers, accelerators or fluidifiers shall have no drying shrinkage greater than the equivalent sand cement and water mix as tested under ASTM C596.
2. The grout shall not shrink below its placement volume and shall not expand after set. Grout shall have a 1-day compressive strength of not less than 3000 psi and a minimum compressive strength of 6500 psi in 28 days.
3. Grout shall have an initial setting time of not less than 45 minutes.
4. Acceptable Manufacturers are:
- a. "Five Star Grout" by U.S. Grout Corp., Old Greenwich, Connecticut.
  - b. SikaGrout 212 by Sika Corp., Lyndhurst, NJ 07071
  - c. K-Ment Anchoring Cement by the Euclid Chemical Company, 19218 Redwood Road, Cleveland, OH 44110.

Finish Painting: All hot-dip galvanized steel fence components shall receive one of the following shop applied coating systems:

KEELER AND LONG

Primer Coat	Kolor-Poxy #3200
Finish Coat	Kolorane Y-Acrythane Series Enamel

CARBOLINE

Primer Coat	Carboline 888 Primer
Finish Coat	Carbothane 134HB Enamel

VALSPAR

Primer Coat	Val Chem 13-F-62 Primer
Finish Coat	V40 Series Urethane Enamel

The finish color of all work shall be semi-gloss black, No. 27040 of Federal Standard No. 595a.

Storage of the paint system materials shall be in a dry, well-ventilated area, not in direct contact with the ground, where the temperature is maintained between 50°F and 100°F. Damaged materials and/or materials exceeding the manufacturer's recommended shelf life shall not be used.

### **03 - Construction Methods:**

The fence shall be installed in accordance with the details shown on the plans. The posts shall be firmly and accurately set plumb with the top and bottom rails set parallel to the top of the wall or proposed grade.

#### **Finishing of All Fabricated Products:**

All hot-dip galvanizing and painting shall be performed in climate controlled shop ambient conditions.

All shop fabrication, unless otherwise approved by the Engineer, shall be of welded construction. The surface preparation, procedures, electrodes, finishing and inspection shall be in accordance with AWS D1.1.

Surface Preparation of Galvanized Surfaces: Surface preparation shall consist of cleaning galvanized steel surfaces in accordance with the methods listed herein. The cleaned surfaces shall be approved by the Engineer or his appointed inspector prior to any painting. Exposed bare steel surfaces on galvanized material shall be touched up in accordance with ASTM A 780 prior to applying paint system.

All foreign matter such as oil, grease, and dirt shall be cleaned from the surface using a biodegradable cleaner (i.e., Carboline #3 Cleaner or Dev-Prep 88) in accordance with the Steel Structures Painting Council Surface Preparation No. 1 (SSPC-SP1) "Solvent Cleaning." All surfaces shall then be brush blasted in accordance with SSPC-SP7 "Brush-Off Blast Cleaning" using a fine abrasive at nozzle pressures not to exceed 60 psi. The abrasive blast media shall be non-ferrous and softer than zinc. A uniform anchor profile of 2.5 to 3.8 mils shall be achieved. Brush blasting must be performed to 100% of the surface area being coated.

All surfaces brush blasted must be primed the same day.

Application: Handling, mixing, and all other facets of application and curing of paint shall be in accordance with the manufacturer's written instructions unless otherwise instructed in these specifications.

Paint, substrate, and air temperature at the time of application shall be between 60 and 100°F unless otherwise specified by the manufacturer.

Paint shall not be applied unless the temperature of the surfaces being coated is, and will remain, at least 40°F above the dew point until the coating is dry "to touch."

The relative humidity shall be less than 85% during application.

The paint shall be thoroughly mixed prior to and during application. Mechanical agitations during application may be necessary to keep pigment in suspension. Paint shall not be transferred (other than to simplify mixing) until all pigment has been incorporated. Air shall not be used directly for agitation.

Paint materials may not be used beyond the recommended pot life.

Thinners shall not be added to paint unless it is absolutely necessary for application. The amount of thinner used shall not exceed the manufacturer's recommendations for quantity and type. If used, the thinner shall only be added in accordance with the manufacturer's instructions, under the Engineers presence.

Spraying is the preferred method of application. Brushing, rolling and/or mitt application may be used where appropriate.

The paint system on galvanized surfaces shall have the following thickness:

Primer Coat: 75 to 125 microns Dry Film Thickness

Finish Coat: 38 to 63 microns Dry Film Thickness

Paint thickness will be determined in accordance with SSPC PA-2 "Measurement of Dry Paint Thickness with Magnetic Gages." The number of readings will be a minimum of that stated in SSPC PA-2.

Finishing of Fasteners: Fasteners and anchor bolts shall be hot-dipped galvanized and treated as required to receive field touch-up painting after erection, unless otherwise directed. Field touchup painting shall include both prime and finish coats.

All defective work shall be corrected by the Contractor at no cost to the Town.

**Installation:**

Fence posts shall be installed as detailed on the plans and as described as follows:

Attachment to concrete:

The Contractor shall make provisions for setting all fence posts on top of existing concrete and providing epoxy anchors of the size indicated on the plans.

Embedment in ground:

The Contractor shall provide concrete footing where required or indicated. Footings shall be formed using 12-inch diameter Sonotube forms 42 inches in depth. Provide sleeves or block-outs in concrete footings for fence post. Beneath the footings shall be placed coarse aggregate or broken stone to a depth of 6-inches.

**Preparation and Installation of Fence Posts:**

Concrete surface shall be free of all loose material. Surfaces shall be free of oil, grease, loose paint, corrosive deposits, dust, laitance and other contaminants and sleeves and holes shall be clean of dust and debris.

Perform all grouting in accordance with the recommendations of ACI and the grout manufacturer's published specifications for site preparation, product mixing, and placing. For grouting in weather below 50°F, contact manufacturer for cold weather instructions.

Arrange with the manufacturer of the grout for the services of a qualified field representative to instruct the work crews in the mixing of components, preparation of surfaces, technique of installation, and inspection procedures. The representative shall remain at the job site after work commences until the representative is satisfied that the grout is being installed correctly.

**Erecting Fence Panels**

After the posts have been properly grouted, and the grout fully cured, the fence panels may be installed.

All fence panels shall be delivered prepared for installation by field bolting only. Field welding is disallowed, except by the written permission of the Engineer.

After all threaded fasteners have been installed the exposed threads beyond the nut shall be nicked to prevent easy removal. Fasteners shall receive the same finish treatments as the fence. With field touch-up painting provided as necessary.

**04 - Method of Measurement:** This work will be measured for payment along the centerline at the top rail of the fence and will be the actual number of feet of fence furnished, installed, and accepted. The material for mounting of posts both embedded in ground or anchored to existing concrete will not be measured but considered included in linear foot of fence

**05 - Basis of Payment:** This work will be paid for at the contract unit price per linear foot for "Ornamental Metal Fence (5'high)" complete in place, which price shall include all furnishing, transportation, installation, and all equipment, tools, and labor incidental thereto. The cost of furnishing, installing, and cutting of anchor bolts shall be considered included in the linear foot cost for this item. The cost of excavating, furnishing, installing, and concreting of embedded footings shall be considered included in the linear foot cost for this item.

Pay Item  
Ornamental Metal Fence (5'high)

Pay Unit  
L.F.

## **ITEM #0921001A - CONCRETE SIDEWALK**

Concrete sidewalks shall be constructed in accordance with Article 9.21, supplemented as follows:

**Article 9.21.01 - Description:** Add the following:

This item shall include furnishing and installing Detectable Warning Strips in the locations and to the dimensions and details shown on the plans or as ordered by the Engineer.

**Article 9.21.03 – Construction Methods:** Add the following:

The Detectable Warning Strip for new construction shall be set directly in poured concrete according to the plans and the manufacturer’s specifications or as directed by the Engineer. The contractor shall place two 25 pound concrete blocks or sandbags on each tile to prevent the tile from floating after installation in wet concrete.

**Article 9.21.04 - Method of Measurement:** Add the following:

Concrete Sidewalk Ramps will not be measured separately but will be measured as “Concrete Sidewalk”

The Detectable Warning Strip will not be measured for payment. All materials, equipment, tools and labor incidental thereto shall be included in the Bid price for Concrete Sidewalk.

Construction staking will not be measured for payment and shall be considered incidental to the sidewalk item.

**Article 9.21.05 – Basis of Payment:** replace with the following:

Construction of a concrete sidewalk or ramp will be paid for at the Contract unit price per square foot for "Concrete Sidewalk" complete in place, which price shall include all excavation as specified above, backfill, disposal of surplus material, curb removal and any monolithic or separately cast sidewalk curb when required for the sidewalk ramp as shown on the plans, gravel or reclaimed miscellaneous aggregate base, detectable warning strips, equipment, tools, materials and labor incidental thereto.

Pay Item Pay	Unit
Concrete Sidewalk	s.f.

**ITEM #0921036A – RETRO-FIT DETECTABLE WARNING STRIP**

**01 – Description:** This item shall include furnishing and installing detectable warning strips at existing concrete sidewalk ramps in the locations noted on the plans. This item shall only apply where the existing concrete sidewalk ramp conforms to CTDOT Standard Sheet HW-921\_02, dated September 9, 2009, as determined by the Engineer. If the existing ramp is determined to be non-conforming, the Contractor shall install a new Concrete Sidewalk Ramp, to be paid under the “Concrete Sidewalk” item.

**02 – Materials:** The Detectable Warning Strip shall be a prefabricated detectable warning surface tile as manufactured from Engineered Plastics Inc. 300 International Drive, Suite 100 Williamsville, NY 14221, telephone number (800) 682-2525 or the approved equal from ADA Fabricators, INC. P.O Box 179 North Billerica, MA 01862 telephone number (978) 262-9900. The tile shall conform to the dimensions shown on CTDOT Standard Sheet HW-921\_02, dated September 9, 2009, and have a brick red homogeneous color throughout in compliance with Federal Standard 595A Color #22144 or approved equal.

**03 – Construction Methods:** The Engineer will confirm whether the sidewalk ramp to be retro-fit conforms to the requirements of the applicable ramp type on CTDOT Standard Sheet HW-921\_02. If the ramp does not conform with the Standard Sheet, the ramp shall be reconstructed under the provisions of Section 9.21 of the Standard Specifications.

Detectable Warning Strips shall be installed in accordance with all applicable Supplier’s and Manufacturer’s requirements for environmental conditions, surface preparations, installation procedures, curing procedures, and materials compatibility.

The Contractor is responsible for removing any material spatters. The Contractor shall repair any damage to the concrete ramp or adjacent sidewalk or roadway surfaces that should arise from the installation of the detectable warning strip or the clean-up effort.

**04 – Method of Measurement:** Retro-Fit Detectable Warning Strips shall be measured for payment by the number of detectable warning strips installed and accepted on existing concrete sidewalk ramps.

**05 – Basis of Payment:** Installation of new detectable warning strips on concrete sidewalk ramps shall be paid for at the contract unit price each for “Retro-Fit Detectable Warning Strip”, which price shall include all materials, equipment, tools, and labor necessary to install the detectable warning strip.

Payment for the reconstruction of non-conforming existing ramps shall be made under the “Concrete Sidewalk” item.

Pay Item  
Retro-Fit Detectable Warning Strip

Pay Unit  
Ea.

**ITEM #952100A – PLANTER, CONCRETE**

**01 – Description:**

This work shall consist of furnishing and installing ornamental concrete planters at the locations shown on the Plans or as directed by the Engineer.

**02 – Materials:**

Concrete shall conform to Section M.03. Concrete shall meet the general requirements for Class F, except smaller coarse aggregate may be used.

Reinforcing shall conform to M.06.01 and shall be galvanized or epoxy coated.

**03 – Construction Methods:**

Concrete planters shall be approximately 5 feet long, 30 inches high, 20 inches wide. The planter shall have integral supports on the base allowing it to sit on the sidewalk profile without rocking. The planter shall have drain holes through the bottom in all corners. The planters shall have a smooth finish. Planters may be precast. The Contractor shall submit product data sheets for approval prior to installing the planters.

Planters shall be set on the sidewalk along the curb at approximately mid span of each arch or as directed by the Engineer.

**04 – Method of Measurement:**

This work will be measured for payment by the number of concrete planters complete and accepted in place.

**05 – Basis of Payment:**

This work will be paid for at the Contract unit price each for “Planter, Concrete”, complete in place, which price shall include all materials, equipment, tools, labor and work incidental thereto.

Pay Item	Pay Unit
Planter, Concrete	Ea.



**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 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, materials, equipment, and services are for the exclusive use of CTDOT forces and others who may be engaged to augment CTDOT 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.

**Materials/Supplies/Equipment:** Materials shall be in like new condition for the purpose intended and shall be approved by 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 Department 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 Department and will be kept in their possession while State 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.

Additional Equipment, Facilities and Services: The Contractor shall provide at the field Office at least the following to the satisfaction of the Engineer:

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 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 computer 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 State's CTDOT electrical inspector, must be contacted at 860-594-2240. (Do Not Call Local Town Officials)
- I. Prior to field office removal, the CTDOT Office of Information Systems (CTDOT OIS) must be notified to deactivate the communications equipment.

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.

Data Communications Facility Wiring: Contractor shall install a Category 5e 468B patch panel in a central wiring location and Cat 5e cable from the patch panel to each PC station, terminating in a (category 5e 468B) wall or surface mount data jack. The central wiring location shall also house either the data circuit with appropriate power requirements or a category 5 cable run to the location of the installed data circuit. The central wiring location will be determined by the CTDOT OIS staff in coordination with the designated field office personnel as soon as the facility is in place.

For a Small, Medium and Large field office the Contractor shall run a CAT 5e LAN cable a minimum length of 25 feet for each computer to LAN switch area leaving an additional 10 feet of cable length on each side with terminated RJ45 connectors. For an Extra-Large field office the Contractor shall run CAT 5e LAN cables from workstations, install patch panel in data circuit demark area and terminate runs with RJ45 jacks at each computer location. Terminate runs to patch panel in LAN switch area. Each run / jack shall be clearly labeled with an identifying Jack Number.

The installation of a data communication circuit between the field office and the CTDOT OIS in Newington will be coordinated between the CTDOT District staff, and the local phone company. The CTDOT District staff will coordinate the installation of the data communication service with CTDOT OIS once the field office phone number is issued. The Contractor shall provide the field office telephone number(s) to the CTDOT Project Engineer within 10 calendar days after the signing of the Contract as required by Article 1.08.02. This is required to facilitate data line and computer installations.

The following furnishings and equipment shall be provided in the applicable field office type:

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 ea)	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 freestanding.	-	-	6	6
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

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 State 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 Hardware and Software</u> .	1	1		
Large Multi-Function Laser Printer/Copier/Scanner/Fax combination unit, network capable, as specified below under <u>Computer Hardware and Software</u> .			1	1
Computer System as specified below under <u>Computer Hardware and Software</u> .	2	3	5	8
Digital Camera as specified below under <u>Computer Hardware and Software</u> .	1	1	3	3
Video Projector as specified below under <u>Computer Hardware and Software</u> .	-	-	-	1
Smart Board as specified below under <u>Computer Hardware and Software</u> .	-	-	-	1
Infrared Thermometer, including annual third party certified calibration, case, and cleaning wipes.	1	1	1	2
Rain Gauge.	1	1	1	1
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

ITEM NO. 0969060A  
ITEM NO. 0969062A  
ITEM NO. 0969064A  
ITEM NO. 0969066A

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 Hardware and Software: Computer System(s), Digital Camera(s), Multifunction Laser Printer/Copier/Scanner/Fax, Video Projectors and Smart Board(s) as well as associated hardware and software, must meet the requirements of this specification as well as the latest minimum specifications posted, as of the project advertising date, at Departments web site <http://www.ct.gov/dot/cwp/view.asp?a=1410&q=563904>

The Contractor shall provide the Engineer, Computer Systems, Software and Related Equipment, with support and documentation.

The Contractor shall provide a licensed copy of the required software on original media and/or download information, as well as license keys. The Contractor shall also supply instructions, manuals, maintenance for future version upgrades, and customer support services offered by each software producer, for the duration of the Contract. **The peripheral required software in excess of the operating system normally installed by the computer vendor should not be preinstalled. The installation will be performed by CTDOT OIS.**

The Contractor is responsible for service and repairs to all hardware. All repairs must be performed with-in 48 hours. If the repairs require more than a 48 hours then a replacement must be provided.

The Contractor shall provide all supplies, paper, maintenance, and repairs (including labor and parts) for the computers, laptops, printers, copiers, and fax machines and other facilities required by this specification for the duration of the Contract.

Within 10 calendar days after the signing of the Contract but before ordering/purchasing the Computer System(s), Software, Digital Camera(s), Multifunction Laser Printer/Copier/Scanner/Fax, Video Projectors and Smart Board(s) as well as associated hardware and software, the Contractor must submit a copy of their proposed order(s) with catalog cuts and specifications to the Administering CTDOT District for review and approval. The Computer System(s), Software, Multifunction Laser Printer/Copier/Scanner/Fax, and Smart Board(s) will be initially reviewed by the CTDOT District personnel and forwarded to the CTDOT OIS for final approval. The digital cameras will be reviewed and approved by the CTDOT District. The Contractor shall not purchase the equipment or software until the Administering CTDOT District informs them that the proposed equipment and software is approved. The Contractor will be solely responsible for the costs of any equipment or software purchased without approval.

**Prior to delivery of the computer hardware and software the Contractor should create or procure any backup media necessary to restore the operating system and any preloaded software provided (Example: the Windows software, driver disks and others necessary to reinstall the operating system.). At the conclusion of the project the Department must wipe**



**the hard drive for security purposes. The Department will not be responsible for returning the computer to the out of the box state. It will be the responsibility of the Contractor.**

After the approval of the hardware and software, the Contractor must speak to one of the representatives at the CTDOT OIS by calling 860-594-3500, Option #1, a minimum of 2 working days in advance of the proposed delivery.

The approved computer system(s) including all hardware and software shall be delivered at the same time (all software and hardware necessary for the complete installation of the latest versions of the software listed). If all items are not delivered at the same time or the CTDOT OIS has not been contacted 2 working days in advance the delivery cannot be accepted. Digital Cameras should be delivered to the District.

All software, hardware and licenses provided shall be clearly labeled, specifying the (1) Project No., (2) Contractor Name, (3) Project Engineer's Name and (4) Project Engineer's Phone No., and shall be delivered to the CTDOT OIS , 2710 Berlin Turnpike, Newington, CT, where it will be configured and prepared for field installation. Installation will then be coordinated with CTDOT District and Project personnel and the computer system specified will be stationed in the Department's Project field office.

Once the Contract has been completed, the hardware and software will remain the property of the Contractor. Prior to the return of any computer(s) to the Contractor, field personnel will coordinate with the CTDOT OIS personnel for the hard-drive wiping and removal of Department owned equipment, software, data, and associated equipment.

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.

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. All testing equipment will remain the property of the Contractor at the completion of the project.

- 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.



**Insurance Policy:** The Contractor shall provide a separate insurance policy, with no deductible, in the minimum amount of five thousand dollars (\$5,000) in order to insure all State-owned data equipment and supplies used in the office against all losses. The Contractor shall be named insured on that policy, and the Department shall be an additional named insured on the policy. These losses shall include, but not be limited to: theft, fire, and physical damage. The Department will be responsible for all maintenance costs of Department owned computer hardware. In the event of loss, the Contractor shall provide replacement equipment in accordance with current Department equipment specifications, within seven days of notice of the loss. If the Contractor is unable to provide the required replacement equipment within seven days, the Department may provide replacement equipment and deduct the cost of the equipment from monies due or which may become due the Contractor under the Contract or under any other contract. The Contractor's financial liability under this paragraph shall be limited to the amount of the insurance coverage required by this paragraph. If the cost of equipment replacement required by this paragraph should exceed the required amount of the insurance coverage, the Department will reimburse the Contractor for replacement costs exceeding the amount of the required coverage.

**Maintenance:** During the occupancy by the Department, 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 State 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 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.

Pay Item  
Construction Field Office, (Type)

Pay Unit  
Month

**ITEM #0970006A - TRAFFICPERSON (MUNICIPAL POLICE OFFICER)**

**9.70.01—Description:**

Under this item the Borough of Naugatuck will provide services of Traffic persons up to the number of hours bid by the contractor. The Contractor shall provide the services of Trafficpersons for all hours exceeding the number of hours bid at no cost to the Town. The number and duration of Trafficpersons will be as required by the Borough of Naugatuck Police for the Contractor's proposed operations. Police will be required any time the contractor occupies a travel way for more than ten minutes that is not behind concrete barrier. All Trafficpersons used shall be Borough police officers except as described for emergencies.

**9.70.03—Construction Method:**

Prior to the start of operations on the project requiring the use of Trafficpersons, a meeting will be held with the Contractor, and Borough Police to review the Trafficperson operations, lines of responsibility, and operating guidelines which will be used on the project. A copy of the municipality's billing rates for Municipal Police Officers and vehicles, if applicable, will be provided to the Engineer prior to start of work.

On a weekly basis, the Contractor shall inform the Engineer of their scheduled operations for the following week and the number of Trafficpersons requested. The Engineer shall review this schedule, type and number of Trafficpersons required. In the event of an unplanned emergency the Engineer may approve the temporary use of properly clothed persons for traffic control until such time as an authorized Trafficperson may be obtained. In no case shall this temporary use exceed 8 hours for any particular operation. The time for Trafficpersons for emergencies not due to the Contractors operations will be paid for by actual cost and will not be charged against this item.

If the Contractor changes or cancels any scheduled operations without prior notice of same as required by the agency providing the Trafficpersons, and such that Trafficperson services are no longer required, the Contractor will be responsible for the hours billed for any show-up cost for any Trafficperson not used because of the change. Exceptions, as approved by the Engineer, may be granted for adverse weather conditions and unforeseeable causes beyond the control and without the fault or negligence of the Contractor.

Trafficpersons shall assist in implementing the traffic control specified in the Maintenance and Protection of Traffic contained elsewhere in these specifications. Any situation requiring a Trafficperson to operate in a manner contrary to the Maintenance and Protection of Traffic specification requires authorization in writing by the Engineer.

Municipal Police Officers shall wear the high visibility safety garment provided by their agency.

Municipal Police Officers shall be sworn Municipal Police Officers or Uniformed Constables who perform criminal law enforcement duties from the Borough of Naugatuck. Their services will also include an official Municipal Police vehicle when requested by the Engineer.

Municipal Police Officers and requested Municipal Police vehicles will be used at such locations and for such periods as requested by the Contractor or the Borough Police deems necessary to control traffic operations and promote increased safety to motorists through the construction site.

**9.70.04—Method of Measurement:**

Services of Trafficpersons will be measured for payment by the actual number of hours used as indicated by receipts. The hours shall include all trafficpersons used within the limits of construction, project right of way, or along detours to assist the motoring public through the construction work zone. Service hours for continued use of a detour or bypass for movement of construction vehicles and equipment, or at locations where traffic is unnecessarily restricted by the Contractor’s method of operation, will also be charged against this item.

Safety garments and STOP/SLOW paddles will not be measured for payment.

**9.70.05—Basis of Payment:**

Trafficpersons will be paid as described herein.

There will be no direct payment for safety garments or STOP/SLOW paddles. All costs associated with furnishing safety garments and STOP/SLOW paddles shall be considered included in the general cost of the item.

The quantity of \$76 shown on the Estimate and in the itemized proposal for this work shall be considered the cost per hour for a single Trafficperson(Municipal Police Officer). The Borough will pay for any difference in hourly rate above the \$76/hr for hours charged under this item. The \$76 figure is not to be altered in any manner by the bidder. Should the bidder alter the amount shown, the altered figures will be disregarded and the original price will be used to determine the total amount for the contract.

The Contractor will be reimbursed at 105% of the actual total cost of Trafficperson (Municipal Police Officer) up to the total number of hours bid as proven by receipt from the Borough Police. This cost will include any normal mileage and vehicle costs associated with the Trafficperson (Municipal Police Officer) hours worked.

The Contractor’s invoice must include a breakdown of each officer’s actual hours of work and actual rate applied, the invoice from the Borough police, and a canceled check as proof of payment to the Borough police for the services provided.

Pay Item	Pay Unit
Trafficperson (Municipal Police Officer)	Hr.

## **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 "Prosecution and Progress":

#### **Maple Street over the Naugatuck River, Bridge No. 04214**

The Contractor shall maintain and protect traffic as shown on the Stage 1 and Stage 2 Plans, Temporary Signal Plan Stage 1, Temporary Signal Plan Stage 2, and Detour Plan contained in the Plans. Rehabilitation of the bridge shall be performed under staged construction, maintaining westbound traffic on Maple Street with an eastbound detour in accordance with the Plans.

#### **Maple Street and All Other Roadways**

For work to be performed outside the limits of Bridge No. 04214 (including Maple Street approach work and utility work), final paving (including brick paving on the bridge), and other ancillary work (including sidewalk ramp improvements, pocket park improvements, and final signing and pavement marking installation), the Contractor shall maintain and protect traffic utilizing the necessary temporary traffic control patterns to complete the work, and as approved by the Engineer. Temporary traffic control patterns shall be implemented as described under "Traffic Control for Construction Operations" and in accordance with the Construction Traffic Control Plans 13 through 17 and associated notes contained in this Special Provision.

#### **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 allowed to close said driveways to perform the required work during those periods when the businesses are closed, unless permission is granted from the business owner to close the driveway during business hours. If a temporary closure of a residential driveway is necessary, the Contractor shall coordinate with the owner to determine the time period of the closure.

### **Article 9.71.03 - Construction Method is supplemented as follows:**

#### **General**

Unpaved travel paths will only be permitted for areas requiring full depth reconstruction, in which case, the Contractor will be allowed to maintain traffic on subbase for no longer than five (5) calendar days. The unpaved section shall be the full width of the road and perpendicular to the travel lanes.

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 (bridge) section by the end of a workday (work night), or as directed by the Engineer.

When the installation of all intermediate courses of bituminous concrete pavement and all adjacent milling are completed for the entire roadway, the Contractor shall 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 10 feet. At the end of the workday, if the vertical drop-off exceeds 3 inches, the Contractor shall provide a temporary traversable slope of 4:1 or flatter that is acceptable to the Engineer.

The Contractor, during the course of active construction work on overhead signs, signals and structures, 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.

If applicable, when an existing sign is removed, it shall be either relocated or replaced by a new sign during the same working day.

The Contractor shall not store any material on-site which would present a safety hazard to motorists or pedestrians (e.g. fixed object or obstruct sight lines).

The field installation of a signing pattern shall constitute interference with existing traffic operations and shall be completed during the allowable periods.

### **Traffic Signals**

The Contractor shall be responsible for maintaining the traffic signal equipment and operations of according to the Temporary Signal Plan and in accordance with the “Temporary Signalization (Site 1)” Special Provision.

### **Existing Signing**

The Contractor shall maintain all existing overhead and side-mounted signs throughout the project limits during the duration of the project, unless otherwise specified in the Plans. The Contractor shall temporarily relocate signs and sign supports as many times as deemed necessary, and install temporary sign supports if necessary and as directed by the Engineer.

### **Requirements for Winter**

The Contractor shall schedule a meeting with representatives from CTDOT District 4 Maintenance, and the Borough of Naugatuck to determine what interim traffic control measures the Contractor shall implement to maintain and protect traffic while permitting adequate snow removal procedures throughout the winter period. This meeting shall be held prior to October 31.

### **Interim Pavement Markings**

As directed by the Engineer, the Contractor shall install painted pavement markings – including centerlines, lane lines, and stop bars – on intermediate lifts or courses of bituminous concrete pavement and on milled surfaces by the end of the work day/night. The painted pavement markings will be paid under the appropriate items.

If the Contractor will install another lift or course of bituminous concrete pavement within 24 hours, the Contractor may install temporary plastic pavement marking tape in place of the painted pavement markings by the end of the work day/night. These temporary pavement markings shall include centerlines, lane lines, and stop bars. Centerlines shall consist of two 4 inch wide yellow markings, 2 feet in length, side by side, 4 to 6 inches apart, at 20-foot intervals. Stop bars may consist of three 4 inch wide white markings placed side by side. The Contractor shall remove and dispose of the temporary plastic pavement marking tape prior to placing the next lift or course of bituminous concrete pavement. The installation and removal of temporary marking tape will be paid under the appropriate items.

### **Final Pavement Markings**

The Contractor shall install pavement markings, as specified in the Plans, on the final paved surface by the end of the work day/night. If the pavement markings are not installed by the end of the work day/night, then temporary plastic pavement marking tape shall be installed as described for interim pavement markings and the final pavement markings shall be installed by the end of the work day/night on Friday of that week.

If temporary plastic pavement marking tape is installed, the Contractor shall remove and dispose of these markings prior to installing the final pavement markings. The installation and removal of temporary marking tape will be paid under the appropriate items.

### **Signing Patterns**

As applicable, the Contractor shall erect and maintain all signing patterns in accordance with the Plans and/or the temporary traffic control plans contained in this Special Provision. Proper distances between advance warning signs and proper taper lengths are required. 42-inch traffic cones and approved traffic drums are to be utilized for lane closures on Route 8 ramps; 36-inch traffic cones and traffic drums are allowed on all other roadways.



### **Traffic Control During Construction Operations**

**Traffic Control Patterns:** Traffic control patterns, including those illustrated on Construction Traffic Control Plans 13 through 17, 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. These traffic control patterns are not to be substituted for the Stage 1 and Stage 2 plans or the temporary signal plans contained in the Plans, but shall be implemented to accomplish work that cannot be safely accomplished under staged construction.

The installation of traffic control devices shall be based on speed and volume of traffic, duration of operation, and exposure to hazards.

Traffic control patterns shall be uniform, neat and orderly so as to command respect from the motorist.

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.

If a lane reduction taper is required to shift traffic, the entire length of the taper should be installed on a tangent section of roadway so that the entire taper area can be seen by the motorist.

Any existing signs that are in conflict with the traffic control patterns shall be removed, covered, or turned so that they are not readable by oncoming traffic.

When installing a traffic control pattern, a buffer area should be provided and this area shall be free of equipment, workers, materials and parked vehicles.

Traffic control patterns will not be required when vehicles are on an emergency patrol type activity or when a short duration stop is made and the equipment can be contained within the shoulder. Flashing lights and appropriate trafficperson shall be used when required.

Although each situation must be dealt with individually, conformity with the typical traffic control plans contained herein is required. In a situation not adequately covered by the typical traffic control plans, the Contractor must contact the Engineer for assistance prior to setting up a traffic control pattern.

**Placement of Signs:** Signs must be placed in such a position to allow 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 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 Traffic Control Plans:** The 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 whenever possible.

The proper application of the traffic control plans and installation of traffic control devices depends on actual field conditions.

Adjustments to the traffic control plans shall be made only at the direction of the Engineer to improve the visibility of the signs and devices and to better control traffic operations. Adjustments to the traffic control plans shall be based on safety of work forces and motorists, abutting property requirements, driveways, side roads, and the vertical and horizontal curvature of the roadway.

The Engineer may require that the traffic control pattern be located significantly in advance of the work area to provide better sight line to the signing and safer traffic operations through the work zone.

Table I indicates the minimum taper length required for a lane closure based on the posted speed limit of the roadway. These taper lengths shall only be used when the recommended taper lengths shown on the traffic control plans cannot be achieved.

**TABLE I – MINIMUM TAPER LENGTHS**

POSTED SPEED LIMIT MILES PER HOUR	MINIMUM TAPER LENGTH IN FEET FOR A SINGLE LANE CLOSURE
30 OR LESS	180
35	250
40	320
45	540
50	600
55	660
65	780

**Work Zone Safety Meetings:** Prior to the commencement of work, a work zone safety meeting will be conducted with the Engineer, 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. Other work zone safety meetings during the course of the project should be scheduled as needed or as requested by the Engineer.

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. Agenda items may include:

- 1) Review Project scope of work and time.
- 2) Review Section 1.08, Prosecution and Progress of the Special Provisions, as applicable.
- 3) Review Section 9.70, Trafficperson of the Specifications.
- 4) Review Section 9.71, Maintenance and Protection of Traffic of the Special Provisions.
- 5) Review Contractor's schedule and method of operations.
- 6) Review areas of special concern.
- 7) Open discussion of work zone questions and issues.
- 8) Discussion of review and approval process for changes in contract requirements as they relate to work zone areas.

**Installing and Removing Traffic Control Patterns:** Lane closures shall be installed beginning with the advanced warning signs and proceeding forward toward the work area.

Lane closures shall be removed in the reverse order, beginning at the work area, or end of the traffic control pattern, and proceeding back toward the advanced warning signs.

Stopping traffic may be allowed:

- During paving, milling operations, etc. 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 and traffic should not travel across the longitudinal joint or difference in roadway elevation.
- To move slow moving equipment across live traffic lanes into the work area.

Under certain situations when the safety of the traveling public and/or that of the workers may be compromised due to conditions such as traffic volume, speed, roadside obstructions, or sight line deficiencies, as determined by the Engineer, traffic may be briefly impeded while installing and/or removing the advanced warning signs and the first ten traffic cones/drums only. Appropriate measures shall be taken to safely slow traffic.

The Contractor must adhere to using the proper signs, placing the signs correctly, and ensuring the proper spacing of signs.

Prior to installing a pattern, any conflicting existing signs shall be covered with an opaque material. Once the pattern is removed, the existing signs shall be uncovered.

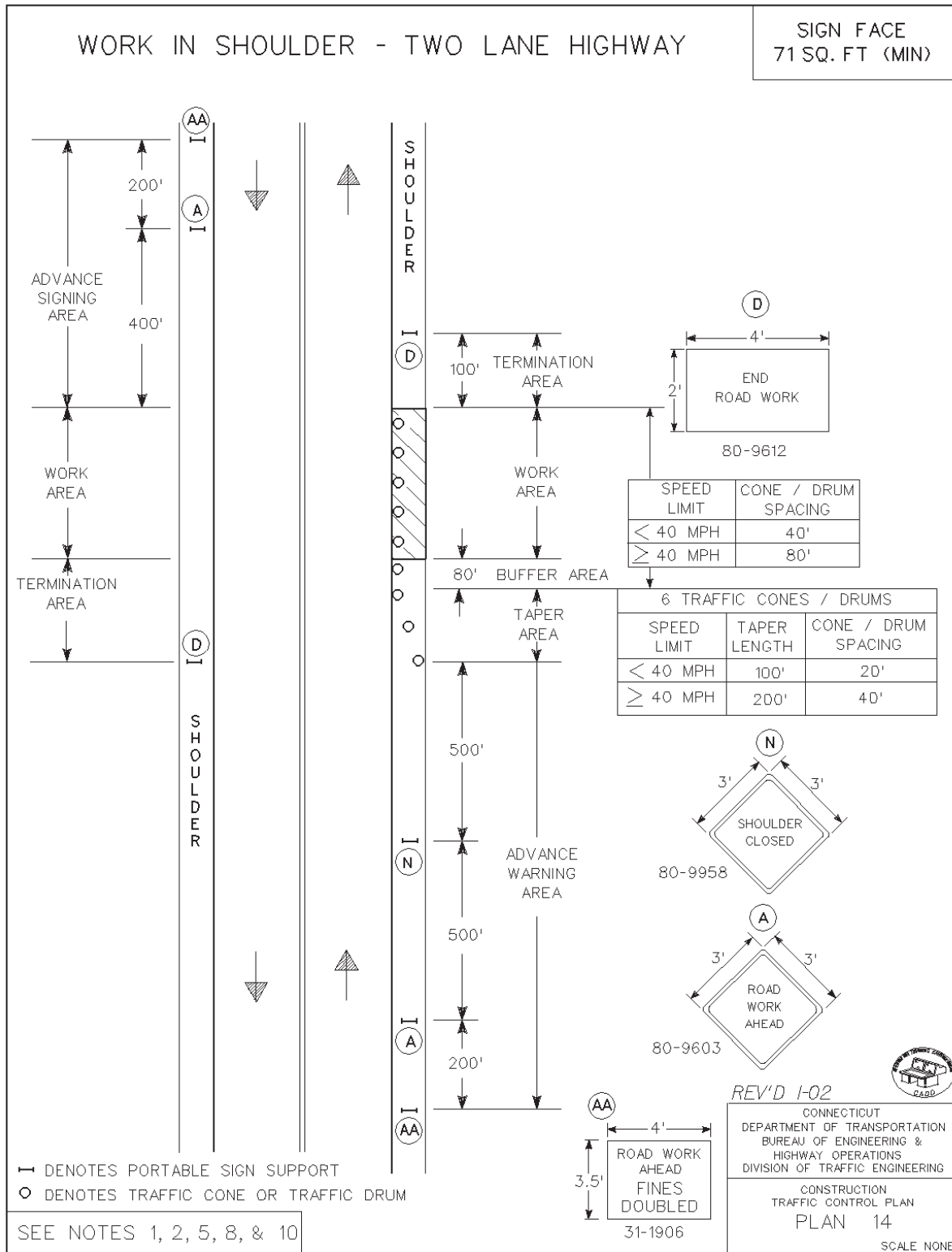
**Use of Traffic Drums and Traffic Cones:** Traffic drums shall be used as shown in the Plans, and as needed, to delineate traffic patterns that are in effect for more than one work day and to delineate raised catch basins, and other hazards. Traffic drums will be paid under the appropriate item.

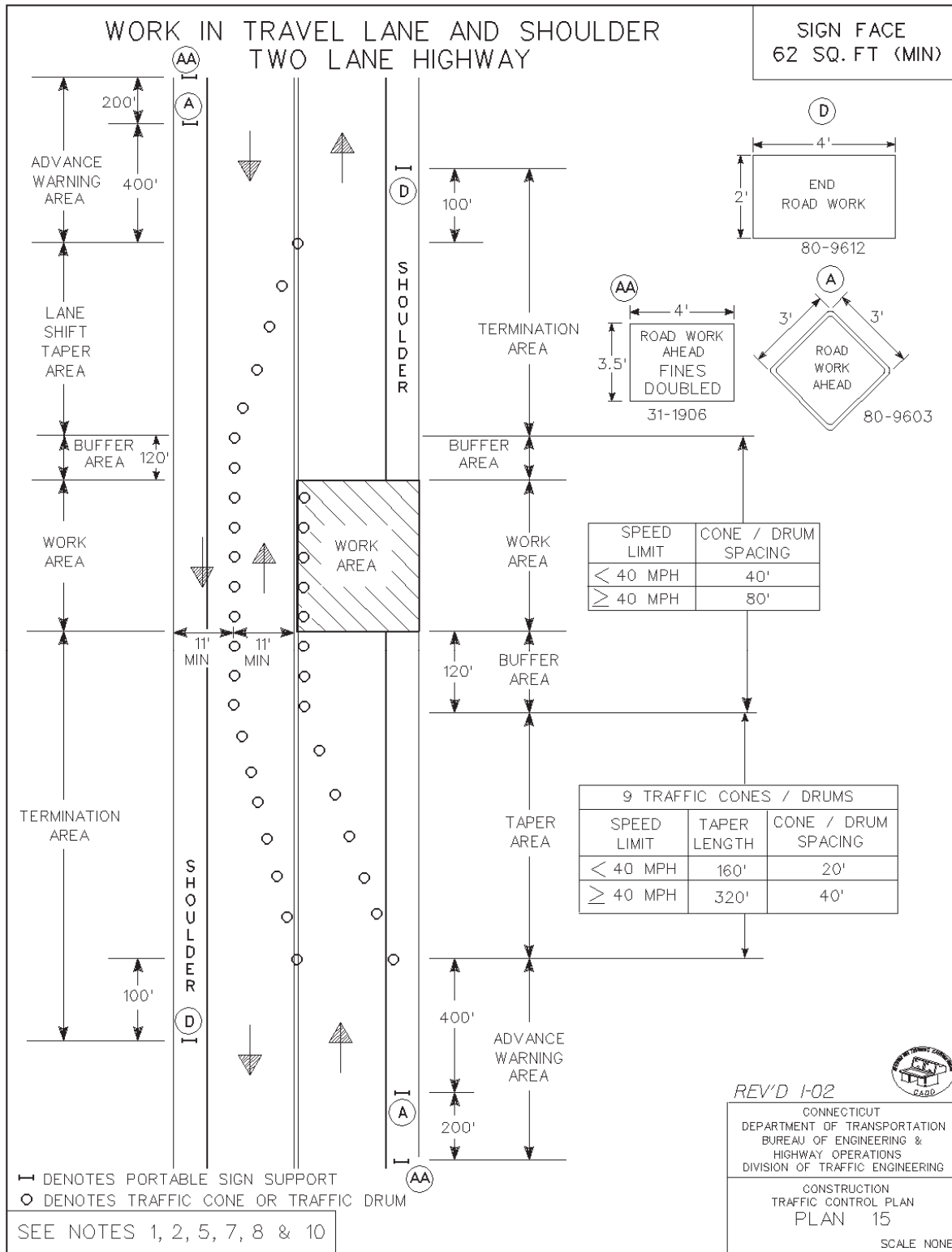
Traffic cones can be used in place of drums for delineation and taper channelization for temporary traffic control patterns in effect for one work day or less. Payment for traffic cones will be included in the "Maintenance and Protection of Traffic" item.

Typical spacing of traffic drums and/or cones shown in the Plans are maximum distances and may be reduced to meet actual field conditions as required.

**General:** If the required minimum number of signs and equipment are not available, the traffic control pattern shall not be installed. Failure of the Contractor to have the required minimum number of signs and equipment, which results in the not being installed, shall not be a reason for a time extension.

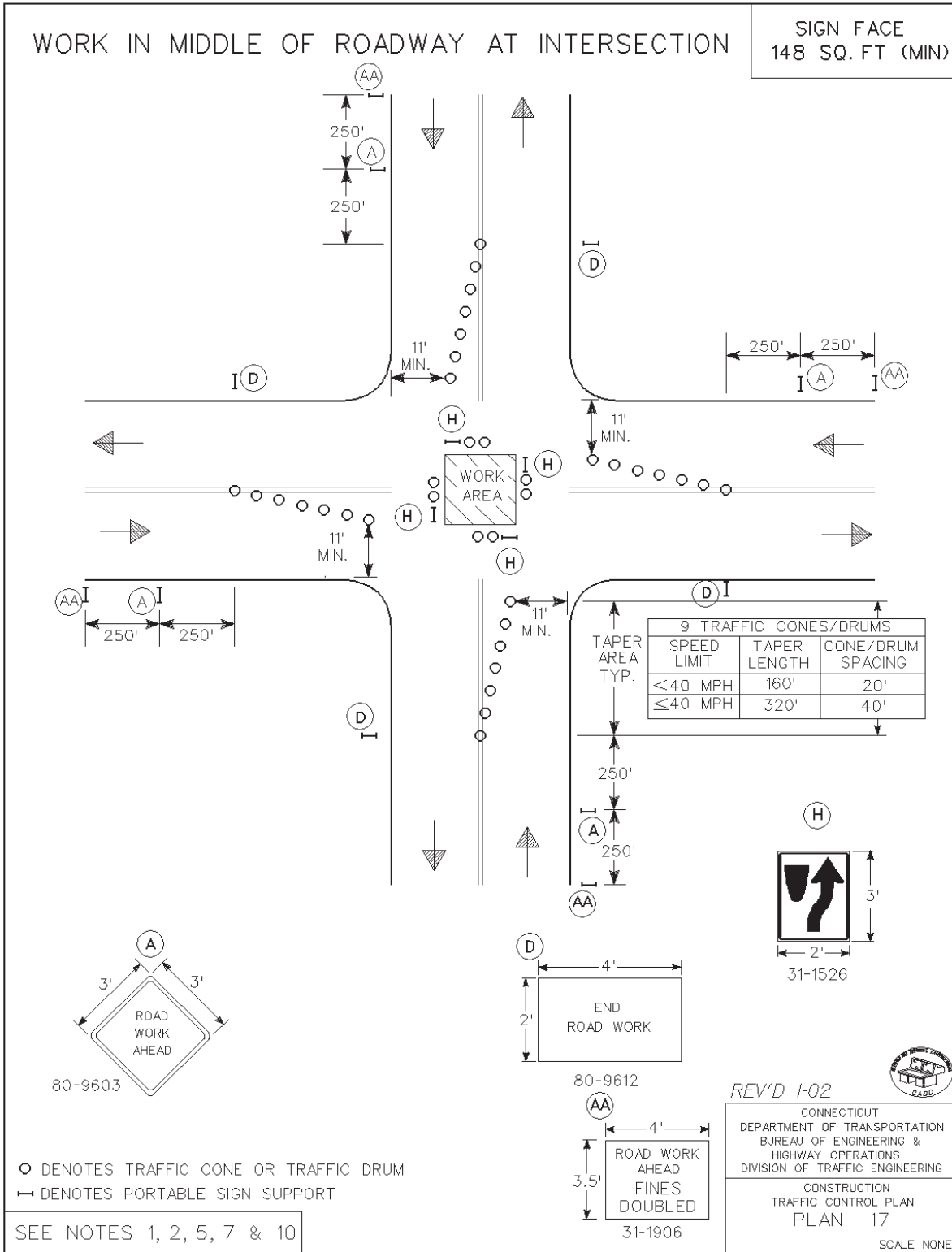






APPROVED J. Carey DATE 1-02  
PRINCIPAL ENGINEER





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 PRINCIPAL ENGINEER

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 (AA), (A) AND (D) SHOULD BE OMITTED WHEN THESE SIGNS HAVE ALREADY BEEN INSTALLED 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. A CHANGEABLE MESSAGE SIGN MAY BE UTILIZED ONE HALF TO ONE MILE IN ADVANCE OF THE LANE CLOSURE TAPER.
5. IF THIS PLAN REMAINS IN CONTINUOUS OPERATION FOR MORE THAN 72 HOURS, THEN TRAFFIC DRUMS SHALL BE USED IN PLACE OF TRAFFIC CONES.
6. ANY LEGAL SPEED LIMIT SIGNS WITHIN THE LIMITS OF A ROADWAY / LANE CLOSURE AREA WILL BE COVERED WITH AN OPAQUE MATERIAL WHILE THE CLOSURE IS IN EFFECT AND UNCOVERED WHEN THE ROADWAY / LANE CLOSURE IS REOPENED TO ALL LANES OF TRAFFIC.
7. IF THIS PLAN REMAINS IN CONTINUOUS OPERATION FOR MORE THAN 36 HOURS, THEN THE EXISTING CONFLICTING PAVEMENT MARKINGS SHALL BE ERADICATED OR COVERED AND TEMPORARY PAVEMENT MARKINGS THAT DEPICT THE PROPER TRAVEL PATHS SHALL BE INSTALLED.
8. DISTANCES BETWEEN SIGNS IN THE ADVANCE WARNING AREA MAY BE REDUCED TO 200' ON LOW SPEED URBAN ROADS (SPEED LIMIT < 40 MPH).
9. FOR LANE CLOSURES ONE (1) MILE OR LONGER, A "REDUCE SPEED TO 45 MPH" SIGN SHALL BE PLACED AT THE ONE MILE POINT AND AT EACH MILE THEREAFTER.
10. IF THIS PLAN IS TO REMAIN IN OPERATION DURING THE HOURS OF DARKNESS, INSTALL BARRICADE WARNING LIGHTS - HIGH INTENSITY ON ALL POST-MOUNTED DIAMOND SIGNS IN THE ADVANCE WARNING AREA.
11. A CHANGEABLE MESSAGE SIGN SHALL BE INSTALLED ONE HALF TO ONE MILE IN ADVANCE OF THE LANE CLOSURE TAPER.
12. FOR METRIC PROJECTS USE THE CONVERSION CHART BELOW.

METRIC CONVERSION CHART (1" = 25mm)

ENGLISH	METRIC	ENGLISH	METRIC	ENGLISH	METRIC
12"	300	42"	1050	72"	1800
18"	450	48"	1200	78"	1950
24"	600	54"	1350	84"	2100
30"	750	60"	1500	90"	2250
36"	900	66"	1650	96"	2400

REV'D 3-11



CONNECTICUT  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF ENGINEERING &  
HIGHWAY OPERATIONS  
DIVISION OF TRAFFIC ENGINEERING

CONSTRUCTION  
TRAFFIC CONTROL PLAN  
NOTES

NOTES-V8.00H

**Article 9.71.05 – Basis of Payment is supplemented by the following:**

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”.

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 #0974001A – REMOVAL OF EXISTING MASONRY**

Work under this item shall conform to the requirements of Section 9.74 amended as follows:

**9.74.01 - Description:** Add the following:

This work will also consist of removing concrete fill over the arch structure including pavement, sidewalk, and copings. Concrete encountered in the approaches removed for the installation of approach slabs will also be paid under this item.

**9.74.03 – Construction Methods:** Add the following:

Demolition of concrete shall be accomplished using cutting, pre-splitting, and low impact methods. Hoe Ram and impact methods of demolition with energy greater than 350Ft-Lbs will not be allowed on the arch structure.

**ITEM #0975002A - MOBILIZATION**

Work under this item shall conform to the requirements of Section 9.75 of the Standard Specifications supplemented and amended as follows:

**Article 9.75.04 – Method of Measurement:**

Delete the entire section and replace with the following:

This work will be measured for payment in the manner described hereinafter; however, the determination of the total contract price earned shall not include the amount of mobilization earned during the period covered by the current monthly estimate- but shall include amounts previously earned and certified for payment:

1. When the first payment estimate is made, 25 percent of the lump sum bid price for this item or 2.5 percent of the total original contract price, whichever is less, shall be certified for payment.
2. When the Baseline Schedule, as specified under Section 1.05.08, is accepted, 50 percent of the lump sum bid price or 5 percent of the total original contract price, whichever is less, will be certified for payment.
3. When 10 percent of the total original contract price is earned and the Baseline Schedule, as specified under Section 1.05.08, is accepted, 75 percent of the lump sum price of this item or 7.5 percent of the total original contract price, whichever is lesser, minus any previous payments, will be certified for payment.
4. When 30 percent of the total original contract price is earned and the Baseline Schedule, as specified under Section 1.05.08, is accepted, 100 percent of the lump sum price of this item or 10 percent of the total original contract price, whichever is lesser, minus any previous payments, will be certified for payment.

Upon completion of all work on the project, payment of any amount bid for mobilization in excess of 10 percent of the original contract amount will be paid

Nothing herein shall be construed to limit or preclude partial payments otherwise provided for by the contract.

**ITEM #1001002A – TRENCHING AND BACKFILLING, TYPE I**

**ITEM #1001003A – TRENCHING AND BACKFILLING, TYPE II**

**ITEM #1001004A – TRENCHING AND BACKFILLING, TYPE III**

This work shall conform to the requirements of Section 10.01 of the Standard Specifications supplemented with the following:

**10.01.01 – Description:** Add the following:

It shall also include the encasement of conduit in concrete as shown on the Plans.

**10.01.03 – Materials:** Add the following:

Concrete shall be 2500 psi, ½ inch maximum stone, 6-9 inches slump of such consistency that spading will ensure the flow of concrete between and under the individual ducts, but not so wet as to float the ducts. For tier buildup construction, a stiffer consistency should be used.

**10.01.03 – Construction Methods:** Add the following:

Trenching and Backfilling, Type III is to be done in accordance with the Plans and at the direction of the Engineer. Following the completion and approval of the temporary telephone conduit support, contact FRONTIER (Tom Delorenzo - (203) 238-5202 or Glen McCloud (203) 575-6703.

Where a trench is placed crossing a curb line consisting of concrete curbing, the entire section of concrete curbing between joints shall be replaced in accordance with Section 8.11, unless otherwise directed by the Engineer.

Where a trench is placed crossing a curb line consisting of granite stone curbing, granite stone curbing shall be removed and reset in accordance with Section 8.14, unless otherwise directed by the Engineer.

Where conduits are to be placed in concrete encasement, all work shall conform to the Plans and the requirements of Section 6.01 of the Standard Specifications. Spacing for all mechanical spacers shall be as shown on the Plans or as directed by the Engineer.

Warning tape shall be placed as shown on the Plans and in accordance with Section 1.05.15.

**10.01.05 – Basis of Payment:** Add the following:

All concrete curbing replaced due to trench excavation including that within the trench limits shall be paid for at the Contract unit price for “Concrete Curbing”.

All granite stone curbing removed and reset due to trench excavation including that within the trench limits shall be paid for at the Contract unit price for “Remove and Reset Stone Curbing”.

The contract unit price for “Trenching and Backfilling, (Type)” shall also include all concrete encasement of conduit as shown on the Plans.

<u>Pay Item</u>	<u>Pay Unit</u>
Trenching and Backfilling, Type I	L.F.
Trenching and Backfilling, Type II	L.F.
Trenching and Backfilling, Type III	L.F.



**ITEM #1003595A – DECORATIVE LIGHT POLE AND LIGHT FIXTURE**

**01 – Description:**

This work shall include the furnishing, assembling and installation of a decorative light pole and fixture on the bridge parapets, on existing foundations, and in the pocket park as shown on the plans or as directed by the Engineer. Work under this item shall include all foundations, mounting hardware, fasteners, lamps lenses and hardware necessary for complete installation of a functioning light and post.

**02 – Materials:**

The materials for this work shall conform to the applicable requirements of Article M.15.04 of Form 816 of the Standard Specifications and the following requirements: (All substitutions are subject to approval by the Town.)

**Bridge Parapet Lights**

The light pole shall be 14' Philips/HADCO P4465-A-T-G

The fixture shall be Sternberg Oak Street B, (6830B) modified with top spikes similar to the Main Street MS805A to resemble the historic fixtures on the bridge. Photos of historic fixtures are available.

- Lamp=LED 64
- Finish=Black
- Lens=Clear Panels
- Optics=Type III
- Photo Control=Per Eversource
- Voltage=Per Eversource
- Dimming Control=A
- Surge Suppression=A

**Park Lights**

The light pole shall be 14' Philips/HADCO P4465-A-T-G

The fixture shall be Philips Architectural Post Top LED (VX600)

- Lamp=LED 64
- Finish=Black
- Lens=Clear Panels
- Optics=Type III
- Photo Control= Per Eversource
- Voltage= Per Eversource
- Dimming Control=A
- Surge Suppression=A

**03 – Construction Methods:**

The light pole shall be set plumb and true to the vertical plane. The luminaire and standard shall be assembled carefully, without damage, and to the manufacturer’s specifications or recommendations.

**04 – Method of Measurement:**

This work will be measured for payment by the number of decorative light poles with decorative light fixtures complete in place and accepted regardless of the style.

**05 – Basis of Payment:**

This work will be paid for at the Contract unit price each for “Decorative Light Pole and Light Fixture”, complete in place, which price shall include all foundations, materials, equipment, tools, labor and work incidental thereto.

Pay Item	Pay Unit
Decorative Light Pole and Light Fixture	Ea

## **ITEM #1003906A - REMOVE LIGHT STANDARD**

**01 - Description:** Under this item, the Contractor shall remove an existing light standard with associated transformer base, bracket, luminaire, and ballast as indicated on the plans or as directed by the Engineer. Removed light standards, transformer bases, brackets, and luminaires shall become the property of the Contractor.

**02 – Materials:** The Contractor shall be responsible for legal disposal of all material.

**03 – Construction Methods:** Prior to removing the light standards, the Contractor shall coordinate with CL&P (Contact: Brian Morgan – (203) 597-4233) to have the lights taken out of service. The Contractor shall remove light standards, bases, brackets, luminaires, wires and ballast, as shown on the Plans or as directed by the Engineer.

H.I.D. lamps which are to be disposed of by the Contractor, must be handled as hazardous waste, and be subject to the provisions of the Resources Conservation and Recovery Act (RCRA) Subtitle C and chapter 446 of the Connecticut General Statutes. The removed lamps shall not be landfilled or incinerated, but must be handled and disposed of, or recycled, at an approved facility.

**04 – Method of Measurement:** This work will be measured for payment by the number of light standards with associated equipment removed and disposed of, complete and accepted.

**05 – Basis of Payment:** This work will be paid for at the contract unit price each for "Remove Light Standard" complete, which price shall include the removal of light standards with associated transformer bases, brackets, luminaires, lamps, wire and hardware, storing, hauling, and disposing including all materials, tools, equipment, labor and work incidental thereto.

Pay Item	Pay Unit
Remove Light Standard	Ea.

**ITEM # 1008138A – 4” POLYVINYL CHLORIDE CONDUIT IN STRUCTURE**

**ITEM # 1008143A – 4” POLYVINYL CHLORIDE CONDUIT UNDER ROADWAY**

**ITEM # 1008144A – 5” POLYVINYL CHLORIDE CONDUIT UNDER ROADWAY**

**ITEM # 1008215A – 2” RIGID METAL CONDUIT UNDER ROADWAY**

**ITEM # 1008315A – 2” RIGID METAL CONDUIT IN STRUCTURE**

**ITEM # 1008870A – 5” FIBERGLASS CONDUIT – HEAVY WALL**

This work shall conform to the requirements of Section 10.08 of the Standard Specifications supplemented with the following:

**10.08.01 – Description:** Add the following:

2” Rigid Metal Conduit under Roadway and 2” Rigid Metal Conduit in Structure shall extend to capped conduits constructed by others under the Naugatuck Pedestrian Greenway Phase 1. The Contractor shall establish the location of these existing conduits prior to installation of the proposed conduit.

4” Polyvinyl Chloride Conduit under Roadway shall extend south on South Main Street to the proposed Cable Vault, to be constructed by Comcast Communications. The Contractor shall contact Comcast Communications (Contact: Dave Gerrish – (203) 732-0146 Ext. 73801) prior to conduit installation to coordinate final location.

2” Rigid Metal Conduit under Roadway and 5” Polyvinyl Chloride Conduit under Roadway shall terminate 2’ from the walls of existing electrical manholes and be capped. CL&P shall make final connections to manholes.

**10.08.02 – Materials:** Add the following:

5” Fiberglass Conduit – Heavy Wall shall be Champion Fiberglass 50C-HW-20-I Conduit or approved equal. All fittings, joints, and spacers shall be manufactured by Champion Fiberglass

of 50C-HW product designation. The Contractor shall submit product sheets to be approved by the Engineer and CL&P prior to construction.

All fittings shall be of the same material type as the conduit being installed. Fittings shall be purchased from the same manufacturer as the conduit. Minimum radius on bends used for 4" Polyvinyl Chloride Conduit under Roadway or in Structure shall be 36".

**10.08.03 – Construction Methods:** Add the following:

1/4" nylon pull rope shall be installed in the conduit for making final connections.

**3. Conduit under Roadway:** Add the following:

2" Rigid Metal Conduit under Roadway shall be terminated approximately 2' from the outer wall of electrical manholes. The Contractor shall contact CL&P (Brian Morgan – (203) 597-4233); CL&P shall make final connection into manhole.

5" Polyvinyl Chloride Conduit under Roadway shall be terminated approximately 2' from the outer wall of electrical manholes. The Contractor shall contact CL&P (Brian Morgan – (203) 597-4233); CL&P shall make final connection into manhole.

**4. Conduit in Structure:** Add the following:

Mechanical spacers shall be used to secure conduit being placed in poured concrete.

**10.08.05 – Basis of Payment:** Add the following:

<u>Pay Item</u>	<u>Pay Unit</u>
4" Polyvinyl Chloride Conduit in Structure	L. F.
4" Polyvinyl Chloride Conduit under Roadway	L. F.
5" Polyvinyl Chloride Conduit under Roadway	L. F.
2" Rigid Metal Conduit under Roadway	L. F.
2" Rigid Metal Conduit in Structure	L. F.
5" Fiberglass Conduit - Heavy Wall	L. F.

## **ITEM #1010917A – INSTALL PRECAST CONCRETE MANHOLE**

**01 - Description:** Under this item, the Contractor shall install a precast concrete manhole at the location shown on the plans, or as directed by the Engineer. The precast concrete manholes will be furnished by Comcast Communications.

**02 – Materials:** The materials for this work shall meet the required specifications in the following articles of the Standard Specification:

Precast Concrete Manhole: To be furnished by Comcast Communications.  
Bituminous Concrete: M.04  
Processed Aggregate Base: Subarticle M.05.01  
No. 6 Crushed Aggregate: M.01.01  
Manhole Ring and Cover: To be furnished by Comcast Communications.  
Cementitious Grout: Subarticle M.03.05

**03 – Construction Methods:** The Contractor shall coordinate with Comcast Communications (Dave Gerrish (203) 732-0146 Ext. 73801) to arrange delivery of the Precast Concrete Manholes. Precast concrete manholes shall be installed at the locations shown on the Plans, or as directed by the Engineer. All excavation shall conform to Article 2.05.03 of the Standard Specifications, and shall include an area 2' clear from the neat lines of the foundation for the proposed manhole. Excavation shall be to a depth 1' below the foundation of the proposed manhole.

Where manholes are shown in bituminous concrete pavement, the top of the precast concrete manhole shall be set flush with the pavement surface and the surrounding area shall be replaced with the material installed in adjacent Trenching and Backfilling, Type I, as shown on the Plans and in conformance with the "Trenching and Backfilling, Type I" Special Provision. The manhole ring and cover shall be installed per the specifications of the manufacturer and at the direction of the Engineer. The frame for the cast iron cover shall be held in place on the precast concrete manhole with cementitious grout. The cast iron manhole cover shall be flush with the surrounding surface.

The precast concrete manhole shall be set on a 12" bed of No. 6 Crushed Aggregate, thoroughly compacted in 6" lifts.

**04 – Method of Measurement:** This work will be measured for payment by the number of precast concrete manholes installed complete and accepted in place. If rock, conforming to the description given under Article 2.05.01, is encountered, the Contractor shall strip it of sufficient overlying material to allow for proper measurement, and shall notify the Engineer that the rock surface is ready for measurement. If the Contractor fails to give such notice, the Engineer will presume the measurements taken at the time he first saw the material in question will give the true quantity of rock excavation. For measurement where rock is encountered in excavation,

payment lines shall be vertical. Rock excavation shall be measured for payment under the item “Rock in Trench Excavation (0-10’ Deep)”.

**05 – Basis of Payment:** This work will be paid for at the Contract unit price each for “Install Precast Concrete Manhole”, complete in place, which price shall include all materials, crushed stone, excavation, backfill, replacement of bituminous pavement, and all equipment, tools, labor and work incidental thereto.

All rock excavation shall be paid under the item “Rock in Trench Excavation (0-10’ Deep)” item.

Pay Item	Pay Unit
Install Precast Concrete Manhole	Ea.



**ITEM #1108724A - PHASE SELECTOR**

**ITEM #1112410A - DETECTOR (TYPE A)**

**ITEM #1112470A - PRE-EMPTION SYSTEM CHASSIS**

**ITEM #1113550A - DETECTOR CABLE (OPTICAL)**

**SYSTEM DESCRIPTION:**

The emergency vehicle traffic signal priority control system shall be compatible with the Towns existing system and enable designated vehicles to remotely cause the traffic signal controller to advance to and/or hold a desired traffic signal display by using existing controller functions. The control shall be activated at a minimum distance of 1,800 feet (548.6m) along an unobstructed "line of sight" path. The control shall not terminate until the vehicle is within 40 feet (12.2m) of the detector or at the intersection.

The system shall consist of the following components:

- A. Town owned vehicle emitters which are mounted on the emergency vehicles. The contractor will not need to provide emitters.
- B. Phase Selector (minimum 2 channel) which shall cause the signal controller to advance to and/or hold the desired traffic signal display for the emergency vehicle. A pre-emption system chassis shall house two phase selectors.
- C. Optical Detector which shall be mounted on or near a traffic signal and shall receive the optical energy signals generated by the Vehicle Emitter.

Detector (Type A), 1 Direction, 1 Channel

- D. Detector Cable (Optical).

**System Operation:**

- A. The operating sequence shall be initiated when the optical detector receives the required optical energy signal from the Emitter.
- B. The phase selector shall cause the traffic signal controller to advance to and/or hold the desired traffic signal display for the emergency vehicle.
- C. The phase selector shall cause the controller to advance to and/or hold the desired traffic signal display even if the optical energy signals cease before the desired display is obtained.

- D. The phase selector shall allow the traffic signal controller to resume normal operation within ten seconds after optical energy signals cease if the optical energy signals cease after the desired traffic signal display is obtained.
- E. The phase selector shall not respond to optical energy signals from an emergency vehicle if it is already processing optical energy signals from another emergency vehicle.

### **System Components:**

#### **A. Vehicle Emitter:**

The emitter assembly consists of an emitter and power supply and an emitter control switch assembly. The emitter assembly is mounted on a vehicle and produces a flashing optical signal when in operation.

1. Shall operate on ten to fifteen volts DC input voltage, but shall not be damaged by input voltage surges up to twenty-five volts DC.
2. Shall be controlled by a single on/off switch that requires no other adjustments by the operator. The on/off condition shall be indicated by a light located adjacent to the switch.
3. Shall be automatically disabled or de-activated by one or a combination of the following: seat switch, emergency brake switch, door switch, transmission safety switch.
4. Shall operate over an ambient temperature range of minus 30<sup>0</sup> F. to plus 165<sup>0</sup> F. (minus 34<sup>0</sup> C to plus 74<sup>0</sup> C)
5. Shall operate in 5 to 95 % humidity.
6. Shall be a pulsed optical energy source with a controlled repetition rate of 10Hz to 14 Hz and adjustable intensity.
7. Shall not generate voltage transients on the battery input line which exceed battery voltage by more than four volts.
8. Shall produce optical energy in a cone of not more than 90 degrees horizontal and not more than 30 degrees vertical. The detectors and/or phase selector shall not sense a pre-emption signal from an emitter outside this cone.

#### **B. Optical Detector:**

The optical detector receives the high intensity optical pulses produced by the emitter. These optical energy pulses are transformed by the detector into appropriate electrical signals which are transmitted to the phase selector. The optical detector is mounted at or near the intersection in a location which permits an unobstructed line of sight to vehicular approaches. The units may be mounted on signal span wires, mast arms or other appropriate structures.

1. Shall be of solid state construction.
2. Shall operate over an ambient temperature range of minus 30<sup>0</sup> F. to plus 165<sup>0</sup> F.  
(minus 34<sup>0</sup> C to plus 74<sup>0</sup> C)
3. Shall have internal circuitry potted in a semi-flexible compound to ensure moisture resistance.
4. Shall operate in 5 to 95 % humidity.
5. Shall have a cone of detection of not more than 13 degrees. The detector and/or phase selector shall not sense a pre-emption signal from an emitter outside this cone.

C. Phase Selector:

The phase selector supplies power to and receives electrical signals from the optical detector. When detector signals are recognized as a valid call, the phase selector causes the signal controller to advance to and/or hold the desired traffic signal display. This is accomplished by activating the pre-empt input to the controller.

The phase selector is capable of assigning priority traffic movement to one of two channels on a first-come, first-serve basis. Each channel is connected to select a particular traffic movement from those normally available within the controller. Once a call is recognized, "commit to green" circuitry in the phase selector functions so that the desired green indication will be obtained even if optical communication is lost. After serving a priority traffic demand, the phase selector will release the controller to follow normal sequence operation.

1. Shall include an internal power supply to supply power to the optical detectors.
2. Shall have minimum two-channel operation with the capability of interfacing with an additional phase selector for expansion of channels of operation.
3. Shall have adjustable detector range controls for each channel of operation, from 40 feet (12m) to 1800 feet (548m).
4. Shall have solid state indicator lights for power on and channel called.
5. Shall operate over an ambient temperature range of minus 30<sup>0</sup> F. to plus 165<sup>0</sup> F.  
(minus 34<sup>0</sup> C to plus 74<sup>0</sup> C)
6. Shall operate in 5 to 95 % humidity.

D. Pre -Emption System Chassis:

1. Card cage/slot shall provide all the necessary hardware and harnessing required to allow simple wiring of phase selector to detector outputs and controller inputs..
2. Shall have harness to carry 115VAC and card outputs.
3. Shall include terminal block/strip for connecting the detectors.

E. Detector Cable (Optical):

1. 3-Conductor cable with shield and ground wire.
2. AWG #20 (7x28) stranded.
3. Individually tinned copper strands.
4. Conductor insulation: 600 volt, 167<sup>0</sup> F. (75 deg. C).
5. 1 Conductor-yellow; 1 Conductor-blue; 1 Conductor-orange.
6. Aluminized mylar shield tape or equivalent.
7. AWG #20 (7x28) stranded uninsulated drain wire
8. DC resistance not to exceed 11.0 ohms per 1000 feet (305m).
9. Capacitance from one conductor to other two conductors and shield not to exceed 48 pf/ft. (157pf/m).
10. Jacket: 600 volts, 176<sup>0</sup> F. (80 deg. C), minimum average wall thickness – 0.045” (1.14mm).
11. Finished O.D.: 0.3” (7.62mm) max.

### **System Interface:**

System shall be capable of operating in a computerized traffic management system when appropriate interfacing is provided by the computer supplier.

### **General:**

The Contractor shall furnish the manufacturer the phasing diagrams indicating controller sequence and timing.

The Contractor shall secure from the manufacturer a guarantee for the equipment for a period of sixty (60) months, which time shall commence from the date of delivery. Manufacturer shall certify upon request that all materials furnished will conform to this specification. The manufacturer or his designated representative shall be responsible for determining and setting all required range and emitter intensity for the emergency vehicle operation.

### **Construction Methods:**

All equipment except the vehicle emitter assembly shall be installed and wired in a neat and orderly manner in conformance with the manufacturers’ instructions. The vehicle emitter assembly shall be delivered to a designated town representative. Installation of the vehicle emitter assembly shall be the responsibility of the town.

Traffic signals owned and maintained by the State that have optical pre-emption equipment owned and maintained by the town shall have an Auxiliary Equipment Cabinet (AEC) attached to the controller cabinet. The optical pre-emption equipment shall be housed in the AEC. Traffic signals owned and maintained by the town do not require an AEC to house the pre-emption equipment.

Detector cables shall be continuous with no splices between the optical detector and the AEC.

Detector locations shown on the plan are for illustration purposes only. Exact location shall be determined by the contractor or the designated representative for the best possible line of sight.

If not present in an existing traffic controller cabinet, the following items shall be installed and connected, in conformance with the current Functional Specifications for Traffic Control Equipment, “D” Cabinet Requirements (Pre-emption Type):

- Controller “D” harness and adapter.
- Pre-emption termination panel with terminal block and relay bases.
- Pre-emption disconnect switch, mounted on the emergency switch panel (on inside of cabinet door).
- Pre-emption test buttons, mounted on the pre-emption termination panel.

All connections from the phase selector to the “D” harness and to the cabinet wiring shall be made at the termination panel. The termination panel shall have AC+ Lights, AC-, and a switched logic ground. The switched logic ground feeds all the pre-empt inputs to the phase selector. When switched off by the pre-emption disconnect switch, the traffic controller shall not be affected by pre-empt calls from the optical pre-emption system. A minimum of two test buttons shall be provided. If there are more than two pre-empt runs, a button for each shall be installed. A chart or print out indicating the program steps and settings shall be provided along with the revised cabinet wiring diagrams.

**Test the Pre-emption System at the semi-final inspection According to the following Guidelines:**

1. Notify the system owner/user, such as the municipal fire chief or public works director, of the scheduled inspection
2. Request a fire department representative and an emergency vehicle, which has an emitter to conduct the test. If not available, the contractor shall provide an emitter.
3. In the presence of the Engineer and the municipal representative, test each pre-empted approach with the emergency vehicle. Test the following items of the system:
  - \* Confirm that the emitter activates the phase selector and the phase selector activates the correct pre-emption input to the controller.
  - \* Confirm adequate range. The traffic signal must be pre-empted to green sufficiently in advance of the emergency vehicle arrival. The vehicle emitter shall initiate pre-emption at a minimum distance of 1800 FT. (548.6m).
  - \* Confirm there are no false calls. Keep the emitter active as the emergency vehicle passes through the intersection. No other optical detectors shall sense the strobe.
4. Document the test. Provide the Engineer and, upon request, the municipality copies of the test results.

If a malfunction is found or the system needs adjustment (such as range, emitter intensity, or detector location), schedule a follow-up test. Repeat the above steps for all approaches that did not pass.

All adjustments such as emitter intensity, phase selector range, sensitivity, detector placement, shall be made at the intersection by the contractor so that the optical pre-

emption operates correctly with other major manufacturers' equipment currently owned by the town.

**Method of Measurement:**

Optical Detectors, Phase Selectors, System Chassis will be measured for payment by the number of each supplied, installed and accepted. Detector Cable (Optical) will be measured by the number of linear feet (meters) supplied, installed and accepted. Vehicle Emitters will not be required.

**Basis of Payment:**

Payment for Optical Detectors, Phase Selector, System Chassis and Detector Cable (Optical) will include the item unit cost, including all manufacturer's required mounting hardware and the cost of installation and supervision by the manufacturer or his designated representative, including travel and subsistence, and all materials, equipment and labor incidental thereto. Payment for termination panel, "D" harness, test buttons, program chart (or print out) and revised cabinet wiring diagrams shall be included in the item PRE-EMPTION SYSTEM CHASSIS.

<u>Pay Items</u>	<u>Pay Units</u>
Detector (TYPE A)	Ea.
Phase Selector	Ea.
Detector Cable (Optical)	L.F. (m)
Pre-Emption System Chassis	Ea.

## **ITEM #1116100A - INTERNALLY ILLUMINATED SIGN (LED)**

Work under this item shall conform to the requirements of Section 11.16 amended as follows:

**7.03.02 – Materials:** Replace with the following:

### **Article M16.17 - Illuminated Signs:**

Add the following:

Illuminated Signs using LED technology shall conform to the following requirements:

#### General:

- Symbol and/or Text as Shown on plans.
- Comply with current MUTCD standards.
- Size: As shown on the plans.
- Weight: not more than 10-lbs./ square ft. including frame.
- Operational between -40 degrees F (-40 C) to 160 degrees F (74 C).
- Capable of flash operation with no restrictions or degradation of performance.
- Warrantee:
  - Includes shipping to and from manufacturer.
  - Start date is final acceptance date.
  - Defects: 2 years.
  - LED light source: 5 years.
  - Power Supply: 2 years.

#### Housing:

- Frame: Extruded 6063-T6 aluminum.
- All brackets and hardware shall be painted yellow by the manufacturer. The color shall be No. 13538, Federal Standard No. 595.  
At intersections at Merritt Parkway interchanges, all brackets and hardware shall be painted dark green by the manufacturer. The color shall be No. 14056, Federal Standard No. 595.
- Minimum 4 weep holes in bottom.
- Removable visor to prevent sun reflection. Outside powder coated to match frame. Inside powder coated flat black.
- Stainless steel external mounting hardware and internal hardware.
- Cable entrance designed to prevent entrance of dirt, moisture, & insects.
- Clearly stamp, etch or permanently mark on the housing the following information:
  - Manufacturer & model number.
  - Date of manufacture.
  - The words “EXTENDED VIEW”.
- Backcover: UV (Ultraviolet) stabilized black polycarbonate or ABS plastic.
- Face: UV stabilized clear, vandal resistant, non-glare, polycarbonate or lexan.

#### Optical Unit:

- Blank out. Not legible when not illuminated.
- Clearly legible in direct sunlight when illuminated.

- LED light sources that comply with current CT Department of Transportation specifications and with current ITE specifications.
- Intensity degradation no more than 10% per year.
- Extended view. Visible cone not less than 20 degrees.
- Text and symbol size as shown on the plans.
- Symbol color: White, Yellow, or Red as required or as shown on plans.
- Text color: White against black background.

Electrical:

- Parallel circuit designed so loss of 5% of individual LED light sources does not compromise legend or message.
- Operating voltage: 12VDC.
- Maximum power requirement: 100 Watts.
- External power supply mounted in controller cabinet.
  - Off-the-shelf type with readily available replacement components.
  - Designed to protect LED's from electrical surges and transient voltages.
  - Sufficient VA rating to continuously operate minimum two signs.

**11.16.05 – Basis of Payment:** Replace with the following:

This work shall be paid for at the Contract unit price each for “Illuminated Sign (LED)” complete in place, which price shall include mounting brackets, hardware, fittings, snap switch, all materials, equipment, paint, tools, power supply, labor, and work incidental thereto.

Cable to the sign shall be paid under Article 11.13.

Pay Item	Pay Unit
Internally Illuminated Sign (LED)	Ea.



## **ITEM NO. 1118051A – TEMPORARY SIGNALIZATION (SITE NO. 1)**

### **Description:**

Provide Temporary Signalization (TS) at the intersections shown on the plans or as directed by the Engineer.

1. Existing Signalized Intersection: Keep each traffic signal completely operational at all times during construction through the use of existing signal equipment, temporary signal equipment, new signal equipment, or any combination thereof once TS has started as noted in the section labeled Duration.

2. Unsignalized Intersection: Provide TS during construction activities and convert the temporary condition to a permanent traffic signal upon project completion. Furnish, install, maintain, and relocate equipment to provide a complete temporary traffic signal, including but not limited to the necessary support structures, electrical energy, vehicle and pedestrian indications, vehicle and pedestrian detection, pavement markings, and signing.

### **Materials:**

- Pertinent articles of the Standard Specifications
- Supplemental Specifications and Special Provisions contained in this contract

### **Construction Methods:**

#### Preliminary Inspection

In the presence of the Engineer and a representative from the DOT Electrical Maintenance Office (Town representative for a Town owned signal), inspect and document the existing traffic signal's physical and operational condition prior to Temporary Signalization. Include but do not limit the inspection to the following:

- Controller Assembly (CA)
  - Controller Unit (CU)
  - Detection Equipment
  - Pre-emption Equipment
  - Coordination Equipment
- Vehicle and Pedestrian Signals
- Vehicle and Pedestrian Detectors
- Emergency Vehicle Pre-emption System (EVPS) \*
- Interconnect Cable and Splice Enclosures
- Support Structures
- Handholes, Conduit and Cable

It may be necessary to repair or replace equipment that is missing, damaged, or malfunctioning. Develop a checklist of items for replacement or repair after the inspection. If authorized by the Engineer, this work will be considered "Extra Work" under Article 1.09.04.

\* At a State owned signal the EVPS equipment is usually owned by the municipality. It is recommended to apprise the municipality of the inspection schedule and results.

TS Plan

At least 30 days prior to implementation of each stage, submit a 1:40 (1:500 metric) scale TS plan for each location to the Engineer for review and comment. Include but do not limit the plan to the following:

- Survey Ties
- Dimensions of Lanes, Shoulders, and Islands
- Slope Limits
- Clearing and Grubbing Limits
- Signal Phasing and Timing
- Location of Signal Appurtenances such as Supports, Signal Heads, Pedestrian Push buttons, Pedestrian Signals
- Location of Signing and Pavement Markings (stop bars, lane lines, etc.)
- Location, method, and mode of Temporary Detection

Review of the TS plan does not relieve the Contractor of ensuring the TS meets the requirements of the MUTCD. A copy of the existing traffic signal plan for State-owned traffic signals is available from the Division of Traffic Engineering upon request. Request existing traffic signal plans for Town-owned traffic signals from the Town. Do not implement the TS plan until all review comments have been addressed.

Earthwork

Perform the necessary clearing and grubbing and the grading of slopes required for the installation, maintenance, and removal of the TS equipment. After TS terminates restore the affected area to the prior condition and to the satisfaction of the Engineer.

Maintenance and Protection of Traffic

Furnish, install, maintain, relocate, and remove signal-related signing (lane-use, signal ahead, NTOR, etc.) and pavement markings as needed. Install, relocate, and/or remove equipment in a manner to cause no hazard to pedestrians, traffic or property. Maintain traffic as specified in the Special Provisions “Prosecution and Progress” and “Maintenance and Protection of Traffic.”

Electrical Service and Telephone Service at Existing Signalized Intersections

If the electrical service or the telephone service source must be changed or relocated make all arrangements with the utility company and assume all charges. The party previously responsible for the monthly payment of service shall continue to be responsible during TS.

Electrical Service at Unsignalized Intersections

Assume all charges and make all arrangements with the power company, including service requests, scheduling, and monthly bills in accordance with Section 10.00.12 and Section 10.00.13 of the Standard Specifications. A metered service is recommended where TS equipment will be removed when no longer needed.

Temporary Signalization

Furnish, install, maintain, relocate, and remove existing, temporary, and proposed traffic signal equipment and all necessary hardware; modify or furnish a new CA; reprogram the CU

phasing and timing; as many times as necessary for each stage/phase of construction to maintain and protect traffic and pedestrian movements as shown on the plans or as directed by the Engineer.

Inspection

When requested by the Engineer, the TS will be subject to a field review by a representative of the Division of Traffic Engineering and/or the Town, which may generate additional comments requiring revisions to the temporary signal.

Detection

Provide vehicle detection on the existing, temporary, and/or new roadway alignment for all intersection approaches that have existing detection, that have detection in the final condition as shown on the signal plan, or as directed by the Engineer. Keep existing pedestrian pushbuttons accessible and operational at all times during TS.

Emergency Vehicle Pre-emption System (EVPS)

Furnish, install, maintain, relocate, and remove the equipment necessary to keep the existing EVPS operational as shown on the plan. Do not disconnect or alter the EVPS without the knowledge and concurrence of the Engineer and the EVPS owner. Schedule all EVPS relocations so that the system is out of service only when the Contractor is actively working. Ensure EVPS is returned to service and is completely operational at the end of the work day. Keep the EVPS owner apprised of all changes to the EVPS.

Coordination

Furnish, install, maintain, relocate, and remove the equipment necessary to keep the intersection coordinated to adjacent signals as shown on the plan. Do not disconnect the interconnect without the approval of the Engineer.

- Closed Loop System: If it is necessary to disconnect the communication cable, notify the Engineer and the Bridgeport Operation Center (BOC) or the Newington Operation Center (NOC) prior to disconnect and also after it is reconnected.
- Time Base System: Program and synchronize all Time Clock/Time Base Coordination (TC/TBC) units as necessary.

Maintenance

Once TS is in effect, assume maintenance responsibilities of the entire installation in accordance with Section 1.07.12 of the Standard Specifications. Notify the Engineer for the project records the date that Temporary Signalization begins. Notify the following parties that maintenance responsibility has been transferred to the Contractor:

Signal Owner  
CT DOT Electrical Maintenance Office or  
Town Representative  
Local Police Department

Provide the Engineer a list of telephone numbers of personnel who will be on-call during TS. Respond to traffic signal malfunctions by having a representative at the site within three

hours from the initial contact. Within twenty-four (24) hours have the traffic signal operating according to plan.

If the Engineer determines that the nature of a malfunction requires immediate attention and/or the Contractor does not respond within three (3) hours, then an alternate maintenance service will be called to repair the signal. Expenses incurred by the alternate maintenance service for each call will be deducted from monies due to the Contractor with a minimum deduction of \$1,000. The alternate maintenance service may be the owner of the signal or another qualified electrical contractor.

#### Duration

Temporary Signalization shall commence when any existing signal equipment is disturbed, relocated, or altered based on the inspection checklist in any way for the TS.

For intersections with a State furnished controller, TS terminates when the inspection of the permanent signal is complete and operational and is accepted by the Engineer. For intersections with a Contractor furnished controller, Temporary Signalization terminates at the beginning of the 30 day test period for the permanent signal.

#### Ownership

Existing equipment, designated as salvage, remains the property of the owner. Salvable equipment will be removed and delivered to the owner upon completion of use. Temporary equipment supplied by the Contractor remains the Contractor's property unless noted otherwise.

#### **Method of Measurement:**

Temporary Signalization shall be paid only once per site on a percentage of the contract Lump Sum price. Fifty percent (50%) shall be paid when TS is operational as shown on the plan or to the satisfaction of the Engineer. Fifty percent (50%) shall be paid when TS terminates.

#### **Basis of Payment:**

This work shall be paid at the contract Lump Sum price for "Temporary Signalization (Site No.)" for each site. This price includes the preliminary inspection, TS plan for each stage/phase, furnishing, installing, maintaining, relocating and revising traffic signal equipment, controller assembly modifications, controller unit program changes such as phasing and timing, temporary vehicle and pedestrian detection, removing existing, temporary, and proposed traffic signal equipment, arrangements with utility companies, towns or cities including the fees necessary for electric and telephone service, clearing and grubbing, grading, area restoration and all necessary hardware, materials, labor, and work incidental thereto.

All material and work for signing and pavement markings is paid for under the appropriate Contract items.

All Contractor supplied items that will remain the Contractor's property shall be included in the contract Lump Sum price for "Temporary Signalization."

Any items installed as part of the permanent installation are not paid for under this item but are paid for under the bid item for that work.

<u>Pay Item</u>	<u>Pay Unit</u>
Temporary Signalization (Site No. 1)	L.S.

**ITEM #1206013A – REMOVAL OF EXISTING SIGNING**

Work under these items shall conform to the requirements of Section 12.06 of the Standard Specifications supplemented with the following:

**Article 12.06.03 – Construction Methods:** Add the following as the first paragraph:

The Contractor will coordinate with the Engineer and the Borough of Naugatuck to determine the disposition of the signs to be removed. Signs and sign supports to be discarded will be disposed of by the Contractor. Signs and sign supports to be salvaged shall remain the property of the Borough and will be carefully removed, separated, transported, and stockpiled by the Contractor at a location specified by the Borough within the borough limits.

Pay Item	Pay Unit
Removal of Existing Signing	L.S.

**ITEM #1208997A – ORNAMENTAL SIGN POST**

**01 – Description:**

This work shall consist of furnishing and installing ornamental metal sign posts at the locations shown on the Plans or as directed by the Engineer.

**02 – Materials:**

Ornamental Sign Post shall have a fluted post, small round finial, and a B-CL3 base as manufactured by The Streetscape Co., 9402 Uptown Dr., Suite 1300, Indianapolis, Indiana - Tel: (317) 913-1906, or approved equal. The Contractor shall submit product data sheets for approval to the Engineer if a different manufacturer is selected.

**03 – Construction Methods:**

The ornamental sign posts shall be direct buried in the concrete sidewalk in accordance with manufacturer specifications and details. The signs shall be attached to the posts in accordance with Article 12.08 of the Standard Specifications.

**04 – Method of Measurement:**

This work will be measured for payment by the number of ornamental metal sign posts complete and accepted in place.

**05 – Basis of Payment:**

This work will be paid for at the Contract unit price each for “Ornamental Sign Post”, complete in place, which price shall include all materials, equipment, tools, labor and work incidental thereto.

Pay Item	Pay Unit
Ornamental Sign Post	Ea.

**ITEM #1504040A – TEMPORARY SUPPORT FOR EXISTING TELEPHONE DUCTS**

**01 - Description:** Work under this item shall consist of designing, furnishing, and placing temporary supports and protection measures which will be necessary to support and protect the existing telephone conduits and ducts, to be relocated within the Stage 1 Work Zone, as stated on the Plans.

The Contractor is herein made aware that work required for the rehabilitation of Bridge No. 04214, including removal of existing masonry, will require that the existing active telephone ducts, located in the fill over the existing bridge, be temporarily relocated by the facility owner (AT&T). Work performed by the Contractor under this Item will include design, fabrication, furnishing, installing and removal of temporary supports and protection measures to allow the facility owner to temporarily relocate their conduits into the temporary supports for the duration of construction. Prior to the installation of “Class F Concrete,” the conduits shall be set in their final locations by the facility owner, such that the concrete may be poured to final grade around the conduits, at which time the temporary supports and protection measures shall be removed by the Contractor and suitably disposed of offsite.

The work pertaining to temporary support and protection primarily involves the temporary support and prevention of damages, which are possible during the bridge rehabilitation under this contract. The work pertaining to the temporary supports and protection will be required to be submitted for review and approval by the facility owner.

The Contractor is advised that no service interruption to the facility resulting from the Contractor’s operations will be allowed, except as otherwise approved by the facility owner. Extreme caution shall be exercised during all stages of construction in order to preserve the existing utility facilities and service. Further attention shall be paid to “Section 1.07 – Legal Relations and Responsibilities”, “Notice to Contractor for Protection of Existing Utilities,” “Notice to Contractor – Public Utilities,” and “Notice to Contractor for Utility Coordination.”

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

The Contractor is cautioned that it is his responsibility to verify locations, conditions and field dimensions of all existing features, as actual conditions may differ from information indicated on the plans or contained elsewhere in these specifications.



**02 - Materials:** The materials for this work shall conform to the requirements of the Standard Specifications and be of satisfactory quality for the purpose intended and shall be approved by the Engineer. The material shall be intended for use in structures and shall be sound and capable of safely supporting the loads anticipated in the design of the temporary supports and protection measures. The facility owner has required that the telephone conduit ducts be provided continuous protection.

**03 - Construction Methods:** The Contractor shall prepare working drawings and computations showing his proposed method of support and protection for the utility to be supported and protected. Preparation of working drawings and computations shall conform to the requirements of Article 1.05.02. The support shall safely carry all dead loads and any imposed loadings under all possible construction conditions. The utility protection shields shall safely carry any imposed loadings under all possible construction conditions. Said supports and protections shall be constructed in a manner that will not interfere with the proposed construction.

The design shall be submitted to the facility owner for review and approval. Following approval, the design shall be submitted to the Engineer for final approval at least three (3) weeks prior to the beginning of construction. No work will be allowed in the vicinity of the telephone conduit ducts until the Contractor receives approval of his support method from the facility owner and the Engineer.

The Contractor shall not remove the concrete on the bridge structure directly above the conduit ducts, this work shall be performed by the facility owner or his subcontractor. In order to obtain desired horizontal deflection within the work zone, further excavation may be required. If such excavation is required, the Contractor shall expose the concrete of the existing conduit ducts as directed by the facility owner and the Engineer. This work shall adhere to the "Trenching and Backfilling – Type III" Special Provision and Utility Details provided in the Contract Plans. The facility owner or his subcontractor shall remove the conduits from the concrete encasement and move the conduits into the temporary support system.

The Contractor shall use every effort to protect the existing telephone conduits. He shall be held solely and strictly responsible for any damage resulting from such carelessness and negligence.

A periodic inspection of the temporary utility support and protection measures shall be performed by the Contractor, as directed by the Engineer or facility owner.

The Contractor shall support and protect the telephone conduit ducts to the point where the Contractor is ready to install "Class F Concrete", upon which time the facility owner or his subcontractor shall position the conduits in their final locations.

When the temporary utility supports and protection measures are no longer required, they shall be removed from the site and properly disposed of by the Contractor.

**04 - Method of Measurement:** The work for supporting and protecting the telephone conduits and ducts is being paid for on a lump sum basis and will not be measured for payment.

All excavation, backfilling, and restoration of existing pavement structure required by the Contractor to expose the existing ducts shall be measured for payment under the “Trenching and Backfilling, Type III” item.

If rock, conforming to the description given under Article 2.05.01, is encountered, the Contractor shall strip it of sufficient overlying material to allow for proper measurement, and shall notify the Engineer that the rock surface is ready for measurement. If the Contractor fails to give such notice, the Engineer will presume the measurements taken at the time he first saw the material in question will give the true quantity of rock excavation. For measurement where rock is encountered in excavation, payment lines shall be vertical. Rock excavation shall be measured for payment under the “Rock in Trench Excavation (0-10’ Deep)” item.

**05 - Basis for Payment:** The work will be paid for at the contract lump sum price for “Temporary Support for Existing Telephone Ducts” which price shall include designing and detailing all supports and protection measures, submitting for approval, fabricating, furnishing, installing, periodic monitoring, maintaining, removing temporary supports and measures, coordinating work with the facility owner and other adjacent utility owners, as required, and all materials, equipment, tools and labor incidental thereto.

This item will be paid in installments. Upon receiving acceptance of the support and protection calculations and drawings, the Contractor may submit for 50% of the item. The remaining 50% will be paid after the support system is no longer needed and is completely removed.

All excavation, backfilling, and restoration of existing pavement structure shall be paid under the “Trenching and Backfilling, Type III” item. All rock excavation shall be paid under the “Rock in Trench Excavation (0-10’ Deep)” item.

Pay Item	Pay Unit
Temporary Support for Existing Telephone Ducts	L.S.

**ITEM # 1807016A - TEMPORARY IMPACT ATTENUATION SYSTEM –  
TYPE A (TL-2)**

This work shall conform to the requirements of Section 18.07 of the Standard Specifications supplemented with the following:

**18.07.05 – Basis of Payment:** Add the following sentence to the second paragraph:

All materials, equipment, tools and labor incidental to the maintenance and repair of the in-place systems during construction will not be paid for separately but will be included in the Contract unit price for each “Temporary Impact Attenuation System” of the size and type specified.

Delete the fifth paragraph in its entirety.

Add the following Subsection:

**Performance Criteria:** The performance criteria of the temporary impact attenuation systems shall conform to the requirements set forth in National Cooperative Highway Research Program (NCHRP) Report 350, Test Level 2 (TL-2).

SUBSTITUTION OF SECURITIES FOR RETAINAGES ON STATE CONTRACTS AND SUBCONTRACTS

The contractor is advised of the provisions of Section 3-112a of the General Statutes of the State of Connecticut, as revised which is quoted as follows:

(a) Under any contract made or awarded by the state, or by any public department or official thereof, or under any subcontract made directly thereunder with the contractor, the contractor and any subcontractor may, from time to time, withdraw the whole or any portion of the amount retained for payments to the contractor or subcontractors, as the case may be, pursuant to the terms of the contract or subcontracts, upon depositing with the Comptroller (1) United States Treasury bonds, United States Treasury notes, United States Treasury certificates of indebtedness or United States Treasury bills, or (2) bonds or notes of the state of Connecticut or (3) bonds of any political subdivision in the state of Connecticut. No amount shall be withdrawn in excess of the market value of the securities at the time of deposit or of the par value of such securities, whichever is lower.

(b) The Comptroller shall, on a regular basis, collect all interest or income on the obligations so deposited and shall pay the same, when and as collected, to the contractor and the subcontractors who deposited the obligations. If the deposit is in the form of coupon bonds, the Comptroller shall deliver each coupon as it matures to the contractor and the subcontractors.

(c) Any amount deducted by the state, or by any public department or official thereof, pursuant to the terms of the contract, and subcontracts made directly thereunder with the contractor, from the retainages due the contractor and said subcontractors, shall be deducted, first from that portion of the retainages for which no security has been substituted, then from the proceeds of any deposited security. In the latter case, the contractor and the subcontractors shall be entitled to receive interest, coupons or income only from those securities which remain after such amount has been deducted.

1. **Non-discrimination.** References in this section to "contract" shall mean this Contract and references to "contractor" shall mean the Contractor.
  - (a) The following subsections are set forth here as required by section 4a-60 of the Connecticut General Statutes:
    - (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, 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. 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, 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; (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 sections 46a-68e and 46a-68f and with each regulation or relevant order issued by said commission pursuant to 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 relate to the provisions of this section and section 46a-56.
    - (b) 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) "Minority business enterprise" means any small contractor or supplier of materials fifty-one per cent 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 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.
    - (d) 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.
    - (e) The contractor shall develop and maintain adequate documentation, in a manner prescribed by the commission, of its good faith efforts.



- (f) The contractor shall include the provisions of sections (a) and (b) above 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; 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.
- (g) The following subsections are set forth here as required by section 4a-60a of the Connecticut General Statutes:
- (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; 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 section 46a-56.
- (h) The contractor shall include the provisions of section (g) above 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; provided, if such contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the commission, the contractor may request the state of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the state and the state may so enter.
- (i) For the purposes of this entire Non-Discrimination section, "contract" includes any extension or modification of the contract, "contractor" includes any successors or assigns of the contractor, "marital status" means being single, married as recognized by the state of Connecticut, widowed, separated or divorced, and "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. For the purposes of this section, "contract" does not include a contract where each contractor is (1) a political subdivision of the state, including, but not limited to, a municipality, (2) a quasi-public agency, as defined in Conn. Gen. Stat. Section 1-120, (3) any other state, including but not limited to any federally recognized Indian tribal governments, as defined in Conn. Gen. Stat. Section 1-267, (4) the federal government, (5) a foreign government, or (6) an agency of a subdivision, agency, state or government described in the immediately preceding enumerated items (1), (2), (3), (4) or (5).

NONDISCRIMINATION (SEXUAL ORIENTATION)

(a) Pursuant to Section 4a-60a of the Connecticut General Statutes, (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 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 which relate to the provisions of this section and section 46a-56 of the 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 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 interest of the state and the state may so enter.

RESIDENTS' PREFERENCE IN WORK ON OTHER PUBLIC FACILITIES

The Contractor shall comply with the provisions of Section 31-52a of the General Statutes of the State of Connecticut, Revision of 1985, a part of which is quoted as follows:

(b) Each contract for any such project covered by this section under the supervision of the state or any of its agents shall contain the following provision: "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."

CONSTRUCTION, ALTERATION OR REPAIR OF PUBLIC WORKS PROJECTS BY THE STATE OR POLITICAL SUBDIVISION

The contractor shall comply with the provisions of Section 31-53 of the General Statutes of the State of Connecticut, as revised, a part of which is quoted as follows:

(a) Each contract for the construction, remodeling, refinishing, refurbishing rehabilitation, alteration or repair of any public works project by the state or any of its agents, or by any political subdivision of the state or any of its agents, shall contain the following provision: "The wages paid on an hourly basis to any mechanic, laborer or workman employed upon the work herein contracted to be done and the amount of payment or contribution paid or payable on behalf of each such employee to any employee welfare fund, as defined in subsection (h) of this section, shall be at a rate equal to the rate customary or prevailing for the same work in the same trade or occupation in the town in which such public works project is being constructed. Any contractor who is not obligated by agreement to make payment or contribution on behalf of such employees to any such employee welfare fund shall pay to each employee as part of his wages the amount of payment or contribution for his classification on each pay day."

#### LIMITATION ON AWARDING OF CONTRACTS

The contractor shall comply with the provisions of Section 31-53a of the General Statutes of the State of Connecticut, as revised, a part of which is quoted as follows:

2) No general contractor that enters into a contract with the state or any of its agents, or with any political subdivision of the state or any of its agents, for the construction, remodeling, refinishing, refurbishing, rehabilitation, alteration or repair of any public works project subject to the provisions of section 31-53, as amended, or for any state highway project that falls under the provisions of section 31-54, shall award any work under such contract to the persons or firms appearing on the list distributed by the Labor Commissioner pursuant to subsection (a) of this section or to any firm, corporation, partnership or association in which such persons or firms have an interest until a period of up to three years, as determined by the Labor Commissioner, has elapsed from the date of publication of the list containing the names of such persons or firms.

3) Prior to performing any work under a contract for the construction, remodeling, refinishing, refurbishing, rehabilitation, alteration or repair of any public works project subject to the provisions of section 31-53, as amended, or for any state highway project that falls under the provisions of section 31-54, each person, firm, corporation, partnership or association engaged by a general contractor to perform such work shall submit a sworn affidavit to the general contractor attesting that such person, firm, corporation, partnership or association does not hold an interest of ten per cent or greater in a firm appearing on the list distributed by the Labor Commissioner pursuant to subsection (a) of this section. The receipt and retention by a general contractor of such sworn affidavit shall fulfill the general contractor's obligation under subdivision (2) of this subsection.

#### RATE OF WAGES FOR WORK ON STATE HIGHWAYS

The contractor shall comply with the provisions of Section 31-54 of the General Statutes of the State of Connecticut, as revised, which is quoted as follows:

The Labor Commissioner shall hold a hearing at any required time to determine the prevailing rate of wages upon any highway contract within any specified area on an hourly basis and the amount of payment or contributions paid or payable on behalf of each employee to any employee welfare fund, as defined in section 31-53, upon any classifications of skilled, semiskilled and ordinary labor. Said commissioner shall determine the prevailing rate of wages on an hourly basis and the amount of payment or contributions paid or payable on behalf of each employee to any employee welfare fund, as defined in section 31-53, in each locality where any highway or bridge is to be constructed, and the Commissioner of Transportation shall include such rate of wage on an hourly basis and the amount of payment or contributions paid or payable on behalf of each employee to any employee welfare fund, as defined in section 31-53, or in lieu thereof, in cash as part of wages each pay day, for each classification of labor in the proposal for the contract and in the contract. The rate and the amount so established shall, at all times, be considered as the minimum rate of wage on an hourly basis and the amount of payment or contributions to an employee welfare fund, or cash in lieu thereof, for the classification for which it was established. Any contractor who pays any person at a lower rate of wage on an hourly basis or the amount of payment or contributions paid or payable on behalf of each employee to any employee welfare fund, as defined in section 31-53, or where he is not obligated by any agreement to make payment or contributions to the employee welfare funds, as defined in section 31-53, and fails to pay the amount of such payment or contributions directly to the employee as part of his wages each pay day, than that so established for the classifications of work specified in any such contract shall be fined not more than two hundred dollars for each offense. The provisions of this section shall apply only to state highways and bridges on state highways.

#### ANNUAL ADJUSTMENTS TO PREVAILING WAGES

The contractor shall comply with the provisions of Public Act 02-69 which reads, as follows:

Each contractor that is awarded a contract on or after October 1, 2002, for (1) the construction of a state highway or bridge that falls under the provisions of section 31-54 of the general statutes, or (2) the construction, remodeling, refinishing, refurbishing, rehabilitation, alteration or repair of any public works project that falls under the provision of section 31-53 of the general statutes shall contact the Labor Commissioner on or before July first of each year, for the duration of such contract, to ascertain the prevailing rate of wages on an hourly basis and the amount of payment or contributions paid or payable on behalf of each mechanic, laborer or worker employed upon the work contracted to be done, and shall make any necessary adjustments to such prevailing rate of wages and such payment or contributions paid or payable on behalf of each employee, effective each July first.



#### AWARDING OF CONTRACTS TO OCCUPATIONAL SAFETY AND HEALTH LAW VIOLATORS PROHIBITED

The contractor shall comply with the provisions of Section 31-57b of the General Statutes of the State of Connecticut, as revised, which is quoted as follows:

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

#### CONSTRUCTION SAFETY AND HEALTH STANDARDS

It is a condition of this contract, and shall be made a condition of each subcontract entered into pursuant to this contract, that the contractor and any subcontractor shall not require any laborer or mechanic employed in performance of the contract to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health or safety, as determined under construction safety and health standards (Title 29, Code of Federal Regulations, Part 1926, formerly Part 1518, as revised from time to time), promulgated by the United States Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (83 Stat. 96).

#### SERVICE OF PROCESS

The successful bidder, 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.

#### AMERICANS WITH DISABILITIES ACT OF 1990

This clause applies to those contractors who are or will be responsible for compliance with the terms of the Americans with Disabilities Act of 1990, (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.

EXECUTIVE ORDER NO. THREE

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 Labor Commissioner is not a party to this contract. The parties to this contract as part of the consideration hereof, agree that 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.

EXECUTIVE ORDER 7C

This provision and its subsections are included in this contract in accordance with Section 6 of Governor M. Jodi Rell's Executive Order No. 7C: The State Contracting Standards Board (the "Board") may review the contract and recommend to the state contracting agency termination of the contract for cause. For the purpose of this Section, "for cause" means: (1) a violation of the State Ethics Code (Chapter 10 of the general statutes) or section 4a-100 of the general statutes or (2) wanton or reckless disregard of any state contracting and procurement process by any person substantially involved in such contract or state contracting agency. The Board shall provide the results of its review, together with its recommendations, to the state contracting agency and any other affected party in accordance with the notice provisions in the contract no later than fifteen (15) days after the Board finalizes its recommendation. The state contracting agency shall consider the recommendations of the Board and act in accordance with the contract and applicable law."

The contractor agrees to satisfy the requirements of Executive Order 1 and Section 10(a) of Executive Order No. 7C of Governor M. Jodi Rell and § 4-252 of the Connecticut General Statutes, as amended, including the delivery of the certification of the contractor with respect to gifts and lawful campaign contributions and other matters required thereunder, which form of certificate is available on the Website of the Office of Policy and Management at [www.opm.state.ct.us](http://www.opm.state.ct.us). If this is a multi-year contract, then, so long as the contract remains in effect, the contractor shall provide the State with an annual update of the aforesaid certification on each anniversary of the effective date of such contract.

EXECUTIVE ORDER NO. 14

When applicable, this contract is subject to the provisions of Executive Order No. 14 of Governor M. Jodi Rell promulgated April 17, 2007 and, as such, the contract may be canceled, terminated or suspended by the state for violation of or noncompliance with said Executive Order 14. The parties to this contract, as part of the consideration hereof, agree that said Executive Order No. 14 is incorporated herein by reference and made a part hereof. This Executive Order No. 14 shall be made a part of any applicable subcontracts to this Agreement. The parties agree to abide by such Executive Order.

EXECUTIVE ORDER NO. 16/VIOLENCE IN THE WORKPLACE PREVENTION

This contract is subject to the provisions of Executive Order No. 16 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. 16. The parties to this contract, as part of the consideration hereof, agree that said Executive Order No. 16 is incorporated herein by reference and made a part hereof. The parties agree to abide by such Executive Order.

EXECUTIVE ORDER NO. SEVENTEEN/LISTING ALL EMPLOYMENT OPENINGS WITH THE CONNECTICUT STATE EMPLOYMENT SERVICE

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 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.

EXECUTIVE ORDER NO. 18

When applicable, this contract is subject to the provisions of Executive Order No. 18 of Governor M. Jodi Rell dated February 6, 2008 and, as such, the contract may be canceled, terminated or suspended by the state for violation of or noncompliance with said Executive Order 18. The parties to this contract, as part of the consideration hereof, agree that said Executive Order No. 18 is incorporated herein by reference and made a part hereof. This Executive Order No. 18 shall be made a part of any applicable subcontracts to this Agreement. The parties agree to abide by such Executive Order.

CONNECTICUT REQUIRED CONTRACT/AGREEMENT PROVISIONS

The contractor hereby acknowledges and agrees to comply with the attached CONNECTICUT REQUIRED CONTRACT/AGREEMENT PROVISIONS entitled "Specific Equal Employment Opportunity Responsibilities", dated March 3, 2009, a copy of which is attached hereto and made a part of hereof.

A(76) AFFIRMATIVE ACTION REQUIREMENTS A (76)

It is the intent of these Affirmative Action Requirements to provide compliance standards for employee-hours in each craft utilized in the transportation construction industry on transportation construction projects. This provision affects contractors and their subcontractors while under contract with the Connecticut Department of Transportation. It is not the intent of these Affirmative Action Requirements to cause personnel displacement in order to hire qualified minorities and women. They are however designed to ensure that equal employment opportunity is being provided and discriminatory employment practices are not being exercised. The actual number of minority and female employee hours worked in each craft, compared to the labor market goals, will determine project compliance.

General Contract Provision

The contractor or subcontractor shall comply with this provision or provide adequate documentation of "good faith efforts" in attempting to comply with this provision.

The employee hours for minorities and females should be substantially uniform throughout the length of the contract for each of the trades. The time-table for meeting the project goals extends through the duration of the contract.

For the purpose of this provision, "minority" is defined as; Blacks, includes all persons having origins in any of the black racial groups; Hispanics, includes all persons of Mexican, Puerto Rican, Cuban, Central or South American, or Spanish Culture, except Portuguese; Asians, includes all persons having origins in any of the original peoples of the Far East, Southeast Asia, or Pacific Islands; and American Indians, all persons having origins in any of the original peoples of North America.

The percentage goals for minority employee-hour utilization and female employee hour utilization are based on Connecticut Labor Market statistics. The labor market goals for minorities and females are separate goals. Employees should not be counted in both the minority and female categories. The goal requirements are listed in Appendix A of this provision. The employee-hour percentages are expressed in terms of training and employment hours in proportion to the total employee-hours worked by the contractor's and/or subcontractor's entire work force in that trade or craft. The transfer of minorities, females or trainees from employer to employer, or from project to project, for the sole purpose of meeting the labor market goal, is a violation of this contract provision.

In no event may a contractor or subcontractor utilize the goals, time-tables, or affirmative action steps, required by these provisions in such a manner as to cause or result in discrimination against any person on the basis of race, color, religion, sex, age, marital status, national origin, ancestry, present or past history of mental disorder, mental retardation, learning disability or physical disability, including, but not limited to, blindness.



### Compliance and Enforcement

Contractors are responsible for informing their subcontractor(s) (regardless of tier) as to their respective obligations under these provisions. Any contractor or subcontractor who fails to meet the stipulation(s) prescribed in this provision, and/or fails to provide adequate documentation of affirmative actions and "good faith efforts", shall be deemed to be in noncompliance with this provision, as well as; Presidential Executive Order 11246 as amended, the Governor's Executive Order #3, Connecticut's EEO Special Provisions and Equal Opportunity Clause of its contract.

If the contractor and/or subcontractor is deemed to be in non-compliance, then he shall be subject to sanctions and penalties for violation of Connecticut's Specific Equal Employment Opportunity Responsibilities Contract Provision (April 1994), Presidential Executive Order 11246 as amended and/or the Governor's Executive Order #3. These sanctions and penalties shall include but not be limited to suspension, termination, and/or cancellation of existing contracts and/or subcontracts (subcontract agreements).

### Procedures

In determining whether a contractor or subcontractor has met the goals, the agency will consider the contractor's and/or subcontractor's utilization of minority and female participation per craft (hourly). If the contractor or subcontractor meets the goals, or can demonstrate and document that every good faith effort was made to meet the goals, the contractor or subcontractor shall be presumed to be in compliance with this contract provision. Formal sanctions or proceedings will not be instituted unless the agency otherwise determines that the contractor or subcontractor is in violation of this provision.

In the event a noncompliance finding is made, the contractor shall receive an informal letter informing him/her of the noncompliance finding and a request for corrective action relative to this finding. If no response is received, or if the response is unsatisfactory, the contractor shall receive a registered show-cause notice requesting specific action to be taken by the contractor, and an explanation of what actions may be taken against the contractor if a satisfactory solution is not reached.

If a show cause notice is issued, then the formal process begins, and proceeds with such formal actions as prescribed by the sanctions and penalties described herein; the burden of proving the noncompliance of these provisions lies with the agency. However, the contractor's or subcontractor's failure to meet his goals shall shift to him to present evidence to show that he has met the "good faith effort" requirement of these provisions.

In respect to matters not covered in this provision, nothing herein is intended to relieve any contractor or subcontractor from compliance with all applicable federal and state laws, regulations, Executive Orders and/or Special Provisions concerning equal employment opportunity, affirmative action, nondiscrimination and related subjects during the term of its contract on this project.

### Records and Reports

It is required of the successful bidder and each approved subcontractor to submit to the Division of Contract Compliance for review and approval an affirmative action plan. On federal-aid projects, this requirement (Affirmative Action Plan) is waived if the contract or subcontract is under \$10,000 (unless an Affirmative Action Plan is determined necessary by the contracting agency). On completely state-funded projects, the Affirmative Action Plan requirement is waived on contracts or subcontracts under \$5,000 (unless an Affirmative Action Plan is determined necessary by the contracting agency).

This provision will supplement Connecticut's Required Contract Provision, entitled "Specific Equal Employment Opportunity Responsibilities" in all contracts including federally-aided contracts as applicable.

State Funded Projects

APPENDIX A  
(LABOR MARKET GOALS)

<u>LABOR MARKET AREA GOAL</u>	<u>% MINORITY GOAL</u>	<u>% FEMALE</u>
Bridgeport Ansonia-Beacon Falls-Bridgeport- Derby-Easton-Fairfield-Milford- Monroe-Oxford-Seymour-Shelton- Stratford-Trumbull	14	6.9
Danbury Bethel-Bridgewater-Brookfield- Danbury-Kent-New Fairfield- New Milford-Newtown-Redding- Ridgefield-Roxbury-Sherman- Washington	4	6.9
Danielson Brooklyn-Eastford-Hampton- Killingly-Pomfret-Putnam- Scotland-Sterling-Thompson- Voluntown-Union-Woodstock	2	6.9
Hartford Andover-Ashford-Avon-Barkhamsted- Berlin-Bloomfield-Bolton-Bristol- Burlington-Canton-Chaplin- Colchester-Columbia-Coventry- Cromwell-Durham-East Granby- East Haddam-East Hampton- East Hartford-East Windsor- Ellington-Enfield-Farmington- Glastonbury-Granby-Haddam- Hartford-Harwington-Hebron- Lebanon-Manchester-Mansfield- Marlborough-Middlefield-Middletown- Newington-Plainville-Plymouth- Portland-Rocky Hill-Simsbury-Somers- South Windsor-Southington-Stafford- Suffield-Tolland-Vernon- West Hartford-Wethersfield-Willington- Winchester-Windham-Windsor- Windsor Locks	15	6.9
Lower River Chester-Deep River-Essex-Lyme- Westbrook	2	6.9

LABOR MARKET AREA GOAL

8  
MINORITY GOAL

8  
FEMALE

New Haven Bethany-Branford-Cheshire- Clinton-East Haven-Guilford- Hamden-Killingworth-Madison- Meriden-New Haven-No.Branford- North Haven-Orange-Wallingford- West Haven-Woodbridge	14	6.9
New London Bozrah-Canterbury-East Lyme- Franklin-Griswold-Groton- Ledyard-Lisbon-Montville- New London-North Stonington- Norwich-Old Lyme-Old Saybrook- Plainfield-Preston-Salem- Sprague-Stonington-Waterford- Hopkinton RI-Westerly RI	8	6.9
Stamford Darien-Greenwich-New Canaan- Norwalk-Stamford-Weston- Westport-Wilton	17	6.9
Torrington Canaan-Colebrook- Cornwall-Goshen-Hartland-Kent- Litchfield-Morris- Norfolk-North Canaan-Salisbury- Sharon-Torrington-Warren	2	6.9
Waterbury Bethlehem-Middlebury-Naugatuck- Prospect-Southbury-Thomaston- Waterbury-Watertown-Wolcott- Woodbury	10	6.9

### Privatized Public Records

If applicable, the Department is entitled to receive a copy of records and files related to the performance of the Contractor under this Construction Contract, and such records and files shall be subject to the Freedom of Information Act and may be disclosed by the Department pursuant to the Freedom of Information Act. No request to inspect or copy such records or files shall be valid unless the request is made to the Department in accordance with the Freedom of Information Act. 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 Section 1-205 and 1-206 of the Connecticut General Statutes.

The terminology "If applicable," precedes the language above to account for any construction contracts initially having a value of less than Two Million Five Hundred Thousand Dollars (\$2,500,000), but having the potential, through change orders, to exceed the cited threshold.

### Oversight of Large State Contracts

The following clause is applicable to those contracts with an aggregate value of Five Million Dollars (\$5,000,000) or more.

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 state or quasi-public agency (if applicable) or the Auditors of Public Accounts or the Attorney General under the provisions of Connecticut General Statutes Section 4-6ldd(a), 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 percent of the value of the 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 executive head of the state or quasi-public agency (if applicable) may request the Attorney General to bring a civil action in the superior court for the judicial district of Hartford to seek imposition and recovery of such civil penalty.

The contractor shall post a notice of the provisions of this section in a conspicuous place which is readily available for viewing by the employees of the Contractor.



Construction Safety and Health Course

The contractor shall comply with the provisions of section 31-53b of the General Statutes of the State of Connecticut as revised which is quoted as follows.

(a) Each contract entered into on or after July 1, 2007, for the construction, remodeling, refinishing, refurbishing, rehabilitation, alteration or repair of any public building project by the state or any of its agents, or by any political subdivision of the state or any of its agents, where the total cost of all work to be performed by all contractors and subcontractors in connection with the contract is at least one hundred thousand dollars, shall contain a provision requiring that, not later than thirty days after the date such contract is awarded, each contractor furnish proof to the Labor Commissioner that all employees performing manual labor on or in such public building, pursuant to such contract, have 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, in the case of telecommunications employees, have completed at least ten hours of training in accordance with 29 CFR 1910.268.

(b) Any employee required to complete a construction safety and health course required under subsection (a) of this section who has not completed the course shall be subject to removal from the worksite if the employee does not provide documentation of having completed such course by the fifteenth day after the date the employee is found to be in noncompliance. The Labor Commissioner's designee shall enforce this section.

(c) Not later than January 1, 2007, the Labor Commissioner shall adopt regulations, in accordance with the provisions of chapter 54 of the general statutes, to implement the provisions of subsections (a) and (b) of this section. Such regulations shall require that the ten-hour construction safety and health courses required under subsection (a) of this section be conducted in accordance with federal Occupational Safety and Health Administration Training Institute standards, or in accordance with 29 CFR 1910.268, as appropriate. The Labor Commissioner shall accept as sufficient proof of compliance with the provisions of subsection (a) or (b) of this section a student course completion card issued by the federal Occupational Safety and Health Administration Training Institute, or such other proof of compliance said commissioner deems appropriate, dated no earlier than five years before the commencement date of such public works project.

(d) For the purposes of this section, "public building" means a structure, paid for in whole or in part with state funds, within a roof and within exterior walls or fire walls, designed for the housing, shelter, enclosure and support or employment of people, animals or property of any kind, including, but not limited to, sewage treatment plants and water treatment plants. "Public Building" does not include site work, roads or bridges, rail lines, parking lots or underground water, sewer or drainage systems including pump houses or other utility systems.

CIVIL RIGHTS REVISIONS - TITLE VI CONTRACTOR ASSURANCE

As a condition to receiving federal financial assistance under the Contract, if any, the contractor shall comply with Title VI of the Civil Rights Act of 1964 (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, all of which are hereby made a part of this Contract.

## **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



- 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

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 (l)(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.

CONNECTICUT

REQUIRED CONTRACT PROVISION

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY

CONSTRUCTION CONTRACT SPECIFICATION

(EXECUTIVE ORDER 11246)

1. Appendix A and Appendix B referred to below and attached hereto express goals and timetables for the utilization of females and minorities respectively on all federally assisted construction projects advertised by the Connecticut Department of Transportation.

Appendix A establishes the goal for female utilization in all crafts statewide. Appendix B refers to minority utilization for each trade in designated areas.

2. The goals for minority and female participation, expressed in percentage terms for the contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

FEMALES

MINORITIES

See Appendix A.

See Appendix B.

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or Federally assisted) 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 such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

3. The Contractor's compliance with the Executive Order and the regulations in 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 hours performed.

4. As used in these specifications:
- a. "Covered area," means the geographical area described in the solicitation from which this contract resulted.
  - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any persons to whom the Director delegates authority.
  - c. "Employer Identification Number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
  - d. "Minority" includes:
    1. Black (all persons having origins in any of the Black African racial groups not of Hispanic origin):
    2. Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or Origin, regardless of race):
    3. Asian or Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands: and
    4. American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
5. 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.
6. 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 Plan does not excuse any covered Contractor's or subcontractor's failure to take good faith efforts to achieve the plan goals and timetables.



7. The Contractor shall implement the specific affirmative action standards provided in paragraphs 10a 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.
8. 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 Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
9. 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 training programs approved by the U.S. Department of Labor.
10. 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 onsite 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 of 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 therefore, along with whatever additional actions the Contractor may have taken.**
- d. **Provide immediate notification to the Director when the Union or Unions with which the Contractor has a collective bargaining agreement has not been referred to the Contractor a minority person or woman 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 own 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 10b 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's 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 review of these items with onsite supervisory personnel such as Superintendents, General 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 school 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 workforce.
  - 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 minority 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 nonsegregated 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 subcontractors from minority and female construction contractors and suppliers, including circulation of solicitation 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.
11. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (10 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 associated as fulfilling any one or more of its obligations under 10 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 workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligations 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.

12. A single goal for minorities and 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 not-minority. Consequently, the Contractor may be in violation of the Executive Order 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 underutilized).
13. 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.
14. The contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
15. The Contractor shall carry out such sanctions and penalties for violations 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 112646, as amended.
16. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 10 of 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 compliance with 41 CFR 60-4.8.
17. The Contractor shall designate a responsible official to monitor all employment related activities 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 statures, 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.

18. 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 Black Grant Program.)
19. The Director of the Office of Federal Contract Compliance Program, from time to time, shall issued goals and timetables for minority and female utilization which shall be based on appropriate workforces, demographic or other relevant date 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 subcontractor's entire workforce which is working in the area covered by the goals and 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 C.F.R. 60-4.2. 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 areas where the work is being performed.

APPENDIX A and B

Until further notice, the following goals for minority utilization in each construction craft and trade shall be included in all Federal or federally assisted construction contracts and subcontracts in excess of \$10,000 to be performed in the respective geographical areas. The goals are applicable to each nonexempt contractor's total on-site construction work-force, regardless of whether or not part of that work-force is performing work on Federal, federally assisted or non-federally related project, contract or subcontract.

To be used for Federal-aid contracts

GOALS

Standard Metropolitan Statistical Area (SMSA)

Minority

Female

**Bridgeport – Stamford – Norwalk – Danbury** 10.2% 6.9%

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

**Hartford – Bristol – New Britain** 6.9% 6.9%

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

**New Haven – Waterbury – Meriden** 9.0% 6.9%

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>
<i>Bozrah</i>	<i>East Lyme</i>	<i>Griswold</i>	<i>Groton</i>		
<i>Ledyard</i>	<i>Lisbon</i>	<i>Montville</i>	<i>New London</i>		
<i>Norwich</i>	<i>Old Lyme</i>	<i>Old Saybrook</i>	<i>Preston</i>		
<i>Sprague</i>	<i>Stonington</i>	<i>Waterford</i>			

**Non SMSA**

**Minority**

**Female**

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



## Contractor's Exempt Purchase Certificate

**General Purpose:** Contractors for the repair, alteration, improvement, remodeling, or construction of real property use this certificate to purchase materials and supplies to be installed or placed in a project being performed under contract with an exempt entity. The materials and supplies must remain in the project after its completion, including tangible personal property that remains tangible personal property after its installation or placement. If the tangible personal property is not used in the manner described above, a contractor who claimed an exemption owes use tax on the total price of the tangible personal property.

Wherever the term contractor is used in this certificate, it includes subcontractors of the contractor performing a contract with an exempt entity.

**Exempt entity** means any person entitled to make purchases of tangible personal property exempt from sales and use taxes under the statutory authority listed below.

**Statutory and Regulatory Authority:** Conn. Gen. Stat. §12-412(1), (2), (5), (8), (84), (90), (92), (93), and (95); Conn. Gen. Stat. §§7-273mm, 16-344, and 32-23h; and Conn. Agencies Regs. §12-426-18.

**Instructions for the Purchaser:** Use this certificate for purchases of tangible personal property to be installed or placed in a project being performed under a contract with an exempt entity that will remain in the project after its completion. To qualify for the exemption from sales and use taxes, you must present this certificate to the retailer at the time of the purchase of the qualifying tangible personal property. For at least six years from the date it is issued, keep a copy of this certificate and records that substantiate the information entered on this certificate, including records to support the contractor's use of this certificate and to show the disposition of all materials or supplies so purchased.

If you are unable to designate the exact amount of materials or supplies to be installed or placed in a project being performed under contract with an exempt entity, you must estimate the amount of the purchases. You will be held strictly accountable for any use tax due the state on the purchases in the event of any use other than the permanent installation or placement of the purchases in the exempt project identified in this certificate.

Contractors are the consumers of all the tools, supplies, and equipment used in fulfilling a construction contract that are not installed or placed in the exempt job even if they are used up during the job.

**Instructions for the Seller:** Acceptance of this certificate, when properly completed, relieves the seller from the burden of proving that tangible personal property is not subject to sales and use taxes when the tangible personal property will be installed or placed in a project being performed under a contract with an exempt entity and will remain in the project after its completion. The certificate is valid only if taken in good faith from a contractor under contract with an exempt entity. The good faith of the seller will be questioned if the seller knows of, or should know of, facts that suggest the contractor does not intend to install or place the property in a project being performed under contract with an exempt entity.

Keep this certificate and bills or invoices to the purchaser for at least six years from the date of purchase. The bills, invoices, or records covering the purchase made under this certificate must be marked to indicate an exempt purchase was made. The words "Exempt under CERT-141" satisfy the requirement.

This certificate may be used for individual purchases, in which case the box marked "Certificate for One Purchase Only" must be checked. This certificate may also be used for a continuing line of exempt purchases for the project identified in this certificate, in which case the box marked "Blanket Certificate" must be checked. A blanket certificate remains in effect for three years unless the purchaser revokes it in writing before the period expires.

**For More Information:** Call Taxpayer Services at 1-800-382-9463 (Connecticut calls outside the Greater Hartford calling area only) or 860-297-5962 (from anywhere). TTY, TDD, and Text Telephone users only may transmit inquiries anytime by calling 860-297-4911. Visit the Department of Revenue Services (DRS) website at [www.ct.gov/DRS](http://www.ct.gov/DRS) to preview and download forms and publications.

Name of Exempt Entity	Address	CT Tax Registration Number (If none, explain.)	Federal Employer ID #
			CT Exemption Permit Number (If any)
Address of Project			
Type of Exempt Entity (Check one.) <input type="checkbox"/> State Government <input type="checkbox"/> Federal Government <input type="checkbox"/> Town <input type="checkbox"/> School <input type="checkbox"/> Fire Department <input type="checkbox"/> Police Department <input type="checkbox"/> Library <input type="checkbox"/> Other (Explain) _____			
Name of Purchaser	Address	CT Tax Registration Number (If none, explain.)	Federal Employer ID #
Name of Seller	Address	CT Tax Registration Number (If none, explain.)	Federal Employer ID #
Provide a written description of each item purchased.			
Check one box: <input type="checkbox"/> Blanket Certificate <input type="checkbox"/> Certificate for One Purchase Only			

### Declaration by Purchaser

The item(s) described above are tangible personal property to be installed or placed in a project being performed under contract with the exempt entity identified above and will remain in the project after its completion. I declare that the purchaser named above is a contractor under contract with the exempt entity or a subcontractor of the contractor. I acknowledge that the purchaser will be liable for Connecticut use tax, plus applicable penalty and interest as of the date of purchase, on the total purchase price of the property if any of the requirements for the exemption are not present or are not met.

**Declaration:** I declare under penalty of law that I have examined this document (including any accompanying schedules and statements) and, to the best of my knowledge and belief, it is true, complete, and correct. I understand the penalty for willfully delivering a false return or document to DRS is a fine of not more than \$5,000 or imprisonment for not more than five years, or both.

\_\_\_\_\_  
Name of Purchaser

By: \_\_\_\_\_  
           Authorized Signature    Title    Date



STATE OF CONNECTICUT

BY HIS EXCELLENCY

THOMAS J. MESKILL

GOVERNOR

EXECUTIVE ORDER NO. THREE

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

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

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

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

I

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

II

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

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

### III

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

### IV

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

### V

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

## VI

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

## VII

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

## VIII

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

## IX

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

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

(1) Publish or cause to be published the names of contractors or labor organizations or employment agencies as hereinabove described which it has concluded have complied or failed to comply with the provisions of this Order or the regulations of the labor commissioner in implementing this Order.

(2) Recommend to the commission on human rights and opportunities that in cases in which there is substantial or material violation or threat thereof of the contractual provision or related state statutes concerned herein, appropriate proceedings be brought to enforce them, including proceedings by the commission on its own motion under chapter 563 of the general statutes and the enjoining, within the limitations of applicable law, of organizations, individuals or groups who prevent directly or indirectly or seek to prevent directly or indirectly compliance with the provisions of this Order.

(3) Recommend that criminal proceedings be brought under chapter 939 of the general statutes.

(4) Cancel, terminate, suspend or cause to be cancelled, terminated, or suspended in accordance with law any contract or any portion or portions thereof for failure of the contractor or subcontractor to comply with the nondiscrimination provisions of the contract. Contracts may be cancelled, terminated, suspended absolutely or their continuance conditioned upon a program for fixture compliance approved by the contracting agency.

(5) Provide that any contracting agency shall refrain from entering into any further contracts or extensions or modifications of existing contracts with any contractor until he has satisfied the labor commissioner that he has established and will carry out personnel and employment policies compliant with this Order.

(6) Under regulations prescribed by the labor commissioner each contracting agency shall make reasonable efforts within a reasonable period of time to secure compliance with the contract provisions of this Order by methods of conference conciliation, mediation or persuasion, before other proceedings shall be instituted under this Order or before a state contract shall be cancelled or terminated in whole or in part for failure of the contractor or subcontractor to comply with the contract provisions of state statute and this Order.

(b) Any contracting agency taking any action authorized by this Order, whether on its own motion or as directed by the labor commissioner or pursuant to his regulations shall promptly



notify *him* of such action. Whenever the labor commissioner makes a determination under this Order, he shall promptly notify the appropriate contracting agency and other interested federal, state and local agencies of the action recommended. The state and local agency or agencies shall take such action and shall report the results thereof to the labor commissioner within such time as he shall specify.

#### XI

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

#### XII

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

#### XIII

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

#### XIV

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

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

Dated at Hartford, Connecticut, this 16<sup>th</sup> day of June, 1971.

Thomas J. Meskill, GOVERNOR

Filed this \_\_\_\_ day of June, 1971.

**STATE OF CONNECTICUT  
BY HER EXCELLENCY  
M. JODI RELL  
GOVERNOR**

**EXECUTIVE ORDER NO. 14**

**WHEREAS, cleaning and sanitizing products are necessary for creating and maintaining clean, healthy and sanitary conditions in State facilities and workplaces;**

**WHEREAS, exposure to harmful chemicals contained in cleaning and sanitizing products may result in potential impacts to human health;**

**WHEREAS, harmful chemicals, byproducts and waste contained in certain cleaning and sanitizing products may be released into the environment during the routine cleaning and sanitization of State facilities normal use;**

**WHEREAS, choosing less harmful cleaning and sanitizing products for use in State facilities and workplaces and taking steps to reduce exposure by office and custodial workers, will minimize potential impacts on human health, will improve environmental quality and will reduce pollution;**

**WHEREAS, the procurement and the proper use and application of cleaning and sanitizing products that perform well and that have positive environmental attributes such as biodegradability, low toxicity, low volatile organic compound content, reduced packaging, and low life cycle energy use will reduce the environmental impacts of routine cleaning and sanitizing activities while also ensuring clean and sanitary State facilities; and**

**NOW, THEREFORE, I, M. Jodi Rell, Governor of the State of Connecticut, by virtue of the authority vested in me by the Constitution and Statutes of the State, do hereby ORDER and DIRECT:**

**All state agencies in the executive branch shall procure and use, whenever practicable, cleaning and/or sanitizing products having properties that minimize potential impacts to human health and the environment, consistent with maintaining clean and sanitary State facilities.**

**All state agencies in the executive branch and all higher education agencies and institutions, shall, when procuring or contracting for cleaning and/or sanitizing services provide in such contracts or procurement agreements, require contractors of the State or persons or entities providing cleaning and/or sanitizing services to the State use cleaning and/or sanitizing products having properties that minimize potential impacts to human health and the environment, consistent with maintaining clean and sanitary facilities.**

**All state agencies in the executive branch shall include in new contracts for the procurement of cleaning products or cleaning services, an appropriate requirement consistent with this Executive Order and the standards and guidelines established by the Department of Administrative Services under Paragraph 3 of this Executive Order.**

**The Department of Administrative Services, in consultation with the Department of Public Health, the Department of Public Works and the Department of Environmental Protection, shall not later than January 1, 2007, establish and publish written standards and guidelines to provide direction to all state agencies in the executive branch in connection with the implementation of this Executive Order.**

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

Municipal governments, political subdivisions and school districts that are not expressly subject to the requirements of this Order are encouraged to review their purchasing and use of cleaning products and/or sanitizing products and are hereby urged to comply with the provisions of this Executive Order where deemed appropriate.

Municipal governments, political subdivisions and school districts that are not expressly subject to the requirements of this Executive Order are hereby requested and encouraged to review their procurement and use of cleaning and/or sanitizing products and are urged to comply with the provisions of this Executive Order. Such entities may to the extent they deem appropriate, in order to minimize potential impacts to human health and the environment, and consistent with maintaining clean and sanitary facilities seek guidance and assistance consistent with the provisions of Paragraph 3 of this Executive Order from the Departments of Administrative Services, Public Works, Public Health and Environmental Protection.

All state agencies in the executive branch covered by this Executive Order shall, wherever feasible, in a manner that is financially feasible, commercially reasonable and practicable, immediately transition to environmentally and health-friendly cleaning and/or sanitizing products. Such transition shall be accomplished as soon as possible and in a manner that avoids the waste of existing inventories, accommodates establishment of supply chains for new products, enables the training of personnel in appropriate work practices, and allows the phase-out of products and practices inconsistent with this Executive Order.

**This Order shall take effect immediately.**

**Dated at Hartford this 17th day of April, 2006**

**M. JODI RELL**

**Governor**

**By Her Excellency's Command:**

**Susan Bysiewicz**

**Secretary of the State**



The Executive Office of Governor John G. Rowland  
State of Connecticut

By His Excellency

John G. Rowland

Governor

Executive Order No. Sixteen

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

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

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

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

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

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

Therefore, except as may be required as a condition of employment<sup>3/4</sup>

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

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

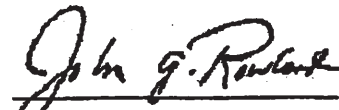
Dangerous instrument means any instrument, article, or substance that, under the circumstances, is capable of causing death or serious physical injury.

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

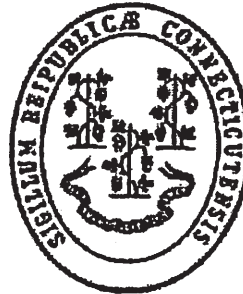
2. That each agency must prominently post this policy and that all managers and supervisors must clearly communicate this policy to all state employees
3. That all managers and supervisors are expected to enforce this policy fairly and uniformly.

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

Dated in Hartford, Connecticut, this fourth day of August, 1999.

  
JOHN G. ROWLAND, Governor

Filed this 4th day of August, 1999.



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SUSAN BYSIEWICZ, Secretary of the State

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**State Of Connecticut**

**By His Excellency**

**Thomas J. Meskill**

**Governor**

**Executive Order No. Seventeen**

**WHEREAS, Section 31-237 of the General Statutes of Connecticut as amended requires the maintaining of the established free services of the Connecticut State Employment Service to both employers and prospective employees and**

**WHEREAS, Section 31-5 of the General Statutes of Connecticut requires that no compensation or fee shall be charged or received directly or indirectly for the services of the Connecticut State Employment Service and**

**WHEREAS, large numbers of our citizens who have served in the Armed Forces of our nation are returning to civilian life in our state and seeking employment in civilian occupations and**

**WHEREAS, we owe a duty as well as gratitude to these returning veterans including the duty to find suitable employment for them and**

**WHEREAS, many of our handicapped citizens are fully capable of employment and are entitled to be placed in suitable employment and**

**WHEREAS, many of the citizens of our state who are unemployed are unaware of the job openings and employment opportunities which do in fact exist in our state and**

**WHEREAS, notwithstanding the free services of the Connecticut State Employment Service, many of our Connecticut employers do not use its free services or do not avail themselves fully of all the services offered,**

**NOW, THEREFORE, I, THOMAS J. MESKILL, Governor of the State of Connecticut, acting by virtue of the authority vested in me under the fourth article of the Constitution of the State and in accordance with Section 3-1 of the General Statutes, do hereby ORDER and direct, as follows, by this Executive Order:**

- I. The Labor Commissioner shall be responsible for the administration of this Order and shall do all acts necessary and appropriate to achieve its purpose. Upon promulgation of this Order, the Commissioner of Finance and Control shall issue a directive forthwith to all state agencies, that henceforth all state contracts and subcontracts for construction on public buildings, other public works and goods and services shall contain a provision rendering such contract or subcontract subject to this Order, and that such contract or subcontract may be cancelled, terminated or suspended by the Labor Commissioner for violation of or noncompliance with this Order, notwithstanding that the Labor Commissioner is not a party to such contract or subcontract.**
- II. Every contractor and subcontractor having a contract with the state or any of its agencies, boards, commissions, or departments, every individual partnership, corporation, or business entity having business with the state or who or which seeks to do business with the state, and every bidder or**

prospective bidder who submits a bid or replies to an invitation to bid on any state contract shall list all employment openings with the office of the Connecticut State Employment Service in the area where the work is to be performed or where the services are to be rendered.

- III. All state contracts shall contain a clause which shall be a condition of the contract that the contractor and any subcontractor holding a contract directly under the contractor shall list all employment openings with the Connecticut State Employment Service. The Labor Commissioner may allow exceptions to listings of employment openings which the contractor proposes to fill from within its organization from employees on the rolls of the contractor on the date of publication of the invitation to bid or the date on which the public announcement was published or promulgated advising of the program concerned.
- IV. Each contracting agency of the state shall be primarily responsible for obtaining compliance with this Executive Order. Each contracting agency shall appoint or designate from among its personnel one or more persons who shall be responsible for compliance with the objectives of this Order.
- V. The Labor Commissioner shall be and is hereby empowered to inspect the books, records, payroll and personnel data of each individual or business entity subject to this Executive Order and may hold hearings or conferences, formal or informal, in pursuance of the duties and responsibilities hereunto delegated to the Labor Commissioner.
- VI. The Labor Commissioner or any agency officer or employee in the executive branch designated by regulation of the Labor Commissioner may hold such hearings, public or private, as the Labor Commissioner may deem advisable for compliance, enforcement or educational purposes under this Order.
- VII. (a) The Labor Commissioner may hold or cause to be held hearings, prior to imposing, ordering, or recommending the imposition of penalties and sanctions under this Order. In accordance herewith, the Commissioner or the appropriate contracting agency may suspend, cancel, terminate, or cause to be suspended, cancelled, or terminated in accordance with law any contract or portion or portions thereof for failure of the contractor or subcontractor to comply with the listing provisions of the contract. Contracts may be cancelled, terminated, suspended absolutely or their continuance conditioned upon a program for future compliance approved by the contracting agency.  
(b) Any contracting agency taking any action authorized by this Order, whether on its own motion or as directed by the Labor Commissioner, shall promptly notify him of such action. Whenever the Labor Commissioner makes a determination under this Order, he shall promptly notify the appropriate contracting agency of the action recommended. The agency shall report the results to the Labor Commissioner promptly.
- VIII. If the Labor Commissioner shall so direct, contracting agencies shall not enter into contracts with any bidder or prospective contractor unless he has satisfactorily complied with the provisions of this Order.

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

Dated at Hartford, Connecticut, this 15<sup>th</sup> day of February 1973.

*Thomas J. Meskill*  
Governor

Filed this 15<sup>th</sup> day of February 1973.

*Harry Hammer*  
Secretary Of The State (Deputy)

# The Office of Governor M. Jodi Rell

## STATE OF CONNECTICUT

### BY HER EXCELLENCY

**M. JODI RELL**

**GOVERNOR**

### EXECUTIVE ORDER NO. 17

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

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

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

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

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

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

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

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

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

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

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

**NOW, THEREFORE**, I, M. Jodi Rell, Governor of the State of Connecticut, acting by virtue of the 45



authority vested in me by the constitution and by the statutes of this state, do hereby **ORDER** and **DIRECT** that:

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

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

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

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

This Order shall take effect immediately.

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

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M. Jodi Rell,  
Governor

**STATE OF CONNECTICUT**

**BY HER EXCELLENCY**

**M. JODI RELL**

**GOVERNOR**

**EXECUTIVE ORDER NO. 18**

**WHEREAS, Connecticut is of state with a distinctive landscape and natural and historic beauty; and**

**WHEREAS, during the past several years there has been an increase in the number of outdoor advertising displays and billboards in Connecticut; and**

**WHEREAS, the outdoor advertising displays and billboards clutter our landscape and pose a potential distraction to the state's motorists; and**

**WHEREAS, a number of these outdoor displays and billboards are located on state owned property;**

**WHEREAS, many of the current contracts between the State of Connecticut and private entities allowing for the erection and/or maintenance of outdoor advertising structures, devices or displays contain renewal options; and**

**WHEREAS, in order to maintain the historic and natural landscape of our State it is necessary to curtail the number of outdoor advertising displays and billboards;**

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

- 1. That no new contracts for the erection and/or maintenance of outdoor advertising structures, devices or displays on state-owned property shall be executed;**
- 2. That no renewal options in existing contracts for the erection and/or maintenance of outdoor advertising structures, devices or displays on state-owned property shall be exercised; and**
- 3. That this Order takes effect immediately.**

**Dated in Hartford, Connecticut, this 6<sup>th</sup> day of February 2008.**

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**M. Jodi Rell, Governor**



**CONNECTICUT REQUIRED CONTRACT/AGREEMENT PROVISIONS  
SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES**

**1. General:**

a) Equal employment opportunity requirements not to discriminate and to take affirmative action to assure equal employment opportunity as required by Executive Order 11246, Executive Order 11375 are set forth in Required Contract Provisions (Form PR-1273 or 1316, as appropriate) and these Special Provisions which are imposed pursuant to Section 140 of Title 23 U.S.C., as established by Section 22 of the Federal-Aid Highway Act of 1968. The requirements set forth in these Special Provisions shall constitute the specific affirmative action requirements for project activities under this contract and supplement the equal employment opportunity requirements set forth in the Required Contract Provisions.

b) "Company" refers to any entity doing business with the Connecticut Department of Transportation and includes but is not limited to the following:

Contractors and Subcontractors  
Consultants and Subconsultants  
Suppliers of Materials and Vendors (where applicable)  
Municipalities (where applicable)  
Utilities (where applicable)

c) The Company will work with the Connecticut Department of Transportation (ConnDOT) and the Federal Government in carrying out equal employment opportunity obligations and in their review of his/her activities under the contract.

d) The Company and all his/her subcontractors or subconsultants holding subcontracts not including material suppliers, of \$10,000 or more, will comply with the following minimum specific requirement activities of equal employment opportunity: (The equal employment opportunity requirements of Executive Order 11246, as set forth in volume 6, Chapter 4, Section 1, subsection 1 of the Federal-Aid Highway Program Manual, are applicable to material suppliers as well as contractors and subcontractors.) The company will include these requirements in every subcontract of \$10,000 or more with such modification of language as necessary to make them binding on the subcontractor or subconsultant.

**2. Equal Employment Opportunity Policy:**

The Company will develop, accept and adopt as its operating policy 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.

**3. Equal Employment Opportunity Officer:**

The Company will designate and make known to ConnDOT contracting officers an Equal Employment Opportunity Officer (hereinafter referred to as the EEO Officer) who will have the responsibility for and must be capable of effectively administering and promoting an active equal employment opportunity program and who must be assigned adequate authority and responsibility to do so.

4. **Dissemination of Policy:**

a. All members of the Company'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 Company's equal employment opportunity policy and contractual responsibilities to provide equal employment opportunity 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:

(1) 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 Company's equal employment opportunity policy and its implementation will be reviewed and explained. The meeting will be conducted by the EEO Officer or other knowledgeable company official.

(2) All new supervisor or personnel office employees will be given a thorough indoctrination by the EEO Officer or other knowledgeable company official, covering all major aspects of the Company's equal employment opportunity obligations within thirty days following their reporting for duty with the Company.

(3) All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer or appropriate company official in the Company's procedures for locating and hiring minority group employees.

b. In order to make the Company's equal employment opportunity policy known to all employees, prospective employees and potential sources of employees, i.e., schools, employment agencies, labor unions (where appropriate), college placement officers, etc., the Company will place their equal employment opportunity policy in areas readily accessible to employees, applicants for employment and potential employees. The Company will bring the equal opportunity policy to the attention of employees through meetings, employee handbooks, or other appropriate means.

5. **Recruitment:**

a. When advertising for employees, the Company will include in all advertisements the notation: "An Equal Opportunity Employer". All such advertisements will be published in newspapers or other publications having a large circulation among minority groups in the area from which the project workforce would normally be derived. The Company shall comply with this provision and the recruitment requirements outlined in their ConnDOT approved Affirmative Action Plan.

b. The Company will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants, including, but not limited to, State employment agencies, schools, colleges and minority group organizations. To meet this requirement, the Company will, through his/her EEO Officer, identify sources of potential minority group employees, and establish with such identified sources, procedures whereby minority group employees, and applicants may be referred to the Company for employment consideration.

In the event that the Company has a valid bargaining agreement providing for exclusive hiring hall referrals, he/she is expected to observe the provisions of that agreement to the extent that the system permits the Company's compliance with equal employment opportunity

contract provisions. (The U.S. Department of Labor has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the Company to do the same, such implementation violates Executive Order 11246, as amended.)

c. The Company will encourage his/her present employees to refer minority group applicants for employment by posting appropriate notices or bulletins in areas accessible to all such employees. In addition, information and procedures with regard to referring minority group applicants will be discussed with employees.

6. **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, layoffs, and termination, shall be taken without regard to race, color, religion, sex, or national origin, etc. The company's personnel actions shall comply with this provision and the requirements outlined in their ConnDOT approved Affirmative Action Plan.

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

c. The Company will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the Company 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 general contract provision entitled A(76) Affirmative Action Requirements is made part of this document by reference.

7. **Training and Promotion:**

a. The Company will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.

b. Consistent with the Company's work force requirements and as permissible under Federal and State regulations, the Company shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event the Training Special Provision is provided under this contract, this subparagraph will be superseded.

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

d. The Company will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.

**8. Unions:**

If the Company relies in whole or in part upon unions as a source of employees, the Company will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the Company either directly or through a contractor's association acting as agent will include the procedures set forth below:

a. The Company will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

b. The Company will use best efforts to incorporate an Equal Opportunity clause into each union agreement to the extent that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex or national origin.

c. The Company is to obtain information as to the referral practices and policies of the labor union except to the extent that such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the Company, the Company shall so certify to the Connecticut Department of Transportation (ConnDOT) and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the Company with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the Company will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The United States Department of Labor has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the Company from meeting the obligations under Executive Order 11246 as amended, and these special provisions, such Company shall immediately notify ConnDOT.

**9. Subcontracting:**

a. The Company will use his/her best efforts to solicit bids from and to utilize minority group subcontractors, or subcontractors with meaningful minority group and female representation among their employees. Companies shall obtain lists of minority-owned construction firms from the Division of Contract compliance.

b. The Company will use its best efforts to ensure subcontractor compliance with their equal employment opportunity obligations.

**10. Records and Reports:**

a. The Company will keep such records as are necessary to determine compliance with equal employment opportunity obligations. The records kept by the Company will be designed to indicate:

1. The number of minority and non-minority group members and women employed in each classification on the project;



2. The progress and efforts being made in cooperation with unions to increase employment opportunities for minorities and women; (applicable only to contractors who rely in whole or in part on unions as a source of their work force),
3. The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and
4. The progress and efforts being made in securing the services of minority group subcontractors, or subcontractors with meaningful minority and female representation among their employees.

b. All such records must be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of ConnDOT and the Federal Highway Administration.

c. The Company will submit an annual report to ConnDOT 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 PR 1391. If on-the-job training is being required by "Training Special Provision", the Company will be required to furnish Form FHWA 1409.

**11. Affirmative Action Plan**

Companies with contracts, agreements or purchase orders valued at \$10,000 or more will submit a ConnDOT Affirmative Action Plan.

## TITLE VI CONTRACTOR ASSURANCES

For this document Contractor means Consultant, Consulting Engineer, Second Party, or other entity doing business with the State and Contract shall mean the same as Agreement.

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 shall comply with the regulations relative to nondiscrimination in federally assisted programs of the United States Department of Transportation (hereinafter, "USDOT"), Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time (hereinafter referred to as the "Regulations"), 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, shall not discriminate on the grounds of race, color, national origin, sex, age, or disability in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor shall not participate either directly or indirectly in the discrimination prohibited by Subsection 5 of the Regulations, including employment practices when the Contract covers a program set forth in Appendix B of the Regulations.

3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations either by competitive 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 shall be notified by the Contractor of the Contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, national origin, sex, age, or disability.

4. **Information and Reports:** The Contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Connecticut Department of Transportation (ConnDOT) or the Funding Agency (FHWA, FTA and FAA) to be pertinent to ascertain compliance with such Regulations, orders, 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 shall so certify to ConnDOT or the Funding Agency, as appropriate, and shall set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance:** In the event of the Contractor's noncompliance with the nondiscrimination provisions of this Contract, the ConnDOT shall impose such sanctions as it or the Funding Agency may determine to be appropriate, including, but not limited to:

- A. Withholding contract payments until the Contractor is in-compliance; and/or
- B. Cancellation, termination, or suspension of the Contract, in whole or in part.

6. **Incorporation of Provisions:** The Contractor shall include the provisions of paragraphs 1 through 5 in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. The Contractor shall take such action with respect to any subcontract or procurement as the ConnDOT or the Funding Agency may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the Contractor may request the ConnDOT to enter into such litigation to protect the interests of the Funding Agency, and, in addition, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

**Memorandum  
Land Use Office  
Borough of Naugatuck**

To: James R. Stewart, Director of Public Works

From: Keith D. Rosenfeld, Borough Planner, WEO

Date: September 14, 2009

RE: Final Permit  
JH Whittemore Bridge, Maple St (IW#09-05)  
Applicant: Borough of Naugatuck Actions of the Naugatuck Wetlands  
Commission

Dear Mr. Stewart,

On Wednesday, September 9, 2009 the following was decided:

1. **APPROVED** regulated activities for rehabilitation of JH Whittemore Bridge, Maple St (IW#09-05) Applicant: Borough of Naugatuck with the following conditions:
  1. All conditions set forth by relevant local, state and federal agencies are incorporated in the conditions of approval.
  2. All sediment and erosion controls should adhere to the 2002 CT Guidelines for Soil Erosion and Sediment Controls for the use, installation and maintenance of measures utilized on the site.
  3. Prior to the commencement of work within the watercourse, the applicant shall notify the Wetlands Enforcement Officer and ZEO, to ensure the installation of the required erosion and sedimentation controls.
  4. The applicant shall conduct sediment and erosion control inspections following each significant storm event equal to or greater than one inch of rain. A report summarizing their inspection shall be submitted to the Borough's Wetlands Enforcement Officer immediately following each inspection.
  5. Prior to the commencement of work, a Bond shall be submitted to the Borough of Naugatuck from the contractor, as recommended by the Borough Engineer.
  6. This permit shall be valid for a period of 5 years from the date of issue. Any request to renew or extend the expiration date of a permit should be filed in accordance with the Inland Wetlands Regulations of the Borough of Naugatuck.



7. The permittee shall notify the Inland Wetlands Commission immediately upon the commencement of work and upon its completion.

8. All work and all regulated activities conducted pursuant to this authorization shall be consistent with the terms and conditions of this permit. Any structures, excavation, fill, obstructions, encroachments or regulated activities not specifically identified and authorized herein shall constitute a violation of this permit and may result in its modification, suspension, or revocation.

9. In evaluation of this application, the Commission has relied on information provided by the applicant. If such information subsequently proves to be false, incomplete or misleading, this permit may be modified, suspended or revoked and the permittee may be subject to any other remedies or penalties provided by law.

10. The permittee shall employ best management practices, consistent with the terms and conditions of this permit, to control storm water discharges and to prevent erosion and sedimentation and to otherwise prevent pollution of wetlands and watercourses. The permittee shall immediately inform the commission of any problems involving wetlands or watercourses which have developed in the course of, or which are caused by, the authorized work.

11. This permit is subject to and does not derogate any rights or powers of the Borough of Naugatuck, conveys no property rights or exclusive privileges, and is subject to all public and private rights and to all applicable federal, state and local law. In conduction or maintaining any activities authorized herein, the permittee may not cause pollution, impairment or destruction of the inland wetlands and watercourses of Naugatuck.

12. Timely implementation and maintenance of sediment and erosion control measures are a condition of this permit.

Keith D. Rosenfeld  
Town Planner/WEO

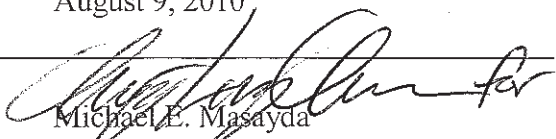
STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION

**subject:** General FPM Application Review  
Project No. 9087-4214  
Rehabilitation of Maple Street  
Borough of Naugatuck

**m e m o r a n d u m**

**date:** August 9, 2010

**to:** Mr. Stanley C. Juber  
Administrator Local Bridge Program  
Bureau of Engineering  
and Construction

**from:**   
Michael E. Masayda  
Trans. Principal Engineer  
Hydraulics and Drainage  
Bureau of Engineering  
and Construction

The Hydraulics and Drainage Section has reviewed the responses from the General Flood Management Certification Application review provided in our July 28, 2010 memorandum to your office for the above noted project, Bridge No. 04214 Maple Street over the Naugatuck River and finds the responses and supporting documentation acceptable. Attached is the signed approved General Flood Management Certification. We would suggest, however, that the boring locations be plotted on the plan sheets for the contractor's information and use.

Attachment

Drew Colburn/dc:sd

cc: Joseph J. Obara  
Mark W. Alexander – Kim Lesay  
Julie F. Georges – Louis D. Bacho  
Chong Lung Chow – Drew Colburn  
9087-4214A

294  
CLC-DC

STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION

FLOOD MANAGEMENT GENERAL CERTIFICATION

Project No.: 9087-4214

Description: Bridge No. 04214, Maple Street  
over Naugatuck River

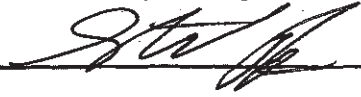
Town: Borough of Naugatuck

Date: ~~June 30, 2010~~<sup>FJ</sup>  
July 6, 2010

memorandum

to: Mr. Michael E. Masayda  
Trans. Principal Engineer  
Hydraulics and Drainage  
Bureau of Engineering and Highway Operations

from: Stanley C. Juber  
Administrator  
Local Bridge Program



Please review this request for Flood Management General Certification and indicate your concurrence below.

**Certification** (to be completed by designer)

*I have read the Flood Management General Certification and the descriptions for the approved DOT minor activities. This project qualifies for the Flood Management General Certification under:*

- Minor Safety Improvements and Streetscape Projects
- Roadway Repaving, Maintenance & Underground Utilities
- Minor Stormwater Drainage Improvements
- Removal of Sediment from a Floodplain
- Wetland Creation or Enhancement
- Scour Repairs at Structures; (*Must acquire another State permit to be eligible*)
- Guide Rail Installation
- Deck and Superstructure Replacements
- Minor Bridge Repairs
- Fisheries Enhancements
- Surveying and Testing

*The following required documentation is attached in support of this certification:*

- Project description
- Location plan
- Description of Floodplain involvement and how project qualifies for general certification
- 8-1/2" by 11" excerpt copy of the FEMA Flood Insurance Rate Map (FIRM) and Floodway Boundary Map (if applicable)
- Design plans, (dated March 2010) with FEMA floodplain and floodway boundaries plotted, cross sections and profiles, as necessary, that clearly depict the floodplain involvement
- FEMA 100-year flood elevation plotted on elevation view (for structures)

Print Name Peter Perkins

Title Engineer

Signature Peter Perkins

Date 7/6/10

**Concurrence** (to be completed by Hydraulics and Drainage)

Based on the documentation submitted, I hereby concur that the project qualifies for Flood Management General Certification.

*If there are any changes to the proposed activities within the floodplain or floodway, the project must be re-submitted for review and approval.*

Signature Michael Masayda

Date 8-6-10

Rev. 4/07

cc: Joseph J. Obara  
Environmental Planning File  
DEP Flood Management Certification File  
Hydraulics and Drainage File

STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION

subject: ENVIRONMENTAL REVIEW REQUEST FORM

Project No.: 9087-4214  
Town: Naugatuck  
Bridge No.: 04214  
Federal Project No. N.F.A.

memorandum

date: 4/5/2010

to: Colleen A. Kissane  
Transportation Assistant Planning Director  
Bureau of Policy and Planning

from: Julie F. Georges  
Transportation Principal Engineer  
Bureau of Engineering and Construction

Please review the information below to determine what, if any, environmental, socioeconomic, or cultural documentation and mitigation will be required for this project.

1. The following items are attached:

- Detailed Project Description (project number, location, scope) [required]
- Site Location Map [required]
- Purpose and Need Statement [preferred]
- Aerial Photograph with the project limits delineated [preferred]
- Photographs showing project features and context
- Concept/Sketch Plans      Location on server: \_\_\_\_\_
- Preliminary Design Plans (with proposed project and slope limits, existing and proposed right-of-way (ROW) lines and edges of pavement, existing and proposed drainage features, delineated (or potential) wetlands, State Plane North American Datum - 1983 coordinates of project limits and major features) [as available]  
Location on server: \_\_\_\_\_

**NO ADVERSE EFFECT**

*David Eubank* DEPUTY SHPO

STATE HISTORIC PRESERVATION OFFICE

Date 12-30-10 Project \_\_\_\_\_

2. The Department of Transportation Project Contact/Ext/Room:

Local Bridge Program-State Grant, Stanley C. Juber, (860) 594-3213

3. This Environmental Review Request is as follows:

- Original
- Resubmittal      *The originating office will advise the Office of Environmental Planning and resubmit the Environmental Review Request if a change in the project scope and/or conditions (e.g., project or slope limits, taking lines, other) causes any of the responses, herein, to change or if three years has passed.*

Original Submittal Date: \_\_\_\_\_

Previous/Temporary Project No.(if any): \_\_\_\_\_

- From the time the original ER recommendation was issued, changes made in the project scope and/or conditions (e.g., project or slope limits, taking lines, other) are as follows:

- Supplemental data, as requested by the Office of Environmental Planning in the original ER Recommendation dated \_\_\_\_\_ : is as follows:



Connecticut Department of  
**ENERGY &  
ENVIRONMENTAL  
PROTECTION**

Permittee: Borough of Naugatuck  
Engineering Department  
229 Church Street  
Naugatuck, CT 06770

Attn: James Stewart


Permit No.: SCEL-201103236  
Permit Type: Stream Channel Encroachment  
Town: Naugatuck  
River: Naugatuck River  
Map No: NA-NA-3

The Commissioner of Energy and Environmental Protection has approved your application to conduct certain regulated activities. Your attention is directed to the conditions of the enclosed permit or certificate. You should read the enclosed document carefully, as all construction or work must conform to that which is authorized.

If you have any questions concerning the enclosed document, please contact this office at (860) 424-3019.

Sincerely,

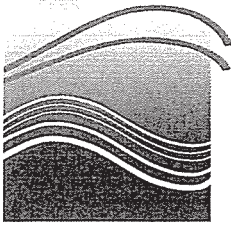
3/26/12  
Date

  
Denise Ruzicka, Director  
Inland Water Resources Division

**COPIES FURNISHED TO:**  
Conservation Commission  
Inland Wetland Agency  
Planning & Zoning Commission

All Parties  
DEEP Fisheries  
U.S. Army Corps of Engineers





Connecticut Department of

**ENERGY &  
ENVIRONMENTAL  
PROTECTION**

**PERMIT**

Permittee: Borough of Naugatuck  
Engineering Department  
229 Church Street  
Naugatuck, CT 06770

Attn: James Stewart

Permit No.: SCEL-201103236  
Permit Type: Stream Channel Encroachment  
Town: Naugatuck  
River: Naugatuck River  
Map No: NA-NA-3

Pursuant to Connecticut General Statutes Section 22a-342 the Commissioner of Energy and Environmental Protection hereby grants a permit to the Borough of Naugatuck (the "permittee") to conduct activities riverward of Stream Channel Encroachment Lines for the Naugatuck River in the Town of Naugatuck in accordance with its application and plans which are part thereof filed with this Department on May 4, 2011 signed by James Stewart and dated May 29, 2009. The purpose of said activities is to rehabilitate the existing multi-span arch structure and install in-stream pier scour protection. The proposed activity involves Maple Street bridge No. 04214 riverward of Stream Channel Encroachment Lines associated with the Naugatuck River in the Town of Naugatuck (the "site").

**AUTHORIZED ACTIVITY**

Specifically, the permittee is authorized to repair the top and the underside of the arch by removing the lower quality concrete fill, repairing the deteriorated concrete, replacing reinforcing as necessary, placing new concrete over the arch to form the roadway profile, installing a waterproofing membrane with a protective layer of bituminous pavement over the concrete and installing countermeasure in form of riprap armoring layer to decrease the risk of failure of the pier foundations riverward of Stream Channel Encroachment Lines associated with the Naugatuck River in accordance with said application and plans which are part thereof entitled "Rehabilitation of Structure Maple Street over Naugatuck River Bridge No. 04214", dated July 13, 2011 and signed by Peter M. Perkins, P.E. (the "plans").

This authorization constitutes the permits and approvals required by Section 22a-342 of the Connecticut General Statutes and is subject to and does not derogate any present or





future property rights or other rights or powers of the State of Connecticut, conveys no property rights in real estate or material nor any exclusive privileges, and is further subject to any and all public and private rights and to any federal, state, or local laws or regulations pertinent to the property or activity affected hereby.

**PERMITTEE'S FAILURE TO COMPLY WITH THE TERMS AND CONDITIONS OF THIS PERMIT SHALL SUBJECT PERMITTEE AND PERMITTEE'S CONTRACTOR(S) TO ENFORCEMENT ACTIONS AND PENALTIES AS PROVIDED BY LAW.**

This authorization is subject to the following conditions:

**SPECIAL CONDITIONS**

None

**GENERAL CONDITIONS**

1. **Initiation and Completion of Work.** At least five (5) days prior to starting any construction activity at the site, the permittee shall notify the Commissioner of Environmental Protection (the "Commissioner"), in writing, as to the date activity will start, and no later than five (5) days after completing such activity, notify the Commissioner, in writing, that the activity has been completed.
2. **Expiration of Permit.** If the activities authorized herein are not completed by three years after the date of this permit, said activity shall cease and, if not previously revoked or specifically extended, this permit shall be null and void.

Upon the written request of the permittee and without notice, the Commissioner may extend the expiration date of this permit for a period of up to one year, which period may be extended once for a like period, in order for the permittee to complete activities authorized herein which have been substantially initiated but will not be completed by the expiration date of this permit. Any request to extend the expiration date of this permit shall state with particularity the reasons therefore.

In making his decision to extend the expiration date of this permit, the Commissioner shall consider all relevant facts and circumstances including but not limited to the extent of work completed to date, the permittee's compliance with

the terms and conditions of this permit, and any change in environmental conditions or other information since the permit was issued.

Any application to renew or reissue this permit shall be filed in accordance with the Section 22a-3a-5(c) of the regulations of Connecticut State Agencies.

3. **Compliance with Permit.** All work and all activities authorized herein conducted by the permittee at the site shall be consistent with the terms and conditions of this permit. Any regulated activities carried out at the site, including but not limited to, construction of any structure, excavation, fill, obstruction, or encroachment, that are not specifically identified and authorized herein shall constitute a violation of this permit and may result in its modification, suspension, or revocation. In constructing or maintaining the activities authorized herein, the permittee shall not store, deposit or place equipment or material including without limitation, fill, construction materials, or debris in any wetland or watercourse on or off site unless specifically authorized by this permit. Upon initiation of the activities authorized herein, the permittee thereby accepts and agrees to comply with the terms and conditions of this permit.
4. **Transfer of Permit.** This authorization is not transferable without the written consent of the Commissioner.
5. **Reliance on Application.** In evaluating the permittee's application, the Commissioner has relied on information provided by the permittee. If such information subsequently proves to be false, deceptive, incomplete or inaccurate, this permit may be modified, suspended or revoked.
6. **Best Management Practices.** In constructing or maintaining the activities authorized herein, the permittee shall employ best management practices, consistent with the terms and conditions of this permit, to control storm water discharges and erosion and sedimentation and to prevent pollution. Such practices to be implemented by the permittee at the site include, but are not necessarily limited to:
  - a. Prohibiting dumping of any quantity of oil, chemicals or other deleterious material on the ground.
  - b. Immediately informing the Commissioner's Oil and Chemical Spill Section at 424-3338 of any adverse impact or hazard to the environment, including any discharges, spillage or loss of oil or petroleum or chemical liquids or solids,

Draft Permit  
SCEL-201103236  
Borough of Naugatuck

Page 4 of 6

which occurs or is likely to occur as the direct or indirect result of the activities authorized herein.

- c. Separating staging areas at the site from the regulated areas by silt fences or haybales at all times.
- d. Prohibiting storage of any fuel and refueling of equipment within 25 feet from any wetland or watercourse.
- e. Preventing pollution of wetlands and watercourses in accordance with the document "Connecticut Guidelines for Soil Erosion and Sediment Control" as revised. Said controls shall be inspected by the permittee for deficiencies at least once per week and immediately after each rainfall and at least daily during prolonged rainfall. The permittee shall correct any such deficiencies within forty eight (48) hours of said deficiencies being found.
- f. Stabilizing disturbed soils in a timely fashion to minimize erosion. If a grading operation at the site will be suspended for a period of thirty (30) or more consecutive days, the permittee shall, within the first seven (7) days of that suspension period, accomplish seeding and mulching or take such other appropriate measures to stabilize the soil involved in such grading operation. Within seven (7) days after establishing final grade in any grading operation at the site the permittee shall seed and mulch the soil involved in such grading operation or take such other appropriate measures to stabilize such soil until seeding and mulching can be accomplished.
- g. Prohibiting the storage of any materials at the site which are buoyant, hazardous, flammable, explosive, soluble, expansive, radioactive, or which could in the event of a flood be injurious to human, animal or plant life, below the elevation of the five-hundred (500) year flood. Any other material or equipment stored at the site below said elevation by the permittee or the permittee's contractor must be firmly anchored, restrained or enclosed to prevent flotation. The quantity of fuel stored below such elevation for equipment used at the site shall not exceed the quantity of fuel that is expected to be used by such equipment in one day.
- h. Immediately informing the Commissioner's Inland Water Resources Division (IWRD) of the occurrence of pollution or other environmental damage resulting from construction or maintenance of the authorized activity or any construction associated therewith in violation of this permit. The permittee shall, no later than 48 hours after the permittee learns of a violation of this permit, report same in writing to the Commissioner. Such report shall contain the following information:

Draft Permit  
SCEL-201103236  
Borough of Naugatuck

Page 5 of 6

- (i) the provision(s) of this permit that has been violated;
- (ii) the date and time the violation(s) was first observed and by whom;
- (iii) the cause of the violation(s), if known;
- (iv) if the violation(s) has ceased, the duration of the violation(s) and the exact date(s) and times(s) it was corrected;
- (v) if the violation(s) has not ceased, the anticipated date when it will be corrected;
- (vi) steps taken and steps planned to prevent a reoccurrence of the violation(s) and the date(s) such steps were implemented or will be implemented;
- (vii) the signatures of the permittee and of the individual(s) responsible for actually preparing such report, each of whom shall certify said report in accordance with section 9 of this permit.

For information and technical assistance, contact the Department of Environmental Protection's Inland Water Resources Division at (860)424-3019.

7. **Contractor Liability.** The permittee shall give a copy of this permit to the contractor(s) who will be carrying out the activities authorized herein prior to the start of construction and shall receive a written receipt for such copy, signed and dated by such contractor(s). The permittee's contractor(s) shall conduct all operations at the site in full compliance with this permit and, to the extent provided by law, may be held liable for any violation of the terms and conditions of this permit.
8. **Monitoring and Reports to the Commissioner.** The permittee shall record all actions taken pursuant to Condition Number 6(e) of this permit and shall, on a monthly basis, submit a report of such actions to the Commissioner. This report shall indicate compliance or noncompliance with this permit for all aspects of the project which is the subject of this permit. The report shall be signed by the environmental inspector assigned to the site by the permittee and shall be certified in accordance with Condition Number 9 below. Such monthly report shall be submitted to the Commissioner no later than the 15th of the month subsequent to the month being reported. The permittee shall submit such reports until the subject project is completed.

Draft Permit  
SCEL-201103236  
Borough of Naugatuck

Page 6 of 6

9. **Certification of Documents.** Any document, including but not limited to any notice, which is required to be submitted to the Commissioner under this permit shall be signed by the permittee, a responsible corporate officer of the permittee, a general partner of the permittee, or a duly authorized representative of the permittee and by the individual or individuals responsible for actually preparing such document, each of whom shall certify in writing as follows:

"I have personally examined and am familiar with the information submitted in this document and all attachments and certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief, and I understand that any false statement made in this document or its attachments may be punishable as a criminal offense in accordance with Section 22a-6 under Section 53a-157 of the Connecticut General Statutes."

10. **Submission of Documents.** The date of submission to the Commissioner of any document required by this permit shall be the date such document is received by the Commissioner. Except as otherwise specified in this permit, the word "day" as used in this permit means the calendar day. Any document or action which falls on a Saturday, Sunday, or legal holiday shall be submitted or performed by the next business day thereafter.

Any document or notice required to be submitted to the Commissioner under this permit shall, unless otherwise specified in writing by the Commissioner, be directed to:

Denise Ruzicka, Director  
DEEP/Inland Water Resources Division  
79 Elm Street, 3rd Floor  
Hartford, Connecticut, 06106-5127

Issued by the Commissioner of Energy and Environmental Protection on:

3/26/12  
DATE

  
Macky McCleary, Deputy Commissioner

cc: CT DOT, 2800 Berlin Turnpike, P.O. Box 317546, Newington, CT 06131-7546, attn: Mark Alexander  
Clough Harbour & Associates, 2139 Silas Deane Highway, Suite 212, Rocky Hill, CT 06067-2336  
EcoDesign, LLC, 9 Gatewood, Avon, CT 06001, attn: Thomas J. Bulzak





# Close, Jensen and Miller, P.C.

LIAISON SERVICE

1137 SILAS DEANE HIGHWAY  
WETHERSFIELD, CONNECTICUT 06109-4201

(860) 563-9375 FAX (860) 721-1802

August 9, 2011

William Hurley, P.E.  
Engineering Manager  
Independence Hall  
725 Old Post Road  
Fairfield, CT 06430

Re: Federal Local Bridge Program  
Project No. 50-209  
Replacement of Bridge No. 04957  
Merritt Street over Horse Tavern Brook  
Town of Fairfield

Dear Mr. Hurley:

This letter is in reference to the Connecticut General Permit (GP) which is required by the New England Division of the U.S. Army Corps of Engineers (USACE) for all activities within inland waters and federal wetlands.

Based on our review of the project plans and the Inland Wetland application, we have concluded that the proposed activities associated with the subject project will have minor individual or cumulative impacts on inland waters and wetlands. We have hereby affirmed that the inland wetland/water activities associated with the subject project comply with the Department of the Army General Permit Category 1 activity requirements. As a result of being a Category 1 activity, a separate Water Quality Certification (WQC) approval is not required for the above activities. The WQC is inherent in the general permit process, subject to the conditions of the GP located at <http://www.nae.usace.army.mil/Regulatory/SGP/ct.htm>.

Please note that all activities must be performed in compliance with all the terms and conditions of the GP, including the completion of the enclosed certification forms (Appendix 1A and 5). The referenced permit requirements should be carefully reviewed and understood by the Town. **It should also be noted that unconfined in-stream work is limited to June 1 through September 30, provided that best management practices are implemented to protect water quality in the water body affected by construction activity; in-stream work performed outside the subject time period must be confined.**

Should the plans or construction methods need to be changed, please contact us immediately to discuss modification of this authorization. By performing work not specifically authorized by this permit, starting work without obtaining other state and local approvals, or failing to comply with the permit conditions, the Town may be subject to the enforcement provisions of the USACE.

If you have any questions, please contact our office.

Very truly yours,  
CLOSE, JENSEN and MILLER, P.C.



Richard T. Geikie, SMCE

Enclosures  
c: Joseph A. Scalise



**Appendix 1A: Category 1 Certification Form  
(Required for all Inland Projects in Connecticut)**

**US Army Corps  
of Engineers**

New England District

Submit this form before work commences to the following addresses:

U.S. Army Corps of Engineers, Permits & Enforcement Branch B (CT),  
696 Virginia Road, Concord, MA 01742-2751

Connecticut Department of Energy & Environmental Protection, CT DEEP,  
Inland Water Resources Division, 79 Elm Street, Hartford, CT 06106-5127  
(not required if work is done within exterior boundaries of Mashantucket)

**Permittee Name & Address:** \_\_\_\_\_

**Phone number & Email address:** \_\_\_\_\_

**Work Location/Address:** \_\_\_\_\_

**Latitude/Longitude coordinates:** \_\_\_\_\_

**Waterway name:** \_\_\_\_\_

**Contractor Name & Address:** \_\_\_\_\_

**Phone number & Email address:** \_\_\_\_\_

**Proposed Work Dates:** Start: \_\_\_\_\_ Finish: \_\_\_\_\_

**Work will be done within Inland Waters & Wetlands under the following categories – refer to Appendix 1 (check all that apply):**

\_\_\_\_\_ 1.A. New Fill and/or Fill Associated with Excavation

\_\_\_\_\_ 1.B. Stream Bank Stabilization

\_\_\_\_\_ 1.C. Repair & Maintenance of Existing Authorized or Grandfathered Fill.

**Wetland impact:** \_\_\_\_\_ square feet (sf) **Waterway impact:** \_\_\_\_\_ sf and/or \_\_\_\_\_ linear feet

**Brief Project Description** \_\_\_\_\_

**Project purpose:** \_\_\_\_\_

**Secondary Impacts include but are not limited to impacts to inland waters or wetlands drained, dredged, flooded, cleared or degraded resulting from a single and complete project. See General Condition 3.**

**Does your project include any of these secondary impacts? Y/N – If yes, please describe them:**

**Your signature below, as permittee, indicates that you accept and agree to comply with the terms, eligibility criteria, and general conditions of Category 1 of this Connecticut General Permit.**

**Permittee Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_



**US Army Corps  
of Engineers ®**  
New England District

(Minimum Notice: Permittee must sign and return notification  
within one month of the completion of work.)

**COMPLIANCE CERTIFICATION FORM**

**Permit Number:** \_\_\_\_\_

**Project Manager**\_\_\_\_\_

**Name of Permittee:** \_\_\_\_\_

**Permit Issuance Date:** \_\_\_\_\_

Please sign this certification and return it to the following address upon completion of the activity and any mitigation required by the permit. You must submit this after the mitigation is complete, but not the mitigation monitoring, which requires separate submittals.

\*\*\*\*\*  
 \* MAIL TO: U.S. Army Corps of Engineers, New England District \*  
 \* Permits and Enforcement Branch B \*  
 \* Regulatory Division \*  
 \* 696 Virginia Road \*  
 \* Concord, Massachusetts 01742-2751 \*  
 \*\*\*\*\*

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

**I hereby certify that the work authorized by the above referenced permit was completed in accordance with the terms and conditions of the above referenced permit, and any required mitigation was completed in accordance with the permit conditions.**

\_\_\_\_\_  
Signature of Permittee

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Date of Work Completion

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

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