

**DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND
PEDESTRIAN IMPROVEMENTS
NAUGATUCK, CONNECTICUT**

Contract No. 21-25

CONTRACT DOCUMENTS

**PREPARED BY THE
BOROUGH OF NAUGATUCK
CONNECTICUT**

June 2021



BOROUGH OF NAUGATUCK

INVITATION TO BID

Borough of Naugatuck

Sealed bids are invited and will be received by the Purchasing Agent, until 11:00 a.m., Thursday, July 15, 2021 at the Town Hall, 229 Church Street, Naugatuck, CT and will be publicly opened and read aloud in the Hall of Burgesses, located on the 4th floor for the following:

Contract No. 21-25 DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN IMPROVEMENTS

The Contract Documents may be examined at the Office of the Purchasing Agent, Town Hall, 229 Church Street, Naugatuck, CT 06770.

Copies of Contract documents may be obtained at the Office of the Purchasing Agent upon submission of a non-refundable plan deposit in the form of a check or money order payable to the Borough of Naugatuck in the amount of **Five Hundred Dollars (\$500.00)** per set. Contract Documents can also be obtained at no cost from the Borough of Naugatuck web site <http://www.naugatuck-ct.gov> All firms obtaining Contract Documents from the web site must submit contact information by e-mail to JScully@naugatuck-ct.gov. Contact information must be submitted three days in advance of the bid opening to be considered. Bidders must check the Naugatuck web site no more than three days prior to the bid opening to check for addendums.

The Borough of Naugatuck reserves the right to waive any informalities or to reject any or all bids.

No Bidder may withdraw his bid within (90) days after the actual date of the opening thereof.

“An Affirmative Action/Equal Opportunity Employer. Minority/Women's Business Enterprises are encouraged to apply. This contract is subject to state set-aside and contract compliance requirements.”

SPECIFICATIONS

STANDARD SPECIFICATIONS

The material and construction methods for the work specified in this contract shall conform with the applicable provisions of the State of Connecticut, Department of Transportation specifications entitled “*STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION*”, Form 818, 2020, as revised by the Supplemental Specifications including all Supplements (otherwise referred to collectively as “ConnDOT form 818”) unless modified by the Special Provisions contained herein. “ConnDOT form 818” is hereby made part of this contract. Form 818 may be purchased from:

Connecticut Department of Transportation
Manager of Contracts
2800 Berlin Turnpike, Newington, Connecticut 06111

A free PDF of Form 818 is available at the following website:

<https://portal.ct.gov/DOIT/ConnDOT-Publications-Manuals>

All references to Commissioner, Department, Engineer, and State anywhere within the Form 818 shall be interpreted to mean the Borough of Naugatuck or a duly authorized agent of the Borough. Any questions or ambiguity regarding any definitions shall be brought to the immediate attention of the Borough.

INDEX TO CONTRACT DOCUMENTS

SECTION

A	Information for Bidders
B	Proposal
C	References/Qualifications
D	Bid Bond / Surety Guarantee Form
E	Contract and Agreement / Certificate as to Corporate Principal
F	Performance Bond
G	Payment Bond
H	Special Provisions
I	Form 818 Supplemental Specifications
J	Certificate of Compliance
K	Commission on Human Rights and Opportunities
L	Construction Contracts
M	Labor Wage Rates

SECTION A

INFORMATION FOR BIDDERS

Borough of Naugatuck

Contract No. 21-25

DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN IMPROVEMENTS NAUGATUCK, CONNECTICUT

1. Proposals Received

Sealed proposals for Downtown Community Connectivity Bike and Pedestrian Improvements will be received by the Purchasing Office, Borough of Naugatuck, 229 Church Street, Naugatuck, CT 06770 until **Thursday, July 15, 2021, at 11:00 A.M.** local time. Immediately following the bids will be publicly opened and read aloud.

2. Location and Description of Work

These specifications will provide a basis for providing the Borough of Naugatuck, CT with Labor and equipment to construct sidewalk, and incidental construction to this work at along Church Street, Division Street, Cedar Street, and Water Street.

3. None

4. Specifications

Copies of the Specifications may be seen and obtained at the Purchasing Office, Borough of Naugatuck, 229 Church Street, Naugatuck, CT 06770. The construction contract for the **DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN IMPROVEMENTS**, will be entered into by the successful bidder and the Borough of Naugatuck. The State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 818 along with supplemental specifications contained herein will detail the general requirements for materials, methods of installation, measurement and basis of payment to be required in this project. Any references to the State of Connecticut, the Department, the commissioner, Engineer, or other terms indicating the State of Connecticut and her agents as party to the contract shall for this project mean the Borough of Naugatuck and her designated agents or employees.

Where insurance is required to be carried in the name of the State of Connecticut and the State of Connecticut is to be held harmless, this shall be done in the name of the Borough of Naugatuck and the Borough of Naugatuck shall be held harmless.

It is the intent of this contract to maintain all standard requirements of Form 818 without attempting to redefine every term within the 818 to the "Borough of Naugatuck".

The bidder shall, therefore, be aware that the Borough of Naugatuck and her agents shall inspect and administrate this contract, make contract interpretations, determine the acceptability of the work and approve requests for payments. The Contractor shall be responsible for the requirements stated in Form 818 and in the construction drawings.

5. Addenda and Interpretations

No interpretations of the meaning of the Specifications, or other pre-bid documents will be made to any Bidder orally.

Every request for such interpretation shall be in writing, addressed to Mr. James Stewart, P.E., Borough of Naugatuck, Department of Public Works, Office, 246 Rubber Ave. Naugatuck, CT 06770. To be given consideration, such requests must be received at least six (6) days prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications, which, if issued, will be mailed by certified mail with return receipt requested to all prospective Bidders, at the respective address furnished for such purposes, not later than four (4) days prior to the date fixed for the opening of bids. Failure of any Bidder to receive any such addendum or interpretations shall not relieve such Bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the Contract Documents.

6. Familiarity of the Work

Each Bidder shall fully inform himself prior to bidding as to existing conditions and limitations under which the work is to be performed, and shall include in his bid a sum to cover the cost of items necessary to perform the work as set forth in the Contract Documents. No allowance will be made to a Bidder because of lack of such examination or knowledge. The submission of a bid will be considered as conclusive evidence that the Bidder has made such examination.

The Owner assumes no responsibility whatsoever with respect to ascertaining for the Contractor such facts concerning physical characteristics at the site of the project.

The Contractor agrees that he shall make no claim for and has no right to additional payment or extension of time for completion of the work, or any other concessions, because of any interpretations or misunderstanding on his part of this Contract, or because of any failure on his part to fully acquaint himself with all conditions relating to the work.

7. None

8. Estimate of Work

For bidding purposes, the work has been subdivided into unit price items. The quantities shown below are to be considered as approximate only. The Inspector does not expressly or by implication agree that the actual quantity(ies) will correspond therewith, but reserves the right to increase or decrease the amount of any Item or portion of the work as may be deemed necessary.

9. Qualification of Bidders

A Bidder shall be a contractor who is experienced in traffic signal and highway reconstruction. The Proposal shall contain adequate proof of the qualifications of the Bidder to perform, in a satisfactory manner and within the time specified, all the work covered by the Plans and Specifications. This proof shall be fully recorded on the pages titled "References", which shall become part of the Proposal.

10. Disqualification of Bidders

More than one proposal from an individual, firm, partnership, corporation, or an association under the same, or different, names will not be considered. Reasonable grounds for believing that any Bidder is interested in more than one proposal for the work contemplated will cause the rejection of all proposals in which such Bidder is interested. Any or all proposals in which such Bidder is interested will be rejected if there is reason for believing that collusion exists among the Bidders; and all participants in such collusion

will not be considered in future proposals for the same work. Proposals in which the prices are obviously unbalanced may be rejected. No Contract will be awarded except to competent Bidders capable of performing the class or work contemplated.

11. Preparation of Proposals

The Proposal must be made upon the forms contained herein. The blank spaces in the Proposals must be filled in correctly where indicated. The Bidder must state, both in words and in numerals, written or printed in ink, the prices for which he proposes to do each Item of the work contemplated. In case of discrepancy between the words and the numerals, the words shall govern. Ditto marks are not considered writing, or printing, and shall not be used. The Bidder shall sign his Proposal correctly. If an individual makes the Proposal, his name and post office address must be shown. If made by a firm, partnership, or corporation, the Proposal must be signed by an official of the firm, partnership, or corporation authorized to sign contracts, and must show the post office address of the firm, partnership, or corporation.

Each bid must be submitted in a sealed envelope bearing on the outside the name of the Bidder, this address, and name of the project for which the bid is submitted. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed to: Purchasing Office, Borough of Naugatuck, City Hall, 229 Church Street, Naugatuck, CT 06770.

12. Irregular Proposals

The Borough of Naugatuck reserves the right to reject any proposals if they show any omission, alteration of form, additions not called for, conditional bids, or irregularities of any kind.

13. Proposal Guarantee

No proposal will be considered unless accompanied by a certified check in U.S. dollars, or bid bond using an insurance company licensed to do business in the State of Connecticut in an amount of 10% of the total bid amount payable to the order of the Borough of Naugatuck, said check or bid bond to be returned to the Bidder unless forfeited as hereinafter stipulated. Such checks or bid bonds will be returned to all bidders within five (5) days after the execution of the Contract and the furnishing of the required security by the successful Bidder.

14. Withdrawal of Proposals

If a Bidder wishes to withdraw his Proposal, he may do so before the time fixed for the opening of bids by communicating his purpose to the office of the Mayor. Upon such notice, the Proposal will be handed to him unopened.

15. Execution of Contract

The party to whom the Contract is awarded, or his authorized representative, will be required to attend at the office of the Mayor, Borough of Naugatuck, with the sureties offered by him, or them, and a current certificate of Corporate good standing issued by the Office of the Secretary of State in which the corporation is incorporated, and execute the Contract within five (5) days from the date of the award. If the party entering into this contract is a corporation, a Corporate Resolution duly executed by the president and Secretary of the Corporation authorizing the Corporation to enter into this Contract shall be provided. In case of his failure or neglect to do so, the Owner may, at its opinion, determine that the Bidder has abandoned the Contract and thereupon the Proposal and acceptance shall be null and void, and bid security accompanying the Proposal shall be forfeited as liquidated damages to the Owner. If the party entering into this contract is a partnership, a partnership resolution duly executed by a majority of the general partners authorizing the partnership to enter into this contract shall be provided.

16. Bonds

The successful Bidder, at the time of the execution of the Contract, shall furnish a Performance Bond in an amount at least equal to one hundred percent (100%) of the Contract prices as security for the faithful performance of this Contract and also a Payment bond in an amount not less than one hundred percent (100%) for the Contract prices as security for the payment of all persons performing labor on the project under this Contract and furnishing materials in connection with this Contract. All Bonds shall be in the forms prescribed by Law or Regulation and be acceptable to the Owner. Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Connecticut. Bidder shall provide evidence that Surety Company is licensed to conduct business in the State of Connecticut. All sureties shall be in full force throughout the guarantee period and until the retainage is released.

17. None

18. Responsibility of the Contractor

Attention is hereby particularly directed to the provisions of the Contract and Specifications whereby the Contractor shall be responsible for any loss or damage that may happen in the work, or any part thereof, during its progress and also whereby the Contractor shall make good any defects for faults that may occur within one (1) year after date of final estimate. He shall indemnify and save harmless the Owner and Engineer from any damages or costs to which they may be put by reason of injury to the person or property of another resulting from negligence or carelessness in the performance of the work under this Contract.

19. Insurance

Before execution of the Contract, the Bidder will be required to file with the Borough of Naugatuck a certificate of insurance. The certificate, executed by an insurance company satisfactory to the Borough of Naugatuck shall name the Borough of Naugatuck and the State of Connecticut as additional insured parties on the form furnished with these specifications. The "Certificate of Insurance" shall state that at a minimum, with respect to the contract, the bidder carries insurance in accordance with the requirements and stipulations listed below.

Unless requested otherwise by the Borough of Naugatuck, the Bidder and its insurer shall not assert the defense of governmental immunity in the adjustment of claims or in the defense of any claim or suit brought against the Borough of Naugatuck and the State. The Bidder shall assume and pay all cost and billing for premiums and audit charges earned and payable under the required insurance.

A. Workmen's Compensation Insurance: With respect to all operations the Bidder performs and all those performed for it by subcontractors, the Bidder shall carry workmen's compensation insurance in accordance with the requirements and the laws of the State.

B. Contractor's Public Liability and Property Damage Insurance: With respect to the Project operations the Bidder performs and also those performed for it by subcontractors, the Bidder shall carry regular Contractor's Public Liability Insurance. The insurance shall provide coverage for each accident or occurrence in the amount of \$2,000,000 for all damages resulting from (1) bodily injury to, or death of, persons and/or (2) injury to or destruction of property. Subject to that limit per accident or occurrence, the policy shall provide a total or aggregate coverage of \$2,000,000 for all damages during the policy period.

C. Automobile Liability Insurance: The operation of all motor vehicles, including those hired or borrowed, used in connection with the project, shall be covered by Automobile Liability Insurance. The insurance shall provide coverage for each accident

or occurrence in the amount of \$2,000,000 for all damages resulting from (1) bodily injury to, or death of, persons and/or (2) injury to or destruction of property. If an insurance policy shows an aggregate limit as part of the automobile liability coverage, the aggregate limit must be at least \$2,000,000.

D. With respect to the project operations the Bidder performs and also those performed for it by subcontractors, the Bidder shall carry for and on behalf of the Borough of Naugatuck, and State, insurance which shall provide coverage for each accident or occurrence in the amount of \$2,000,000 for all damages resulting from (1) bodily injury to or death of person and/or (2) injury to or destruction of property. Subject to that limit per accident or occurrence, the policy shall provide a total or aggregate coverage of \$2,000,000 for all damages during the policy period.

E. Railroad's Protective Liability Insurance: When the contract involves work on, over or under the right of way of any railroad company, the Bidder shall, with respect to the project operations it performs and also those performed for it by subcontractors, carry Railroad Protective Liability Insurance for and on behalf of the railroad company. The insurance shall provide coverage for each accident and occurrence in the amount of \$2,000,000 for all damages resulting from (1) bodily injury to or death of persons and/or (2) injury to or destruction of property. Subject to that limit per accident or occurrence, the policy shall provide a total or aggregate coverage of \$6,000,000 for all damages during the policy period.

F. Blasting: When explosives are to be used in the prosecution of the work, the insurance required under paragraphs b, d and e above shall also contain provisions for protection, in the amounts state, against damage claims due to such use of explosives.

G. Termination or change of Insurance: Each insurance policy shall be endorsed to provide that the insurance company shall notify the Borough of Naugatuck by certified mail at least thirty (30) days in advance of termination, or any change in the policy. No such change shall be made without prior written approval of the appropriate Official.

H. Claims: Each insurance policy shall state that the insurance company shall agree to investigate and defend the Borough of Naugatuck and State against all damages, even if groundless.

I. Compensation: There shall be no direct compensation allowed the Bidder on account of any premium or other charge necessary to take out and keep in effect all insurance or bonds, but the cost thereof shall be considered included in the general cost of the work.

20. Care and Protection of Property

The Contractor shall take particular care to avoid damages to all private property and to private improvements within the Boroughs' right of way. He shall make good any damages to the satisfaction of the Inspector. There shall be no additional compensation for the repair or restoration of private property, or private improvements. within the Boroughs' right of way.

21. Sales Tax

Certain materials and supplies incorporated in the work of this project are exempt from Connecticut Sales Tax. The Bidder shall familiarize himself with current regulations of the State Tax Department. The tax on materials or supplies exempted by such regulations shall not be included as part of the bid. The Owner will furnish the successful Bidder a sales tax exemption number.

22. Compliance with Federal and State Regulations

The Contractor shall be responsible for full compliance with any Federal and/or State laws, regulations and standards, as applicable to any project fully or partially funded by State and/or Federal funding agency. This project is funded, in part, by the State and Federal government.

23. Permits

All licenses and permits for complying with any applicable Federal, State, and Municipal laws, codes and regulations in connection with the prosecution of the work shall be obtained by the Contractor, at no additional cost to the Owner.

24. Sedimentation and Erosion Control Plan

The Contractor shall prepare a sedimentation and erosion control plan for the work if applicable.

25. Contractor's Right to Terminate Work

If the work should be stopped under an order of any court or other public authority, for a consecutive period of not less than thirty (30) days, through no act or fault of the Contractor or of anyone employed by him, then the Contractor may terminate this Contract and recover from the Owner payment for all work executed.

26. None

27. Power of Attorney

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

28. Right to Reject

The Owner reserves the right to reject any or all proposals or to accept any bid, should it deem it to be in the best interest of the Owner

29. Prevailing Wage Rates:

- A. Prevailing wage rates shall apply to this contract
- B. The minimum wage rates, health, welfare and pension fund contributions are as determined by the State of Connecticut in accordance with the provisions of Section 31-53/31-54 of the Connecticut General Statutes.
- A. The wages paid on an hourly basis to any person performing the work of any mechanic, laborer or worker on the work herein contracted to be done and the amount of payment or contribution paid or payable on behalf of each such person to any employee welfare fund, as defined in subsection (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 persons to any such employee welfare fund shall pay to each mechanic, laborer or worker as part of such person's wages the amount of payment or contribution for such person's classification on each pay day.

B. The minimum current wage and benefit rates are set forth in the wage schedule (attached to the Bid Package). The Contractor will be bound and obligated by the Laws of Connecticut to insure payment to all workers involved with construction of this said Project.

C. Certified payroll reports must be submitted to the Town.

30. CTDOT Requirements

Following the Bid Opening and announcement of the apparent low bidder, he must submit the completed Pre-Award DBE Commitment Approval Request to the Borough within five (5) days after the Award of the Contract. The document can be found in Section K.

**DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS
Naugatuck, CT**

SECTION B

PROPOSAL

The undersigned, as Bidder, declares that no person or persons, other than those named herein, are interested in this Proposal; that this Proposal is made without collusion with any person, firm or corporation; that he has carefully examined the location of the proposed work, the proposed Form of Contract, and the Contract Drawings therein referred to; that no person or persons acting in any official capacity for the Owner is directly or indirectly interested therein or in any portion of the profit thereof; and that he proposes and agrees, if this Proposal is accepted, to execute the Form of Contract with the Owner; to provide all necessary equipment, tools, and other means of construction, and to do all work and furnish all materials specified in the Contract, in the manner and time therein prescribed, and according to the requirements of the Borough of Naugatuck Inspector as therein set forth, and that he will take in full payment therefore, the following unit prices and lump sums, to wit:

The Bidder acknowledges receipt of the following addenda:

Addendum No. _____ Dated: _____

Addendum No. _____ Dated: _____

The undersigned agrees that he shall execute the Contract within the ten (10) days after the date of award, and shall commence work within the ten (10) days after date of the Notice to Proceed and shall progress therewith to its entire completion within the time stipulated in the Contract.

The Bidder agrees that this bid shall be good and may not be withdrawn for a period of ninety (90) days after the scheduled closing time for receiving bids.

If this Proposal shall be accepted by the Owner and the undersigned shall fail to contract as aforesaid, and to give bonds as required, as determined by the canvass of bids, and with surety or sureties satisfactory to the Owner within ten (10) days from the date of the award, then the Owner may, at its option, determine that the Bidder has abandoned the Contract: thereupon, the Proposal and acceptance shall be null and void, and the bid security, accompanying this Proposal, shall become the property of the said Owner as liquidated damages for the delay and additional expense to the Owner caused thereby if said Proposal shall be rejected, or if said Proposal shall be accepted and the Bidder shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said Proposal) and shall furnish a Bond for his faithful performance of said Contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said Proposal, the accompanying bid security shall be returned to the undersigned making bid.

DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS
Naugatuck, CT
PROPOSAL continued

The undersigned is aware that the Borough of Naugatuck may reject any and all bids in whole or in part; that the Borough may waive technical defects, irregularities and omissions; that the award will be based on the combination of items that will best serve the interest of the Borough; that the bid price does not include any taxes for which the Borough is not liable; and that acceptance of the bid will establish no exclusive contract by which the Borough of Naugatuck will be required to purchase from the undersigned.

The undersigned claims without reservation that his/her bid is made without collusion with any other person, individual or corporation.

Bid Item quantities for unit price bid items are not guaranteed. Final payment will be based on actual installed quantities. Items not specifically identified for payment in the Bid Form shall be assumed to be included in the work effort of other bid items and shall not be paid or requested for payment separately.

Company Name: _____

Address: _____

Town: _____

Telephone: _____

Email: _____

Agent Name: _____

Agent Signature: _____

**DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS**
Naugatuck, CT
PROPOSAL continued

SECTION C

REFERENCES/QUALIFICATIONS

The Bidder is required to fill out the following form to enable the Owner to make inquiries and judge as to the Bidder's experience, skill, available financial resources, credit, and business standing.

1. Number of years the bidder has been in business as a General Contractor: _____

2. Has the Bidder ever failed complete work awarded; and if so, state where and why:

3. Does the Bidder plan to sublet any part of this work; and if so, give details:

4. List equipment Bidder owns that is available for this project:

5. List equipment the Bidder plans to rent or purchase for this project:

Major Material Supplier: _____

Bidder

**DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PED IMPROVEMENTS
PROPOSAL FORM**

NAUGATUCK

CONTRACT NO. 21-25

ITEM NO.	EST. QTY.	UNITS	DESCRIPTION AND WRITTEN UNIT PRICE	UNIT PRICE	AMOUNT	SUB
0201001	1	l.s.	CLEARING AND GRUBBING at _____ dollars and _____ cents per lump sum.	\$	\$	
0202452	1	ea.	TEST PIT at _____ dollars and _____ cents per each.	\$	\$	
0202512	396	l.f.	CUT CONCRETE SIDEWALK at _____ dollars and _____ cents per linear foot.	\$	\$	
0202529	833	l.f.	CUT BITUMINOUS CONCRETE PAVEMENT at _____ dollars and _____ cents per linear foot.	\$	\$	
0209001	231	s.y.	FORMATION OF SUBGRADE at _____ dollars and _____ cents per square yard.	\$	\$	
0212000	92	c.y.	SUBBASE at _____ dollars and _____ cents per cubic yard.	\$	\$	
0219001	1896	l.f.	SEDIMENTATION CONTROL SYSTEM at _____ dollars and _____ cents per linear foot.	\$	\$	
0219011A	17	ea.	SEDIMENT CONTROL SYSTEM AT CATCH BASIN at _____ dollars and _____ cents per each.	\$	\$	
0406171	42	ton	HMA S0.5 at _____ dollars and _____ cents per ton.	\$	\$	
0406172	42	ton	HMA S0.375 at _____ dollars and _____ cents per ton.	\$	\$	
0406236	34	gal	MATERIAL FOR TACK COAT at _____ dollars and _____ cents per gallon.	\$	\$	
0507006	1	ea.	TYPE "C" CATCH BASIN TOP at _____ dollars and _____ cents per each.	\$	\$	
0507086A	1	ea.	SPECIAL CAPE COD CATCH BASIN at _____ dollars and _____ cents per each.	\$	\$	

0507809	1	ea.	CONVERT TYPE "C-L" CATCH BASIN TO TYPE "C" CATCH BASIN at _____ dollars and _____ cents per each.	\$	\$	
0686002.12	21	l.f.	12" R.C. PIPE (CLASS V) - 0' - 10' DEEP at _____ dollars and _____ cents per linear foot.	\$	\$	
0813021	89	l.f.	6" GRANITE STONE CURBING at _____ dollars and _____ cents per linear foot.	\$	\$	
0915000	1	l.s.	TREE PROTECTION at _____ dollars and _____ cents per lump sum.	\$	\$	
0921001	9268	s.f.	CONCRETE SIDEWALK at _____ dollars and _____ cents per square foot.	\$	\$	
0921003A	4674	s.f.	MONOLITHIC CONCRETE SIDEWALK AND CURB at _____ dollars and _____ cents per square foot.	\$	\$	
0921005	4039	s.f.	CONCRETE SIDEWALK RAMP at _____ dollars and _____ cents per square foot.	\$	\$	
0921013	210	s.f.	CONCRETE DRIVEWAY APRON at _____ dollars and _____ cents per square foot.	\$	\$	
0921039	23	ea.	DETECTABLE WARNING STRIP at _____ dollars and _____ cents per each.	\$	\$	
0922005A	5282	s.f.	STAMPED ASPHALT CROSSWALK at _____ dollars and _____ cents per square foot. *This is a non-participating item.	\$	\$	
0922500	29	s.y.	BITUMINOUS CONCRETE DRIVEWAY (COMMERCIAL) at _____ dollars and _____ cents per square yard.	\$	\$	
0969060A	4	mo.	CONSTRUCTION FIELD OFFICE, SMALL at _____ dollars and _____ cents per month.	\$	\$	
0970006	50000	est.	TRAFFICPERSON (MUNICIPAL POLICE OFFICER) at fifty thousand dollars and zero cents per estimate.	\$ 1.00	\$ 50,000.00	
0971001A	1	l.s.	MAINTENANCE AND PROTECTION OF TRAFFIC at _____ dollars and _____ cents per lump sum.	\$	\$	
0975003	1	l.s.	MOBILIZATION at _____ dollars and _____ cents per lump sum.	\$	\$	

0977001	20	ea.	TRAFFIC CONE at _____ dollars and _____ cents per each.	\$	\$	
1001001	322	l.f.	TRENCHING AND BACKFILLING at _____ dollars and _____ cents per linear foot.	\$	\$	
1002110A	4	ea.	DECORATIVE LIGHT POLE FOUNDATION at _____ dollars and _____ cents per each.	\$	\$	
1003595A	4	ea.	DECORATIVE LIGHT POLE AND LUMINARE at _____ dollars and _____ cents per each.	\$	\$	
1008191	322	l.f.	2" PVC CONDUIT SCHEDULE 80 at _____ dollars and _____ cents per linear foot.	\$	\$	
1010905	1	ea.	RESET CONCRETE HANDHOLE at _____ dollars and _____ cents per each.	\$	\$	
1206023A	1	l.s.	REMOVAL AND RELOCATION OF EXISTING SIGNS at _____ dollars and _____ cents per lump sum.	\$	\$	
1208931A	17	s.f.	SIGN FACE - SHEET ALUMINUM (TYPE IX RETROREFLECTIVE SHEETING) at _____ dollars and _____ cents per square foot.	\$	\$	
1211001	3467	s.f.	REMOVAL OF PAVEMENT MARKINGS at _____ dollars and _____ cents per square foot.	\$	\$	
1220027	500	s.f.	CONSTRUCTION SIGNS at _____ dollars and _____ cents per square foot.	\$	\$	
1302051A	4	ea.	RESET WATERGATE at _____ dollars and _____ cents per each.	\$	\$	

<p>The total amount of this Base Proposal at _____ dollars and _____ cents</p>	<p>Total Proposal: \$ _____</p> <hr/> <p>Add up all values in the "Amount" column and insert the total here and as your Base Proposal</p>
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"Unit price" amounts are to be shown in both words and figures. In case of discrepancy, the amount shown in words will govern. In case of discrepancy between "unit price" and "extended price", the unit price will govern.

Under penalty of perjury and other remedies available to the Borough of Naugatuck, the undersigned certifies this proposal is submitted without collusion, and all responses are true and accurate. If awarded this proposal it is agreed this forms a contractual obligation to provide services at the fees specified in this Proposal Form, subject to and in accordance with all instructions, proposal and contract documents, including any addenda, which are all made part of this proposal.

Signature of Authorized Person

Date

Printed Name of Authorized Person

Company Title of Authorized Person

Name of Company

Address of Company

City, State, and Zip Code

Telephone Number

Facsimile Number

END OF PROPOSAL FORM

**DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PED IMPROVEMENTS
PROPOSAL FORM**

NAUGATUCK

CONTRACT NO. 21-25 ADD ALTERNATE 1

ITEM NO.	EST. QTY.	UNITS	DESCRIPTION AND WRITTEN UNIT PRICE	UNIT PRICE	AMOUNT	SUB
0922005A	5282	s.f.	STAMPED ASPHALT CROSSWALK at _____ dollars and _____ cents per square foot	\$	\$	

<p>The total amount of this Add Alternate at _____ dollars and _____ cents</p>	<p>Total Proposal: \$ _____</p> <hr/> <p>Add up all values in the "Amount" column and insert the total here and as your Add Alternate</p>
--	---

"Unit price" amounts are to be shown in both words and figures. In case of discrepancy, the amount shown in words will govern. In case of discrepancy between "unit price" and "extended price", the unit price will govern.

Under penalty of perjury and other remedies available to the Borough of Naugatuck, the undersigned certifies this proposal is submitted without collusion, and all responses are true and accurate. If awarded this proposal it is agreed this forms a contractual obligation to provide services at the fees specified in this Proposal Form, subject to and in accordance with all instructions, proposal and contract documents, including any addenda, which are all made part of this proposal.

Signature of Authorized Person

Date

Printed Name of Authorized Person

Company Title of Authorized Person

Name of Company

Address of Company

City, State, and Zip Code

Telephone Number

Facsimile Number

END OF PROPOSAL FORM

**DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS**
Naugatuck, CT
PROPOSAL continued

BOROUGH OF NAUGATUCK

CONTRACTOR'S QUALIFICATION SUMMARY

The bidder is required to submit this summary with his bid in order that the Borough of Naugatuck may properly evaluate the qualifications of the Contractor. Failure to submit this summary in proper form will be cause of rejection of the bid. .

List projects below:

Owner's Name	Year Completed	Project Number	Tons Disposed	Person to Contact Name/Telephone

VENDOR NAME: _____

**DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS**

Naugatuck, CT

PROPOSAL continued

SECTION D

BID BOND /SURETY GUARANTY

DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN IMPROVEMENTS

**Naugatuck, CT
PROPOSAL continued**

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we the undersigned:

as Principal, and _____ as Surety are held and firmly bound unto Borough of Naugatuck hereinafter called the "Owner", in the penal sum of _____ Dollars, (\$ _____) lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the accompanying BID, dated _____, 20____, for _____

NOW THEREFORE, if the Principal shall not withdraw said Bid within the time period specified therein after the opening of the same, or within any extended time period agreed to by the Principal, Surety and Owner, or, if no period be specified, within ninety (90) days after the said opening, and shall within the period specified thereof, or if no period be specified, within twenty (20) days after the prescribed forms are presented to him for signature, enter into a written Contract with the Owner in accordance with the Bid as accepted, and give bond with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such Contract; then the above obligation shall be null and void and of no effect, otherwise to remain in full force or virtue.

Failure to comply with the aforementioned condition shall result in the forfeiture of this BID BOND as liquidated damages.

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

No extension of time or other modification of the BID BOND shall be valid unless agreed to in writing by the parties to this Bond.

DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN IMPROVEMENTS

Naugatuck, CT
PROPOSAL continued

BID BOND
(Page 2 of 2)

In presence of:

(Individual Principal)

(Business Address)

(Individual Principal)

(Business Address)

Attest:

(Corporate Principal)

(Business Address)

By:

Affix
Corporate
Seal

Attest:

(Corporate Surety)

(Business Address)

By:

Affix
Corporate
Seal

Countersigned

By: _____

* Attorney-in Fact, State of _____

* Power-of Attorney for person signing for Surety Company must be attached to Bond.

DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS
Naugatuck, CT
PROPOSAL continued

SURETY GUARANTY FORM

(To accompany Proposal)

KNOW ALL MEN BY THESE PRESENTS, that for and in consideration of the sum of \$1.00, lawful money of the United States, the receipt whereof is hereby acknowledged, paid the undersigned corporation, and for other valuable consideration, the

_____ a corporation organized and existing under

(Name of Surety Company)

laws of the State of _____ and licensed to do business in the State of Connecticut, certifies and agrees, that if Downtown Community Connectivity Bike and Pedestrian Improvements is

awarded to _____ the undersigned corporation

(Name of Bidder)

will execute the bond or bonds as required by the Contract Documents and will become Surety in the full amount of the Contract Price for the faithful performance of the Contract and for payment of all persons supplying labor or furnishing materials in connection therewith.

(Surety)

(To be accompanied by the usual proof of authority of officers of Surety Company to execute the same.)

**DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS**

Naugatuck, CT

PROPOSAL continued

SECTION E

**CONTRACT AGREEMENT AND
CERTIFICATE AS TO CORPORATE PRINCIPAL**

DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN IMPROVEMENTS

**Naugatuck, CT
PROPOSAL continued**

CONTRACT AND AGREEMENT

THIS AGREEMENT, made this _____ day of _____ in the year 20____,
Between the Borough of Naugatuck, with its principal office and place of business at 229 Church Street, Connecticut 06770, acting herein through it's Mayor and _____, a _____, with an office and place of business at _____, hereinafter called the contractor.

WITNESSETH: That the parties to this agreement in consideration of the undertakings, promises, and agreements on the part of the other herein contained, hereby undertake, promise, and agree as follows:

I Definitions

The word "Owner" as used herein shall mean the Borough of Naugatuck, acting through its properly authorized representatives.

The words "as directed", "as required", "as permitted", "as allowed", or phrases of like effect or import, used herein shall mean that the direction, requirement, permission, or allowance of the Borough of Naugatuck Inspector is intended and similarly the words "approved", "reasonable", "suitable", "proper", "satisfactory", or words of like effect or import, unless otherwise particular specified herein, shall mean approved, reasonable, suitable, proper, or satisfactory in the judgement of the Borough of Naugatuck Inspector.

The word "Contractor" shall mean _____ or it's duly authorized agents.

II Contract Includes

The indices, headings and subheadings are for convenience only and do not form a part of the Contract Documents.

The Contractor shall, at his own sole cost and expense, furnish all labor, materials, and other services necessary for the completion of this Contract and shall complete and finish the same in the most thorough, workmanlike, and substantial manner, in every respect, to the satisfaction and approval of the Borough of Naugatuck Inspector, in the manner and within the time hereinafter limited, and in strict accordance with the Advertisement, Information for Bidders, Proposal, General Requirements, Detailed Specifications, and Addenda hereto attached, and the Contract Drawings herein referred to, (collectively the "contract documents"), which contract documents are hereby made a part of this Contract as fully as if the same were repeated at length herein.

Addendum No. ____ Dated: _____ Addendum No. ____ Dated: _____
Addendum No. ____ Dated: _____ Addendum No. ____ Dated: _____
Addendum No. ____ Dated: _____ Addendum No. ____ Dated: _____

**DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS**
Naugatuck, CT
PROPOSAL continued

III Specifications and Contract Drawings Supplementary

The said Specifications and Contract Drawings are intended to supplement each other, and together constitute one complete set of Specifications and Contract Drawings, so that any work exhibited in the one and not in the other shall be executed just as if it had been set forth in both, in order that the work shall be completed in every respect according to the complete design or designs as decided and determined by the Borough of Naugatuck Inspector. Should anything be omitted from the Specifications and Contract Drawings, the Contractor shall promptly notify the Borough of Naugatuck Inspector. From time to time during the progress of the work, the Borough of Naugatuck Inspector will furnish such supplementary or working drawings as are necessary to show changes or define the work in more detail, and these also shall be considered as Contract Drawings. When discrepancies exist between the Contract Drawings and Specifications, the Specifications shall govern.

IV Modifications

The Contractor, in entering into this Contract, understands that the Owner reserves the right to modify, to the extent herein provided, the arrangement, character, grade, or size of the work or appurtenances whenever, in the Owner's opinion, it shall be deemed necessary or advisable to do so. Minor changes in the work, not involving extra cost and consistent with the purposes of the work, may be made by verbal order, but no modifications involving extra work or material changes shall be made unless ordered in writing by the Borough of Naugatuck Inspector; and if the modification requires additional cost, a purchase order must be issued prior to work commencing. The Contractor shall and will accept such modifications when ordered in writing by the Owner through the Borough of Naugatuck Inspector, and the same shall not vitiate or void this Contract.

Any such modifications so made shall not, however, subject the Contractor to increased expense without equitable compensation, which shall be determined by the Borough of Naugatuck Inspector. If such modifications result in a decrease in the cost of work involved, and equitable deduction from the Contract price, to be determined by the Borough of Naugatuck Inspector, shall be made. The Borough of Naugatuck Inspector's determination of such additional compensation, or of any such deduction, shall be based upon the unit prices in the Contractor's bid, unless the modification involves work not included in such bids and then in the event, the modification shall be as set forth in Section XXVIII prior to the commencement of additional work. In no event shall any modification in the work shown on the Plans and Specifications be made unless the nature and extent thereof has first been certified by the Borough of Naugatuck Inspector in writing and sent to the Contractor.

V Correction of Errors and Omissions

The Plans and Specifications forming part of this Contract are intended to be explanatory of each other, but should any discrepancy appear, or misunderstanding arise, as to the import of anything contained in either, the explanation and decision of the Borough of Naugatuck Inspector shall be final and binding on the Contractor; and all directions and explanations required, to complete and make effective any of the provisions of the Contract and Specifications, shall be given by the Borough of Naugatuck Inspector. Corrections of errors and omissions in the Drawings or Specifications may be made by the Borough of Naugatuck Inspector when such corrections are necessary for the proper fulfillment of the Contract Documents as construed by the Borough of Naugatuck Inspector. The effect of such corrections shall date from the time that the Borough of Naugatuck Inspector gives due notice thereof to the Contractor.

VI Borough of Naugatuck Inspector's Decision

All work under this Contract shall be done to the satisfaction of the Borough of Naugatuck Inspector, who shall determine the amount, quality, acceptability, and fitness of the several items

DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS
Naugatuck, CT
PROPOSAL continued

of work and materials which are to be paid for hereunder. He also shall decide all questions which may arise as to the fulfillment of the terms of the Contract, Plans and Specifications. The determination of the Borough of Naugatuck Inspector in all such matters shall be final and binding upon the parties thereto.

VII Inspection of Work

It is agreed that the Owner may, at its pleasure, appoint and employ, at its own expense, such persons as may be necessary, who are to act as Borough of Naugatuck Inspectors, inspections, or agents, for the purpose of determining, in the Borough's interest, that the materials furnished and the work done, as the work progresses, conforms to the requirements of the Contract Documents. Such persons shall have unrestricted access to all parts of the work and to other places at and where the preparation of the materials and other parts of the work to be done under this Contract are carried on and conducted. They shall be given, by the Contractor, all facilities and assistance required to carry out their work of inspection.

It is not the function of the Borough of Naugatuck Inspector to supervise or direct the manner in which the work to be done under this Contract is carried on or conducted. The Borough of Naugatuck Inspector is not responsible for construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the work, and he will not be responsible for the Contractor's failure to carry out the work in accordance with the Contract Documents.

The Borough of Naugatuck Inspector shall have authority to reject and shall reject any work or material, or any part thereof, which does not, in his opinion, conform to the Contract Drawings, working drawings, Specifications, and Contract, and it shall be permissible for him to do so at any time during the progress of the work.

No work shall be done except in the presence of the Borough of Naugatuck Inspector or his assistants. No material of any kind shall be used upon the work until it has been inspected and accepted by the Borough of Naugatuck Inspector. Any materials or workmanship found at any time to be defective, or not of the quality or character required by the Contract Drawings and Specifications, shall be remedied at once regardless of previous inspection.

Such inspection shall not relieve the Contractor from any obligation to perform said work strictly in accordance with the Contract Drawings and Specifications, and work not so constructed shall be removed and made good by the Contractor at this own expense and free of all expense to the Owner, whenever so ordered by the Owner, without reference to any previous oversight or error in inspection.

VIII Address of Contractor

The address in the Proposal, upon which this Contract is based, shall be the place. The delivering at the above-named place of any such notice, letter, or other communication where notices, letters or other communications to the Contractor may be mailed or delivered, from the Borough to the Contractor, the date of said service shall be the date of such delivery. Nothing herein contained shall be deemed to preclude or render inoperative the service of any notice, letter, or other communication upon the Contractor personally.

IX Obligation of the Contractor

The Contractor shall, at his own expense, provide any and all manner of supervisor, insurance, taxes, labor, materials, apparatus, scaffolding, appliances, tools, machinery, power, transportation, and whatever else may be required of every description necessary to do and complete the work and shall be solely answerable for the same and for the safe, proper, and lawful

**DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS**
Naugatuck, CT
PROPOSAL continued

construction, maintenance, and use thereof. The Contractor shall cover and protect the work from damage and shall make good all injury to the same occurring before completion of this Contract. The Contractor shall employ only competent workmen and shall provide experienced superintendents and foremen on each part of the work.

The Contractor shall, at its own expense, wherever necessary or required, maintain fences, provide watchmen, maintain lights, place additional timber and braces, and take such other precautions as may be necessary to protect life, property, and structures, vehicles and pedestrians and shall be liable for all damages, occasioned in any way by his act or neglect or that of this agent, employees, or workmen. He shall provide access at all times to private property.

X Occupational Safety and Health Act

The applicable sections of the Occupational Safety and Health Act of 1970 (Williams-Steiger Act) shall apply and be made a part of this Contract. The Contractor's attention is particularly directed to the record keeping requirements of this Act.

XI Nondiscrimination in Employment

The Contractor agrees and warrants that, in the performance of this Contract, he will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, sex, religion, or national origin in any manner prohibited by State, Federal, County or Municipal law.

XII Personal Attention and Competent Workmen

The Contractor shall give his personal attention constantly to the faithful prosecution of the work and shall be present, either in person or by a duly authorized representative, on the site of the work continually during its progress to receive directions or instructions from the Borough of Naugatuck Inspector. The Contractor shall employ at the site, during the performance of the work, a competent superintendent or foreman who shall be satisfactory to the Borough of Naugatuck Inspector and who shall not be changed, except with the consent of the Borough of Naugatuck Inspector, unless he shall cease to be an employee of the Contractor. Such superintendent or foreman shall represent and have full authority to act for the Contractor in his absence, and all directions and instructions given such superintendent or foreman shall be as binding as if given to the Contractor.

The Contractor shall employ only competent, skillful men to do the work, and whenever the Borough of Naugatuck Inspector shall notify the Contractor in writing that any man on the work is, in his opinion, incompetent, unfaithful, disorderly, or otherwise unsatisfactory, such man shall be discharged from the work and shall not again be employed on it, except with the consent of the Borough of Naugatuck Inspector.

XIII Public Safeguards

The Contractor agrees to conduct the work at all times in such a manner that public travel shall not be inconvenienced needlessly nor shall it be wholly obstructed at any point.

XIV Materials and Workmanship

It is the intent of the Specifications to describe fully and definitely the character of materials and workmanship furnished regarding all ordinary features and to require first-class work and materials in all particulars. For any unexpected features arising during the progress of the work and not fully covered herein, the Specifications shall be interpreted by the Borough of Naugatuck Inspector to require first class work and materials in all respects, and such interpretation shall be accepted by the Contractor.

**DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS**
Naugatuck, CT
PROPOSAL continued

XV Materials and Manufactured Articles

All materials and workmanship shall be subject to the approval of the Borough of Naugatuck Inspector and shall be in conformity with approved modern practice.

Unless otherwise specifically provided for in the Specifications, all materials incorporated in the work shall be new, of standard and first-class quality, and of the best workmanship and design. No inferior, or low grade, material will be either approved or accepted, and all work of assembly and construction must be done in a neat, first-class, and workmanlike manner.

XVI Unnoticed Defects

The inspection of the work and materials by the Borough of Naugatuck Inspector shall not relieve the Contractor of any of his obligations to fulfill this Contract, as herein described, and defective work shall be made good and unsuitable materials shall be rejected, notwithstanding that such work and materials had been previously overlooked by the Borough of Naugatuck Inspector and accepted or estimated for payment. If the work, or any part thereof, shall be found defective at any time before final acceptance of the whole work, the Contractor shall forthwith make good such defects, in a manner satisfactory to the Borough of Naugatuck Inspector.

XVII Care and Protection of Work

From the commencement of the work until the completion of the same, the Contractor shall be solely responsible for the care of the work covered by the Contract and for the materials delivered at the site intended to be used in the work; and all injury, damage, or loss of the same, from whatever cause, shall be made good at his expense before the final estimate is made. He shall provide suitable means of protection for all materials intended to be used in the work and for all work in progress as well as for completed work. He shall take all necessary precautions to prevent injury or damage to the work under construction by flood, freezing or inclement weather at any and all times. The methods used for this purpose shall be subject to the approval of the Borough of Naugatuck Inspector, but shall not relieve the Contractor from liability for inadequate protection of the work or materials.

XVIII Assignment of Contract

The Contractor shall have no right or power to assign this Contract, in whole or in part, nor to assign any right arising, or moneys due or to grow due thereunder, without prior written approval of the Owner.

XIX Subcontracting

The Contractor may utilize the services of specialty subcontractors on those parts of the work which, under normal contracting practices, are performed by specialty subcontractors. The Contractor shall not award the work to a subcontractor(s) without prior written approval of the Owner. The Contractor shall be fully responsible to the Owner for the acts and omissions of his subcontractors, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the Contractor by the terms of these Contract Documents, insofar as applicable to the work of subcontractors, and to give the Contractor the same power as regards terminating any subcontract that the Owner may exercise over the Contractor under any provisions of these Contract Documents.

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

**DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS**
Naugatuck, CT
PROPOSAL continued

XX Liability of Contractor for Employees

Each and every employee of the Contractor and each and every of his subcontractors engaged in the said work shall, for all purposes, be deemed and taken to be the exclusive servants of the Contractor and not for any purpose or in any manner in the employment of the Owner. The Contractor shall, in no manner, be relieved from responsibility or liability on account of any fault or delay in the execution of the said work, or any part thereof, by any such employee, or any such subcontractor, or any material men, whatsoever.

XXI Coordination With Other Contractors and Utilities

During the progress of the work, existing utilities may be found to be in close proximity to or in conflict with the work being installed. The Contractor shall make every effort to identify and locate these utilities before working in the area. If it is known or found that these utilities exist the Contractor shall contact the appropriate utility and alert them to the situation. Should an existing utility be found to be in close proximity to the work the Contractor shall take all the necessary precautions to protect the utilities and his work. Should existing utilities be found to conflict with the work the Contractor shall arrange with the utility company for their adjustment. No additional compensation will be made for delays, inconvenience or damage sustained by the Contractor due to interference from the above-noted utility appurtenances or the operation of locating, installing or moving them or the inability of others to perform their work in a timely manner.

XXII Permits, Laws, Codes, Ordinances and Insurance

The Contractor shall keep himself fully informed of all existing and current codes, ordinances, and regulations and Municipal, County, State or National laws in any way limiting or controlling the actions or operations of those engaged upon the work or affecting the materials supplied to or by them. He shall, at all times, observe and comply with all such valid and legally binding ordinances, laws, and regulations and shall protect and indemnify the Owner and its representatives and agents against any claim or liability arising from, or based on, any violation of the same. He shall obtain and pay for all necessary permits and pay all fees required in connection with the Contract. Contractor shall provide the types and amounts of insurance as set forth in Section 19, Information of Bidders and maintain in effect. He shall take out and carry appropriate employer's liability insurance and public liability insurance.

XXIII Patent Rights

The Contractor shall indemnify and save harmless the Owner and its officers, agents, and representatives from all claims for damages arising from the infringements, or alleged infringements, of any Letters Patent or patent rights covering any material, appliance, or device used in or upon the work or any part thereof.

All royalties for patents or patent infringement claims, that might be involved in the construction or use of the work, shall be included in the Contract amount; and the Contractor shall satisfy all demands that may be made at any time for such and shall be liable for any damage or claims for patent infringements; and the Contractor shall, at his own expense, defend any and all suits or proceedings that may be instituted against the Owner for infringement, or alleged infringement, of any patent or patents involved, or alleged to be involved, in the work; and in case of any award for damages, the said Contractor shall pay such award.

XXIV Defense of Suits

The Contractor shall indemnify and hold harmless the Borough of Naugatuck and the State of Connecticut and its consultants, agents and employees from and against all claims, damages, losses, and expenses, including, but not limited to, attorney fees, ("indemnification expense") arising out of or resulting from the performance of the work or arising out of or resulting from the Contract Documents, including, without limitation, all indemnification expense regarding personal

DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN IMPROVEMENTS

Naugatuck, CT **PROPOSAL continued**

injury or death and/or damage to real or personal property or motor vehicles.

In claims against any person or entity indemnified under this section by an employee or the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Section shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under worker's or workmen's compensation acts, disability benefit acts or other employee benefit acts.

XXV Claims for Labor and Materials

The Contractor shall indemnify and save harmless the Owner from all claims expenses and for judgements regarding labor done or materials furnished under this Contract, or any alterations or modifications thereof, including without limitation, reasonable Attorney's fees. Contractor shall furnish the Owner with a Mechanic's Lien Waiver from all persons who have done work, or furnished materials under this Contract. In case such waiver is not furnished, an amount necessary or sufficient, within the discretion of the Owner, to meet the claims of the persons aforesaid, shall be retained, as herein specified, from the money due the Contractor under this Contract until the liabilities aforesaid shall be fully discharged or satisfactorily secured.

XXVI Completion of Work by Owner

If the work to be done under this Contract shall be abandoned by the Contractor; or if this Contract shall be assigned, or the work sublet by him, otherwise than as herein specified; or if at any time the Owner shall be of the opinion that the performance of the Contract is unnecessarily or unreasonably delayed; or if the Contractor is willfully violating any of the conditions or covenants of this Contract, or of the Specifications, or is executing the same in bad faith or not in accordance with the terms thereof; or if the work be not fully completed within the time named in this Contract for its completion, or within the time to which the completion of the Contract may be extended by the Owner, the Owner may notify the Contractor to discontinue all work, or any part thereof under his Contract, by a written notice to be served upon the Contractor as herein provided.

The Contractor shall, within five (5) days of the service of said written notice, discontinue the work, or such part thereof, and the Owner shall thereupon have the power to contract for the completion of the Contract, in the manner prescribed by law; or to place such and so many persons as it may be deemed advisable, by contract or otherwise, to work, and complete the work herein described, or such part thereof; or to take possession of and use any of the materials, plant, tools, equipment, supplies, and property of every kind provided by the Contractor for the purpose of his work; and to procure other materials and equipment for the completion of the same; and to charge the expense of said labor, materials and equipment to the Contractor.

The expense so charged shall be deducted and paid by the Owner out of such moneys as may be due, or may at any time thereafter grow due to the Contractor under and by virtue of this Contract, or any part thereof; and in case such expense shall exceed the amount which would have

XXVI Completion of Work by Owner (continued)

been payable under the Contract, if the same had been completed by the Contractor, the Contractor or his surety shall pay the amount of such excess to the Owner within five (5) days of written demand therefore; and in case such expense shall be less than the amount which would have been payable under this Contract, if the same had been completed by the Contractor, the owner shall pay such difference to the Contractor within five (5) days of written demand.

XXVII Partial and Final Estimates

DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS
Naugatuck, CT
PROPOSAL continued

On, or about, the last day of the month, the Borough of Naugatuck Inspector shall make an approximate estimate of the value of the work done and of the materials incorporated into the work.

The Owner will pay the Contractor, within 30 days of receipt of an estimate, the Owner will pay based on the specifications shown in Section 1.09.06 and 9.75 of the CTDOT Form 818.

The Borough of Naugatuck Inspector shall, as soon as practicable after the completion of work, make a final certificate of the entire amount of the work done under this Contract, and the value thereof, and the Owner shall, within thirty (30) days after such final estimate is approved, pay the entire sum so found to be due hereunder, after deducting there from all previous payments and also all percentages and deductions to be retained under any of the provisions of this Contract.

Before payment of each estimate, the Contractor shall provide the Owner with a mechanic's lien waiver from the Contractor and all persons who have done work or furnished materials under this Contract.

XXVIII Extra Work

The Contractor shall and will do any and all work and furnish any and all materials not herein provided for which, in the opinion of the Borough of Naugatuck Inspector, may be found necessary or advisable for the proper completion of the work or the purposes thereof, or any modifications or alternations thereto.

All extra work and materials shall be ordered in writing by the Borough of Naugatuck Inspector, and in no case will any work or materials in excess of the amount shown in the Plans and Specifications be paid for unless so ordered. Additionally, if the extra work requires additional cost, a purchase order must be issued prior to work commencing. No claim for delay shall be made as a result of this process. No voucher, claim or charge against the Borough shall be paid, nor is the Borough liable for any voucher, claim or charge unless a purchase order is issued. The Contractor further agrees that he shall accept, as full compensation for such extra work and materials, the unit price bid, in the case of Items covered by unit prices in the Proposal, and no more; and for such Items as are not covered by a unit price, he shall accept as full compensation:

1. An agreed on lump sum price, or
2. The reasonable cost, as determined by the Borough of Naugatuck Inspector, of all necessary labor, including insurance and payroll taxes, equipment rental, and materials, plus fifteen percent (15%) which covers supervision, the use of tools and plant, and other overhead expenses and profit.

The equipment rental charge shall be at prevailing rates usually paid locally but shall in no case exceed the amount prorated on the basis of the monthly equipment rental rates compiled by the Associated Equipment Distributors.

When extra work is performed by an approved subcontractor, the Contractor shall be entitled to five percent (5%) of the direct cost of the subcontractor's work to cover his overhead expenses and profit.

The Contractor agrees to prosecute such extra work with all reasonable diligence and to employ thereon competent men. The Contractor shall give the Borough of Naugatuck Inspector access to all accounts, bills, payrolls, and vouchers relating to extra work not covered by unit prices, and he agrees that he shall have no claim for compensation for such extra work in the case of items not covered by unit prices, unless a statement in writing of the actual cost of the same, fully itemized as to labor and materials, is presented to the Borough of Naugatuck Inspector before the fifteenth (15th) day of the month following that during which each specific order was complied

DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS
Naugatuck, CT
PROPOSAL continued

with by him.

XXIX Payment

The Owner, in consideration of the faithful performance by the Contractor of all and singular his covenants, promises, and agreements contained herein, agrees to pay the Contractor for the full completion by him of the work embraced in this Contract, in the manner and within the time herein specified and limited, and to the satisfaction and approval of the Borough of Naugatuck Inspector, the prices stipulated in the said Proposal hereto attached, such payment to be made at the times and in the manner and upon the conditions herein expressly provided. The Owner also agrees to pay in addition such amounts as may be agreed upon for modifications and for extra work.

XXX Guarantee

The Contractor guarantees that the work done under this Contract and the materials furnished by him and used in the construction of the same are free from defects or flaws. The guarantee is for a term of one (1) year from, and after, the date upon which the final estimate of the Borough of Naugatuck Inspector is formally approved by the Owner. It is hereby agreed and understood that this guarantee shall not include making any repairs made necessary by any cause or causes other than defective materials furnished by, or defective work done by, the Contractor.

XXXI Repairs for One (1) Year

The said party of the second part further agrees that if, at any time during the period of one (1) year from the date of the final estimate of the work herein contracted for, any part of the work done under this Contract shall be deemed by the Borough of Naugatuck Inspector to require repairing under the aforesaid Contractor's guarantee, then the said Owner shall notify the said Contractor to make the repairs so required at no expense to the Owner.

Such replacements, or repairs, shall be undertaken by the Contractor within twenty-four (24) hours after service of notice. If the Contractor unnecessarily delays or fails to make the ordered replacements or repairs within the time specified, or if any replacements or repairs are of such nature as not to allow for the time delay incident to the service of a notice, then the Owner will have the right to make such replacements or repairs, and the expenses thereof shall be paid by the Contractor.

XXXII Rate of Progress and Time of Completion

The Contractor shall commence work within ten (10) calendar days of the date of the Notice to Proceed. The rate of progress shall be such that the whole work shall be performed, and the grounds cleared up in accordance with the Contract and Specifications within Ninety (90) calendar days per Section 1.08 – Prosecution and Progress of the Special Provisions contained in this document unless extensions of time shall be made for the reasons, and in the manner, stated under Article XXXIII, "Extension of Time".

XXXIII Extension of Time

The Contractor expressly covenants and agrees that, in undertaking to complete the work within the time mentioned, he has taken into consideration, and made allowance for, all of the ordinary delays and hindrances incidental to such work, whether growing out of delays in securing materials or workmen or otherwise. Should the Contractor, however, be substantially delayed in the prosecution and completion of the work by any changes, additions, or omissions therein ordered in writing by the Borough of Naugatuck Inspector, or by fire, lightning, earthquake,

DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN IMPROVEMENTS

Naugatuck, CT **PROPOSAL continued**

tornado, cyclone, riot, insurrection, or war, or by the abandonment of the work by the workman engaged therein through no fault of the Contractor, or by the discharge of all or any material number of workmen in consequence of difficulties arising between the Contractor and such workmen, or by the neglect, delay, or default of any other contractor of the Owner, then the Contractor may, within five (5) days after the occurrence of the delay for which he claims allowance, notify the Borough of Naugatuck Inspector thereof in writing, and thereupon, and not otherwise, the Contractor shall be allowed such additional time for the completion of the work as the Borough of Naugatuck Inspector, in his discretion, shall award in writing, and his decision shall be final and conclusive upon the parties.

XXXIV Damages for Failure to Complete on Time

The Contractor shall pay to the Owner for each and every calendar day (including Saturdays, Sundays, and holidays) that he shall be in default in completing the entire work in the time stipulated in Article XXXII, or within the extension of time he may be granted as provided in Article XXXIII, the sum of One Thousand Eight Hundred Dollars (\$1,800.00) per day. This sum is hereby agreed upon not as a penalty but as liquidated damages which Owner will suffer by reason of such default, time being of the essence of the Contract and a material consideration thereof. The Owner shall have the right to deduct the amount of any such damages from any monies due the Contractor under this Contract.

XXXV No Waiver of Rights

No certificate given or payment made under this Contract, except the final certificate or final payment, shall be evidence of the performance of the Contract either wholly or in part, and no payment shall be construed to be an acceptance of defective work or improper materials. No act of the Owner or of the Borough of Naugatuck Inspector, or of any representatives of either of them in inspecting the work, nor any extension of time for the completion of the work, shall be regarded or taken as an acceptance of such work, or any part thereof, or materials used therein or thereof, either wholly or in part; but such acceptance shall be evidenced only by the final certificate of the Borough of Naugatuck Inspector.

Before any final certification shall be allowed, the Contractor shall be required, and he hereby agrees, to sign and attest on said certificate a statement that he accepts the same in full payment and settlement of all claims on account of work done and material furnished under this Contract, and furthermore, that all claims for materials provided or labor performed have been paid and satisfied in full. No waiver of any breach of this Contract by the Owner or anyone acting for it, or on its behalf, shall be held as a waiver of any other or subsequent breach thereof.

XXXVI Mandatory Negotiation

Contractor and the Owner agree that they will attempt to negotiate in good faith any dispute of any nature arising under this contract. The parties shall negotiate in good faith at not less than two negotiation sessions prior to seeking any resolution of any dispute under the provisions of arbitration paragraph of this contract. Each party shall have the right to legal representation at any such negotiation session.

XXXVII Arbitration

Any dispute or question arising under the provisions of this contract which has not been resolved under the mandatory negotiation paragraph of this contract shall be determined by arbitration. Arbitration proceedings shall occur at a neutral location in Waterbury, Connecticut, and shall be conducted in accordance with the rules then applicable of the American Arbitration Association. Arbitration shall proceed before a pane of one arbitrator to be selected by American Arbitration Association. The decision of the Arbitrator shall be final and may be entered in any court having jurisdiction thereof. Each party shall pay one-half of all costs and expenses of such

**DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS**
Naugatuck, CT
PROPOSAL continued

arbitration.

XXXVIII Owner's Right to Use

The Owner reserves the right to use or occupy any portion of the work considered by the Borough of Naugatuck Inspector as ready for use or occupancy. Such use or occupancy shall not be held, in any way, as final acceptance of the work or any portion thereof, or as a waiver of any portion of this Contract.

XXXIX Verification of Data

The quantities of work to be done and the materials to be furnished under this Contract, as given in the accompanying "Information for Bidders" and on the Proposal form, are approximate estimates for the purpose of comparing bids on a uniform basis. Neither the Owner nor the Borough of Naugatuck Inspector are to be held responsible for the data or information given relative to said quantities or that given on the Plans relative to existing conditions. The Contractor has judged for himself as to such quantities and as to other circumstances affecting the cost of the performance of this Contract, and he shall not at any time assert that there was any misunderstanding in regard to the character or amount of work to be done and materials and labor to be furnished.

XXXX Contractor's Wage Certification Form

If applicable the Contractor or his authorized agent will be required to sign the Contractor's Wage Certification Form at the time of Contract execution.

XXXXI Verbal Statements Not Binding

It is understood and agreed that the written terms and provisions of this Agreement shall supersede all prior verbal statements of the Borough of Naugatuck Inspector or other representatives of the Owner, and such statements shall not be effective or be construed as entering into or forming a part of, or altering in anyway whatsoever, the written Agreement.

XXXXII Final Estimate Constitutes Release

It is agreed that acceptance by the Contractor of the last payment made, under the provisions of Article XXVII, shall operate as and shall be a release to the Owner, and every agent thereof, from all claims and liability to Contractor for anything done or furnished for, or relating to, the work or for any act or neglect of the Owner or of any agent thereof, except any claim against the Owner for the remainder, if any, of the amounts kept or retained by the Owner as percentages or deductions.

No payment, however, final or otherwise, shall operate to release the Contractor or his sureties from any obligations under this Contract.

XXXXIII Delays or Termination by Governmental Authorities

Notwithstanding any other provision(s) of this contract, the parties agree that in the event of a stop work order from the State Department of Transportation, Department of Environmental Protection, or any other State or Federal agency, no additional compensation will be made by Owner to Contractor for delays, inconvenience or damage sustained by Contractor due to such order, including, without limitation, damages for loss of use of equipment or idle equipment. Similarly, in the event of a termination of the project by the State DOT, DEP or any other State or Federal agency, no additional compensation will be made by Owner to Contractor for the

**DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS**

**Naugatuck, CT
PROPOSAL continued**

termination, or for any delay, inconvenience or damage sustained by Contractor due to such termination, including, without limitation, damages for loss of use of equipment or idle equipment. In the event of such termination, the Borough of Naugatuck Inspector shall prepare a final certificate for the entire amount of work done up to the effective date of termination. The provisions of Sections XXX (Guarantee) and XXXI (Repair) shall apply to all work completed as of the effective date of any stop Work order, as if the effective date was the date upon which the final estimate of the Borough of Naugatuck Inspector is formally approved by the Borough.

XXXXIV Validity of Agreement

The provision of this Agreement shall be binding upon the Parties and their respective successor or assigns.

IN WITNESS WHEREOF, the said parties hereto have caused this instrument to be signed by their respective duly constituted officers, attested, and sealed pursuant to proper resolutions.

Signed and sealed
in the presence of

Contractor

Borough of Naugatuck
Mayor

(Duly Authorized)

**DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS**
Naugatuck, CT
PROPOSAL continued

CERTIFICATE AS TO CORPORATE PRINCIPAL

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

_____(Corporate Seal)

Title

**DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS**

Naugatuck, CT
PROPOSAL continued

SECTION F

PERFORMANCE BOND

**DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS**

Naugatuck, CT
PROPOSAL continued

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called Principal and
(Corporation, Partnership, or Individual)

(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

(Name of Owner)

(Address of Owner)

hereinafter called OWNER, in the penal sum of _____ Dollars,
\$(_____) in lawful money of the United States, for the payment of which sum well and truly
to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these
presents.

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

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

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

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

IN WITNESS WHEREOF, this instrument is executed in _____ counterparts each one of

DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS
Naugatuck, CT
PROPOSAL continued

which shall be deemed an original, this the _____ day of _____, 20__.

ATTEST:

(Principal) Secretary

By _____(s)
Principal

(SEAL)

(Witness as to Principal)

(Address)

(Address)

Surety

ATTEST:

(Surety) Secretary

(SEAL)

(Witness as to Surety)

By _____
(Attorney-in-Fact)

(Address)

(Address)

NOTES: If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the PROJECT is located.

**DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS**

Naugatuck, CT

PROPOSAL continued

SECTION G

PAYMENT BOND

**DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS**
Naugatuck, CT
PROPOSAL continued

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called Principal and
(Corporation, Partnership, or Individual)

(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

(Name of Owner)

(Address of Owner)

hereinafter called OWNER, in the penal sum of

_____ Dollars, \$(_____)

in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

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

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

PROVIDED, FURTHER, that the said surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in anyway affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of

DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS
Naugatuck, CT
PROPOSAL continued

time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

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

IN WITNESS WHEREOF, this instrument is executed in _____ counterparts each one of which shall be deemed an original, this the _____ day of _____, 20__.

ATTEST:

_____ (Principal) Secretary	By _____ Principal _____(s)
(SEAL) _____ (Witness as to Principal)	_____ (Address)
_____ (Address)	_____ Surety

ATTEST:

_____ (Surety) Secretary	By _____ Attorney-in-Fact
(SEAL) _____ Witness as to Surety	_____ (Address)
_____ (Address)	_____ (Address)

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the PROJECT is located.

**DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS**

Naugatuck, CT
PROPOSAL continued

SECTION H

Special Provisions

**DOWNTOWN COMMUNITY CONNECTIVITY
BIKE AND PEDESTRIAN IMPROVEMENTS
PROJECT NO. 1901639
NAUGATUCK, CONNECTICUT**

TABLE OF CONTENTS

Notice to Contractor:

NTC-01	PCC Mix Classifications
NTC-02	Utility Specifications
NTC-03	OSHA Training
NTC-04	Procurement of Materials
NTC-05	Verification of Plan Dimensions
NTC-06	Mix Designation Equivalency
NTC-07	Site Cleanliness
NTC-08	Verification of Existing Conditions
NTC-09	GPS Coordinates for Signs
NTC-10	Protection of Existing Utilities
NTC-11	CT DOT Form 818
NTC-12	Non-participating items

Sections:

Section 1.03	Award and Execution of Contract
Section 1.05	Control of Work
Section 1.07	Legal Regulations and Responsibilities
Section 1.08.04	Prosecution and Progress

Special Provisions:

0219011A	Sediment Control System at Catch Basin
0507086A	Special Cape Cod Catch Basin
0921003A	Monolithic Concrete Sidewalk and Curb
0922005A	Stamped Asphalt Crosswalk
0971001A	Maintenance and Protection of Traffic
1002110A	Decorative Light Pole Foundation
1003595A	Decorative Light Pole and Luminaire
1206023A	Removal and Relocation of Existing Signs
1208931A	Sign Face – Sheet Aluminum (Type IX Retroreflective Sheeting)
1302051A	Reset Watergate

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

SECTIONS 6.01 and M.03 MIX CLASSIFICATION EQUIVALENCY

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

Concrete Mix Classification Equivalency Table

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

Table Notes:

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

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

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

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

NOTICE TO CONTRACTOR - UTILITY SPECIFICATIONS

The contractor is hereby notified that all utility specifications contained elsewhere herein shall be made a part of this contract, and that the contractor shall be bound to comply with all requirements of such specifications. The requirements and conditions set forth in the subject specifications shall be binding on the contractor just as any other specification would be.

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

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

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

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

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

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

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

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

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

The Contractor is responsible for verifying all dimensions before any work is begun. Dimensions of the 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 for 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 Department 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 - 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

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

PG Binder Designation Equivalency Table

Official Binder Designation	Equivalent Binder Designation	Use
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 – SITE CLEANLINESS

The Contractor is hereby notified that all areas utilized for construction activities including all onsite and offsite facilities shall be maintained so as to be free of rubbish, trash and deleterious construction debris at all times. The use of covered and secured trash receptacles is required. All receptacles will be regularly emptied and maintained.

There will be no direct payment for maintaining the site cleanliness of the construction areas under the contract.

NOTICE TO CONTRACTOR – VERIFICATION OF EXISTING CONDITIONS

Included in this contract is the modification, alteration, and/or addition to existing drainage structures. The Contractor is cautioned that it is their responsibility to verify locations, conditions, and field dimensions of all existing features as actual conditions may vary from information shown on the design plans, the record plans or contained elsewhere in the Specifications.

The cost for this work and incorporation of information into the working drawings and shop drawings is part of the general cost of the work. Accordingly, no additional payment will be made for this work.

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

The Contractor shall obtain and provide to the Engineer sign installation data, including Global Positioning System (GPS) latitude and longitude coordinates, for all new. The Engineer shall forward the sign data to the Division of Traffic Engineering for upload into the Highway Sign Inventory and Maintenance Management Program (SIMS). Contact Mr. Barry A. Schilling at (860) 594-2769 of the Division of Traffic Engineering regarding any SIMS questions. Contact Mr. James R. Spencer at (860) 594-2014 of the Department's Bureau of Policy and Planning regarding any GPS questions. Refer to the special provision for Section 12.00 General Clauses For Highway Signing.

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 and/or respective utility company's satisfaction at no cost to the Owner.

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

Prior to opening an excavation, effort shall be made to determine whether underground installations, i.e., sewer, gas, 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 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 – CONNECTICUT DEPARTMENT OF
TRANSPORTATION FORM 818**

Technical specifications for the Project shall follow the ConnDOT Standard Specifications for Roads, Bridges, and Incidental Construction Form 818, dated 2020, including any Supplementals, and Special Provisions to Form 818 contained herein.

Article 1.01.01 – “Definitions” is amended and supplemented as follows:

Substitute the word “City” 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-Subcontractors.

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

The Borough of Naugatuck or authorized representative

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

The Borough of Naugatuck, Connecticut

Add the following:

Municipal: Of or Relating to the Municipality

Municipality: Borough of Naugatuck, Connecticut

Town: Same definition as Municipality

.

NOTICE TO CONTRACTOR – NON-PARTICIPATING ITEMS

All non-participating items identified in the Form of Bid, shall be bid by the contractor and paid for by the Borough of Naugatuck.

SECTION 1.03 - AWARD AND EXECUTION OF CONTRACT

Article 1.03.02 - Award and Execution of Contract:

After the second sentence of the only paragraph add the following:

The successful bidder is hereby notified of the Department's intent to award this contract within ___ days of the bid opening.

Article 1.03.08 - Notice to Proceed and Commencement of Work:

Change the first paragraph to read as follows:

The Contractor shall commence and proceed with the Contract work on the date specified in a written Notice to Proceed issued by the Engineer to the Contractor. The date specified will be no later than 45 calendar days after the date of the execution of the Contract by the Department, however, the contractor is hereby put on notice that it is the Department's intent to issue the Notice to Proceed no later than 24 calendar days after the date of the execution of the Contract by the Department.

SECTION 1.05 - CONTROL OF THE WORK

Replace Article 1.05.02 with the following:

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

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

Project submittals shall be delivered to the Department using the Department’s project management system COMPASS. The Contractor shall acquire and maintain access to COMPASS for the delivery of submittals as listed herein. The delivery processes and document tracking procedures shall be performed in accordance with this specification and the [COMPASS Contractor's User Manual](#).

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

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

All Working Drawing submission documents shall conform to the following requirements:

A. Drawings:

- i. Delivered in a single multi-page PDF file.
- ii. Shall be sized ANSI D (34 inches × 22 inches).
- iii. Contain a border, title block and a rectangular box, 2.25 inches wide × 1.75 inches high, in the lower right hand corner for the Department’s stamp.
- iv. Text height and width shall be 0.125 inch.
- v. All letter characters shall be uppercase.
- vi. Shall be searchable.
- vii. Shall be black and white.
- viii. Cover Page - shall be digitally signed by the Contractor’s Professional Engineer.

- ix. All pages shall include a watermark of the Professional Engineer's stamp in a common area.
- B. Calculations:
 - i. Delivered in a single PDF file
 - ii. Shall be sized ANSI A (8.5 inches × 11 inches).
 - iii. Cover Page shall be digitally signed by the Contractor's Professional Engineer.
- C. Supporting Documentation:
 - i. Delivered as an independent single PDF file
 - ii. Shall be sized ANSI A (8.5 inches × 11 inches).
- a. Working Drawings for Permanent Construction: The Contractor shall supply to the Department a certificate of insurance in accordance with 1.03.07 at the time that the Working Drawings for the Project are submitted.

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

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

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

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

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

Shop Drawing submission documents shall conform to the following requirements:

- A. Delivered in a single multi-page PDF file.
- B. Shall be sized ANSI D (34 inches × 22 inches).
- C. Contain a border, title block and a rectangular box, 2.25 inches wide × 1.75 inches high, in the lower right hand corner for the Department’s stamp.
- D. Text height and width shall be 0.125 inch.
- E. All letter characters shall be uppercase.
- F. Shall be searchable.
- G. Shall be black and white.

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

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

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

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

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

Product Data submission documents shall conform to the following requirements:

- A. Delivered in a single PDF file
- B. Shall be sized ANSI A (8.5 inches × 11 inches).
- C. Marked to indicate applicable choices and options.
- D. Where non-applicable information and products are included, notations shall be made to clearly delineate applicable from non-applicable information.

5. Submittal Preparation and Processing – Review Timeframes: If the Department deems a submittal incomplete or unacceptable because not all the required documents were attached, documents are incomplete, or are in the incorrect format, the Department will send the submittal back to the Contractor before reviewing. When a submittal is sent back as incomplete, the associated documents have not been reviewed and the review process and any associated timeframe requirements have not begun.

The Contractor shall allow 30 calendar days for submittal review by the Department, from the date receipt is acknowledged by the Department. For any submittals stamped with “Revise and Resubmit” or “Rejected,” the Department is allowed an additional 20 calendar days for review of any resubmissions.

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

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

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

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

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

- d. If submittals are marked "Rejected," the Contractor shall prepare and submit a new submittal in accordance with the Department's notations. The resubmissions require an additional review and determination by the Department. The Contractor shall allow an additional review period as specified in 1.05.02-5.

SECTION 1.07 - LEGAL RELATIONS AND RESPONSIBILITIES

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

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

Mr. Arnold Ozols
District 3 Electrical Supervisor
Department of Transportation
Milford, Connecticut
(203) 878-1869

Mr. Eric Clark
Lighttower Fiber Networks
1781 Highland Avenue, Suite 102
Cheshire, CT 06410
(203) 649-3904

Mr. Dwight Edwards
Southern Connecticut Gas Company
60 Marsh Hill Road
Orange, CT 06477
(203) 795-7868

Mr. Frank Gomes
Cablevision
28 Cross Street
Norwalk, CT 06851
(203) 750-5630

Mr. Carlos Vizcarrondo
Aquarion Water Company of Connecticut
600 Lindley Street
Bridgeport, CT 06606
(203) 337-5950

Ms. Lynne DeLucia
Frontier Communications
1441 North Colony Road
Meriden, CT 06450-4101
(203) 238-5000

Mr. Fred Arnold
United Illuminating
180 Marsh Hill Road
Orange, CT 06477-3629
(203) 499-3922

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

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

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

street address is required for release to local power companies (Groton Utilities or Wallingford Electric).

SECTION 1.08 - PROSECUTION AND PROGRESS

Article 1.08.04 - Limitation of Operations - Add the following:

In order to provide for traffic operations as outlined in the Special Provision "Maintenance and Protection of Traffic," the Contractor will not be permitted to perform any work which will interfere with the described traffic operations on all project roadways as follows:

All Roadways

Saturday and Sunday between 10:00 a.m. and 6:00 p.m.

ITEM #0219011A – SEDIMENTATION CONTROL AT CATCH BASIN

Description: This work shall consist of furnishing, installing, cleaning, maintaining, replacing, and removing sedimentation control at catch basins at the locations and as shown on plans and as directed by the engineer.

Materials

Sack shall be manufactured from a specially designed woven polypropylene geotextile sewn by a double needle machine, using a high strength nylon thread. Sack shall be manufactured by one of the following or an approved equal:

Siltsack®

SI Geosolutions:

www.sigeosolutions.com

(800)621-0444

Dandy Sack™

Dandy Products Inc.

P.O. Box 1980

Westerville, Ohio 43086

Phone: 800-591-2284

Fax: 740-881-2791

Email: dlc@dandyproducts.com

Website: www.dandyproducts.com

FLeXstorm Inlet Filters

Inlet & Pipe Protection

24137 W. 111th St - Unit A

Naperville, IL 60564

Telephone: (866) 287-8655

Fax: (630) 355-3477

The sack will be manufactured to fit the opening of the catch basin or drop inlet. Sack will have the following features: two dump straps attached at the bottom to facilitate the emptying of sack and lifting loops as an integral part of the system to be used to lift sack from the basin. The sack shall have a restraint cord approximately halfway up the sack to keep the sides away from the catch basin walls, this cord is also a visual means of indicating when the sack should be emptied. Once the strap is covered with sediment, the sack should be emptied, cleaned and placed back into the basin.

Construction Methods:

Installation, removal, and maintenance shall be per manufacturer instructions and recommendations.

Method of Measurement: Sedimentation Control at Catch Basin will be measured as each installed, maintained, accepted, and removed. There will be no separate measurement for maintenance or replacement associated with this item.

Basis of Payment:

Sedimentation Control at Catch Basin will be paid for at the contract unit price each complete in place and accepted, which price shall include all maintenance throughout construction, materials, equipment, tools, and labor incidental thereto.

Pay Item	Pay Unit
Sedimentation Control System at Catch Basin	E.A.

ITEM #0507086 – SPECIAL CAPE COD CATCH BASIN

Special Cape Cod Catch Basin shall be constructed in accordance with Section 5.86, supplemented as follows:

Section 5.86.01 is supplemented as follows:

Article 5.86.01 – Description: Add the following:

These items shall include furnishing and installing Special Cape Cod Catch Basin in the locations and to the dimensions, orientation and details shown on the plans or as ordered by the Engineer.

Article 5.86.02 – Materials: Add the following:

The Special Cape Cod Catch Basin shall be constructed of either precast concrete or shall be constructed in place to accommodate the specific site location requirements and conditions.

ITEM #0921003A - MONOLITHIC CONCRETE SIDEWALK AND CURB

This work shall conform to Section 9.21 “Concrete Sidewalks” of the ConnDOT Standard Specifications, Form 818, supplemented and amended as follows:

9.21.01—Description: Delete entire paragraph and replace it with the following:

This item shall consist of monolithic concrete sidewalk and curb constructed on a granular fill or reclaimed miscellaneous aggregate base course in the locations and to the dimensions and details shown on the plans or as ordered and in accordance with these specifications.

9.21.02—Materials: Add the following:

Reinforcement shall conform to the requirements of Article M.06.01.
Class “C” 28-day Minimum Compressive Strength shall be 4,000 psi.

9.24.04—Method of Measurement: Add the following:

4. Cost for reinforcement will not be measured for payment, but the cost shall be included in the Monolithic Concrete Sidewalk and Curb.

9.21.05—Basis of Payment: Delete entire paragraph and replace it with the following:

This work will be paid for at the contract unit price per square foot for "Monolithic Concrete Sidewalk and Curb," complete in place, which price shall include all excavation as specified above, reinforcement, backfill, disposal of surplus material, granular fill or reclaimed miscellaneous aggregate base, equipment, tools, materials and labor incidental thereto.

Pay Item

Pay Unit

Monolithic Concrete Sidewalk and Curb

S.F.

ITEM #0922005A – STAMPED ASPHALT CROSSWALK

(ADD ALT)

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and other Division 1 Specifications Sections, apply to this Section.

The following are minimum requirements and shall govern except that all Federal, Local and/or State Codes and Ordinances shall govern when their requirements are in excess hereof.

The State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction form 818 dated 2020 (CTDOT Form 818).

1.02 DESCRIPTION

- A. Stamped asphalt crosswalk shall consist of an imprint product consisting of a hot applied polymer modified synthetic asphalt compound incorporating graded sand and granite aggregates, reinforced with two types of fibers.
- B. Stamped asphalt crosswalk is applied over pavement substrates to create functional and decorative crosswalks, and intersections, as shown on the Contract Drawings.
- C. All stamped asphalt crosswalk materials shall be produced under a quality system in accordance with ISO 9000 series, and designed to provide durability, load carrying capacity and architectural compatibility with the environment. All raw materials shall be carefully graded for consistency and quality to obtain the highest standards.
- D. Stamped asphalt crosswalk shall be installed flush and level with the existing surface.
- E. Only Accredited Stamped Asphalt Crosswalk Installers authorized by the manufacturers of the stamped asphalt crosswalk product may perform this work.

1.03 DEFINITIONS

- A. “HMA pavement” is Hot Mix Asphalt pavement.
- B. “PCC pavement” is Portland Cement Concrete pavement.

- C. “Owner” means the Owner and refers to the representative person of the Borough of Naugatuck who has decision making authority for the Work.
- D. “Accredited Stamped Asphalt Crosswalk Installer” refers to a contractor authorized by the stamped asphalt crosswalk manufacturer to install the stamped asphalt crosswalk product.

1.04 SUBMITTALS

- A. The Accredited Stamped Asphalt Crosswalk Installer shall provide written proof of their Accreditation.
- B. The Accredited Stamped Asphalt Crosswalk Installer shall gain confirmation of correct stamping pattern(s) and colors from the Owner prior to starting the Work.
- C. The construction of mock-ups shall be a minimum of a 6’x6’ section for each color and stamp pattern specified.

PART 2 PRODUCTS

2.01 STAMPED ASPHALT CROSSWALK MATERIAL

Stamped asphalt crosswalk material is a surfacing material comprising a synthetic bitumen mixed with 25% to 50% filler and 30% to 40% aggregate, wherein said synthetic bitumen comprises from about 5% to about 20% binder resin, from about 1% to about 5% polymer, from about 1% to about 5% plasticizer, from about 0% to 5% pigment, from about 0% to 2% reinforcing fiber and from about 0% to 1% rheology modifier.

2.02 SAND

The sand is to be US mesh # 35 silica sand applied as a surface treatment on the stamped asphalt crosswalk material.

Particle Size Distribution:

Aperture size (microns)	US mesh size	Wt. % retained
1000	#18	0.1
710	#25	3.0
500	#35	27.5
355	#45	47.5
250	#60	19.3
180	#80	2.1
125	#125	0.4

90	#170	0.1
63	#230	Trace
-63		Trace

The sand is to be completely dry.

2.03 STAMPED ASPHALT CROSSWALK SELECTION

The Accredited Stamped Asphalt Crosswalk Installer will select the proper grade of stamped asphalt crosswalk material best suited for the project.

2.04 PATTERNS & COLORS

A. Crosswalks:

1. Pattern "Offset Brick" in the color "Terracotta", as approved by the Engineer.

2.05 SHELF LIFE AND STORAGE

The shelf life of stamped asphalt crosswalk is one year providing it is protected from the weather, specifically UV degradation and rain. The materials are to be stored in their original packaging and kept dry under cover.

2.06 MATERIAL USAGE

Thickness	Kilos per m ²	Lbs per ft ²	m ² per tonne*	ft ² per tonne*
0.6 in. (15mm)	37.0	7.58	27	290
0.8 in. (20 mm)	47.6	9.75	21	226
1.0 in (25 mm)	58.8	12.04	17	183

*tonne = 1,000 kg or 2,200 lbs.

Allow approx. +5% waste

PART 3 EXECUTION

3.01 PRE-CONDITIONS

Stamped asphalt crosswalk shall be installed over new pavement. The pavement must be firm, stable and in excellent condition; it must be free from defects such as cracks, settlement, visible seams, ruts, bird baths and spalling.

- A. Cracking, settlement and other deficiencies of the substrate will likely reflect through the stamped asphalt crosswalk. Good and proper construction procedures for the installation of the substrate must be followed in order to mitigate cracking of stamped asphalt crosswalk.
- B. Surfaces with a high degree of porosity should be avoided due to the problems associated with entrapped water.
- C. Surfaces that may be subject to uncontrolled movement in either a horizontal or vertical direction shall be avoided as there may be a risk of reflective cracking through to the stamped asphalt crosswalk surface. Notify the engineer if these conditions are present before installing stamped asphalt crosswalk.
- D. A skid resistance of 40 or less will require the pavement surface to be roughened and a primer applied.

3.02 PREPARATION OF THE SUBSTRATE.

All pavement substrates must be of high quality and stable for the installation of stamped asphalt crosswalk.

This Section is to be used as a guide to ensure a high quality pavement substrate is provided and ready for the installation of stamped asphalt crosswalk. It does not supersede other specifications pertaining to this Work, nor does it replace recommendations made by the engineer of record for this Work.

- A. The base and sub-grade over which new pavement is installed must be firm and stable.
- B. The pavement mix must be designed for the intended use.
- C. The pavement must be installed in accordance with proper placement practices and these specifications.
- D. PCC pavement must be permitted to cure properly before installing stamped asphalt crosswalk.
- E. PCC pavement is to be treated with Thermobond primer prior to installation of stamped asphalt crosswalk. The primer must dry before installing stamped asphalt crosswalk. Thermobond primer is available to Accredited Installers and Manufactures.
- F. For new HMA pavement substrates, it is recommended that the surface be opened to traffic for a period of time prior to installation of stamped asphalt crosswalk in order to provide further compaction of the asphalt and to allow the asphalt oils to “cure” out. Bituminous residue must be removed from new HMA pavement surface prior to installation of stamped asphalt crosswalk.
- G. Older HMA pavements that show signs of oxidization will require the application of Thermobond primer prior to the installation of stamped asphalt crosswalk.

3.03 FULL MILLING OF PAVEMENT FOR FLUSH INSTALLATIONS

The installation area boundaries shall be saw-cut prior to excavating the pavement materials for a clean straight, full depth edge. All pavement materials shall be milled and all excess material removed. The depth of the milled area shall allow the depth of the stamped asphalt crosswalk material to be maintained within a range of 0.6" to 0.8" depth across the entire installation.

The existing pavement must be free of cracks. The milling process will not necessarily remove existing pavement cracks.

3.04 SURFACE PREPARATION

The pavement surface shall be dry and clean: free of all dirt, debris, salts, concrete admixtures and any chemical residues.

- A. Bituminous residue must be removed from new HMA pavement surface prior to installation of stamped asphalt crosswalk.
- B. Removal of contaminants may be done by brooming, compressed air, pressure washing or if necessary light-grit blasting. Wire brush may be used to remove loose or powdery materials.
- C. Surfaces with a high degree of porosity require a primer before decorative bituminous concrete is installed. Thermobond Primer available from stamped asphalt crosswalk manufacturer is the recommended primer.

3.05 INSTALLATION OF STAMPED ASPHALT CROSSWALK

Stamped asphalt crosswalk is to be installed only by an Accredited Installer.

- A. Application Temperature Conditions
- B. Typical material application temperature: 374°F – 410°F.
- C. Maximum safe heating temperature: 437°F.
- D. Air/Road temperature: Minimum 40°F and rising.
- E. Application thickness: stamped asphalt crosswalk is to be applied at a thickness of 0.6" to 0.8".
- F. For substrates that have properly installed control joints, to the extent where possible it is recommended to lay the stamped asphalt crosswalk pattern in such a way that the natural joints of the pattern coincide with the construction joints in the substrate. To help mitigate reflective cracking through to the stamped asphalt crosswalk, a construction joint coinciding with the substrate control joint must be installed in the stamped asphalt crosswalk.

- G. The stamped asphalt crosswalk material shall be prepared for installation utilizing a heating kettle specifically designed for hot applied polymer modified synthetic asphalt surface treatment and capable of mixing components to a homogenous consistency. The Material shall be heated within the temperature range of 374°F – 410°F prior to installation. To preserve the integrity of the material, do not overheat the stamped asphalt crosswalk material.
- H. The stamped asphalt crosswalk material shall be uniformly distributed onto the pavement surface by means of pre-heated finishing irons.
- I. The heated and mixed material is hand applied over the prepared surface at an average depth of between 0.6” and 0.8”. Grade control devices may be used by the Accredited Stamped Asphalt Crosswalk Installer to ensure the proper thickness is obtained.
- J. Interface with adjacent surfaces shall be flush, providing smooth transition from surface to surface. Precautions to protect the immediate perimeter around the installation are to be taken.
- K. Applying the sand cover: Immediately apply the dried silica sand at an approximate rate of 0.2 lb/SF. The placement of this material does not require any compaction.
- L. Stamped asphalt crosswalk the pattern design: The Accredited Installer will stamp the pattern into the semi-molten material immediately after the silica sand application using an approved mold. The mold is pressed into the material to a depth of between 0.2” and 0.4” depending on the thickness of the material.
- M. After initial set, remove excess aggregate by hand or suction sweeping prior to opening to traffic.
- N. Heat all cold edges to ensure good adhesion between successive applications of material.

3.06 OPEN TO TRAFFIC

The Work can be open to traffic when the stamped asphalt crosswalk material has cooled and hardened. This is typically 1 hour, but depends on the actual ambient conditions. More time may be required in hot weather. The Accredited Stamped Asphalt Crosswalk Installer can advise when the Work is ready for traffic.

PART 4 – MEASUREMENT AND PAYMENT

4.01 METHOD OF MEASUREMENT

The item stamped asphalt crosswalk shall be measure as follows:

The measured area is the square foot area of installed, measured and accepted in place. No deduction will be made for the area(s) occupied by manholes, inlets, drainage structures, bollards or by any public utility appurtenances within the area.

4.02 BASIS OF PAYMENT

Payment for stamped asphalt crosswalk shall be paid for at the contract unit price per square foot of stamped asphalt crosswalk complete and accepted in place, which price shall include all materials, equipment, tools and labor incidental thereto, and all saw cutting, milling, and disposal of surplus material.

There will be no direct payment for surface preparation; but the cost of this work shall be considered as included in the general cost of the work.

Pay Item	Pay Unit
Stamped Asphalt Crosswalk	SF.

ITEM #0971001A – MAINTENANCE AND PROTECTION OF TRAFFIC

Article 9.71.01 – Description *is supplemented by the following:*

The Contractor shall maintain and protect traffic as described by the following and as limited in the special provision for Section 1.08 - Prosecution and Progress:

All Roadways

The Contractor shall maintain and protect a minimum of one (1) lane of traffic in each direction with each lane on a paved travel path not less than 11 feet in width, with the following exceptions:

1. During the allowable periods and when the Contractor is actively working, the Contractor will be permitted to maintain and protect at least an alternating one-way traffic operation on a paved travel path not less than 11 feet in width and no more than 300 feet in length, unless specified elsewhere in the Contract. There shall be no more than one alternating one-way traffic operation within the Project limits without prior approval of the Engineer.
2. The Contractor shall maintain safe pedestrian access through the site during construction.

Commercial and Residential Driveways

The Contractor shall maintain access to and egress from all commercial and residential driveways throughout the Project limits. The Contractor will be permitted to temporarily close affected driveways while actively working with coordination and permission from the owner or proprietor.

Intermediate Term Sidewalk Closures

The Contractor shall maintain and protect existing pedestrian accommodations, or a minimum of 4 feet in width, on all existing sidewalks, sidewalk ramps, and access to pedestrian pushbuttons, with the following exception:

- During the allowable periods and when the Contractor is actively constructing pedestrian amenities or installing signal equipment, the Contractor will be allowed to close pedestrian sidewalks and sidewalk ramps and restrict access to pedestrian pushbuttons for no more than a continuous 120 hour period of time.

No more than two corners of an intersection may be closed for an intermediate term sidewalk closure at any time. Where all four corners of an intersection have sidewalks and sidewalk ramps, diagonal corners shall not be closed at the same time.

During the intermediate term sidewalk closure, all approaches to the sidewalk shall be blocked by Construction Barricade Detectable with Sidewalk Closed signs.

The Contractor shall ensure that traffic control signals with pedestrian phases where access to the pushbuttons cannot be provided are revised at the start of the closure to automatically activate the pedestrian phase every signal cycle.

Intermediate term sidewalk closures may be extended to 144 hours with prior approval of the Engineer.

Article 9.71.03 - Construction Methods *is supplemented as follows:*

General

Unpaved travel paths will only be permitted for areas requiring full depth and full width reconstruction. The unpaved section shall be the full width of the road and shall be perpendicular to the travel lanes. The Contractor will be allowed to maintain traffic on processed aggregate for a duration not to exceed 10 calendar days and opposing traffic lane dividers shall be used as a centerline.

The Contractor is required to delineate any raised structures within the travel lanes, so that the structures are visible day and night, unless there are specific Contract plans and provisions to temporarily lower these structures prior to the completion of work.

The Contractor shall schedule operations so that pavement removal and roadway resurfacing shall be completed full width across a roadway or bridge section by the end of a work shift, or as directed by the Engineer.

When the installation of all intermediate courses of bituminous concrete pavement is completed for the entire roadway, the Contractor shall then install the final course of bituminous concrete pavement.

When the Contractor is excavating adjacent to the roadway, the Contractor shall provide a 3 foot shoulder between the work area and travel lanes, with traffic drums spaced every 50 feet. At the end of the work shift if the vertical drop-off exceeds 3 inches, the Contractor shall provide a temporary bituminous concrete traversable slope of 4:1 or flatter that is acceptable to the Engineer.

The Contractor, during the course of any active overhead construction work, shall close the lanes directly below the work area for the entire length of time overhead work is being undertaken.

At no time shall an overhead sign be left partially removed or installed.

When an existing sign is to be relocated or replaced, the work shall be completed during the same work shift.

The field installation of a signing pattern shall constitute interference with existing traffic operations and shall not be allowed, except during the allowable periods.

On limited-access highways, construction vehicles entering travel lanes shall not be allowed without a lane closure. The lane closure shall be of sufficient length to allow vehicles to enter or exit the work area at the posted speed limit, in order to merge with existing traffic.

Existing Signage

The Contractor shall maintain all existing overhead and side-mounted signs within the Project limits throughout the duration of the Project. The Contractor shall temporarily relocate signs and sign supports as many times as deemed necessary, and shall install temporary sign supports if necessary and as directed by the Engineer.

Requirements for Winter

The Contractor shall schedule a meeting with representatives of the Department, including the offices of Maintenance and Traffic, and the Town/City to determine any interim traffic control measures the Contractor shall accomplish prior to winter to provide safety to motorists and permit adequate snow removal procedures. This meeting shall be held prior to October 31 of each year and will include, but not be limited to, discussion of the status and schedule of the following items:

lane and shoulder widths, pavement restoration, traffic signal work, pavement markings, and signing.

Signing Patterns

The Contractor shall erect and maintain all signing patterns in accordance with the traffic control plans contained herein. Proper distances between advance warning signs and proper taper lengths are mandatory.

Traffic Control During Construction Operations

The following guidelines shall assist field personnel in determining when and what type of traffic control patterns to use for various situations. These guidelines shall provide for a safer and more efficient movement of traffic through work zones and enhance the safety of work forces in the work area.

Traffic Control Patterns

Traffic control patterns shall be used when a work operation requires that all or part of any vehicle or work area protrudes onto any part of a travel lane or shoulder or is within the clear zone. For each situation, the installation of traffic control devices shall be based on the following:

- Speed and volume of traffic.
- Duration of operation.
- Exposure to hazards.

Traffic control patterns shall be uniform, neat, and orderly in order to command respect from the motorist.

Lane reduction tapers should be placed so that the entire length of the taper is installed on a tangent section of roadway and the entire taper area can be seen by the motorist.

All existing conflicting signs shall be removed, covered with an opaque material, or turned so that they are not legible to oncoming traffic prior to implementing a traffic control pattern. The existing signs shall be uncovered or reinstalled once the pattern is removed.

A buffer area should be provided during installation of a traffic control pattern and maintained for the duration of the work. The buffer area shall be free of any equipment, workers, materials, and parked vehicles.

Construction Traffic Control Plans 19 through 25 should be used for moving operations such as line striping, rumble strips, pothole patching, mowing, or sweeping when it is necessary for equipment to occupy a travel lane.

Traffic control patterns are not required for vehicles on an emergency patrol type activity or for a short duration stop of up to one hour, as long as the equipment is contained within the shoulder. Flashing lights, arrow boards, truck-mounted or trailer-mounted impact attenuators, and appropriate Trafficperson(s) shall be used when required.

In a situation not adequately covered by the Construction Traffic Control Plans, the Contractor shall contact the Engineer for assistance prior to setting up a traffic control pattern.

Placement of Signs

Signs shall be placed in a position that allows motorists the opportunity to reduce their speed prior to the work area. Signs shall be installed on the same side of the roadway as the work area. On multi-lane divided highways, advance warning signs shall be installed on both sides of the

highway. On directional roadways (on-ramps, off-ramps, one-way roads) where the sight distance to signs is restricted, these signs should be installed on both sides of the roadway.

Allowable Adjustment of Signs and Devices Shown on the Construction Traffic Control Plans

The Construction Traffic Control Plans contained herein show the location and spacing of signs and devices under ideal conditions. Signs and devices should be installed as shown on these plans.

The proper application of the Construction Traffic Control Plans and installation of traffic control devices is dependent upon actual field conditions.

In the case of a horizontal or vertical sight restriction in advance of the work area, the traffic control pattern shall be extended to provide adequate sight distance for approaching traffic.

Adjustments to the Construction Traffic Control Plans shall only be made at the direction of the Engineer.

Table 1 indicates the minimum taper lengths required for a lane closure based on the posted speed limit and lane width of the roadway. These taper lengths shall only be used when the recommended taper lengths shown on the Construction Traffic Control Plans cannot be achieved.

Table 1 – Minimum Taper Length

POSTED SPEED LIMIT (MPH)	MINIMUM TAPER LENGTH FOR A SINGLE LANE CLOSURE (FEET)	
	FREEWAYS	SECONDARY ROADS
30 OR LESS	180	165
35	245	225
40	320	295
45	540	495
50	600	550
55	660	605
65	780	715

1. Work Zone Safety Meetings

- 1.a) Prior to the commencement of work, a Work Zone Safety Meeting shall be conducted with representatives from DOT Construction, Connecticut State Police (Local Barracks), Municipal Police, the Contractor (Project Superintendent) and the Traffic Control Subcontractor (if different than the prime Contractor) to review the traffic operations, lines of responsibility, and operating guidelines which will be used on the Project. DOT Traffic Engineering shall be invited to the Work Zone Safety Meeting. Other Work Zone Safety Meetings during the course of the Project should be scheduled as needed.
- 1.b) A Work Zone Safety Meeting Agenda shall be developed and used at the Meeting to outline the anticipated traffic control issues during the construction of this Project. Any issues that can't be resolved at these Meetings will be brought to the attention of the District Engineer and the Office of Construction. The agenda shall include:
 - i. Review Project scope of work and time;
 - ii. Review Section 1.08, Prosecution and Progress;
 - iii. Review Section 9.70, Trafficpersons;
 - iv. Review Section 9.71, Maintenance and Protection of Traffic;
 - v. Review Contractor's schedule and method of operations;
 - vi. Review special concern areas: ramps, turning roadways, medians, lane drops, etc.;
 - vii. Open discussion of work zone questions and issues;
 - viii. Discussion of review and approval process for changes in Contract requirements as they relate to work zone areas.

2. General

- 2.a) Traffic control patterns shall only be installed if the required minimum number of signs, traffic cones, traffic drums, and other equipment (i.e. one Arrow Board for each lane closed, two Truck-Mounted or Trailer-Mounted Attenuators (TMAs), Changeable Message Sign, etc.) are on Site.
- 2.b) The Contractor shall have spare maintenance and protection of traffic equipment (TMAs, Arrow Board, Changeable Message Sign(s), construction signs, traffic cones, traffic drums, etc.) available at all times in case of mechanical failures, etc. Spare maintenance and protection of traffic equipment installed as a result of a sudden equipment breakdown shall be replaced by the Contractor within 24 hours.
- 2.c) Failure of the Contractor to have the required minimum number of signs, personnel, and equipment, which results in the pattern not being installed, shall not be a reason for a time extension or claim for lost time.
- 2.d) In cases of differences of opinion between the Contractor and the Inspection staff, the Contractor shall follow the directions of the Engineer. The matter shall be brought to the District Office for resolution immediately or, in the case of work after regular business hours, on the next business day.

3. Installing and Removing Traffic Control Patterns

- 3.a) Lane closures shall be installed beginning with the advance warning signs and proceeding forward toward the work area.
- 3.b) Lane closures shall be removed in the reverse order, beginning at the end of the work area, or traffic control pattern, and proceeding back toward the advance warning signs.
- 3.c) Stopping traffic may be allowed within the allowable hours stated in Section 1.08.04:
 - i. For those activities stated within the Contract.
 - ii. During paving, milling operations, or similar activities where, in the middle of the operation, it is necessary to flip the pattern to complete the operation on the other half of the roadway so traffic does not travel across the longitudinal joint or difference in roadway elevation.
 - iii. To move slow moving equipment across live traffic lanes into the work area.
- 3.d) The Contractor shall adhere to using the proper signs, placing the signs correctly, and ensuring the proper spacing of signs.
- 3.e) Additional devices are required on entrance ramps, exit ramps, and intersecting roads to warn and/or move traffic into the proper travel path prior to merging with or exiting from the mainline traffic. This shall be completed before installing the mainline pattern past the ramp or intersecting roadway.
- 3.f) Workers are prohibited from crossing the travel lanes on limited access roadways to install and remove signs or other devices on the opposite side of the roadway. Any signs or devices on the opposite side of the roadway shall be installed and removed separately.

4. Implementation of Rolling Road Block (RRB)

- 4.a) Temporary road closures using a RRB may be allowed on limited access highways for operations associated with the installation and removal of temporary lane closures. RRB may be allowed for the installation and removal of lead signs and lane tapers only and shall meet the following requirements:
 - i. Refer to the Limitation of Operations Chart provided in Section 1.08.04 for the hours allowed for implementing a RRB operation. The Contractor shall only implement a RRB operation within the hours shown in the Chart.
 - ii. In areas with good sight lines and full shoulders, signs on the side of the road opposite the traffic pattern should be installed in a separate operation.
 - iii. TMAs equipped with Arrow Boards shall be used to slow traffic to implement the RRB. State Police Officers in marked vehicles may be used to support the implementation of the RRB. The RRB shall start by having all vehicles, including TMAs and police vehicles, leave the shoulder or on-ramp and accelerate to normal roadway speeds in each lane. The vehicles will then position themselves side by side and decelerate to the RRB speed on the highway.

- iv. A Pre-Warning Vehicle, as specified elsewhere in the Contract, shall be used to advise the motorists that sign pattern installation or removal is underway.
- v. The RRB duration shall not exceed 15 minutes from the start of the traffic block until all lanes are opened as designated in the Limitation of Operations chart. If the RRB duration exceeds 15 minutes on 2 successive shifts, no further RRB will be allowed until the Contractor obtains approval for a revised installation procedure from the District.
- vi. RRB shall not be used to expand a lane closure pattern to an additional lane during the shift. The workers and equipment required to implement the additional lane closure should be staged from within the closed lane. TMAs (and State Police if available) shall be used to protect the workers installing the taper in the additional lane.
- vii. Exceptions to these work procedures may be submitted to the District Office for consideration. A minimum of 2 business days shall be allowed for review and comment by the District.
- viii. The Engineer and the Contractor will review and discuss the RRB procedures (including any revisions) in advance of the work. The implementation of the agreed upon plan will be reviewed with the State Police during the Work Zone Safety Meeting held before each shift involving temporary lane closures. If the State Police determine that alternative procedures should be implemented for traffic control during the work shift, the Department and Contractor will attempt to resolve any discrepancies with the duty sergeant at the Troop. If the discrepancies are unable to be resolved prior to the start of the shift, then the work will proceed as recommended by the Department. Any unresolved issues shall be addressed the following day.

5. Use of Arrow Boards

- 5.a) On limited access roadways, one Arrow Board shall be used for each lane that is closed. The Arrow Board shall be installed concurrently with the installation of the traffic control pattern and its placement shall be as shown on the Construction Traffic Control Plans. Additional Arrow Boards shall be deployed if sight distances are limited.
- 5.b) On non-limited access roadways, the use of an Arrow Board for lane closures is optional. The roadway geometry, sight distance, and traffic volume shall be considered in the decision to use the Arrow Board.
- 5.c) A vehicle displaying an arrow board shall be equipped with high-intensity rotating, flashing, oscillating, or strobe lights.
- 5.d) The flashing arrow mode shall be used for lane closure (merge) tapers.
- 5.e) The flashing arrow mode shall not be used for temporary alternating one-way traffic operations or to laterally shift lanes of traffic.

- 5.f) The flashing double arrow mode shall only be used for closing a center lane on a multilane roadway where adjacent left and right lanes remain open.
- 5.g) For shoulder work or roadside work near the shoulder, the Arrow Board shall be positioned in the shoulder and the flashing alternating diamond mode should be used.
- 5.h) The flashing alternating diamond caution mode should also be used when supplemental Arrow Boards are positioned in an already closed lane.

6. Use of Truck-Mounted or Trailer-Mounted Impact Attenuators (TMAs)

- 6.a) On limited access roadways, lane closures shall use a minimum of two TMAs to install and remove traffic control patterns. If two TMAs are not available, then the pattern shall not be installed.
- 6.b) On non-limited access roadways, the use of TMAs to install and remove patterns closing a lane(s) is optional. The roadway geometry, sight line distance, and traffic volume shall be considered in the decision to utilize the TMAs.
- 6.c) On limited access roadways, one TMA shall be placed on the shoulder and the second TMA shall be approximately 1,000 feet ahead blocking the lane to establish the advance and transition signing. The Arrow Board mounted on the TMA shall be in the arrow mode when taking the lane. The sign truck and workers shall be at sufficient distance ahead of the second TMA. In no case shall the TMA be used as the sign truck or a work truck. Once the transition is in place, the TMAs shall travel in the closed lane until all Portable Changeable Message Signs, signs, Arrow Boards, and cones/drums are installed. The Arrow Board mounted on the TMA should be in the flashing alternating diamond caution mode when traveling in the closed lane.
- 6.d) A TMA shall be placed prior to the first work area in the pattern. If there are multiple work areas within the same pattern, then additional TMAs shall be positioned at each additional work area as needed. The Arrow Board mounted on the TMA should be in the flashing alternating diamond caution mode when in the closed lane.
- 6.e) TMAs shall be positioned a sufficient distance prior to the workers or equipment being protected to allow for appropriate vehicle roll-ahead in the event that the TMA is hit, but not so far that an errant vehicle could travel around the TMA and into the work area. For additional placement and use details, refer to Section 18.06. Some operations, such as paving and concrete repairs, do not allow for placement of the TMA(s) within the specified distances. In these situations, the TMA(s) shall be placed at the beginning of the work area and shall be advanced as the paving or concrete operations proceed.
- 6.f) TMAs will be paid for in accordance with how the unit is used. If it is used as a TMA and is in the proper location as specified, then it will be paid for at the specified hourly rate for Truck-Mounted or Trailer-Mounted Impact Attenuator. When the TMA is used as an

Arrow Board, it will be paid for at the daily rate for Arrow Board. If a TMA is used to install and remove a pattern and is also used as an Arrow Board in the same day, then the unit will be paid for as a Truck-Mounted or Trailer-Mounted Impact Attenuator for the hours used to install and remove the pattern, typically 2 hours (1 hour to install and 1 hour to remove). If the TMA is also used as an Arrow Board during the same day, then the unit will only be paid for at the daily rate as an Arrow Board.

7. Use of Traffic Drums and Traffic Cones

- 7.a) On limited-access highways, ramps, and turning roadways:
- i. Traffic drums shall be used for taper channelization.
 - ii. Traffic drums shall be used to delineate raised catch basins and other hazards.
 - iii. Traffic cones with a minimum height of 42 inches may be used in place of drums in the tangent section of a closed lane or shoulder.
 - iv. Traffic cones less than 42 inches in height shall not be used.
- 7.b) On all roadways:
- i. Traffic drums shall be used in place of traffic cones in traffic control patterns that are in effect for more than a 36-hour duration.
 - ii. Traffic cones shall not be left unattended.
 - iii. Traffic cones with a minimum height of 42 inches shall be used when the posted speed limit is 45 MPH or above.
- 7.c) Typical spacing of traffic drums and/or cones shown on the Construction Traffic Control Plans in the Contract are maximum spacings and may be reduced to meet actual field conditions as required.

8. Use of Barricade Warning Lights

- 8.a) Barricade Warning Lights may be installed on channelizing devices when used in a merge taper. The Barricade Warning Lights shall flash in a sequential pattern when used in a merge taper. The successive flashing shall occur from the upstream end (beginning) of the merge taper to the downstream end (end) of the merge taper.
- 8.b) Type C Barricade Warning Lights may be used at night to delineate the edge of the travel way.
- c) Type B Barricade Warning Lights shall be used on post-mounted advanced warning signs.

9. Use of Portable Changeable Message Signs (PCMS)

- 9.a) On limited access roadways, one PCMS shall be used in advance of the traffic control pattern for all lane closures. Prior to installing the pattern, the PCMS shall be installed and in operation, displaying the appropriate lane closure information. The PCMS shall be positioned ½ to 1 mile ahead of the start of the lane closure taper. If the distance to the nearest exit ramp is greater than the specified ½ to 1 mile distance, then an additional PCMS shall be positioned a sufficient distance ahead of the

exit ramp (and before the previous on-ramp where practical) to alert motorists to the work and therefore offer them an opportunity to take the exit.

- 9.b) On non-limited access roadways, the use of PCMS for lane closures is optional. The roadway geometry, sight line distance, and traffic volume shall be considered in the decision to use the PCMS.
- 9.c) PCMS should be placed off the shoulder of the roadway and behind a traffic barrier, if practical. Where a traffic barrier is not available to shield the PCMS, it should be placed off the shoulder and outside of the clear zone. If a PCMS has to be placed on the shoulder of the roadway or within the clear zone, it should be placed on the paved shoulder with a minimum of five traffic drums placed in a taper in front of it to delineate its position. The taper shall meet minimum distance requirements for a shoulder closure. The PCMS shall be protected if it is used for a continuous duration of 36 hours or more.
- 9.d) The PCMS shall be removed from the clear zone and have the display screen cleared and turned 90 degrees away from the roadway when the PCMS is no longer required.
- 9.e) The PCMS should not be used within 1,000 feet of an existing PCMS or Variable Message Sign (VMS).
- 9.f) A PCMS message shall:
 - i. consist of no more than two phases;
 - ii. contain no more than three lines of text per phase;
 - iii. have no more than eight characters per line, including spaces.
- 9.g) The PCMS should be used for specific situations that need to command the motorist's attention which cannot be conveyed with standard construction signs. The PCMS should not be used for generic messages (ex.: Road Work Ahead, Bump Ahead, Gravel Road, etc.) or for messages that need to be displayed for long periods of time, such as during stage construction. These types of messages should be displayed with construction signs. Special signs shall be coordinated with the Office of Construction and the Division of Traffic Engineering for the proper layout/dimensions required.
- 9.h) Typical messages that are allowed on the PCMS are shown below. Approval must be received from the Office of Construction for any message(s) different than the typical messages shown in Figure 1.
- 9.i) All messages shall comply with the information provided in Tables 2 and 3.

<u>Message No.</u>	<u>Phase 1</u>	<u>Phase 2</u>	<u>Message No.</u>	<u>Phase 1</u>	<u>Phase 2</u>
1	LEFT LANE CLOSED	MERGE RIGHT	9	LANES CLOSED AHEAD	REDUCE SPEED
2	2 LEFT LANES CLOSED	MERGE RIGHT	10	LANES CLOSED AHEAD	USE CAUTION
3	LEFT LANE CLOSED	REDUCE SPEED	11	EXIT XX CLOSED	USE EXIT YY
4	2 LEFT LANES CLOSED	REDUCE SPEED	12	EXIT XX CLOSED USE YY	FOLLOW DETOUR
5	RIGHT LANE CLOSED	MERGE LEFT	13	2 LANES SHIFT AHEAD	USE CAUTION
6	2 RIGHT LANES CLOSED	MERGE LEFT	14	3 LANES SHIFT AHEAD	USE CAUTION
7	RIGHT LANE CLOSED	REDUCE SPEED			
8	2 RIGHT LANES CLOSED	REDUCE SPEED			

Figure 1: Typical PCMS Messages

Table 2: Acceptable Abbreviations

Word Message	Standard Abbreviation	Word Message	Standard Abbreviation
Access	ACCS	Minimum	MIN
Afternoon / Evening	PM	Minor	MNR
Ahead	AHD	Minute(s)	MIN
Alternate	ALT	Monday	MON
Avenue	AVE, AV	Morning / Late Night	AM
Bicycle	BIKE	Mount	MT
Blocked	BLKD	Mountain	MTN
Boulevard	BLVD	National	NATL
Bridge	BR	Normal	NORM
CB Radio	CB	North	N
Center	CTR	Northbound	NBND
Center	CNTR	Oversized	OVRSZ
Chemical	CHEM	Parking	PKING
Circle	CIR	Parkway	PKWY
Compressed Natural Gas	CNG	Pavement	PVMT
Condition	COND	Pedestrian	PED
Congested	CONG	Place	PL
Construction	CONST	Pounds	LBS
Court	CT	Prepare	PREP
Crossing	XING	Quality	QLTY
Crossing (other than highway-rail)	XING	Right	RT
Downtown	DWNTN	Road	RD
Drive	DR	Roadwork	RDWK
East	E	Route	RT, RTE
Eastbound	EBND	Saint	ST
Electric Vehicle	EV	Saturday	SAT
Emergency	EMER	Service	SERV
Entrance, Enter	ENT	Shoulder	SHLDR
Exit	EX	Slippery	SLIP
Express	EXP	South	S
Expressway	EXPWY	Southbound	SBND
Feet	FT	Speed	SPD
Freeway	FRWY, FWY	State, county, or other non-US or non-Interstate numbered route	[Route Abbreviation determined by highway agency]**
Friday	FRI	Street	ST
Frontage	FRNTG	Sunday	SUN
Hazardous	HAZ	Telephone	PHONE
Hazardous Material	HAZMAT	Temporary	TEMP
High Occupancy Vehicle	HOV	Terrace	TER

Highway	HWY	Thruway	THWY
Highway-Rail Grade Crossing	RR XING	Thursday	THURS
Hospital	HOSP	Tons of Weight	T
Hour(s)	HR, HRS	Traffic	TRAF
Information	INFO	Trail	TR
International	INTL	Travelers	TRVLRS
Interstate	I-	Tuesday	TUES
Junction / Intersection	JCT	Turnpike	TPK
Lane	LN	Two-Way Intersection	2-WAY
Left	LFT	Two-Wheeled Vehicles	CYCLES
Liquid Propane Gas	LP-GAS	Upper	UPR
Local	LOC	US Numbered Route	US
Lower	LWR	Vehicle(s)	VEH, VEHS
Maintenance	MAINT	Warning	WARN
Major	MAJ	Wednesday	WED
Maximum	MAX	West	W
Mile(s)	MI	Westbound	WBND
Miles Per Hour	MPH		

** A space and no dash shall be placed between the abbreviation and the number of the route.

Table 3: Unacceptable Abbreviations

Unacceptable Abbreviation	Intended Word	Common Misinterpretation
ACC	Accident	Access (Road)
CLRS	Clears	Colors
DLY	Delay	Daily
FDR	Feeder	Federal
L	Left	Lane (Merge)
LT	Light (Traffic)	Left
PARK	Parking	Park
POLL	Pollution (Index)	Poll
RED	Reduce	Red
STAD	Stadium	Standard
WRNG	Warning	Wrong

10. Use of State Police Officers

- 10.a) State Police may be used only on limited access highways and secondary roadways that are under their primary jurisdiction. A minimum of one Officer may be used per critical sign pattern; however, a State Police presence is not required. Shoulder closures and right lane closures can generally be implemented without the presence of a State Police Officer. Left lane closures may also be implemented without State Police presence in areas with only moderate traffic and wide, unobstructed medians. It may be desirable to have a State Police presence, when available, under specific situations, such as nighttime lane closures; left lane closures with minimal width for setting up advance signs and staging; lane and shoulder closures on turning roadways/ramps or mainline where sight distance is minimal; and closures where extensive turning movements or traffic congestion regularly occur; however, they are not required.
- 10.b) If a State Police presence is provided, once the pattern is in place, the State Police Officer should be positioned in a non- hazardous location in advance of the pattern to provide advance warning to the motorist. If traffic backs up beyond the beginning of the pattern, then the State Police Officer shall reposition so that they are located prior to the backup. The State Police Officer should not be located immediately behind or within the roll ahead area of any TMA or within the work zone buffer area. The State Police Officer shall not be positioned in such a way that the State Police Officer obstructs any construction warning signs or PCMS from view of the motorist.
- 10.c) Other functions of the State Police Officer(s) may include:
 - i. Assisting construction vehicles entering and exiting the work area.
 - ii. Enforcement of motor vehicle laws within the work area, if specifically requested by the Engineer.
- 10.d) State Police Officers assigned to a work site shall take direction from the Engineer.

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 IN ADVANCE TO DESIGNATE A LARGER WORK ZONE THAN THE WORK ZONE THAT IS ENCOMPASSED ON THIS PLAN.
3. SEE TABLE 1 FOR ADJUSTMENT OF TAPERS IF NECESSARY.
4. TRAFFIC CONES AND PORTABLE CONSTRUCTION SIGNS SHALL NOT BE LEFT UNATTENDED.
5. ALL CONFLICTING SIGNS WITHIN THE LIMITS OF A ROADWAY / LANE CLOSURE AREA SHALL BE COVERED WITH AN OPAQUE MATERIAL WHILE THE CLOSURE IS IN EFFECT, AND UNCOVERED WHEN THE ROADWAY / LANE CLOSURE IS RE-OPENED TO ALL LANES OF TRAFFIC.
6. IF THIS PLAN REMAINS IN CONTINUOUS OPERATION FOR MORE THAN 48 HOURS, THEN ANY EXISTING CONFLICTING PAVEMENT MARKINGS SHALL BE ERADICATED OR COVERED, AND TEMPORARY PAVEMENT MARKINGS THAT DELINEATE THE PROPER TRAVELPATHS SHALL BE INSTALLED.
7. DISTANCES BETWEEN SIGNS IN THE ADVANCE WARNING AREA MAY BE REDUCED TO 100' ON LOW-SPEED URBAN ROADS (SPEED LIMIT \leq 40 MPH).
8. IF THIS PLAN IS TO REMAIN IN OPERATION FROM SUNSET TO SUNRISE, INSTALL BARRICADE WARNING LIGHTS - HIGH INTENSITY ON ALL POST-MOUNTED DIAMOND SIGNS IN THE ADVANCE WARNING AREA.
9. A PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE INSTALLED ONE HALF MILE TO ONE MILE IN ADVANCE OF THE LANE CLOSURE TAPER.
10. SIGN (P) SHALL BE MOUNTED A MINIMUM OF 7 FEET FROM THE PAVEMENT SURFACE TO THE BOTTOM OF THE SIGN.

TABLE 1 - MINIMUM TAPER LENGTHS

POSTED SPEED LIMIT (MILES PER HOUR)	MINIMUM TAPER LENGTH FOR A SINGLE LANE CLOSURE
30 OR LESS	180'
35	245'
40	320'
45	540'
50	600'
55	660'
65	780'

CONSTRUCTION TRAFFIC CONTROL PLAN

NOTES

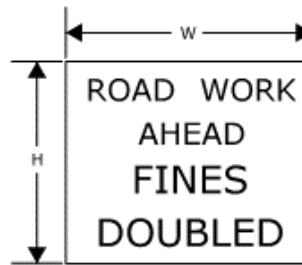
SCALE: NONE

REGULATORY SIGN "ROAD WORK AHEAD, FINES DOUBLED"

THE REGULATORY SIGN "ROAD WORK AHEAD FINES DOUBLED" SHALL BE INSTALLED FOR ALL WORK ZONES THAT OCCUR ON ANY STATE HIGHWAY AND MUNICIPAL ROAD IN CONNECTICUT WHERE THERE ARE WORKERS PRESENT ON THE HIGHWAY.

THE "ROAD WORK AHEAD FINES DOUBLED" REGULATORY SIGN SHALL BE PLACED AFTER THE SERIES 16 SIGN AND IN ADVANCE OF THE "ROAD WORK AHEAD" SIGN.

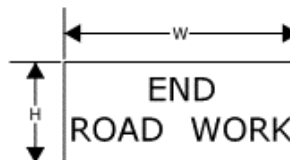
	W	H
31-1906	48"	42"
31-1907	60"	54"



"END ROAD WORK" SIGN

THE LAST SIGN IN THE PATTERN SHALL BE THE "END ROAD WORK" SIGN.

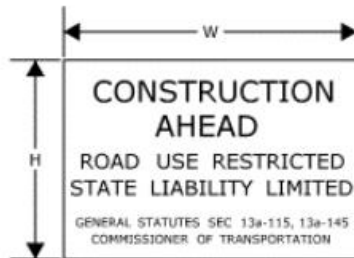
	W	H
80-9606	36"	18"
80-9612	48"	24"



CONSTRUCTION TRAFFIC CONTROL PLAN
**ROAD WORK AHEAD
 SIGNS**

SCALE: NONE

SERIES 16 SIGNS



		W	H
16-E	80-1605	84" x 60"	
16-H	80-1608	60" x 42"	
16-M	80-1613	30" x 24"	

		W	H
16-S	80-1619	48" x 30"	

SIGN 16-S SHALL BE USED ON ALL PROJECTS THAT REQUIRE SIDEWALK RECONSTRUCTION OR RESTRICT PEDESTRIAN TRAVEL ON AN EXISTING SIDEWALK.

SERIES 16 SIGNS SHALL BE INSTALLED IN ADVANCE OF THE TRAFFIC CONTROL PATTERNS. SERIES 16 SIGNS SHOULD BE LOCATED TO ALLOW MOTORISTS THE OPPORTUNITY TO AVOID A WORK ZONE. SERIES 16 SIGNS SHOULD BE INSTALLED ON MAJOR INTERSECTING ROADWAYS THAT APPROACH THE WORK ZONE. ON LIMITED-ACCESS HIGHWAYS, THESE SIGNS SHOULD BE LOCATED IN ADVANCE OF THE NEAREST UPSTREAM EXIT RAMP AND ON ANY ENTRANCE RAMPS PRIOR TO OR WITHIN THE WORK ZONE LIMITS.

SIGNS 16-E AND 16-H SHALL BE POST-MOUNTED.

SIGN 16-E SHALL BE USED ON ALL FREEWAYS AND EXPRESSWAYS.

SIGN 16-H SHALL BE USED ON ALL RAMPS, OTHER STATE ROADWAYS AND MAJOR TOWN/CITY ROADWAYS.

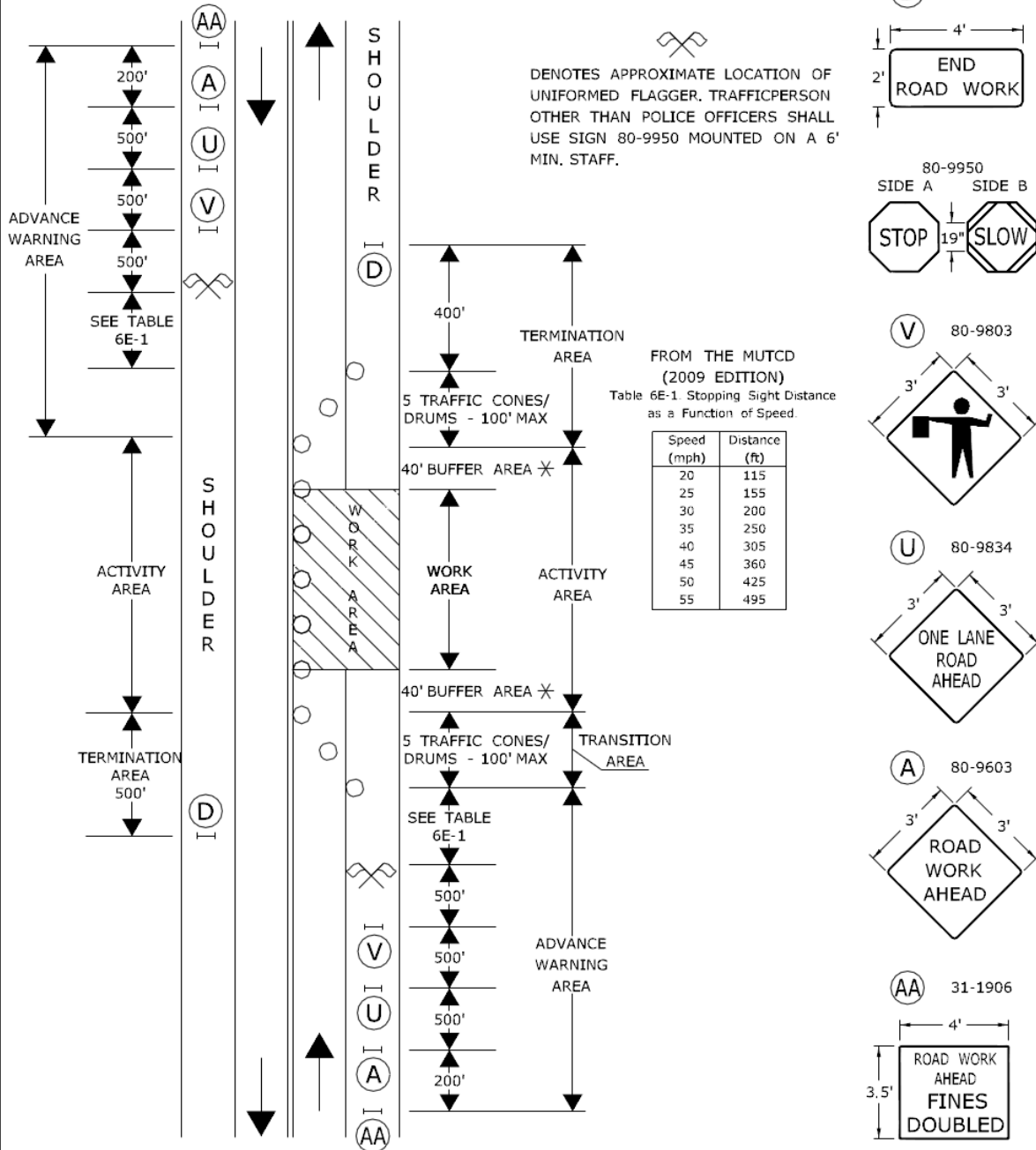
SIGN 16-M SHALL BE USED ON OTHER TOWN ROADWAYS.

CONSTRUCTION TRAFFIC CONTROL PLAN
SERIES 16 SIGNS

SCALE: NONE

WORK IN TRAVEL LANE AND SHOULDER TWO LANE HIGHWAY ALTERNATING ONE-WAY TRAFFIC OPERATIONS

SIGN FACE
108 SQ. FT (MIN.)



- TRAFFIC CONE **OR** TRAFFIC DRUM
- ✱ OPTIONAL ⊗ TRAFFIC DRUM — PORTABLE SIGN SUPPORT
- ◀ HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW



SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN
PLAN 13 - SHEET 1 OF 2
SEE NOTES 1, 2, 4, 6, 7, 8

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED *Charles S. Harlow* Charles S. Harlow
2012.06.05 15:55:23-04'00"
PRINCIPAL ENGINEER

WORK IN TRAVEL LANE AND SHOULDER TWO LANE HIGHWAY ALTERNATING ONE-WAY TRAFFIC OPERATIONS

SIGN FACE
108 SQ. FT (MIN.)

HAND SIGNAL METHODS TO BE USED BY UNIFORMED FLAGGERS

THE FOLLOWING METHODS FROM SECTION 6E.07, FLAGGER PROCEDURES, IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," SHALL BE USED BY UNIFORMED FLAGGERS WHEN DIRECTING TRAFFIC THROUGH A WORK AREA. THE STOP/SLOW SIGN PADDLE (SIGN NO. 80-9950) SHOWN ON THE TRAFFIC STANDARD SHEET TR-1220 01 ENTITLED, "SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS" SHALL BE USED.

A. TO STOP TRAFFIC

TO STOP ROAD USERS, THE FLAGGER SHALL FACE ROAD USERS AND AIM THE STOP PADDLE FACE TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. THE FREE ARM SHALL BE HELD WITH THE PALM OF THE HAND ABOVE SHOULDER LEVEL TOWARD APPROACHING TRAFFIC.



B. TO DIRECT TRAFFIC TO PROCEED

TO DIRECT STOPPED ROAD USERS TO PROCEED, THE FLAGGER SHALL FACE ROAD USERS WITH THE SLOW PADDLE FACE AIMED TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. THE FLAGGER SHALL MOTION WITH THE FREE HAND FOR ROAD USERS TO PROCEED.



C. TO ALERT OR SLOW TRAFFIC

TO ALERT OR SLOW TRAFFIC, THE FLAGGER SHALL FACE ROAD USERS WITH THE SLOW PADDLE FACE AIMED TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. TO FURTHER ALERT OR SLOW TRAFFIC, THE FLAGGER HOLDING THE SLOW PADDLE FACE TOWARD ROAD USERS MAY MOTION UP AND DOWN WITH THE FREE HAND, PALM DOWN.



- TRAFFIC CONE **OR** TRAFFIC DRUM
- * OPTIONAL ⊗ TRAFFIC DRUM — PORTABLE SIGN SUPPORT
- ◀ HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

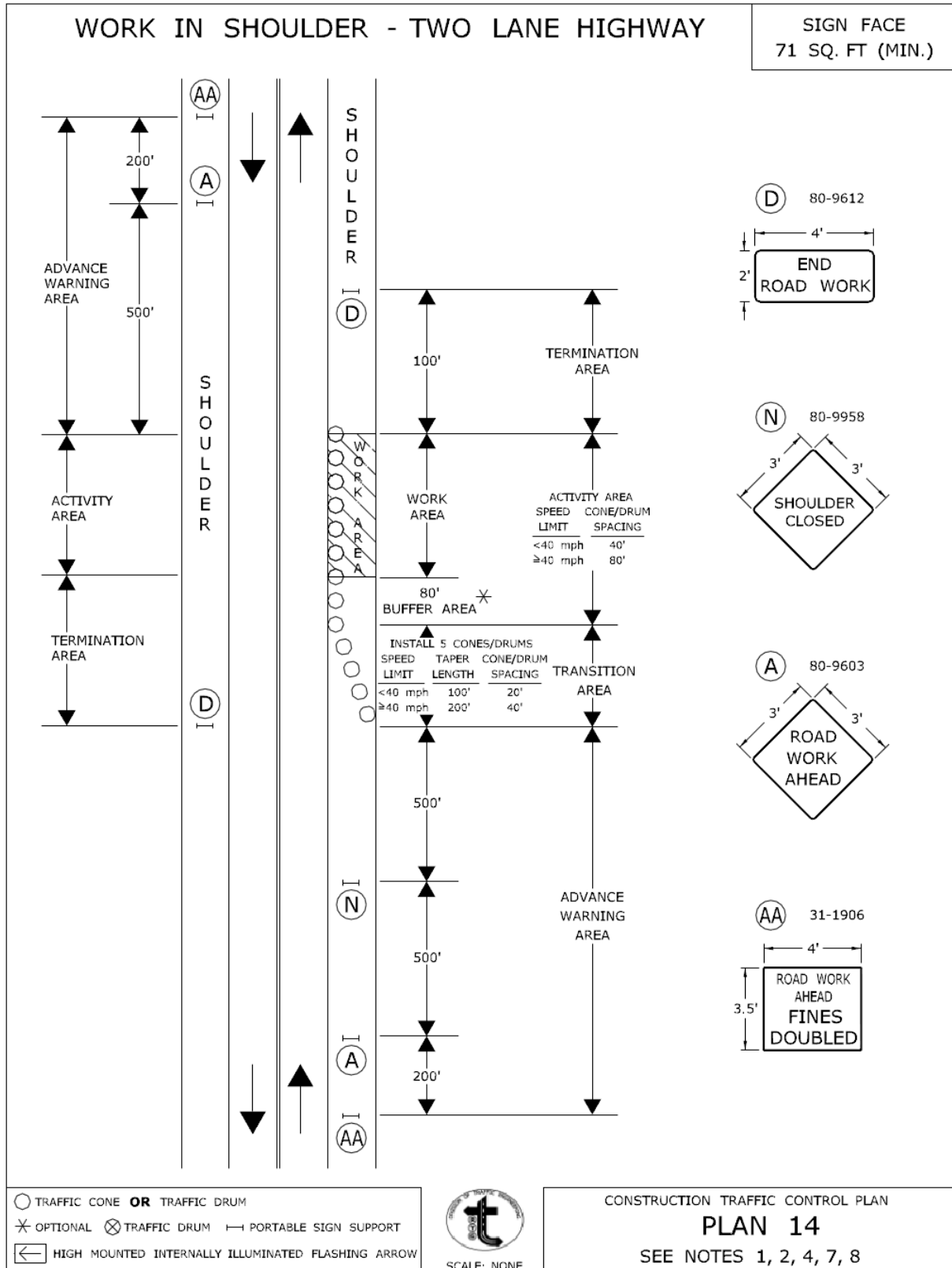


SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN
PLAN 13 - SHEET 2 OF 2
SEE NOTES 1, 2, 4, 6, 7, 8

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED *Charles S. Harlow*
PRINCIPAL ENGINEER Charles S. Harlow
2012.06.05 15:55:45-04'00'



○ TRAFFIC CONE **OR** TRAFFIC DRUM
 ✱ OPTIONAL ⊗ TRAFFIC DRUM — PORTABLE SIGN SUPPORT
 ◀ HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW



SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN
PLAN 14
 SEE NOTES 1, 2, 4, 7, 8

CONNECTICUT DEPARTMENT OF TRANSPORTATION
 BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED *Charles S. Harlow*
 PRINCIPAL ENGINEER
 Charles S. Harlow
 2012.06.05 15:56:09-04'00"

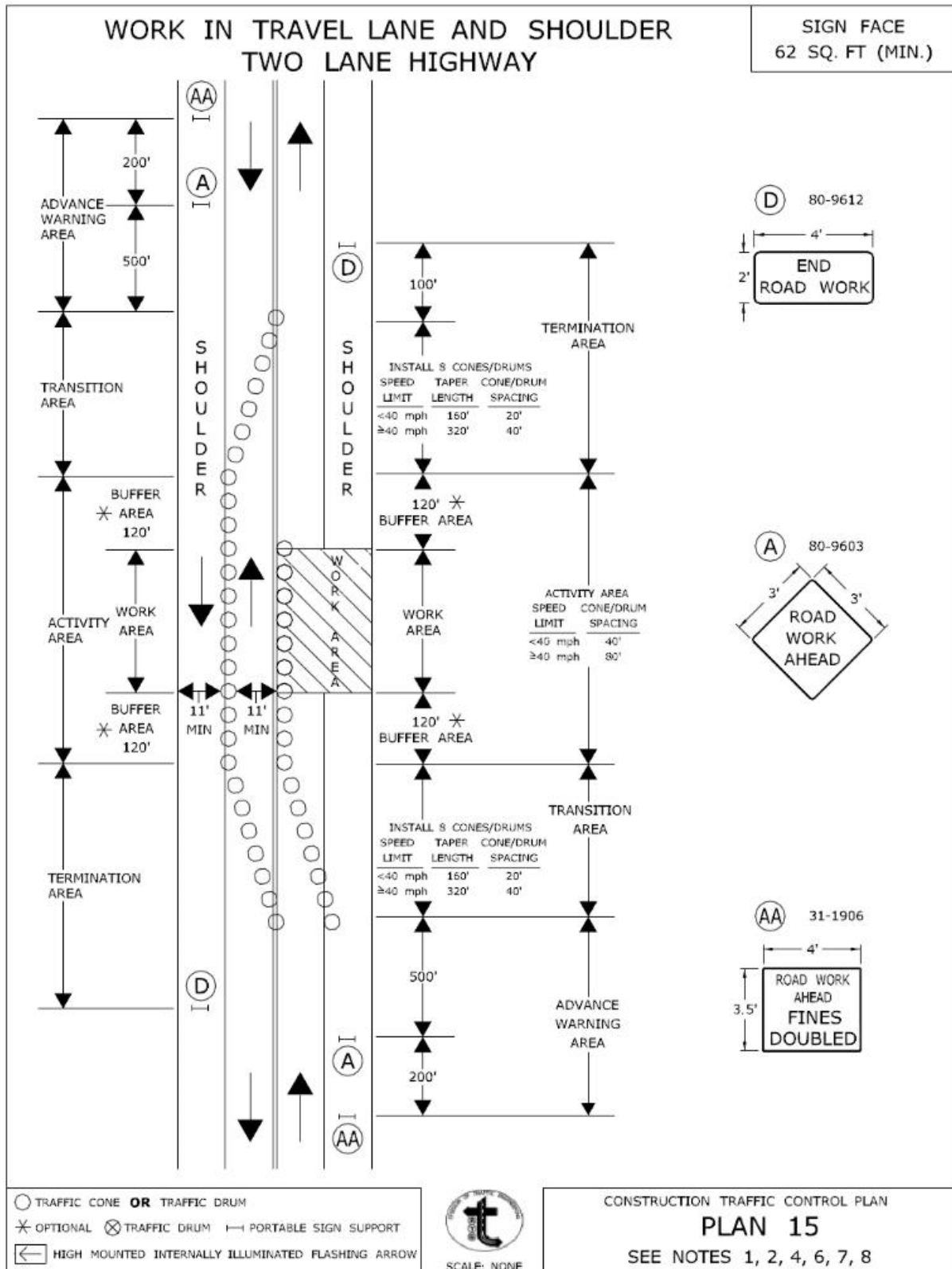


Figure 6H-27. Closure at the Side of an Intersection (TA-27)

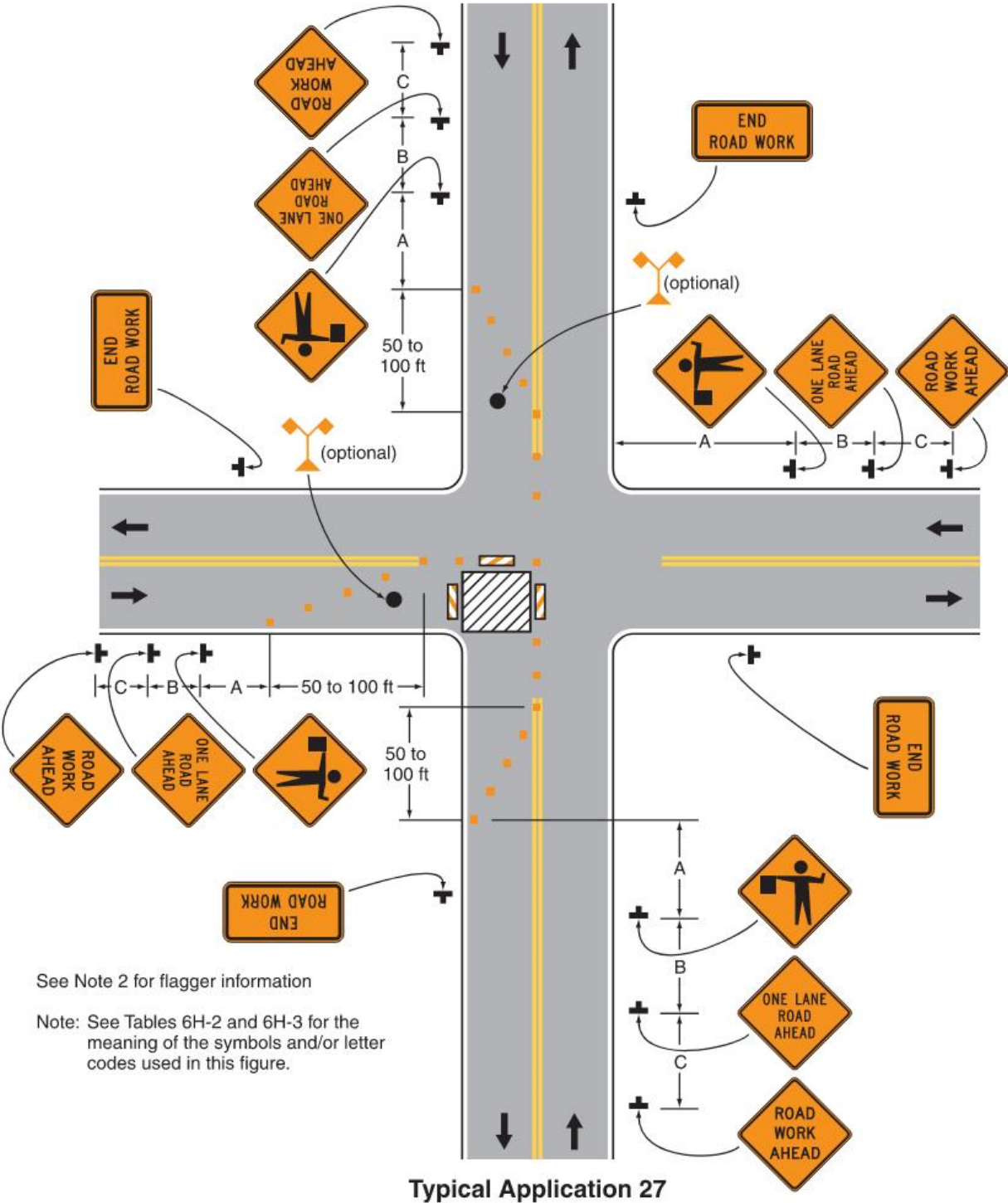
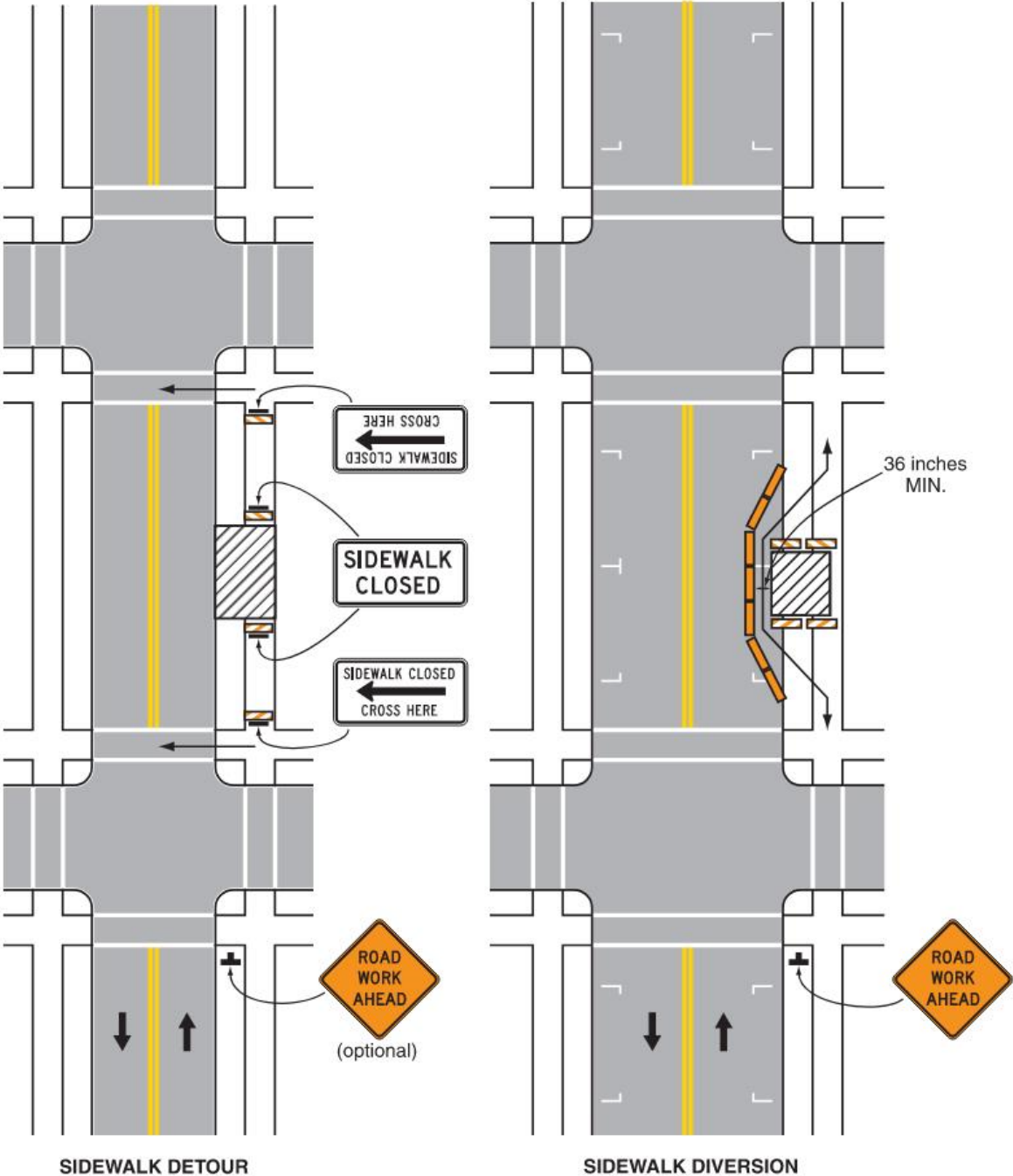


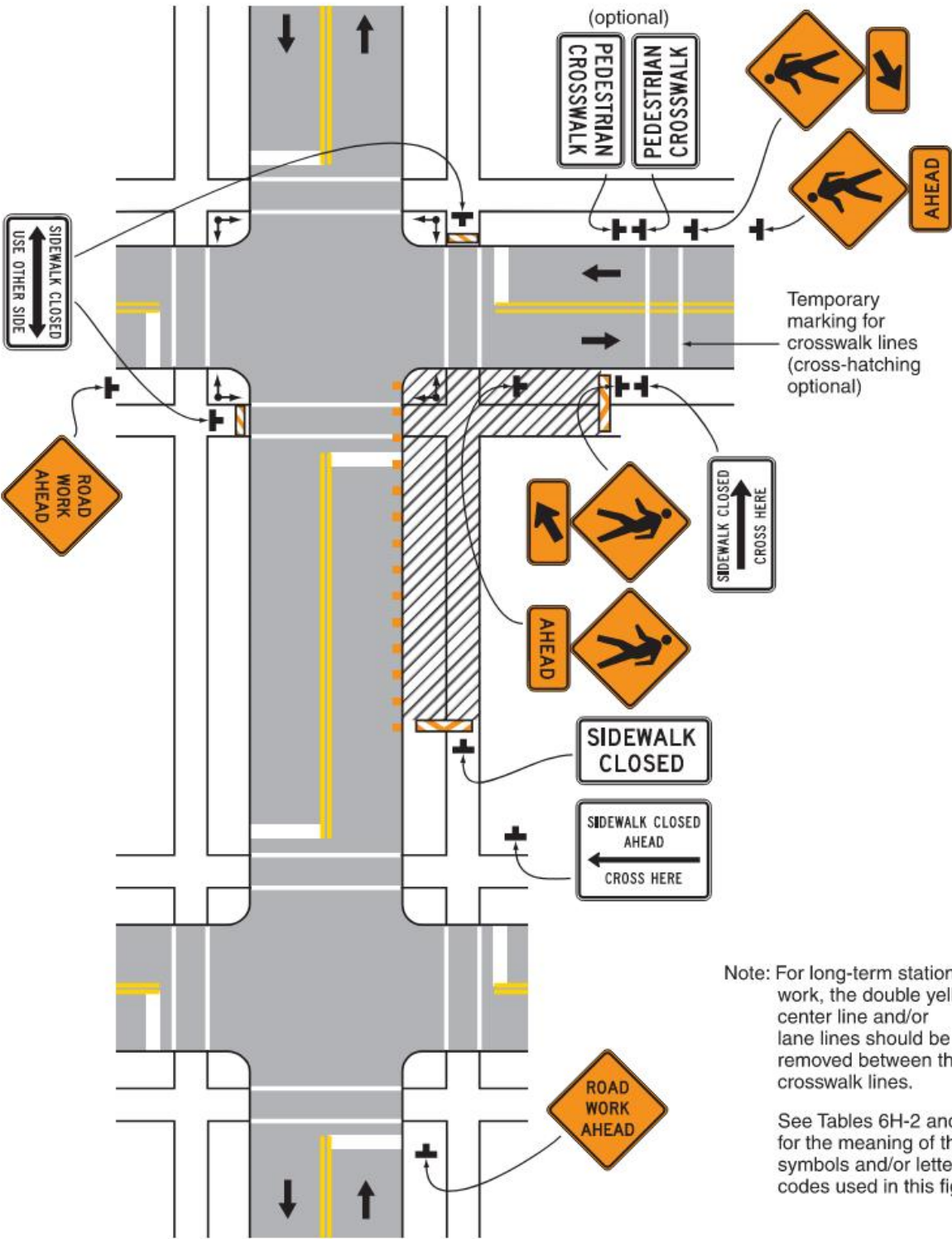
Figure 6H-28. Sidewalk Detour or Diversion (TA-28)



Typical Application 28

Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

Figure 6H-29. Crosswalk Closures and Pedestrian Detours (TA-29)



Note: For long-term stationary work, the double yellow center line and/or lane lines should be removed between the crosswalk lines.

See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

Typical Application 29

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”. Temporary overhead sign supports and foundations shall be paid for under the appropriate item(s).

The cost of furnishing, installing, and removing the material for the 4H:1V traversable slope shall be paid for under the item “Maintenance and Protection of Traffic”.

1002110A – DECORATIVE LIGHT POLE FOUNDATION

Article 10.02.01 – Description:

This item shall consist of designing, furnishing and installing a decorative light standard foundation of the type called for within this specification and as shown on the plans or as directed by the Engineer.

Contractor shall submit working drawings and design computations, in accordance with Article 1.05.02, for the concrete light pole foundation.

1. Design Computations: The Contractor is fully responsible for the design, detailing and additional specifications required. The actual designer of the concrete light pole foundation shall be a qualified Professional Engineer licensed in the State of Connecticut. The designer must have designed at least three (3) concrete light pole foundations within the last three years.
2. Designer's Liability Insurance: The Designer of the concrete light pole foundation shall secure and maintain, at no direct cost to the Department, a Professional Liability Insurance Policy for errors and omissions in accordance with Articles 1.03.07 and 1.05.02.
3. Plans & Details: The Contractor shall submit working drawings to the Engineer for review and approval. All details such as concrete mixture, formwork, subbase, reinforcement, conduit and construction methods shall be included.
4. Design Computations: Computations shall be submitted to the Engineer for approval and shall contain appropriate wind loads, gust factors, soil pressures, hydrostatic forces, moment & loading calculations.

10.02.02 – Materials: Shall conform to Articles 10.02.02 and as supplemented in these provisions:

Foundation: Concrete light pole foundation shall extend a minimum of 72” below grade and shall be precast, complete with anchor bolts, 1” rigid metal conduit sweeps, and ¾” steel conduit sleeve. Precast concrete bases shall be 4000 PSI Class “F” concrete. Concrete foundations shall have chamfered edges. Top of foundation shall be installed 3” above grade.

Anchor bolts: Galvanized “J” bolt, sized in accordance with pole manufacturer’s recommendations. Anchor bolts to be break away type. Pole shall be rated to withstand appropriate wind forces and utilize the appropriate gust factor.

10.02.03 – Construction Methods: Shall conform to Articles 10.02.0, 10.04.03 and as supplemented in these provisions:

The Contractor shall ascertain that there are no buried cables or duct banks, water lines, sewers or other utilities prior to excavating by hand digging the foundation. No augering will be permitted.

SUBMITTALS:

A detail for a typical concrete base shall be provided by the contractor, with appropriate wind loads gust factors. The Contractor shall provide drawings and details of concrete bases for use with proposed poles and luminaires, based on local field conditions, stamped by a Professional Engineer, registered in the State of Connecticut.

10.02.04 – Method of Measurement: This work shall be measured for payment by the number of decorative light pole foundations of the type called for installed and accepted.

10.02.05 – Basis of Payment: This work will be paid for at the contract unit price for each “Decorative Light Pole Foundation” of which includes a complete installation, complete in place, which price shall include all materials, labor, tools, earth excavation, concrete, formwork, reinforcement, conduit, bolts, hardware and equipment.

Pay Item

Pay Unit

Decorative Light Pole Foundation

Ea.

ITEM #1003595A – DECORATIVE LIGHT POLE & LUMINAIRE

Description: This work shall consist of furnishing and installing a Decorative Light Pole & Luminaire, according to the details, and at the locations shown on the plans or as shown below in the specification.

Materials: The light pole & luminaire shall be manufactured by HADCO Lighting or approved equal. The Light Fixture Luminaire model shall be No. VX60064AC3NNA3AA or approved equal and the Light Fixture shall be NO. P4465-14ATG or approved equal.

Construction Methods: The luminaire shall be constructed to the manufacture’s specifications. The luminaire & fixture shall be attached complying to Article 10.03.03 and 10.04.03 and approved by the Engineer. The contractor shall coordinate with all appropriate parties such as the power provider and the Town before installation commences.

Method of Measurement: This work shall be measured for payment by the number of luminaire and light pole fixtures installed and accepted of the type specified.

Basis of Payment: This work shall be paid for at the contract unit price each for “Decorative Light Pole & Luminaire”, complete in place, which price shall include all materials, luminaire, fixture,, pole, washers, nuts, bolts, brackets, wiring, conduit, duplex outlets, components, coordination, equipment, tools, and labor incidental thereto.

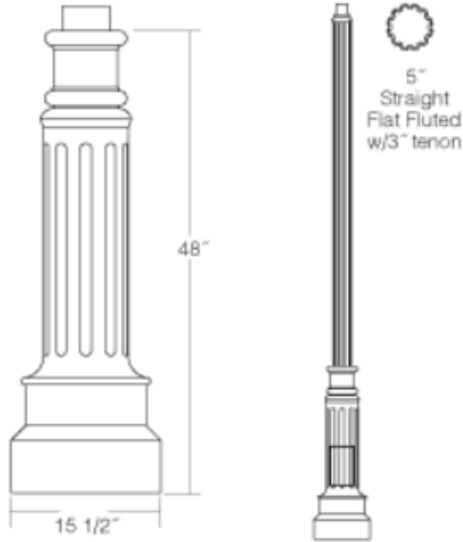
Pay Item

Pay Unit

Decorative Light Pole & Luminaire

Each

P4465 Specification Sheet



Ordering Guide

Example: P4465 12 A T D

Product Code	P4465	
Pole Height	12	12'
	14	14'
	16	16'
	18	18'
Finish	A	Black
	B	White
	G	Verde
	H	Bronze
	J	Green
Outlet Location (Optional)	T	12" Down from Top - Aligned with House Side
	B	4" Up from Top of Base - Aligned with House Side
Outlet Options (Optional)	D	Standard Duplex
	G	GFI Duplex

Specifications

HOUSING:

356 HM high-strength, low-copper, proprietary cast aluminum alloy . 6005-T5 extruded aluminum. Anchor rods are hot dipped galvanized steel . Tenon is 356 HM sand cast aluminum.

FINISH:

A durable polyurethane enamel finish is applied after assemblies are shot blasted to create a surface profile which allows for the highest level of paint adhesion. Laboratory tested for superior weatherability and fade resistance in accordance with ASTM B-117-64 and ANSI/ASTM G53-77 specifications. For larger projects where a custom color is required, contact the factory for more information.

WARRANTY:

Three-year limited warranty.

OUTLET:

Standard Duplex Outlet has universal metal weatherproof cover. Weatherproof while in use. Heavy-duty all-metal construction. Lockable security cover. Meets NEC 406.9 (B). Weather resistant. GFI Duplex Outlet has dual-function indicator light, universal metal weatherproof cover. Weatherproof while in use. Heavy-duty all-metal construction. Lockable security cover. Meets NEC 406.9 (B). Weather resistant.

Tenon/Top:

3" OD

Bolt Circle:

8" - 12"

Anchor Rods:

(4) 3/4" dia. x 19"

Base Dimensions:

15 1/2" dia. x 48"

Hand Hole :

11" x 5"

Shaft:

PROJECT: NAUGATUCK MAPLE STREET BRIDGE
MANUFACTURER: HADCO
CAT# P4465-14ATG
T01000071 (TEMPLATE, P4400, NEW BASE)
4110027 (ANCHOR ROD 3/4 OD 4 PER BOX)

P4465 Specification Sheet

Project Name:	Location:	MFG: Philips Hadco
Fixture Type:	Catalog No.:	Qty:

5" Straight Flat Fluted

Wall Thickness:
0.188 - 0.267 Aluminum

Height :
12', 14', 16', 18'

Pole EPA Values

Windspeed(mph)	Height			
	12'	14'	16'	18'
80	23.2900	15.2100	12.6900	10.5900
100	14.4000	9.1400	7.4100	5.9500

Architectural LED (VX600) Specification Sheet



MANUFACTURER: HADCO
CAT# VX60064AC3NNA3AA

Ordering Guide

Example: VX600 32 A C 3 N N A 3 N A

Product Code	VX600	Architectural LED	
LED	32	32 LED's	*1
	48	48 LED's	*2
	64	64 LED's	*2
	80	80 LED's	*2
Finish	A	Black	
	B	White	
	G	Verde	
	H	Bronze	
	J	Green	
PANELS	C	Clear	
	F	Frosted	
Optics	3	Type III	
	5	Type V	
Photo Control	N	None	
	R	Twist-lock Receptacle	
	E	120 VAC Button Eye	
	H	208/240/277 VAC Button Eye	
	K	347V Button Eye	
Color Temperature	N	4000K	
	C	5700K	*3
Voltage	A	120-277 VAC	
	B	347-480 VAC	*4
Drive Current	3	350 mA	
	5	530 mA	
	7	700 mA	
Dimming Control	N	None	
	A	4 Hrs 25% Reduction	
	B	4 Hrs 50% Reduction	
	C	4 Hrs 75% Reduction	
	D	6 Hrs 25% Reduction	
	E	6 Hrs 50% Reduction	
	F	6 Hrs 75% Reduction	
	G	8 Hrs 25% Reduction	
	H	8 Hrs 50% Reduction	
	J	8 Hrs 75% Reduction	
Surge Suppression	A	10kV/10kA	

*1 Only available in 120-277 VAC (A).

*2 Only available in 350mA (3) drive current.

*3 Consult factory for 5700K.

*4 Dimming not available with 347-480 VAC (B).

Specifications

APPLICATIONS:

This luminaire is the perfect LED solution for traditional street lighting. Other application locations include: residential streets, city streets, campuses and parking lots. This luminaire offers the style of a traditional lantern with today's cutting edge LED technology.

LED SPECIFICATIONS:

Refer to IES files for energy consumption and delivered lumens for each option. Based on in-situ thermal testing and data from Philips Lumileds and Philips Advance fixture can be expected to reach 100,000 hours (at >L70 lumen maintenance @ 25°C). The Philips LEDGINE uses Philips Lumileds Luxeon R LEDs. Color temperatures available are ANSI Bins 4000K and 5700K CCT (consult factory for 5700K). Two distributions are available including Type 3 and 5.

ELECTRONIC DRIVER:

The driver included is the Philips Advance XITANIUM LED driver and is available in a 350mA & 530mA drive current. Standard driver offers 0-10V dimming capability and universal voltage input from 120-277VAC or 347-480VAC. Input frequency is 50-60Hz and all XITANIUM drivers are RoHS compliant. The driver has <3kV surge suppression built in. Additional 10kV/10kA surge suppressor is included. Programmable dimming 0-10V is optional.

Architectural LED (VX600) Specification Sheet

Project Name:	Location:	MFG: Philips Hadco
Fixture Type:	Catalog No.:	Qty:

HOUSING:

356 HM high-strength, low-copper, proprietary cast aluminum alloy . Hinged roof with stainless steel thumb screw. All non-ferrous fasteners prevent corrosion and ensure longer life. Slip Fitter Dimensions: 3" I.D. x 3" deep .

PANELS:

Two panel options. Clear panels are made from a sheet of U.V Stabilized material. Frosted Panels are made from a sheet of U.V. Stabilized injection molded. Panels are attached with a clip and can easily be removed for cleaning

FINISH:

Thermoset polyester powdercoat is electrostatically applied after a five-stage conversion cleaning process and bonded by heat fusion thermosetting. Laboratory tested for superior weatherability and fade resistance in accordance with ASTM B117 specifications. For larger projects where a custom color is required, contact the factory for more information.

CONTROLS:

Wireless dimming options are also available, contact the factory for details. There are 9 standard factory set dimming schedules available. See specification sheet for details. A custom dimming schedule is available by contacting the factory. Built in dyandimmer does not allow for dimming override features.

CERTIFICATIONS:

ETL Listed to U.S. safety standards for wet locations. cETL listed to Canadian safety standards for wet locations. Manufactured to ISO 9001:2008 Standards. Luminaire photometric testing performed in accordance with IESNA LM-79 guidelines. Photometric .ies files that include "LM79" in the file name are verified by an independent NVLAP accredited lab. LEDs tested by an ISO 17025-2005 accredited lab in accordance with IESNA LM-80 guidelines in compliance with EPA ENERGY STAR, extrapolations in accordance with IESNA TM-21. RoHS compliant LEDs and LED drivers.

WARRANTY:

5 year extended warranty

OPTIONS:

Optional integral surge suppression device tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure 10kV/10kA waveforms for Line-Ground, Line-Neutral and Neutral-Ground. Enclosure for surge suppression device is constructed of high temperature, flameproof material with an 85°C maximum surface temperature rating. The device consists of a thermally protected transient overvoltage circuit and is designed for use with universal voltage ballasts and drivers.

AWARDS & RECOGNITIONS:

Buy American and ARRA Compliant - commercially available off-the-shelf (COTS) product proudly designed and Made in the U.S.A. Listed on the DesignLightsTM Consortium (DLC) Qualified Products List (QPL) - see certification letter(s) for details.

Height :

44 1/4" (113cm)

Width:

18 1/2" (47cm)

Max. EPA:

2.8 sq. ft

Max. Weight:

34 lbs

ITEM NO. 1206023A - REMOVAL AND RELOCATION OF EXISTING SIGNS

Section 12.06 is supplemented as follows:

Article 12.06.01 – Description is supplemented with the following:

Work under this item shall consist of the removal and/or relocation of designated side-mounted extruded aluminum and sheet aluminum signs, sign posts, sign supports, and foundations where indicated on the plans or as directed by the Engineer. Work under this item shall also include furnishing and installing new sign posts and associated hardware for signs designated for relocation.

Article 12.06.03 – Construction Methods is supplemented with the following:

The Contractor shall take care during the removal and relocation of existing signs, sign posts, and sign supports that are to be relocated so that they are not damaged. Any material that is damaged shall be replaced by the Contractor at no cost to the Town.

Foundations and other materials designated for removal shall be removed and disposed of by the Contractor as directed by the Engineer and in accordance with existing standards for Removal of Existing Signing.

Sheet aluminum signs designated for relocation are to be re-installed on new sign posts.

Article 12.06.04 – Method of Measurement is supplemented with the following:

Payment under Removal and Relocation of Existing Signs shall be at the contract lump sum price which shall include all extruded aluminum and sheet aluminum signs, sign posts, and sign supports designated for relocation, all new sign posts and associated hardware for signs designated for relocation, all extruded aluminum signs, sheet aluminum signs, sign posts and sign supports designated for scrap, and foundations and other materials designated for removal and disposal, and all work and equipment required.

Article 12.06.05 – Basis of Payment is supplemented with the following:

This work will be paid for at the contract lump sum price for “Removal and Relocation of Existing Signs” which price shall include relocating designated extruded aluminum and sheet aluminum signs, sign posts, and sign supports, providing new posts and associated hardware for relocated signs, removing and disposing of foundations and other materials, and all equipment, material, tools and labor incidental thereto. This price shall also include removing, loading, transporting, and unloading of extruded aluminum signs, sheet aluminum signs, sign posts, and sign supports designated for scrap and all equipment, material, tools and labor incidental thereto.

<u>Pay Item</u>	<u>Pay Unit</u>
Removal and Relocation of Existing Signs	L.S.

**ITEM #1208931A—SIGN FACE - SHEET ALUMINUM (TYPE IV
RETROREFLECTIVE SHEETING)**

Section 12.08 is supplemented and amended as follows:

12.08.01—Description:

Add the following:

This item shall also include field testing of metal sign base posts as directed by the Engineer.

12.08.03—Construction Methods:

Delete the last sentence and add the following:

Metal sign base posts shall be whole and uncut. Sign base post embedment and reveal lengths shall be as shown on the plans. The Contractor shall drive the metal sign base posts by hand tools, by mechanical means or by auguring holes. If an obstruction is encountered while driving or placing the metal sign base post, the Contractor shall notify the Engineer who will determine whether the obstruction shall be removed, the sign base post or posts relocated, or the base post installation in ledge detail shall apply. Backfill shall be thoroughly tamped after the posts have been set level and plumb.

Field Testing of Metal Sign Posts: When the sign installations are complete, the Contractor shall notify the Engineer the Project is ready for field testing. Based on the number of posts in the Project, the Engineer will select random sign base posts which shall be removed by the Contractor for inspection and measurement by the Engineer. After such inspection is completed at each base post location, the Contractor shall restore or replace such portions of the work to the condition required by the Contract. Refer to the table in 12.08.05 for the number of posts to be field tested.

12.08.04—Method of Measurement:

Add the following:

The work required to expose and measure sign base post length and embedment depth using field testing methods, and restoration of such work, will not be measured for payment and shall be included in the general cost of the work.

12.08.05—Basis of Payment:

Replace the entire Article with the following:

This work will be paid for at the Contract unit price per square foot for “Sign Face - Sheet Aluminum” of the type specified complete in place, adjusted by multiplying by the applicable Pay Factor listed in the table below. The price for this work shall include the completed sign, metal sign post(s), span-mounted sign brackets and mast arm-mounted brackets, mounting hardware, including reinforcing plates, field testing, restoration and replacement of defective base post(s), and all materials, equipment, and work incidental thereto.

Pay Factor Scale: Work shall be considered defective whenever the base post length or base post embedment depth is less than the specified length by more than 2 inches. If the number of defects results in rejection, the Contractor shall remove and replace all metal sign base posts on the Project, at no cost to the Town.

Number of Posts to be Tested and Pay Factors (Based on Number of Defects)

Number of Posts in Project =>	51-100	101-250	251-1000	>1000
Sample Size=>	5 Posts	10 Posts	40 Posts	60 Posts
0 Defects	1.0	1.0	1.025	1.025
1 Defect	0.9	0.95	0.975	0.983
2 Defects	Rejection	0.9	0.95	0.967
3 Defects	Rejection	Rejection	0.925	0.95
4 Defects	Rejection	Rejection	0.9	0.933
5 Defects	Rejection	Rejection	Rejection	0.917
6 Defects	Rejection	Rejection	Rejection	0.9
7 or more Defects	Rejection	Rejection	Rejection	Rejection

Note: Projects with 50 or fewer posts will not include field testing.

ITEM #1302051A – RESET WATERGATE

The Contractor shall adjust to final grade, the watergate and covers appurtenant to the utility main as required and furnish and install extension rings, extension stems, air valve extensions, covers, and additional top or bottom sections if necessary, as shown on the Contract Drawings or as directed by the Engineer in accordance with these specifications.

Materials: The Contractor shall furnish materials, if necessary, as needed to meet requirements of the Utility Company.

All additional materials, including any resurfacing materials and any additional fill required, shall be furnished and placed by the Contractor. Gravel shall conform to Article M.02.01.

Construction Methods: The Contractor shall carefully excavate around the watergate, remove the boxes, install extension stems and air valve extensions, if necessary, reinstall the present watergate if reusable, adjust the watergate to final grade using extension rings if applicable, and refill the excavation. Care shall be taken to prevent material from filling the inside of the watergate.

Any damage done by the Contractor shall be repaired or replaced by the Contractor at his expense.

Method of Measurement: The number of watergates adjusted, complete with extension stems, air valve extensions, watergate extension rings, covers, and additional top or bottom sections, if necessary, measured for payment shall be the actual number of each box adjusted.

Basis of Payment: This work will be paid for at the contract unit price for “Reset Watergate” complete in place, which price shall include the cost of furnishing material, including labor and equipment to incorporate them into the work. It shall also include the clearing, trenching and disposal of excavated materials, refilling trenches, furnishing the additional material for refilling, grading, sheeting, bracing, and pumping.

Pay Item
RESET WATERGATE

Pay Unit
EA.

**DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS**

Naugatuck, CT
PROPOSAL continued

SECTION I

Form 818 Supplemental Specifications

State of Connecticut
Department of Transportation

SUPPLEMENTAL SPECIFICATIONS
TO
STANDARD SPECIFICATIONS FOR
ROADS, BRIDGES, FACILITIES AND
INCIDENTAL CONSTRUCTION

FORM 818

2020

JANUARY 2021

TABLE OF CONTENTS
As of January 2021 Supplements
Errata
Division I
GENERAL REQUIREMENTS AND COVENANTS

Section	Rev Date	Notes
1.01 Definition of Terms & Permissible Abbreviations	Jan 2021	Errata
1.02 Proposal Requirements and Conditions		
1.03 Award and Execution of Contract.....		
1.04 Scope of Work		
1.05 Control of the Work	Jan 2021 &	Errata
1.06 Control of Materials		
1.07 Legal Relations and Responsibilities		
1.08 Prosecution and Progress		
1.09 Measurement and Payment	July 2020	Errata
1.10 Environmental Compliance		
1.11 Claims		
1.20-1.00 General Clauses for Facilities Construction		
1.20-1.01 Definitions of Terms and Permissible Abbreviations. for Facilities Construction.....	Jan 2021	Errata
1.20-1.02 Proposal Requirements and Conditions for Facilities. Construction		
1.20-1.03 Award and Execution of Contract for Facilities Construction		
1.20-1.04 Scope of Work for Facilities Construction		
1.20-1.05 Control of the Work for Facilities Construction	Jan 2021	Errata
1.20-1.06 Control of Materials for Facilities Construction		
1.20-1.07 Legal Relations and Responsibilities for Facilities..... Construction		
1.20-1.08 Prosecution and Progress for Facilities Construction		
1.20-1.09 Measurement and Payment for Facilities Construction	July 2020	Errata
1.20-1.10 Environmental Compliance for Facilities Construction		
1.20-1.11 Claims for Facilities Construction		
1.20-9.75 Mobilization and Project Closeout for Facilities Construction		
1.20-9.80 Construction Surveying for Facilities Construction	Jan 2021	

**Division II
CONSTRUCTION DETAILS**

EARTHWORK

Section	Rev. Date	Notes
2.01 Clearing and Grubbing.....		
2.02 Roadway Excavation, Formation of Embankment and Disposal of Surplus Material.....	July 2020	Errata
2.03 Structure Excavation.....		
2.04 Cofferdam and Dewatering, Cofferdam Material Left in Place.....		
2.06 Ditch Excavation.....	July 2020	Errata
2.07 Borrow		
2.08 Free-Draining Material		
2.09 Subgrade		
2.11 Anti-Tracking Pad.....		
2.12 Subbase		
2.13 Granular Fill.....		
2.14 Compacted Granular Fill.....		
2.16 Pervious Structure Backfill		
2.19 Sedimentation Control System		
2.86 Drainage Trench Excavation, Rock in Drainage Trench Excavation.....		
3.04 Processed Aggregate Base		
3.05 Processed Aggregate.....		

SURFACE COURSES OR PAVEMENTS

4.01 Concrete for Pavement.....		
4.06 Bituminous Concrete	Jan 2021	
4.07 Rumble Strips, Removal of Rumble Strips.....	Jan 2021	
4.09 Milling, Removal of Wearing Surface.....	July 2020	
4.15 Pressure Relief Joint		

STRUCTURES

5.03 Removal of Superstructure	
5.04 Railroad Protection	
5.06 Retaining Walls, Endwalls and Steps	
5.08 Shear Connectors	
5.09 Welded Studs	
5.13 Polyvinyl Chloride Plastic Pipe	
5.14 Prestressed Concrete Members	
5.21 Elastomeric Bearing Pads	

Section	Rev. Date	Notes
5.22 Elastomeric Compression Seal		
5.86 Catch Basins, Manholes and Drop Inlets		
6.01 Concrete for Structures	Jan 2021	Errata
6.02 Reinforcing Steel		
6.03 Structural Steel.....	Jan 2021	
6.05 Masonry Facing		
6.06 Cement Rubble Masonry		
6.07 Dry Rubble Masonry.....		
6.09 Repointed Masonry		
6.11 Shotcrete		
6.12 Concrete Cylinder Curing Box		
6.53 Clean Existing Drainage System		
6.86 Drainage Pipes, Drainage Pipe Ends		

INCIDENTAL CONSTRUCTION

7.01 Drilled Shafts		
7.02 Piles.....		
7.03 Riprap.....		
7.04 Gabions		
7.05 Slope Paving		
7.06 Micropiles		
7.07 Membrane Waterproofing (Woven Glass Fabric.....		
7.08 Dampproofing		
7.13 Permanent Steel Sheet Piling.....		
7.14 Temporary Sheet Piling		
7.15 Sheet Piling Material Left in Place		
7.16 Temporary Earth Retaining System.....		
7.17 Earth Retaining System Left in Place		
7.28 Crushed Stone for Slope Protection.....		
7.32 Concrete Block Slope Protection		
7.51 Underdrain and Outlets.....		
7.55 Geotextile.....		
8.03 Paved Ditches , Paved Aprons and Paved Channels	July 2020	
8.11 Concrete Curbing		
8.13 Stone Curbing	July 2020	Errata
8.14 Reset Stone Curbing		
8.15 Bituminous Concrete Lip Curbing.....		
8.18 Protective Compound for Bridges	July 2020	Deleted
8.21 Precast Concrete Barrier Curb		
8.22 Temporary Precast Concrete Barrier	Jan 2021	Errata
9.04 Metal Bridge Rail.....		
9.05 Stone Wall Fence		

Section	Rev. Date	Notes
9.06 Wire Fence		
9.10 Metal Beam Rail		
9.11 Metal Beam Rail Anchorages		
9.12 Remove and Reset Posts, Rail and Rail Anchorages		
9.13 Chain Link Fence		
9.14 Metal Handrail		
9.15 Tree Root Protection		
9.18 Three-Cable Guide Railing (I-Beam Posts) and Anchorages		
9.21 Concrete Sidewalks and Ramps	July 2020	Errata
9.22 Bituminous Concrete Sidewalk, Bituminous Concrete Driveway		
9.23 Bituminous Concrete for Patching		
9.24 Concrete Driveway Ramp	July 2020	
9.30 Object Marker		
9.39 Sweeping for Dust Control		
9.42 Calcium Chloride for Dust Control		
9.43 Water for Dust Control		
9.44 Topsoil		
9.46 Liming		
9.49 Furnishing, Planting and Mulching Trees, Shrubs, Vines and Ground Cover Plants		
9.50 Turf Establishment, Erosion Control Matting		
9.51 Rock Excavation for Planting		
9.52 Selective Clearing and Thinning		
9.53 Sodding		
9.70 Trafficperson	July 2020	Errata
9.71 Maintenance and Protection of Traffic	July 2020	
9.74 Removal of Existing Masonry		
9.75 Mobilization and Project Closeout		
9.76 Barricade Warning Lights	July 2020	Errata
9.77 Traffic Cone	July 2020	
9.78 Traffic Drum	July 2020	
9.79 Construction Barricades	July 2020	
9.80 Construction Surveying		
9.81 42 Inch Traffic Cone	July 2020	
9.99 Disposal of Buildings		

TRAFFIC CONTROL

10.00 General Clauses for Highway Illumination and Traffic Signal Projects	Jan 2021	Errata
10.01 Trenching and Backfilling		
10.02 Light Standard and Traffic Control Foundations	Jan 2021	Errata

Section	Rev. Date	Notes
10.03 Light Standards		
10.04 Roadway Luminaire.....		
10.06 Underbridge Luminaire.....		
10.08 Electrical Conduit		
10.09 Cast Iron Junction Box.....		
10.10 Concrete Handhole.....	Jan 2021	Errata
10.11 4-Inch Drain Pipe		
10.12 Single Conductor		
10.14 Cable In Duct		
10.15 Grounding Conductor		
10.17 Service Entrance and Cabinet		
10.18 Navigation Light	Jan 2021	Deleted
11.01 Pole Anchor		
11.02 Pedestals.....		
11.03 Span Pole		
11.05 Traffic Signals.....		
11.06 Pedestrian Signal.....		
11.07 Pedestrian Pushbutton	Jan 2021	Errata
11.08 Controllers.....		
11.11 Loop Vehicle Detector and Sawcut		
11.12 Magnetic Vehicle Detector	Jan 2021	Deleted
11.13 Control Cable		
11.14 Messenger and Span Wire		
11.16 Illuminated Signs		
11.17 Alternate Flashing Signals for Warning Signs.....		
11.18 Removal and/or Relocation of Traffic Signal Equipment		
11.30 Arrow Board	July 2020	Errata
11.31 Remote Control Changeable Message Sign.....	July 2020	Errata
12.00 General Clauses for Highway Signing.....		
12.01 Overhead Sign Support		
12.02 Overhead Sign Support Foundation.....		
12.03 Side Mounted Sign Foundation		
12.04 Sign Panel Overlay		
12.05 Delineators		
12.06 Removal of Existing Signing, Removal of Existing Overhead Signing.....		
12.07 Sign Face - Extruded Aluminum		
12.08 Sign Face - Sheet Aluminum		
12.09 Painted Pavement Markings		
12.10 Epoxy Resin Pavement Markings.....		
12.11 Removal of Pavement Markings.....		
12.12 Temporary Plastic Pavement Marking Tape.....	July 2020	Errata
12.14 Preformed Black Line Mask Pavement Marking Tape.....		

Section	Rev. Date	Notes
12.20 Construction Signs	July 2020	Errata
13.00 Utilities.....		
14.00 Vacant		
15.00 Vacant		
16.00 Vacant		
18.02 Sand Barrels		
18.03 Impact Attenuation System, Temporary Impact Attenuation System.....		
18.06 Truck-Mounted or Trailer-Mounted Impact Attenuator		

**Division III
MATERIALS SECTION**

M.01 Aggregates		
M.02 Granular Fill, Subbase, Granular Base and Surfaces, Stone Base, Pervious Structure Backfill, Free-Draining Material, Crusher-Run Stone.....		
M.03 Portland Cement Concrete	July 2020	Errata
M.04 Bituminous Concrete Materials	Jan 2021	
M.05 Processed Aggregate Base and Pavement Surface Treatment.....		
M.06 Metals.....		
M.07 Paint	July 2020	
M.08 Drainage.....		
M.09 Sheet Piling and Piles.....		
M.10 Fence, Railing and Posts		
M.11 Masonry Facing, Cement and Dry Rubble, Masonry, Brick, Mortar		
M.12 Bearing Areas, Riprap, Slope Paving & Slope Protection, Waterproofing and Dampproofing, Stone and Granite Slope Curbing, Calcium Chloride for Dust Control, Wood....		
M.13 Roadside Development		
M.14 Prestressed Concrete Members		
M.15 Highway Illumination	Jan 2021	& Errata
M.16 Traffic Control Signals	Jan 2021	& Errata
M.17 Elastomeric Materials		
M.18 Signing		
List of Standard Pay Items	Jan 2021	Errata

Section or Article	Please make the following Corrections:	Rev. Date
Division I GENERAL REQUIREMENTS AND COVENANTS		
1.01.02	<ol style="list-style-type: none"> 1. after the abbreviation for ADSC add “AFBMS—Anti-Friction Bearing Manufacturer’s Association” 2. after the abbreviation for AGC add “AGMA—American Gear Manufacturer’s Association” 3. after the abbreviation for AMRL add “AMS—Aerospace Material Specification” 4. after the abbreviation for AWWA add “BGFMA—Bridge Grid Flooring Manufacturer’s Association” 	July20
1.01.02	<ol style="list-style-type: none"> 1. after the abbreviation for AMCA add “AMPP—The Association for Materials Protection and Performance [formerly NACE and SSPC]” 2. after the abbreviation for EPA add “ETL—Edison Testing Laboratories” 3. after the abbreviation for IAS add “IBC—International Building Code” 4. revise the abbreviation for NACE to “NACE—National Association of Corrosion Engineers see AMPP” 5. after the abbreviation for NTMA add “NTPEP —National Transportation Product Evaluation ” 6. after the abbreviation for RCSA add “RCSC—Research Council on Structural Connections” 7. revise the abbreviation for SSPC to “SSPC—The Society for Protective Coatings (formerly The Steel Structures Painting Council) see AMPP” but keep the NOTE 	Jan21
1.01.03	<ol style="list-style-type: none"> 1. after the abbreviation for pfmd. add “PQR—procedure qualification record” 2. after the abbreviation for surf. add “TBD—to be determined” 3. after the abbreviation for W add “WPS—weld procedure specification” 	July20
1.05.12	in the first sentence of the paragraph that begins “Each such payroll shall include...” replace “... and, if applicable, ...” with “... or ...”	July20
1.09.02	<ol style="list-style-type: none"> 1. change the first sentence to “These Value Engineering Change Proposal (VECP) provisions apply as encouragement to the Contractor to initiate, develop, and present to the Department for consideration cost-reduction proposals conceived by the Contractor, involving changes to the drawings, designs, specifications or other requirements of the Contract.” 2. under the Subarticle “Payment for accepted VECPs,” delete “5. The cost savings from a VECP that is exclusively time reduction shall be calculated as the number of Contract days reduced multiplied by the amount of liquidated damages for 1 day under the Contract.” (VECPs based on time savings only will not be accepted) 	July20
Division I GENERAL REQUIREMENTS AND COVENANTS, GENERAL CLAUSES FOR FACILITIES CONSTRUCTION		
1.20-1.01.02	<ol style="list-style-type: none"> 1. after the abbreviation for ADSC add “AFBMS—Anti-Friction Bearing Manufacturer’s Association” 2. after the abbreviation for AGC add “AGMA—American Gear Manufacturer’s Association” 3. after the abbreviation for AMRL add “AMS—Aerospace Material Specification” 4. after the abbreviation for AWWA add “BGFMA—Bridge Grid Flooring Manufacturer’s Association” 	July20

1.20-1.01.02	<ol style="list-style-type: none"> 1. after the abbreviation for AMCA add “AMPP—The Association for Materials Protection and Performance [formerly NACE and SSPC]” 2. after the abbreviation for EPA add “ETL—Edison Testing Laboratories” 3. after the abbreviation for IAS add “IBC—International Building Code” 4. revise the abbreviation for NACE to “NACE—National Association of Corrosion Engineers see AMPP” 5. after the abbreviation for NTMA add “NTPEP —National Transportation Product Evaluation ” 6. after the abbreviation for RCSA add “RCSC—Research Council on Structural Connections” 7. revise the abbreviation for SSPC to “SSPC—The Society for Protective Coatings (formerly The Steel Structures Painting Council) see AMPP” but keep the NOTE 	Jan21
1.20-1.01.03	<ol style="list-style-type: none"> 1. after the abbreviation for pfmd. add “PQR—procedure qualification record ” 2. after the abbreviation for surf. add “TBD—to be determined ” 3. 3. after the abbreviation for W add “WPS—weld procedure specification ” 	July20
1.20-1.05.12	in the first sentence of the paragraph that begins “Each such payroll shall include...” replace “... and, if applicable, ...” with “... or ...”	July20
1.20-1.05.19	change “1.20-1.05.19—Facilities Construction - Field Erector Prequalification” to “1.20-1.05.19—Facilities Construction - Field Erector Certification” and delete “ - Advanced” in the only sentence.	Jan21
1.09.02	<ol style="list-style-type: none"> 1. change the first sentence to “These Value Engineering Change Proposal (VECP) provisions apply as encouragement to the Contractor to initiate, develop, and present to the Department for consideration cost-reduction proposals conceived by the Contractor, involving changes to the drawings, designs, specifications or other requirements of the Contract.” 2. under the Subarticle “Payment for accepted VECPs,” delete “5. The cost savings from a VECP that is exclusively time reduction shall be calculated as the number of Contract days reduced multiplied by the amount of liquidated damages for 1 day under the Contract.” (VECPs based on time savings only will not be accepted) 	July20
Division II CONSTRUCTION DETAILS		
2.02.03	in the third paragraph of subarticle 5. Placement of Embankment Material replace “... slopes steeper than 1:3 ...” with “... slopes 1 vertical to 3 horizontal or steeper ... ”	July20
2.06.01	change the first sentence of the only paragraph as follows “...necessary for the construction of drainage ditches and paved leak-offs...”	July20
2.06.04	change subarticle 2. Paved Leak-offs and Paved Ditches to “ 2. Paved Leak-offs ”	July20
6.01.03	<ol style="list-style-type: none"> 1. in the eighth paragraph of subarticle 6.01.03-II-1(g) Stay-In-Place Metal Forms for Bridge Decks, replace “FS No. TT-P-641d, Type II” with “MIL-DTL-24441” 2. in the eleventh paragraph of subarticle 6.01.03-II-1(g) Stay-In-Place Metal Forms for Bridge Decks, replace “the Welding subarticle in 6.03” with “1.05.17, Welding.” 3. in the fourth sentence of subarticle 6.01.03-II-10(b) Rubbed Finish, replace “stripping” with “striping” 	July20
6.01.05	in Table 6.01.05-2b Permeability Pay Factors , change the heading to read “ Permeability Pay Factors (PCCXXX2 mix classifications only) ”	Jan21
8.13.04	change the only sentence as follows “... will be measured for payment along the top arris line of the curb ...”	July20

8.22.02	<i>change the first sentence as follows “The materials for this work shall meet the requirements of 8.21.02, except the reinforcing steel does not need to be galvanized.”</i>	Jan21
9.21.03	<i>in the last sentence of 6. Curing change “6.01.03-9” to “6.01.03-II-9”</i>	July20
9.70.03	<i>in the first sentence of paragraph 5, insert “the” before “MUTCD”</i>	July20
9.76.03	<i>change the last paragraph to “... in accordance with the ATSSA “Quality Guidelines for Temporary Traffic Control Devices and Features,” shall be ...”</i>	July20
10.00.10	<i>in the first sentence of the second paragraph under 10.00.10-2(b)-1, change “push button” to “pushbutton”</i>	Jan21
10.02.02	<i>in the second line of the list, change “PCC03340” to “PCC04461”</i>	Jan21
10.02.05	<i>in the first sentence, change “PCC03340” to “PCC04461”</i>	Jan21
10.10.02	<i>in the third line of the list, change “PCC03360” to “PCC04461”</i>	Jan21
11.07	<i>Change “push button” to “pushbutton” everywhere it appears</i>	Jan21
11.30.02	<i>in the first paragraph, insert “the” before “MUTCD”</i>	July20
11.30.03	<i>change the second paragraph to “... in accordance with the ATSSA “Quality Guidelines for Temporary Traffic Control Devices and Features.”</i>	July20
11.31.02	<i>in the first paragraph, insert “the” before “MUTCD”</i>	July20
12.12.05	<i>change the second to last paragraph to “... in accordance with the ATSSA “Quality Guidelines for Temporary Traffic Control Devices and Features,” shall be ...”</i>	July20
12.20.03	<i>change the second to last paragraph to “... in accordance with the ATSSA “Quality Guidelines for Temporary Traffic Control Devices and Features,” shall be ...”</i>	July20
Division III MATERIALS SECTION		
M.03.03	<i>in 1. General Requirements: (b), replace “6.01.03-3(a)” with “6.01.03-II-3(a)”</i>	July20
M.03.08	<i>In subarticle 2.iii under 5. (b) Joint Sealer for Structures, delete “48686-0944”</i>	July20
M.15.15-5	<i>In the first sentence, change “PCC03340” to “PCC04461”</i>	Jan21
M.15.15-6	<i>In the first sentence, change “PCC03340” to “PCC04461”</i>	Jan21
M.16.08	<i>Change “push button” to “pushbutton” everywhere it appears</i>	Jan21
LIST OF STANDARD PAY ITEMS, ENGLISH/METRIC CONVERSION CHARTS, INDEX		
N/A	<ol style="list-style-type: none"> delete “4.09, Micro-Milling of Bituminous Concrete (0” to 3”), s.y.” change “4.09, Standard Milling of Bituminous Concrete (Greater Than 4” up to 8”), s.y.” to “4.09, Coarse Milling of Bituminous Concrete (Greater Than 4” Up To 8”), s.y.” change “4.09, Standard Milling of Bituminous Concrete (Greater Than 8”), s.y.” to “4.09, Coarse Milling of Bituminous Concrete (Greater Than 8”), s.y.” delete “8.03, Paved Ditch, s.y.” delete “8.03, Paved Channel, s.y.” delete “8.18, Protective Compound for Bridges, s.y.” 	July20
N/A	<ol style="list-style-type: none"> add “4.07, Rumble Strips – Automated, l.f.” add “4.07, Rumble Strips – Manual, l.f.” add “4.07, Removal of Rumble Strips, l.f.” delete “10.18, Navigation Light, ea.” change “11.07, Pedestrian Push Button and Sign (Type), ea.” to “11.07, Pedestrian Pushbutton and Sign (Type), ea.” delete “11.12, Magnetic Vehicle Detector (Type), ea.” 	Jan21

**SECTION 1.05
CONTROL OF THE WORK**

In the list of Articles, add the following:

1.05.19—Field Erector Certification

After 1.05.18, add the following:

1.05.19—Field Erector Certification: Contractors and subcontractors are required to possess AISC Certified Steel Erector (CSE) Certification with a Bridge Erection Endorsement for the following work:

1. Field erection of steel bridge girders, beams and trusses.
2. Field erection of fabricated steel sign supports (overhead and cantilever).

Contractors and subcontractors are required to possess an AISC Certified Steel Erector (CSE) Certification for Steel-Framed Buildings for the field erection of steel frames on Facilities Construction projects.

After Section 1.20-9.75, add the following New Section 1.20-9.80:

**SECTION 1.20-9.80
CONSTRUCTION SURVEYING FOR
FACILITIES CONSTRUCTION**

1.20-9.80.01—Facilities Construction - Description

1.20-9.80.02—Facilities Construction - Materials

1.20-9.80.03—Facilities Construction - Construction Methods

1.20-9.80.04—Facilities Construction - Method of Measurement

1.20-9.80.05—Facilities Construction - Basis of Payment

1.20-9.80.01—Facilities Construction - Description: Work under this item shall consist of furnishing labor, equipment, tools and materials to perform surveying, staking, verification, recording of data and calculations as necessary to construct the Project, from existing layout to acceptance of the work according to the plans. Work under this item shall conform to Section 20-300b-1 to 20-300b-20 inclusive of the Department of Consumer Protection, Regulations of CT State Agencies and as supplemented herein.

1.20-9.80.02—Facilities Construction - Materials: Stakes used for control staking shall be a minimum of 1 inch × 1 inch wide and a minimum length of 36 inches. Stakes shall be legibly marked and shall be visible at all times. The stakes shall be durable enough to last for the duration of the Contract. In areas where traditional staking cannot be established, the Contractor may use other materials or methods to mark critical locations, as approved or directed by the Engineer.

1.20-9.80.03—Facilities Construction - Construction Methods:

I Submittals:

1. The Contractor shall provide technically qualified survey crews experienced in construction surveying. All Project surveying and staking shall be performed by or under the supervision of either a Connecticut Licensed Land Surveyor or a Level III Survey Technician certified by the National Society of Professional Surveyors.

The name, authority, relevant experience, and qualifications of the person with overall responsibility for construction surveying and staking shall be submitted to the Engineer ten (10) days prior to any physical work.

The Contractor shall submit Project Record Drawings as required under 1.20-1.08.14. Project Record Drawings shall be the appropriate scale, reproducible final drawings meeting the accuracy requirements of an "Improvement Location Survey," Class A-2.

2. If using Automated Machine Guidance (AMG) methods, the following information shall also be submitted to the Engineer ten (10) days prior to any physical work:
 - A. A written technology statement that includes:
 - i. The manufacturer, model, and software version of the AMG equipment.
 - ii. Verification that the final 3D data which is provided in the Plans is compatible with the AMG equipment.
 - B. Personnel qualifications:
 - i. The name, authority, relevant experience, and qualifications of the person with overall responsibility for the AMG system.
 - ii. The name, authority, and relevant experience of personnel directly responsible for operating the AMG equipment.
 - C. A Quality Control Plan for mechanical calibration and maintenance of both surveying and AMG controlled construction equipment. Include the frequency and types of checks performed.

II Equipment Requirements:

1. The Contractor's survey instruments and supporting equipment shall be capable of achieving the specified tolerances in Table 1.20-9.80-1.
2. All instrumentation used on the Project shall have been serviced and calibrated within six (6) months prior to use on the Project, and then every year thereafter.
3. The Contractor shall obtain the Engineer's concurrence prior to using construction equipment equipped with Global Navigation Satellite System (GNSS) or Robotic Total Station (RTS) controlled by an AMG system in the construction of subgrade, subbase and base course aggregate courses, or other construction operations.
4. Tools and supplies shall be of the type and quality suitable for survey work.
5. Stakes and hubs shall be of a sufficient length to provide a solid set in the ground, with sufficient

surface area above ground for necessary legible and durable markings.

III General Requirements:

1. The Contractor's Construction Schedule shall include dates and sequences of major surveying activities in accordance with 1.20-1.05.08 for Facilities Construction.
2. The Department will furnish the initial horizontal control points, vertical control points and data for use in establishing control for completion of the work. The Contractor shall recover and preserve the initial reference and control points and shall notify the Engineer of missing control points.
3. The Department will furnish data relating to horizontal and vertical alignments, theoretical slope staking catch points, and other design data. The Contractor is responsible for reformatting and any additional calculations that may be required for the convenient use of the State-furnished data. The Contractor shall provide immediate notification of apparent errors or omissions in the initial staking or in the State-furnished data.
4. The Contractor shall provide survey data and measurements in the format(s) acceptable to the Engineer and submit on a schedule determined by the Engineer. Field data and supporting documentation will become the property of the Department upon completion of the work.
5. Prior to major surveying activities, a survey coordination meeting shall be held, and the following agenda items shall be discussed and coordinated with the Engineer:
 - A. Surveying and staking methods;
 - B. Stake marking;
 - C. Grade control for courses of material;
 - D. Referencing;
 - E. Structure control;
 - F. Field staking data;
 - G. Localization of the GNSS systems to the Department-established control points;
 - H. Protection of existing survey markers; and
 - I. Other procedures and controls necessary for the work.
6. The Contractor shall not start the physical work until the required survey or three-dimensional (3D) verification data for the affected work has been reviewed by the Engineer. Review of the construction survey does not relieve the Contractor of responsibility for correcting errors and omissions discovered during the work and for bearing additional costs associated with the error or omission.
7. The Contractor shall maintain legibility of survey markings for the duration of the Project or until notified by the Engineer.
8. Upon completion of the Project, the Contractor shall remove and dispose of all staking material used on the Project.
9. Should the establishment or re-establishment of property acquisition lines, highway lines, or non-access lines be required, the Contractor shall notify the Engineer at least two (2) weeks in advance of need.
10. The Contractor shall provide and maintain safe facilities for convenient access by Department forces to all survey stakes, control points, batter boards, and references.

IV Specific Requirements:

1. **Control points:** The Contractor shall
 - A. Relocate initial horizontal and vertical control points in conflict with construction to areas that will not be disturbed by construction operations.
 - B. Furnish the coordinates, elevations, and support documentation for the relocated points before the initial points are disturbed.
 - C. Set durable markers for survey control that uniquely identifies the points.
 - D. Furnish the GNSS localization results at least seven (7) days before beginning construction layout survey work. If necessary, the GNSS localization calibration and associated 3D model shall be broken into two or more zones to maintain the localized relationship between control points and original ground.
2. **Centerline establishment:** The Contractor shall establish or reestablish centerline at roadway design cross-section locations as necessary to construct the work.
3. **Original ground topographic verification:** In areas where the plan existing ground elevation and the actual ground elevation are not within a tolerance of ± 0.25 feet, the Contractor shall immediately notify the Engineer.
4. **Horizontal Slope Limits and Reference Stakes:** The Contractor shall

- A. At a minimum, set stakes on both sides of centerline at the horizontal slope limit at cross-section intervals.
 - B. When the slope is designed with a roll at the top and toe, two stakes shall be set on each side of the roadway, one to mark the intersection of the normal cut or fill with existing ground and the other to determine the limit of the roll.
- 5. Clearing and Grubbing Limits:** The Contractor shall set clearing and grubbing limits on both sides of centerline.
- 6. Finish-grade stakes:** The Contractor shall
- A. Set finish-grade stakes for grade elevations and horizontal alignment, on centerline and on each shoulder at design roadway cross-section intervals.
 - B. Reset finish-grade stakes as many times as necessary for construction of the roadway.
 - C. When the centerline curve radius is less than or equal to 250 feet, use a maximum spacing between stakes of 25 feet.
 - D. When the centerline curve radius is greater than 250 feet, use a maximum spacing between stakes of 50 feet.
- 7. Structures:** The Contractor shall provide survey and staking data in accordance with the above requirements for Structures as follows:
- A. **Culverts:** Verify and set culvert locations at the inlet, outlet, and inlet basin points according to the plans. If the proposed culvert design does not fit field conditions, notify the Engineer and provide the following:
 - i. Surveyed ground profile along the culvert centerline;
 - ii. Slope catch points at the inlet and outlet.
 - B. **Bridges:** Set adequate horizontal, vertical, reference and Working Points for bridge substructure and superstructure components. Field verify the girders, bridge chord, bridge tangent, or control lines are as specified on the bridge plans. Also establish and reference the centerline of each pier, bent, and abutment.

The Contractor shall establish the center line of bearings for all bridge abutments and piers, by setting offset hubs or reference points, so located and protected to ensure they remain undisturbed until such time as they are no longer needed. The Contractor shall mark the location of anchor bolts to be installed, establish the elevation of bearing surfaces and check bearing plates to ensure installation at their proper elevation. Before the erection of structural steel or concrete beams the Contractor shall verify the locations, both vertically and horizontally, of all bearings and the distances between associated bearings.

The Contractor shall be responsible for conducting all surveys to verify the structural steel profile and alignment are as specified. The Contractor must submit survey and verification in a form acceptable to the Engineer a minimum of 7 days prior to installing the falsework and forms.
 - C. **Retaining walls and Reinforced Soil Slopes:** The Contractor shall set adequate horizontal, vertical, reference and Working Points to perform the work.
- 8. Borrow and Waste sites:** The Contractor shall
- A. Perform field work necessary for initial layout and measurement of borrow or waste sites.
 - B. Establish site limits and clearing limits.
 - C. Measure both original and final ground conditions and submit cross-sections as directed by the Engineer.
- 9. Utility Relocations:** The Contractor shall provide additional reference stakes to assist the Engineer and public utility personnel to accurately identify the proposed locations for utility facilities to be relocated. At least 2 weeks prior to the scheduled relocation of public utilities, the Contractor shall stake out the following features throughout the limits of utility relocations at a maximum spacing of 25 feet, unless directed otherwise by the Engineer:
- A. Edge of road on the side adjacent to the proposed utility relocations.
 - B. Both edges of sidewalks, where shown on the plans.
 - C. Proposed drainage location(s) and invert elevation(s) at proposed utility locations.
 - D. Finished grade where existing utility facilities will be reset or relocated.
- 10. Regulated Areas:** The Contractor shall install and maintain reference stakes at 25 foot spacing, or as directed by the Engineer, along the permitted permanent or temporary regulated impacted areas depicted in the permit applications. Each stake shall be legibly marked identifying the baseline station and offset, and the feature it represents.

11. Pavement Markings: Prior to any resurfacing or obliteration of existing pavement markings, the Contractor and a representative of the Engineer shall establish and document pavement marking control points from the existing markings within the limits of the proposed pavement markings or pavement marking grooves. These control points shall be used to reestablish the positions of the lanes, the beginnings and endings of tapers, channelization lines for on- and off-ramps, lane-use arrows, stop bars, driveways, private drives, road entrances, and any lane transitions in the Project area, including all line striping grooving. The Contractor shall use these control points to provide appropriate pre-marking prior to the installation of final markings, including grooves.

The Contractor shall provide and maintain reference stakes or markings immediately off the edge of pavement, at 100 foot intervals and at any point where there is a change in pavement markings. If the Contractor proposes an alternative method to establish and document pavement marking control points, it must be approved by the Engineer.

For roadways where the existing pavement markings need to be reestablished or pavement marking grooves are to be installed on non-limited access roadways, the markings shall be adjusted as directed by the Engineer. These adjustments are to provide wider shoulders to accommodate pedestrian and bicycle traffic while maintaining through travel lane widths of no less than 11 feet.

Unless otherwise noted in the Project documents, lane and shoulder widths for commonly encountered half sections shall be established as shown in the table below:

Centerline to curb or edge of road	Lane width	Shoulder width
12 to 16 feet	11 feet	Remaining Pavement
17 to 20 feet	12 feet	Remaining Pavement

For Projects that only consist of removal and replacement of pavement markings, the requirement for a licensed land surveyor to supervise the staking is waived.

12. Miscellaneous survey and staking: The Contractor shall survey and stake other work such as guiderail, curb and gutter, turf establishment, regulated areas, watercourses and excavation limits for structures. When staking increments are not specified, the Contractor shall propose increments for the Engineer’s review. The Contractor shall maintain or replace these stakes until the Engineer approves their removal.

**Table 1.20-9.80-1
Construction Survey Staking Tolerances¹**

Staking Phase	Horizontal	Vertical
Control points set from existing control points. ²	±0.03 feet	±0.01 feet × √N
Centerline points including all points of curvature and references.	±0.06 feet	±0.03 feet
Slope-stake and slope-stake references. ³	±0.25 feet	±0.25 feet
Culverts, ditches, and minor drainage structures stakes.	±0.25 feet	±0.06 feet
Retaining walls stakes.	±0.06 feet	±0.03 feet
Bridge substructures and superstructure stakes. ⁴	±0.03 feet	±0.03 feet
Pavement markings stakes. ⁵	±0.50 feet	N/A
Curb and gutter stakes.	±0.06 feet	±0.03 feet
Working Points. ⁴	±0.03 feet	N/A
Clearing and grubbing limit stakes.	±1.00 feet	N/A
Roadway subgrade finish stakes.	±0.16 feet	±0.03 feet
Roadway finish grade stakes.	±0.16 feet	±0.03 feet

¹ At statistical 95% confidence level. Tolerances are relative to existing control points.

² N is the number of instrument setups.

³ Take the cross-sections normal to the centerline ±1 degree.

⁴ Bridge control is established as a local network and the tolerances are relative to that network.

⁵ This tolerance also applies to alternative methods of establishing and documenting pavement marking control points from the existing markings, such as GPS recording.

- 13. For Facilities Construction:** Existing survey is not guaranteed. The Contractor shall:
- A. Investigate and verify the existence and location of underground utilities and other elements affecting the contract work before beginning site work.
 - B. Furnish information that is necessary to adjust, move or relocate existing structures, utility poles, lines, services, or other utility appurtenances affected by construction. Coordinate with authorities performing work and/ or having jurisdiction.
 - C. Verify layout information shown on the plans, in relation to the control points and existing benchmarks before proceeding to layout the Project work. Notify the Engineer if discrepancies are discovered. Preserve and protect permanent benchmarks and control points during construction operations. Do not change or relocate benchmarks or control points without the Engineer’s prior written approval. Promptly report lost or destroyed control points, or the need to relocate permanent benchmarks or control points because of necessary changes in grades or locations. Promptly replace lost or destroyed benchmarks and control points. Base replacements on the original survey control points.
 - D. Establish and maintain a minimum of (2) permanent benchmarks on the Project Site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark. Record benchmark locations, with horizontal and vertical data, on Project Record Documents. Provide temporary reference points sufficient to locate the work where the actual location or elevation of layout points cannot be marked. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.
 - E. Work from lines and levels established by the control survey. Establish benchmarks and control points to set lines and levels at each area of construction as needed to locate each element of the Project. Calculate and measure required dimensions within indicated or recognized tolerances. Do not scale plans to determine dimensions. Advise entities engaged in construction activities, of marked lines and levels provided for their use. As construction proceeds, check every major element for line, level and plumb.
 - F. Locate and lay out site improvements, including pavements, stakes for grading, fill and topsoil placement, utility slopes and invert elevations by instrumentation and similar appropriate means. The Contractor shall identify and document by survey the extent, elevation, and location of all foundations and capped utilities to be left in place and backfilled. Appropriate scaled marked up drawings shall be furnished to the Engineer PRIOR to backfilling.
 - G. Locate and lay out control lines and levels for structures, building foundations, column grids and locations, floor levels including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from (2) or more locations.
 - H. Maintain a surveyor's log of control and other survey work. Make this log available to the Engineer for reference. Record deviations from required lines and levels, and advise the Engineer when deviations that exceed indicated or recognized tolerances are detected. On Project Record Drawings, record deviations that are accepted by the Engineer and not corrected. Record the location of utilities at the time of installation in the log as well as on the As-Built drawings for permanent record. The recording Land Surveyor shall place its registration seal and accuracy statement regarding location of exterior underground utility lines on the utility plans of As-Built drawings.

1.20-9.80.04—Facilities Construction - Method of Measurement: Construction Surveying, being paid on a lump sum basis, will not be measured for payment. Prior to beginning the work, the Contractor shall submit a proposed schedule of values for review and concurrence by the Engineer.

1.20-9.80.05—Facilities Construction - Basis of Payment: Construction Surveying will be paid for at the Contract lump sum price for "Construction Surveying," based on completed portions of the work. This price shall include all labor, submittals, maintenance, materials, tools, equipment, removal of materials and all work incidental thereto.

Pay Item	Pay Unit
Construction Surveying	l.s.

SECTION 4.06
BITUMINOUS CONCRETE

After “Job Mix Formula (JMF)” in Article 4.06.01 add the following:

Leveling Course: A thin lift of HMA placed at an average consistent thickness, usually about an inch, as indicated on the plans to correct minor variations in the contour of the existing pavement surface.

After “Warm Mix Asphalt (WMA) Technology” in Article 4.06.01 add the following

Wedge Course: A lift or multiple lifts of HMA placed at a varying thickness as indicated on the plans to increase or decrease the cross slope of the existing pavement surface.

Replace 4.06.03-6 with the following:

6. Spreading and Finishing of Mixture: Prior to the placement of the mixture, the underlying base course shall be brought to the plan grade and cross section within the allowable tolerance.

Immediately before placing a bituminous concrete lift, a uniform coating of tack coat shall be applied to all existing underlying pavement surfaces and on the exposed surface of a wedge joint. Such surfaces shall be clean and dry. Sweeping or other means acceptable to the Engineer shall be used.

The mixture shall not be placed whenever the surface is wet or frozen.

Tack Coat Application: The tack coat shall be applied by a pressurized spray system that results in uniform overlapping coverage at an application rate of 0.03 to 0.05 gal./s.y. for a non-milled surface and an application rate of 0.05 to 0.07 gal./s.y. for a milled surface. The Engineer must approve the equipment and the method of measurement prior to use. The material for tack coat shall be heated to 160°F ± 10°F and shall not be further diluted.

Tack coat shall be allowed sufficient time to break prior to any paving equipment or haul vehicles driving on it.

The Contractor may request to omit the tack coat application between bituminous concrete layers that have not been exposed to traffic and are placed during the same work shift. Requests to omit tack coat application on the upper and lower surfaces of a wedge joint will not be considered.

Placement: The mixture shall be placed and compacted to provide a smooth, dense surface with a uniform texture and no segregation at the specified thickness and dimensions indicated in the plans and specifications.

When unforeseen weather conditions prevent further placement of the mixture, the Engineer is not obligated to accept or place the bituminous concrete mixture that is in transit from the Plant.

In advance of paving, traffic control requirements shall be set up, maintained throughout placement, and shall not be removed until all associated work is completed, including quality control, sampling for density testing, and inspection activities.

The mixture temperature will be verified using three infrared thermometers supplied by the Contractor and acceptable to the Engineer. The placement temperature range shall be listed in the Quality Control Plan (QCP) for placement and shall meet the requirements of Table M.04.03-4. Any HMA material that falls outside the specified temperature range as measured by two of the three thermometers may be rejected.

The Contractor shall inspect the newly placed pavement for defects in mixture or placement before rolling is started. Any deviation from standard crown or section shall be immediately remedied by placing additional mixture or removing surplus mixture. Such defects shall be corrected to the satisfaction of the Engineer.

Where it is impracticable due to physical limitations to operate the paving equipment, the Engineer may permit the use of other methods or equipment. Where hand spreading is permitted, the mixture shall be placed by means of suitable shovels and other tools, and in a uniformly loose layer at a thickness that will result in a completed pavement meeting the designed grade and elevation.

Placement Tolerances: Each lift of bituminous concrete placed at a specified thickness shall meet the following requirements for thickness and area. Any pavement exceeding these limits shall be subject to an adjustment or removal. Lift tolerances will not relieve the Contractor from meeting the final designed grade. Lifts of specified non-uniform thickness, i.e. wedge course, shall not be subject to thickness and

area adjustments.

- a) Thickness: Where the average thickness of the lift exceeds that shown on the plans beyond the tolerances shown in Table 4.06-3, the Engineer will calculate the thickness adjustment in accordance with 4.06.04.

TABLE 4.06-3: Thickness Tolerances

Mixture Designation	Lift Tolerance
S1	+/- 3/8 inch
S0.25, S0.375, S0.5	+/- 1/4 inch

Where the thickness of the lift of mixture is less than that shown on the plans beyond the tolerances shown in Table 4.06-3, the Contractor, with the approval of the Engineer, shall take corrective action in accordance with this Section.

- b) Area: Where the width of the lift exceeds that shown on the plans by more than the specified thickness, the Engineer will calculate the area adjustment in 4.06.04.
- c) Delivered Weight of Mixture: When the delivery ticket shows that the truck exceeds the allowable gross weight for the vehicle type, the Engineer will calculate the weight adjustment in accordance with 4.06.04.

Transverse Joints: All transverse joints shall be formed by saw-cutting to expose the full thickness of the lift. Tack coat shall be applied to the sawn face immediately prior to additional mixture being placed.

Compaction: The Contractor shall compact the mixture to meet the density requirements as stated in 4.06.04 for any lift placed with a thickness of 1 1/2 inches or greater, and eliminate all roller marks without displacement, shoving, cracking, or aggregate breakage. This shall include wedge courses when the wedge thickness is 1 1/2 inches or greater within a single paver pass.

When placing a lift with a specified thickness less than 1 1/2 inches the Contractor shall provide a minimum rolling pattern as determined by the development of a compaction curve. This shall include wedge courses when the wedge or any portion of the wedge thickness is less than 1 1/2 inches within a single paver pass. The procedure to be used shall be documented in the Contractor's QCP for placement and demonstrated on the first day of placement.

The use of the vibratory system on concrete structures is prohibited. When approved by the Engineer, the Contractor may operate a roller using an oscillatory system at the lowest frequency setting.

If the Engineer determines that the use of compaction equipment in the dynamic mode may damage highway components, utilities or adjacent property, the Contractor shall provide alternate compaction equipment.

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

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

Surface Requirements:

Each lift of the surface course shall not vary more than 1/4 inch from a Contractor-supplied 10 foot straightedge. For all other lifts of bituminous concrete, the tolerance shall be 3/8 inch. Such tolerance will apply to all paved areas.

Any surface that exceeds these tolerances shall be corrected by the Contractor at its own expense.

Replace "Method II – Butt Joint" under Subarticle 4.06.03-7 with the following:

Method II - Butt Joint:

When adjoining passes are placed, the Contractor shall use the end gate to create a near vertical edge (refer to Figure 4.06-2). The completing pass (hot side) shall have sufficient mixture so that the compacted thickness is not less than the previous pass (cold side). During placement of multiple lifts, the longitudinal joint shall be constructed in such a manner that it is located at least 6 inch from the joint in the lift immediately below. The joint in the final lift shall be at the centerline or at lane lines. The end gate on the paver should be set so there is an overlap onto the cold side of the joint.

When using this method, the Contractor must complete full width "curb to curb" paving when the vertical edge exposed to traffic would be greater than one inch, unless otherwise allowed by the Engineer.

Replace paragraphs 10, 11 and 12 under Subarticle 4.06.03-8 with the following:

Approval of any QCP does not relieve the Contractor of its responsibility to comply with the Project specifications. The Contractor may propose modifications to the QCPs as work progresses and must document the changes in writing prior to resuming operations. These modifications include changes in quality control procedures, equipment, or personnel.

QCP for Production: Refer to M.04.03-1.

QCP for Placement: The Standard QCP, Project Summary Sheet, and Extended Season Paving Plan shall conform to the format provided on the [Advisory Team web page](#).

Replace Subarticle 4.06.03-9 with the following:

9. Temperature and Seasonal Requirements: Paving, including placement of temporary pavements, shall be divided into 2 seasons, “In-Season” and “Extended-Season.” In-Season paving occurs from May 1 to October 14, and Extended Season paving occurs from October 15 to April 30. The following requirements shall apply unless otherwise authorized or directed by the Engineer:

- Mixtures shall not be placed when the air or subbase temperature is less than 40°F regardless of the season.
- Should paving operations be scheduled during the Extended Season, the Contractor must submit an Extended Season Paving Plan for the Project that addresses minimum delivered mix temperature and meets the requirements of Table M.04.03-4. The Plan shall also include if WMA, PMA, or other additives are being used; 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.

Replace paragraphs 1 and 2 under Subarticle 4.06.03-10 with the following:

10. Field Density: The Contractor shall obtain cores in accordance with AASHTO R 67 for the determination of mat and longitudinal joint density of bituminous concrete pavements. The Contractor’s representative obtaining samples must be a certified NETTCP HMA Paving Inspector, NETTCP HMA Plant Technician, or has successfully completed the HMA Field Sampling Course administered by The Connecticut Advanced Pavement Laboratory (CAP Lab). Within three (3) calendar days of placement, mat and joint cores shall be extracted on each lift with a specified thickness of 1 1/2 inches or more. That time frame may be extended to a maximum of five (5) days due to inclement weather, State holidays or other access restrictions beyond the control of the Contractor. Joint cores shall not be extracted on HMA S1.0 lifts.

The Contractor shall extract cores from random locations determined by the Engineer in accordance with ASTM D3665. Six (6) inch diameter cores shall be extracted for all mixes. The Contractor shall coordinate with the Engineer to witness the extraction, labeling of cores, and filling of the core holes.

Replace the last sentence in Subarticle 4.06.04-2(b)i with the following:

Additionally, any subplot with a density result below 87% is subject to evaluation under 1.06.04.

Replace the last sentence in Subarticle 4.06.04-2(b)ii with the following:

Additionally, any subplot with a density result below 87% is subject to evaluation under 1.06.04.

Replace the last sentence in Subarticle 4.06.04-2(b)iii with the following:

Additionally, any subplot with a density result below 87% is subject to evaluation under 1.06.04.

After Section 4.06, add the following New Section 4.07:

**SECTION 4.07
RUMBLE STRIPS,
REMOVAL OF RUMBLE STRIPS**

4.07.01—Description

4.07.02—Materials

4.07.03—Construction Methods

4.07.04—Method of Measurement

4.07.05—Basis of Payment

4.07.01—Description: Work under this item shall consist of installing rumble strips on asphalt highway shoulders where shown on the plans or where directed by the Engineer.

Work under this item shall also consist of removing rumble strips by milling the pavement to a depth of 2 1/4 inches, disposing of pavement millings, sweeping and cleaning, applying tack coat on all surfaces within the milled area, and placing Hot-Mix Asphalt (HMA) or an equivalent Polymer Modified Asphalt (PMA) to match the elevation of the surrounding pavement.

4.07.02—Materials: Materials for the removal of rumble strips shall meet the requirements of Section M.04 and shall consist of the following:

1. HMA S0.375 or an equivalent PMA. All HMA or PMA shall be Traffic Level 2 unless indicated otherwise on the plans.
2. Material for Tack Coat.

4.07.03—Construction Methods:

I. Installation of Rumble Strips:

The Contractor shall pre-mark the location of the edge of the cut, and the beginning and ending points of the sections, prior to the installation of the rumble strips. The Engineer will review and approve the locations.

The Contractor shall arrange for a technical representative, from the company which produces the milling machine to be used on the Project, who will be required to be on Site at the beginning of the operation in order to ensure results that meet the requirements of the Contract to the satisfaction of the Engineer.

Rumble strips shall not be installed on bridge decks, in acceleration and deceleration lanes, at drainage structures, at loop detector sawcut locations, or in other areas identified by the Engineer.

- a. **Automated (Wide Shoulders):** The equipment shall be able to install the rumble strips in sections where the shoulder width from the edge line to an obstruction is greater than or equal to 4 feet. Where there are no obstructions, the equipment shall be used in sections where the shoulder width from the edge line is a minimum of 3 feet. The equipment shall consist of a rotary type cutting head with a maximum outside diameter of 24 inches and shall be a minimum of 16 inches long. The cutting head(s) shall have the cutting tips arranged in such a pattern as to provide a relatively smooth cut (approximately 1/16 of an inch between peaks and valleys) in one pass. The cutting head(s) shall be on independent suspension from that of the power unit to allow the tool to self-align with the slope of the shoulder or any irregularities in the shoulder surface. The equipment shall include suitable provisions for the application of water to prevent dust. The Contractor shall use a machine capable of creating the finished pattern at a minimum output of 60 rumble strips per minute.
- b. **Manual (Narrow Shoulders):** The equipment shall be able to install the rumble strips in sections where the shoulder width from the edge line to an obstruction is between 3 feet and 4 feet. The cutting head(s) shall have the cutting tips arranged in such a pattern as to provide a relatively smooth cut (approximately 1/16 of an inch between peaks and valleys) in one pass. The equipment shall include suitable provisions for the application of water to prevent dust.
- c. **Finished Cut (Automated or Manual):** The rumble strips shall have finished dimensions of 7 inches (+/- 1/2 inch) wide in the direction of travel and shall be 16 inches (+/- 1/2 inch) long measured perpendicular to the direction of travel. The depressions shall have a concave circular shape with a minimum 1/2 inch depth at center (maximum allowable depth is 5/8 inch measured to a valley). The rumble strips shall be placed in relation to the roadway according

to the patterns shown in the plans or in Figure 4.07-1. Alignment of the edge of the cut shall be checked and verified by the Engineer.

The cutting tool shall be equipped with guides to provide consistent alignment of each cut in relation to the roadway.

The Contractor shall pick up any waste material resulting from the operation in a manner acceptable to the Engineer. This waste material shall be disposed of in accordance with Article 1.10.03.

The work area shall be returned to a debris-free state prior to re-opening to traffic.

The Contractor shall provide all traffic control as specified in the item "Maintenance and Protection of Traffic" included elsewhere in the Contract.

II. Removal of Rumble Strips:

Equipment for this work shall include the following:

1. Milling machine: A milling machine 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 bituminous concrete pavement.
The rotary drum of the machine shall use carbide or diamond-tipped tools. A tooth spacing of 8 mm is preferred, but up to 15 mm will be allowed. The forward speed of the milling machine shall be a maximum of 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 machine shall be equipped with an integral pickup and conveying device to immediately remove milled material from the surface of the roadway and discharge the millings into a truck 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 Contractor may be permitted to use a lesser-equipped milling machine, if approved by the Engineer. It shall be capable of milling a minimum width of 20 inches to completely remove the existing rumble strip. A wider milling width may be used in cases where two rumble strips are located near and parallel to each other, as may occur in a median area.
2. 10-foot straight edge.
3. Sweeper: A sweeper, equipped with a water tank, capable of remove millings and loose debris from the surface. Other sweeping or vacuum type equipment may be provided in lieu of the sweeper where acceptable by the Engineer. A hand broom may be used for smaller areas when approved by the Engineer.
4. Air compressor: An air compressor capable of producing 100 psi oil free compressed air for cleaning the milled pavement surface.
5. Hot air lance: A hot air lance that can deliver 100 psi oil free heated air to clean and dry the pavement surface. The compressed air emitted from the tip of the lance shall achieve a temperature of at least 1500°F.
6. Paving and compaction equipment: Paving and compaction equipment meeting the requirements of Section 4.06. It is expected that much of the placement will require hand work or a mixture of equipment and hand tools to achieve the required results. Smaller compaction equipment, including vibratory plate compactors, will be allowed by the Engineer to achieve the required results. At all times the Contractor is required to meet the density and compaction and all other requirements specified in Sections 4.06 and M.04.
7. Portable lighting equipment: If the work is performed at night a truck-towed light tower and driver shall be provided for use by the Engineer for all marking, installation, and inspection of the patches.
8. Tack Coat Distributor: A minimum 150-gallon capacity tank that is trailer mounted or self-propelled and capable of applying tack coat meeting the requirements of Section 4.06.

The Contractor shall mark the location of the beginning and ending points of the sections for milling and paving, prior to the removal of the rumble strips. The Engineer will review and approve the limits of removal.

The width of milling shall be as specified on the Plans or other specifications. If no other width specification exists, the minimum width of milling for freeway shoulders shall be 20 inches, and for all other rumble strips the minimum width of milling shall be 14 inches in order to completely remove

the existing rumble strip to the satisfaction of the Engineer. If there are two rumble strips located near and parallel to one another, as may occur in median areas, and if they both can be removed by a single pass of a wider milling machine without adversely affecting drainage, safety, or quality of results, then a wider milling machine may be used. In this case the length measured for payment will be the sum of the lengths of the two individual rumble strips. Milling widths wider than specified above may be used with the written permission of the Engineer.

The depth of removal shall be 2 1/4 inches. The Engineer may alter the milling depth, either up or down, based on deterioration or scabbing discovered as work is in progress. This adjustment will not exceed 1/2 inch. It is expected that the milling depth of 2 1/4 inches is appropriate for most cases. The milled surface shall be swept clean (by hand if necessary). Once all millings are removed by sweeping, the milled areas shall be allowed to dry. Any moisture in or on the milled areas must be allowed to evaporate or be removed with the assistance of a hot air lance as specified above. When the milled area is dry to the satisfaction of the Engineer, it shall be blown clean of any residual dust or debris using compressed air.

Once deemed clean and dry by the Engineer, the entire milled area, including the sides/walls of the milled area, shall receive an application of tack coat as specified above and in Section 4.06.

After the tack coat has had sufficient time to cure or break, HMA S0.375 (Traffic Level 2) or an equivalent PMA shall be placed and compacted to the requirements above and in Section 4.06. The Contractor shall confirm that the surface elevation of the finished patch matches the elevation of the surrounding pavement surface to within 1/4 inch using the 10-foot straightedge. The Contractor shall confirm that all patch material placed is uniform in appearance without segregation.

The Contractor shall resurface the milled area prior to opening the roadway to traffic. The milled area shall be swept, cleaned, tacked, and repaved in the same work shift.

Precautions shall be taken to avoid damage to the existing roadway materials that are to remain in place. If damage occurs, it must be repaired by the Contractor at no additional cost to the State. The methods employed in performing the work and all equipment, tools, machinery and plant used in handling material and executing any part of the work shall be subject to the approval of the Engineer before the work is started; and whenever found unsatisfactory, it shall be changed and improved as required by the Engineer.

The Contractor shall remove and dispose of any waste material resulting from the operation in a manner acceptable to the Engineer. This waste material shall be disposed of in accordance with Article 1.10.03.

4.07.04—Method of Measurement: The work for installing and removing rumble strips will be measured for payment by the actual number of linear feet of rumble strips installed or removed, as applicable. Removal distance shall be measured longitudinally along the edge of pavement with deductions for bridge decks, acceleration and deceleration lanes, drainage structures, loop detector sawcut locations, and other sections where the rumble strips were not previously installed.

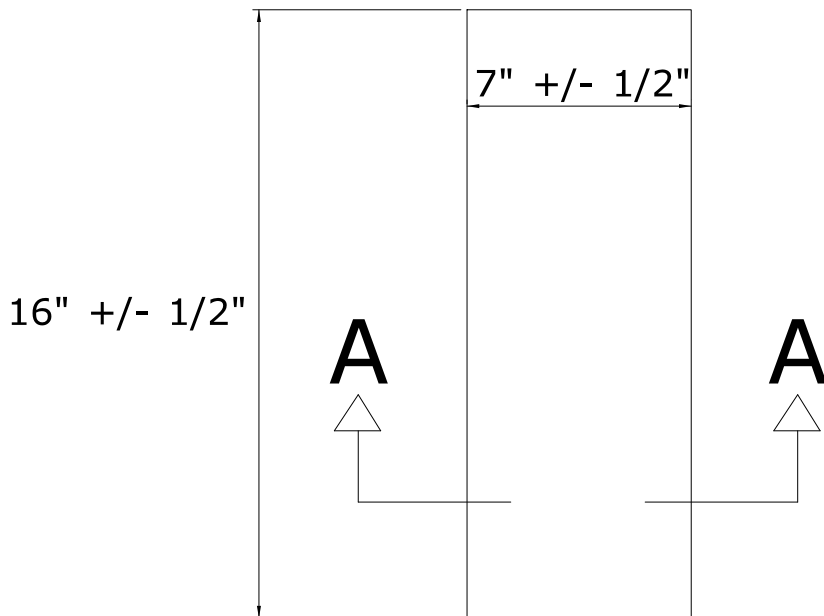
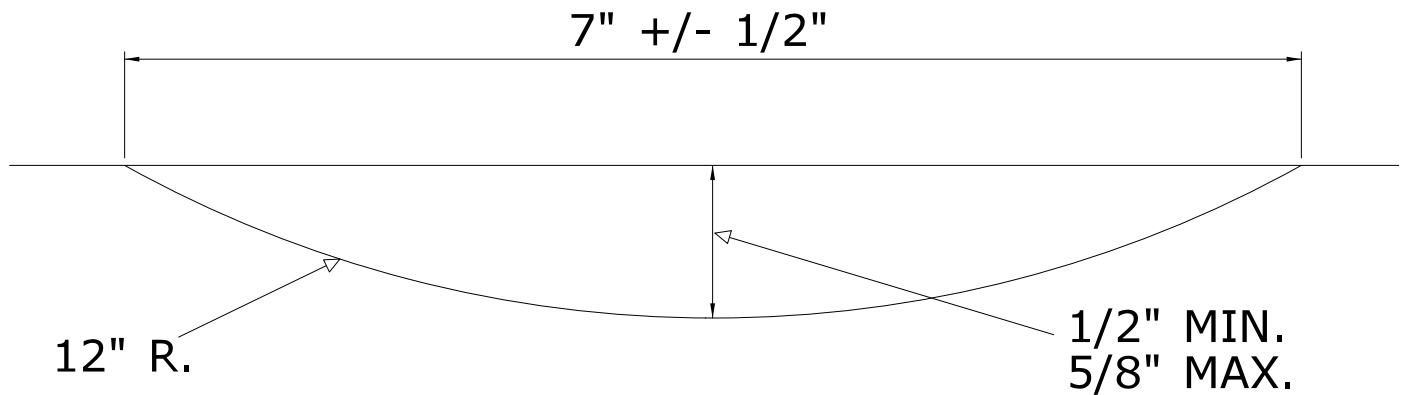
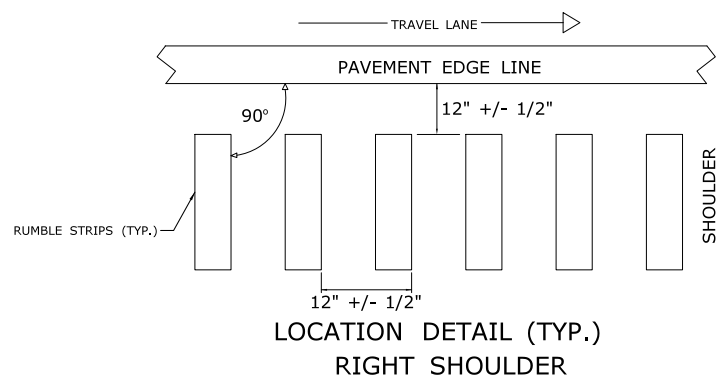
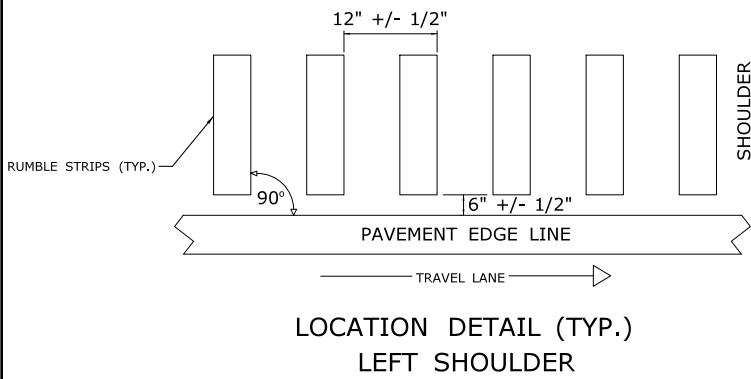
If two rumble strips are near one another and are removed by a single milling machine pass, the length measured for payment will be the sum of the lengths of the two rumble strips.

4.07.05—Basis of Payment: The work for installing rumble strips will be paid for at the Contract unit price per linear foot for "Rumble Strips –Automated" or "Rumble Strips–Manual." The price shall include furnishing all equipment, tools, labor, a technical representative and work incidental thereto and also disposal of any waste material resulting from the operation. The Contractor will not be paid under the item "Rumble Strips - Manual" if the field conditions allow for the use of the "Rumble Strips - Automated" item, even if the manual method was used.

The work for removing rumble strips will be paid for at the Contract unit price per linear foot for "Removal of Rumble Strips." The price shall include the removal of the existing rumble strips by milling, sweeping, cleaning, and drying of the milled area, furnishing all materials, application of tack coat, placement and compaction of the HMA or PMA, and equipment, tools, labor, and work incidental thereto, as well as removal and disposal of any waste material resulting from the operation.

Pay Item	Pay Unit
Rumble Strips–Automated	l.f.
Rumble Strips–Manual	l.f.
Removal of Rumble Strips	l.f.

Figure 4.07-1: DETAILS AND SECTIONS OF RUMBLE STRIPS

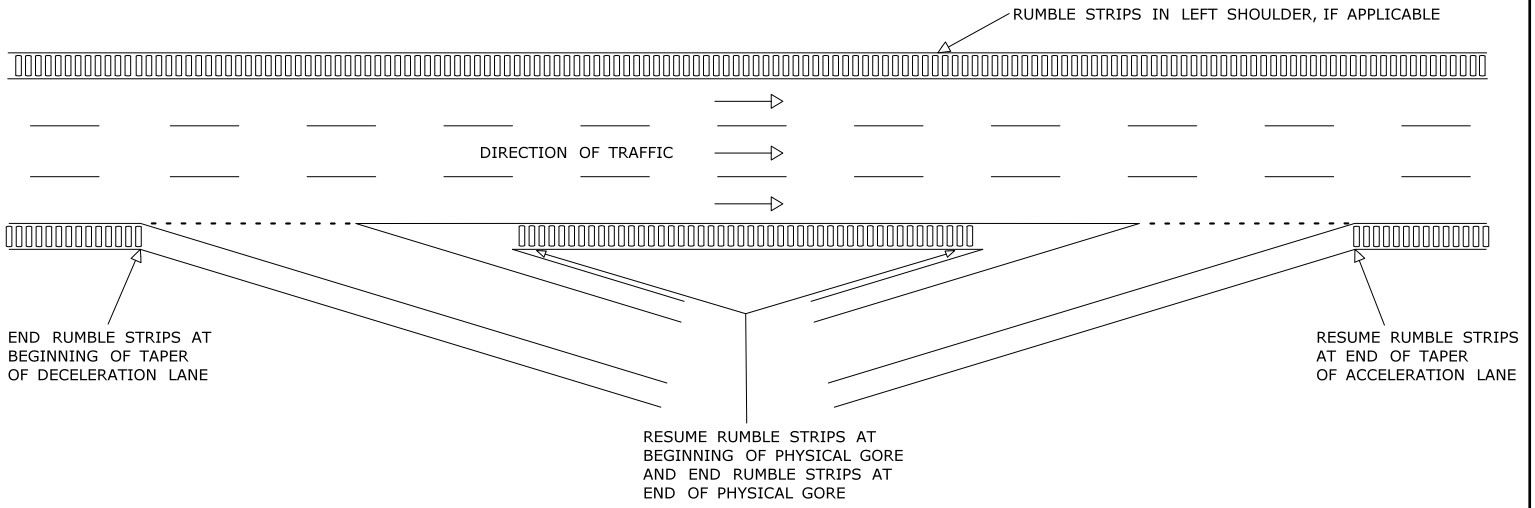


NOTES:

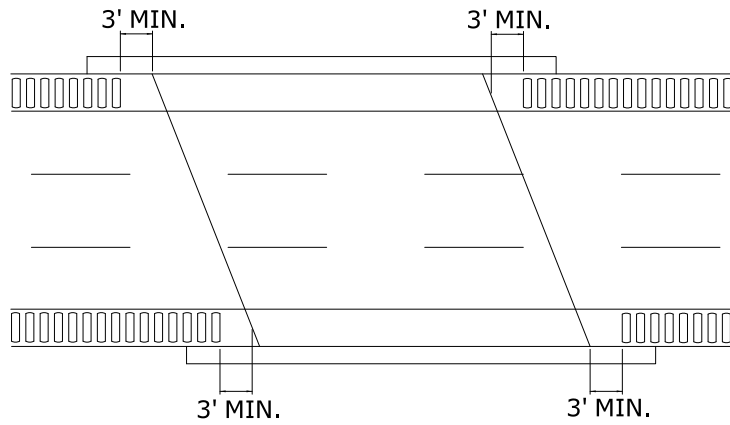
RUMBLE STRIP ALIGNMENT SHALL GENERALLY BE STRAIGHT AND OFFSET APPROXIMATELY 6" IN THE LEFT SHOULDER AND 12" IN THE RIGHT SHOULDER FROM THE OUTER EDGE OF THE EDGE LINE, AND SHALL BE AT LEAST 12" FROM THE LONGITUDINAL JOINT IN COMPOSITE PAVEMENTS. THIS OFFSET MAY BE ADJUSTED TO ACCOMMODATE VARIATIONS IN THE EDGE LINE AND THE SHOULDER WIDTH.

PLAN DETAIL

Figure 4.07-2: TYPICAL TREATMENTS FOR INSTALLING RUMBLE STRIPS

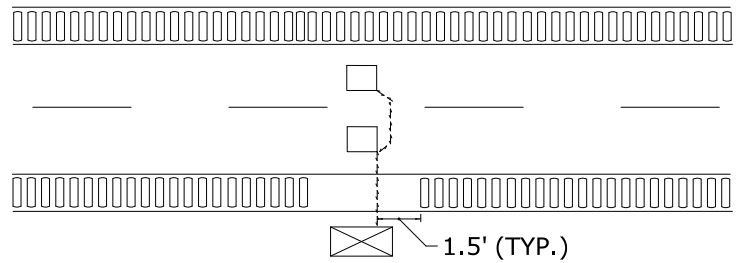


TYPICAL TREATMENT FOR RAMPS

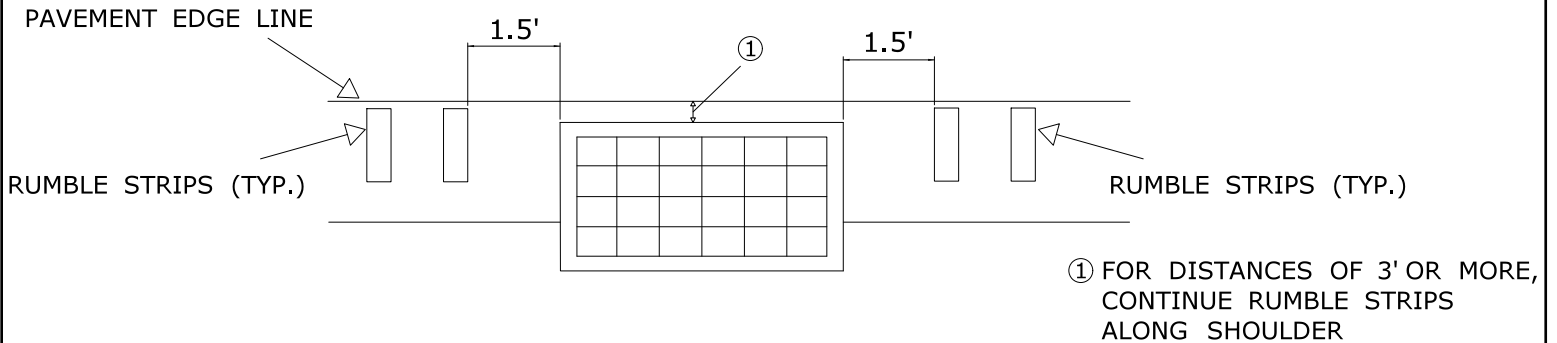


TYPICAL TREATMENT FOR BRIDGES

NOTE: REVISE DISTANCE FROM EXPANSION JOINT AS NEEDED FOR NARROW SHOULDERS APPROACHING BRIDGES



TYPICAL TREATMENT FOR LOOP DETECTOR SAWCUT LOCATIONS



TYPICAL TREATMENT FOR OBSTRUCTIONS (I.E. CATCH BASINS OR MANHOLES)

① FOR DISTANCES OF 3' OR MORE, CONTINUE RUMBLE STRIPS ALONG SHOULDER

**SECTION 4.09
MILLING,
REMOVAL OF EXISTING WEARING SURFACE**

Replace Section 4.09 in its entirety with the following:

**SECTION 4.09
MILLING,
REMOVAL OF EXISTING WEARING SURFACE**

4.09.01—Description: This work shall consist of the milling, removal, and disposal of existing bituminous concrete pavement. It shall also include the complete removal and disposal of the existing bituminous concrete wearing surface, membrane waterproofing and bond breaker covering the reinforced concrete bridge deck(s) as shown on the plans or as ordered by the Engineer. The types of milling shall include the following:

1. **Coarse** Milling shall be used for the removal of bituminous concrete in excess of 4 inch depth.
2. Fine Milling shall be used to remove bituminous concrete from 0 to 4 inches. It may also be used to remove bituminous concrete greater than 4 inches in limited areas or where required.
3. Removal of Existing Wearing Surface shall be used where shown on the plans.

4.09.03—Construction Methods:

A. Milling:

1. General: The Contractor shall remove the bituminous concrete material using the milling type specified on the Plans. The pavement surface shall be removed to the line, grade, and existing or typical cross-section shown on the plans or as directed by the Engineer.

The bituminous concrete material shall be disposed of offsite by the Contractor at an approved disposal facility unless otherwise stated in the Contract.

Any milled surface, or portion thereof, that is exposed to traffic shall be paved within 14 calendar days unless otherwise stated in the Contract.

2. Equipment: The equipment for milling the pavement surface shall be designed and built for milling bituminous concrete 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 bituminous concrete 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, **mobile reference beam** (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 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.

The rotary drum of the milling machine shall have carbide or diamond-tipped teeth with the following maximum spacing and minimum milling depth:

Milling Type	Maximum Tooth Spacing*	Minimum Depth Capability (single pass)
Coarse Milling	15 mm	4 inches
Fine Milling	8 mm	4 inches

* Industry standard **units**

The forward speed of any milling machine shall be limited to no more than 45 feet/minute.

The teeth on the revolving cutting drum must be continually maintained and shall be replaced as warranted to provide a uniform pavement texture, as outlined in 4.09.03-C, Surface Tolerance.

3. Protection: Protection shall be provided around **visible** 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 falls into inlet openings or inlet grates shall be removed at the Contractor's expense.

B. Removal of Existing Wearing Surface: The bituminous concrete wearing surface, membrane waterproofing and bond breaker shall be removed from the structure(s) using means acceptable to the Engineer to completely expose the concrete bridge deck(s).

Prior to removal of bituminous concrete wearing surface, the Contractor shall field verify the depth of the existing bituminous concrete by obtaining depth measurements (maximum 4 inch diameter holes) at intervals no greater than 25 feet apart in each lane. Depth verification holes shall be filled with bituminous material **and compacted** if the removal of wearing surface operation will not be completed within 5 days.

The existing bituminous concrete wearing surface and membrane waterproofing shall be removed in their entireties to the limits shown on the plans. The removal operations shall not begin until the Contractor is prepared to perform the permanent patching or repair to the underlying concrete within 5 working days. If this is in conflict with "Prosecution and Progress," "Maintenance and Protection of Traffic," or other Contract requirements, the more stringent specification shall apply.

Methods for removal of existing wearing surfaces **shall be** fine milling and shall include as many passes or amount of effort required to completely expose the concrete deck(s). Any membrane not completely removed by the milling process shall be removed by scarifying or other means as approved by the Engineer.

Alternate methods for the removal of a bituminous concrete surface may be submitted to the Engineer for review. Demonstration of the alternate removal methods may be required prior to consideration.

The existing bituminous concrete wearing surface, membrane waterproofing, bond breaker, and any other products being removed shall be disposed of offsite by the Contractor unless otherwise noted in the Contract or as directed by the Engineer.

If membrane waterproofing, as specified elsewhere in the Contract, is to be re-installed on the existing deck(s), the surface profile following removal shall be suitable for such reinstallation. The profile of the cleaned concrete surface shall meet the membrane waterproofing manufacturer's recommendations, and have no gouges greater than 1/2 inch in depth. Any deficiencies that could, in the Engineer's opinion, cause failure of, or puncture the new membrane shall be removed as part of this work.

C. Surface Tolerance:

1. General: The 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, poor workmanship, or inadequate field verification. Any unsatisfactory surfaces caused by the removal operations are the Contractor's responsibility and shall be corrected at the Contractor's expense and to the satisfaction of the Engineer prior to opening the surface to traffic.

Any raised structures shall be delineated with traffic control devices, as directed by the Engineer.

2. Tolerances: All milling types shall provide a satisfactory riding surface with a uniform textured appearance. The Contractor shall perform random spot-checks at a minimum of 5 locations per working shift with a Contractor-supplied 10 foot straight edge to verify the surface tolerances listed below. Random spot-checks (minimum of 5 checks per shift) shall occur at a maximum of 250 feet per pass of the milling machine and shall be performed with the Engineer present. The following tolerances shall apply:

(a) **Coarse Milling:** The variation of the top of two ridges from the testing edge of the straightedge, between any two ridge contact points, shall not exceed 3/8 inch. The variation of the top of any ridge to the bottom of the groove adjacent to that ridge shall not exceed 3/8 inch.

(b) **Fine Milling:** The variation of the top of two ridges from the testing edge of the straightedge, between any two ridge contact points, shall not exceed 1/4 inch. The variation of the top of any ridge to the bottom of the groove adjacent to that ridge shall not exceed 1/4 inch.

Where a surface delamination between bituminous concrete layers or a surface delamination of bituminous concrete 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 +/- 1/2 inch to eliminate the condition. When removing bituminous concrete pavement entirely from an underlying Portland cement concrete pavement, all bituminous concrete 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.

D. Transitions:

1. Construction Joints: No transverse vertical face shall be left exposed to traffic. No longitudinal vertical face greater than 1 inch shall be left exposed to traffic. Any other vertical face created by milling shall have a bituminous concrete taper constructed to the temporary transition requirements as described below.

2. Roadway Structures: Roadway structures shall not have a vertical face of greater than 1 inch exposed to traffic as a result of milling. All roadway structure edges and bituminous concrete tapers shall be clearly marked with fluorescent paint. The paint shall be maintained throughout the exposure to traffic.

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:

- (a) For roadways with a posted speed limit of 35 mph or less:
 - (i) Round structures with an exposed vertical face between 1 inch and 2.5 inches shall be transitioned with a hard rubber tapered protection ring designed for that purpose of the appropriate inside diameter designed specifically to protect roadway structures. Bituminous concrete tapers at a minimum 12 to 1 (12:1) taper in all directions may be substituted for the protection rings if approved by the Engineer.
 - (ii) Round structures with an exposed vertical face greater than 2.5 inches shall receive a transition of bituminous concrete formed at a minimum 12 to 1 (12:1) taper in all directions.
 - (iii) All rectangular structures shall receive a transition of bituminous concrete formed at a minimum 12 to 1 (12:1) taper in all directions.
- (b) For roadways with a posted speed limit of 40, 45 or 50 mph: All structures shall receive a transition of bituminous concrete formed at a minimum 24 to 1 (24:1) taper in all directions of travel. Direction of travel shall include both the leading and trailing sides of a structure. The minimum taper shall be 12 to 1 (12:1) in all other directions.
- (c) For roadways with a posted speed limit of greater than 50 mph: All structures shall receive a transition of bituminous concrete formed at a minimum 36 to 1 (36:1) taper in the direction of travel. Direction of travel shall include both the leading and trailing sides of a structure. The minimum taper shall be 12 to 1 (12:1) in all other directions.

3. Temporary Transitions: If any vertical face is formed in an area exposed to traffic, a temporary paved transition shall be established according to the requirements shown on the plans or in accordance with 4.06.03-5, "**Transitions for Roadway Surface.**" If a milling machine is used to form a temporary transition, the length of the temporary transition shall be in accordance with 4.06.03-5, the requirements shown on the plans, or shall be as directed by the Engineer. A clean vertical face shall be established by saw cutting at all final termini limits of the Project.

4. Milling for Permanent Pavement Transitions: When called for on the plans, milling a tapered "keyway" to transition the top course of a bituminous concrete overlay to an existing

pavement shall be performed as specified elsewhere in the Contract.

E. Sweeping: Prior to opening an area which has been milled to traffic, the pavement shall be thoroughly swept with a sweeper truck. The sweeper truck shall be equipped with a water tank and be capable of removing the millings and loose debris from the surface. The sweeper truck shall operate at a speed that allows for the maximum pickup of millings from the roadway 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.

4.09.04—Method of Measurement:

Milling of bituminous concrete will be measured for payment by the number of square yards of area from which the particular type of milling has been completed and the work accepted. Deductions will not be made for minor unmilled areas such as catch basin inlets, manholes, utility boxes and any similar structures.

The removal of wearing surface will be measured for payment by the number of square yards of bituminous concrete wearing surface removed to expose the underlying concrete deck(s). No area deductions will be made for scuppers, joints, and any similar areas.

There will be no measurement for marking roadway structures, transitions for roadway structures and sweeping of any surface that has been milled.

4.09.05—Basis of Payment: Milling work will be paid for at the Contract unit price per square yard for “Fine Milling of Bituminous Concrete (0” to 4”),” “Coarse Milling of Bituminous Concrete (Greater Than 4” Up To 8”),” and “Coarse Milling of Bituminous Concrete (Greater Than 8”).” 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(s).**

Work for the removal of wearing surface will be paid for at the Contract unit price per square yard for “Removal of Existing Wearing Surface,” complete and accepted, which price shall include the field verification, removal of wearing surface, removal of membrane waterproofing and bond breaker, saw cutting, and all equipment, tools and labor. No additional payments will be made for multiple passes with the milling machine(s) to remove the wearing surface.

No separate payments will be made for cleaning the pavement prior to paving; providing protection and doing handwork to remove bituminous concrete around catch basin inlets, bridge scuppers, manholes, utility valve boxes, median barriers, parapets, joints and any similar structures; repairing surface defects as a result of Contractor negligence; providing protection to underground utilities from the vibration of the milling operation; removal of any temporary milled transition; removal and disposal of millings; sweeping and all associated work.

Milling for Pavement Transitions, where identified on the plans, will be paid under a separate item specified elsewhere.

Installation of traffic control devices shall be included under the costs for “Maintenance and Protection of Traffic,” payment for the devices will be under the applicable items.

Pay Item	Pay Unit
Fine Milling of Bituminous Concrete (0” to 4”)	s.y.
Coarse Milling of Bituminous Concrete (Greater Than 4” Up To 8”)	s.y.
Coarse Milling of Bituminous Concrete (Greater Than 8”)	s.y.
Removal of Existing Wearing Surface	s.y.

SECTION 6.03
STRUCTURAL STEEL

Replace Subarticle 6.03.03-4(b) with the following:

- (b) **Camber:** All members shall be cambered prior to heat curving and painting. Rolled beams shall be either heat or cold cambered by methods approved by the Engineer. Cold cambering shall not be performed on fracture critical rolled sections, such as beams spaced more than 12 feet on center. For beams with excessive camber requirements (more than 1 1/2 inches per 20 feet of length), cold cambering is prohibited. Plate girders shall be cambered by cutting the web to the prescribed shape with allowances for shrinkage due to cutting, welding, and heat curving. The fabricator is responsible to determine what allowances should be made. Rolled, plate-rolled, or fabricated sections shall be cambered to the total amount shown on the plans and within the camber deviation tolerances permitted for welded beams and girders, as indicated in the ANSI/AASHTO/AWS D1.5 Bridge Welding Code. The Contractor must submit to the Engineer for approval, a cambering procedure that includes a plan for corrective action if the actual camber is not within tolerance.

SECTION 8.03
PAVED DITCHES, PAVED APRONS AND
PAVED CHANNELS

Replace Section 8.03 in its entirety with the following:

SECTION 8.03
PAVED APRONS

- 8.03.01—Description
- 8.03.02—Materials
- 8.03.03—Construction Methods
- 8.03.04—Method of Measurement
- 8.03.05—Basis of Payment

8.03.01—Description: The work under this item includes placing and compacting of a bituminous concrete course on a pre-excavated foundation forming paved aprons in accordance with the line, grade, compacted final thickness and typical cross-section shown on the plans.

8.03.02—Materials: The materials for this work shall meet the following requirements:
Bituminous Concrete Curb Mix shall meet the requirements of 4.06 and M.04.01.
Processed Aggregate Base shall meet the requirements of M.05.01.

8.03.03—Construction Methods: The processed aggregate base course shall be placed in a single course, 4 inches compacted thickness, in accordance with 3.04.03. The surface shall be a 2 inch course of bituminous concrete curb mix. The bituminous concrete shall be placed and thoroughly compacted with compaction equipment suitable for small areas.

8.03.04—Method of Measurement: The quantity to be measured for this item will be the surface area in square yards of paved apron constructed and accepted.
Formation of Subgrade and Processed Aggregate Base will not be measured for payment.

8.03.05—Basis of Payment: This work will be paid for at the Contract unit price per square yard for "Paved Apron." The price shall include all materials, tools, equipment and work incidental thereto.

Pay Item	Pay Unit
Paved Apron	s.y.

**SECTION 8.18
PROTECTIVE COMPOUND FOR BRIDGES**

Delete Section 8.18 in its entirety.

**SECTION 9.24
CONCRETE DRIVEWAY RAMP**

Replace Section 9.24 in its entirety with the following:

**SECTION 9.24
CONCRETE DRIVEWAY RAMP**

9.24.01—Description: This item shall consist of concrete driveway ramps constructed on a granular fill base in accordance with the Contract.

9.24.02—Materials: Materials for this work shall meet the following requirements:

- 1. **Portland Cement:** Concrete shall meet the requirements of M.03 for Class PCC03340 Concrete.
- 2. **Granular Fill Base:** Granular fill shall meet the requirements of M.02.01.
- 3. **Reinforcement:** Shall meet the requirements of M.06.01.

9.24.03—Construction Methods: Construction methods shall meet the requirements of 9.21.03. The surface shall be finished and marked off as directed by the Engineer.

The Contractor shall protect the driveway ramp from damage until it is opened to traffic. The ramp shall not be opened to traffic until the attainment of a compressive strength of 3,000 psi. Any damage occurring prior to the Department opening the driveway ramp to traffic shall be repaired or replaced at the Contractor's expense.

9.24.04—Method of Measurement: This work will be measured for payment as follows:

- 1. **Concrete Driveway Ramp:** This work will be measured for payment by the actual number of cubic yards of completed and accepted concrete driveway ramps.
- 2. **Excavation:** Excavation below the finished grade of each ramp, backfilling and disposal of surplus material will not be measured for payment; but the cost shall be included in the Contract price for Concrete Driveway Ramp.

Excavation above the finished grade of each ramp will be classified and paid for in accordance with 2.02.

- 3. **Granular Fill Base:** This work will not be measured for payment, but the cost shall be included in the Contract price for Concrete Driveway Ramp.
- 4. **Reinforcement:** This material will not be measured for payment, but the cost shall be included in the Contract price for Concrete Driveway Ramp.

9.24.05—Basis of Payment: This work will be paid for at the Contract unit price per cubic yard for "Concrete Driveway Ramp," complete in place, which price shall include all excavation as specified above, backfill, disposal of surplus materials, and all materials, equipment, tools and labor incidental thereto.

Pay Item	Pay Unit
Concrete Driveway Ramp	c.y.

**SECTION 9.71
MAINTENANCE AND PROTECTION OF TRAFFIC**

Replace Section 9.71 in its entirety with the following:

**SECTION 9.71
MAINTENANCE AND PROTECTION OF TRAFFIC**

9.71.01—Description: Unless other provisions are made on the plans or in the special provisions of the Contract, the Contractor shall keep the roadway under construction open to traffic for the full length of the Project and shall provide a sufficient number of travel lanes and pedestrian passways to move that traffic ordinarily using the roadway. The travel lanes and pedestrian passways shall be drained and kept reasonably smooth and in suitable condition at all times in order to provide minimum interference to traffic consistent with the proper prosecution of the work.

Suitable ingress and egress shall be provided at all times where required, for all intersecting roads and for all abutting properties having legal access.

When a scheme for maintenance of traffic, which may include detours, is shown on the plans or described in the special provisions of the Contract, this shall govern unless an alternate scheme acceptable to the Engineer is offered by the Contractor at no additional cost. If no scheme is shown on the plans or described in the special provisions of the Contract, and the Contractor wishes to deviate from the provisions of maintaining traffic as described in this Section, the Contractor may submit and the Engineer may approve a schedule showing a proposed sequence of operations and a compatible method of maintaining traffic.

The Contractor shall provide to the Engineer the name of the person who shall be responsible for installing and maintaining all temporary traffic control devices in work zones on limited access highways. This person shall be certified as a Traffic Control Supervisor by ATSSA. This certification shall be maintained and valid throughout the duration of the Contract.

9.71.03—Construction Methods: The Contractor shall furnish and erect signs legally closing the highway to traffic, as shown on the plans or directed by the Engineer, prior to commencing any work on the Project.

The Contractor shall furnish a sufficient number of signs, barricades, drums, traffic cones and delineators to forewarn traffic of the construction as shown on the traffic control plans contained within or as directed by the Engineer.

The Contractor shall also provide such safety measures, pavement markings, warning devices and signs as deemed necessary to safeguard and guide the traveling public through detours ordered by the Engineer, included in the approved scheme for maintenance of traffic, or as shown on the plans. The Contractor shall erect, maintain, move, adjust, clean, relocate and store these signs, barricades, drums, traffic cones and delineators when, where and as directed by the Engineer, and in accordance with the ATSSA "Quality Guidelines for Temporary Traffic Control Devices and Features."

The use of unauthorized or unapproved signs, barricades, drums, traffic cones or delineators will not be permitted.

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

The Contractor, when ordered by the Engineer, shall remove snow and take care of icy conditions on temporary, new and existing sidewalks on any part of the right-of-way within the limits of the Project. Payment for the cost thereof, will be made as extra work.

Snow removal and correction of icy conditions, other than those resulting from the Contractor's operations, on uncompleted contracts under traffic, will remain an obligation of the State or others.

Should the Contractor fail to perform any of the work required under this section, the State may perform or arrange for others to perform such work. In such cases, the State will deduct from money due or to become due the Contractor all expenses connected there with which are found to be greater than the cost to the State had the Contractor performed the specified work.

9.71.04—Method of Measurement: This item, being paid on a lump sum basis, will not be measured for payment.

9.71.05—Basis of Payment: This work will be paid for at the Contract lump sum price for "Maintenance and Protection of Traffic." This price shall include all costs for labor, **training**, equipment and services involved in the erection, maintenance, moving, adjusting, cleaning, relocating and storing of signs, barricades, drums, traffic cones and delineators furnished by the Contractor, as well as all costs of labor and equipment involved in the maintenance of traffic lanes and detours, except for pavement markings, ordered or included in the approved scheme for maintenance of traffic. **This price shall also include furnishing and services of a trained Traffic Control supervisor for work on limited access highways.**

"Maintenance and Protection of Traffic" does not include the cost of signs, barricades, drums, traffic cones, delineators, or the furnishing and placing of materials such as borrow, gravel, crushed stone, bituminous concrete for patching and pipe. These items will be paid for at **their respective** Contract unit prices, or in the absence of applicable Contract unit prices, as extra work. If the Engineer requires the Contractor to provide facilities in excess of the requirements of the adopted scheme for maintenance and protection of traffic, the Contractor shall perform the required work, and payment for the cost thereof will be made at applicable Contract unit prices, or in the absence of applicable Contract unit prices, as extra work.

Pay Item	Pay Unit
Maintenance and Protection of Traffic	l.s.

**SECTION 9.77
TRAFFIC CONE**

Replace Section 9.77 in its entirety with the following:

**SECTION 9.77
TRAFFIC CONE**

9.77.01—Description: Under this item the Contractor shall furnish all reflectorized orange traffic cones required on the Project to meet the requirements as stated in the item "Maintenance and Protection of Traffic," as shown on the plans and as directed by the Engineer.

The Contractor shall have, available on the Project, a sufficient number of traffic cones to fulfill all the requirements as specified in the Contract and to replace those traffic cones which have become damaged.

9.77.02—Materials: Traffic cones shall be constructed of materials to a thickness to withstand impact without damage to cones or to vehicles. The traffic cones shall be of sufficient mass or have bases to which ballast may be added to assure that they will not be blown over or displaced by wind from passing vehicles. Traffic cones used at night shall be reflectorized by utilizing Retroreflective Sheeting in accordance with M.18.09.

The following documentation shall be submitted by the Contractor prior to using traffic cones on the Project:

1. For traffic cones manufactured on or before December 31, 2019 and used for the duration of their normal service life, a copy of the manufacturer’s self-certification that the traffic cones comply with the requirements of the AASHTO Manual for Assessing Safety Hardware (MASH) or the NCHRP Report 350 is required.
2. For traffic cones manufactured after December 31, 2019, a copy of the manufacturer’s self-certification that the traffic cones comply with the requirements of the 2016 edition of the AASHTO MASH is required.

9.77.04—Method of Measurement: This item will be measured for payment by the number of traffic cones used on the Project.

9.77.05—Basis of Payment: This item will be paid for at the Contract unit price each for "Traffic Cone" used on the Project. Each cone will be paid for once, regardless of the number of times it is used on the Project.

Any traffic cones that are missing, damaged or defaced so that they are not effective, as determined by the Engineer in accordance with ATSSA "Quality Guidelines for Temporary Traffic Control Devices and Features," shall be replaced by the Contractor at no cost to the State.

When the traffic cones are no longer required on the Project they shall remain the property of the Contractor.

Pay Item	Pay Unit
Traffic Cone	ea.

**SECTION 9.78
TRAFFIC DRUM**

Replace Section 9.78 in its entirety with the following:

**SECTION 9.78
TRAFFIC DRUM**

9.78.01—Description

9.78.02—Materials

9.78.03—Construction Methods

9.78.04—Method of Measurement

9.78.05—Basis of Payment

9.78.01—Description: Under this item the Contractor shall furnish all traffic drums required on the Project to correspond to the traffic patterns, as indicated in the Contract for "Maintenance and Protection of Traffic," as shown on the plans and as directed by the Engineer.

9.78.02—Materials: Traffic Drums shall be manufactured plastic or rubber devices designed in accordance with the latest edition of the MUTCD. The design of the device will allow for the installation of barricade warning lights. The device shall be stabilized with the use of sandbags or other approved means.

Retroreflective Sheeting, in accordance with M.18.09, shall be used on traffic drums. Only one type sheeting shall be used on a drum and all drums furnished on a construction project shall be manufactured with the same type retroreflective sheeting.

The following documentation shall be submitted by the Contractor prior to using traffic drums on the Project:

1. For traffic drums manufactured on or before December 31, 2019 and used for the duration of their normal service life, a copy of the manufacturer’s self-certification that the traffic drums comply with the requirements of the AASHTO MASH or the NCHRP Report 350 is required.
2. For traffic drums manufactured after December 31, 2019 and used without attachments, a copy of the manufacturer’s self-certification that the traffic drums comply with the requirements of the 2016 edition of the AASHTO MASH is required.
3. For traffic drums manufactured after December 31, 2019 and used with attachments such as warning lights, a copy of the Federal-Aid Eligibility Letter issued by the FHWA to the manufacturer documenting that the traffic drums with the proposed attachments meet the crash test and evaluation criteria of the 2016 AASHTO MASH is required.

9.78.03—Construction Methods:

The Contractor shall have, available on the Project, a sufficient number of traffic drums to fulfill all the requirements, as specified in the Contract, to provide adequate traffic control during periods of unforeseen circumstances or emergencies.

Traffic drums shall be designed and installed in accordance with the plans, the MUTCD latest edition, and as directed by the Engineer.

Any traffic drum that is missing, damaged or defaced so that it is not effective, as determined by the Engineer and in accordance with ATSSA "Quality Guidelines for Temporary Traffic Control Devices and Features," shall be replaced by the Contractor.

When the traffic drums are no longer required on the Project, they shall remain the property of the Contractor.

9.78.04—Method of Measurement: This work will be measured for payment by the number of traffic drums used on the Project.

9.78.05—Basis of Payment: This item will be paid for at the Contract unit price each for "Traffic Drum" used on the Project. Each drum will be paid for once, regardless of the number of times it is used on the Project.

Pay Item	Pay Unit
Traffic Drum	ea.

SECTION 9.79
CONSTRUCTION BARRICADE

Replace Section 9.79 in its entirety with the following:

SECTION 9.79
CONSTRUCTION BARRICADE

9.79.01—Description: Under this item the Contractor shall furnish all construction barricades of the specified type required on the Project to comply with the requirements of NCHRP Report 350 (TL-3), or the AASHTO MASH, and the requirements stated in the item "Maintenance and Protection of Traffic," as shown on the plans and as directed by the Engineer.

9.79.02—Materials: Construction barricades shall consist of the following materials:

The frame shall be of polyvinyl chloride pipe meeting the requirements of ASTM D2241 for PVC 1120 or 1220, SDR 21 (pressure rating 200 psi), ASTM D3034, SDR 35 or an approved equal. All straight members shall be the color white.

Wyes, tees and elbows for joint connections shall be polyvinyl chloride of suitable size and strength for the purpose intended.

Joints shall not be glued and a 3/16 inch nylon rope (or equivalent) shall be threaded loosely through the pipe to keep sections from flying if hit by a vehicle.

Face panels used as horizontal members shall be constructed of a suitable plastic material, 0.060 inch high-impact styrene, anodized aluminum of no less than 0.025 inch thickness or a comparable substitute approved by the Engineer.

All hardware shall be in accordance with standard commercial specifications and shall be approved by the Engineer.

Alternate stripes of white and **fluorescent** orange retroreflective sheeting shall be applied to the horizontal members as shown on the plans. Only one type sheeting shall be used on a barricade and all barricades on a construction project shall be constructed with the same type of retroreflective sheeting. Retroreflective sheeting shall meet the requirements of M.18.09.

Construction barricades shall be designed and fabricated so as to prevent them from being blown over or displaced by wind. Construction barricades shall be approved by the Engineer before they are placed into service.

Materials Certificates shall be required confirming compliance with the requirements set forth in the plans and specifications for these barricades.

The following documentation shall be submitted by the Contractor prior to using barricades on the Project:

1. **For barricades manufactured on or before December 31, 2019 and used for the duration of their normal service life,** a copy of the **Federal-Aid Eligibility Letter** issued by the FHWA to the manufacturer documenting that the barricades **meet the crash test and evaluation criteria** of the AASHTO MASH or of the NCHRP Report 350 **is required.**
2. **For barricades manufactured after December 31, 2019,** a copy of the **Federal-Aid Eligibility Letter** issued by the FHWA to the manufacturer documenting that the barricades **meet the crash test and evaluation criteria of the 2016 AASHTO MASH is required.**

9.79.03—Construction Methods: The Contractor shall furnish a sufficient number of construction barricades required for the traffic patterns for all operations which are being undertaken concurrently. The barricades shall be constructed in a neat and workmanlike manner to the satisfaction of the Engineer.

Ineffective barricades, as determined by the Engineer and in accordance with ATSSA "Quality **Guidelines** for **Temporary** Traffic Control Devices **and Features**," shall be replaced by the Contractor at no cost to the State.

Barricades that are no longer required shall be removed from the Project and shall remain the property of the Contractor.

9.79.04—Method of Measurement: This work will be measured for payment by the number of construction barricades used on the Project.

9.79.05—Basis of Payment: This item will be paid for at the Contract unit price each for "Construction Barricade" of the type specified and used on the Project. Each barricade will be paid for once, regardless of

the number of times it is used on the Project.

Pay Item

Pay Unit

Construction Barricade (Type)

ea.

**SECTION 9.81
42 INCH TRAFFIC CONE**

Replace Section 9.81 in its entirety with the following:

**SECTION 9.81
42 INCH TRAFFIC CONE**

9.81.01—Description: This item shall consist of furnishing 42-inch retroreflective traffic cones required on the Project to meet the requirements of the traffic control plans, as stated in the item "Maintenance and Protection of Traffic," as shown on the plans or as directed by the Engineer.

The Contractor shall have available on the Project a sufficient number of traffic cones to fulfill all the requirements as specified in the Contract and to replace those which have become damaged.

9.81.02—Materials: The traffic cone shall be manufactured of 2 piece construction - cone and stabilizer base. The cone shall be constructed of impact-resistant orange plastic or rubber of a thickness able to withstand impact without damage to cones or vehicles. The bottom of the cone shall be 8 1/2 inch conical diameter tapering to the top of the cone which shall be 3 1/2 inch conical diameter. The design of the device will allow for the installation of a weighted stabilizer base. The stabilizer base shall not be round in shape. It shall have a hole in the middle to allow for quick placement over the cone. The base shall be constructed of impact-resistant black plastic or rubber ballasted to 18 lbs.

Retroreflective stripes shall be fabricated from retroreflective sheeting. All stripes shall be of one type of sheeting. Retroreflective sheeting shall be as specified in M.18.09.

The following documentation shall be submitted by the Contractor prior to using traffic cones on the Project:

1. For traffic cones manufactured on or before December 31, 2019 and used for the duration of their normal service life, a copy of the manufacturer’s self-certification that the traffic cones comply with the requirements of AASHTO MASH or NCHRP Report 350 is required.
2. For traffic cones manufactured after December 31, 2019, a copy of the manufacturer’s self-certification that the traffic cones comply with the requirements of the 2016 edition of the AASHTO MASH is required.

9.81.03—Construction Methods: The stabilizer base shall be attached to the traffic cone in accordance with the manufacturer’s instructions. The Contractor shall ensure that the devices are kept clean and bright.

9.81.04—Method of Measurement: This item will be measured for payment by the number of traffic cones used on the Project.

9.81.05—Basis of Payment: This item will be paid for at the Contract unit price for "42 Inch Traffic Cone" used on the Project. Each cone will be paid for once, regardless of the number of times it is used on the Project.

Any traffic cones that are missing, damaged or defaced so that they are not effective, as determined by the Engineer, and in accordance with ATSSA "Quality Guidelines for Temporary Traffic Control Devices and Features," shall be replaced by the Contractor at no cost to the State.

When the traffic cones are no longer required on the Project, they shall remain the property of the Contractor.

Pay Item	Pay Unit
42 Inch Traffic Cone	ea.

**SECTION 10.18
NAVIGATION LIGHT**

Delete Section 10.18 in its entirety.

**SECTION 11.12
MAGNETIC VEHICLE DETECTOR**

Delete Section 11.12 in its entirety.

SECTION M.04
BITUMINOUS CONCRETE MATERIALS

Replace Subarticle M.04.03-2(a) with the following:

2. Acceptance Requirements:

(a) General:

For those mixes with a total estimated project tonnage over 500 tons, a Contractor representative shall obtain a field sample of the material placed at the project site in accordance with AASHTO R 97 or an alternate procedure approved by the Engineer. Sampling from the truck at the Plant in accordance with AASHTO R 97 will be allowed for those mixes with a total estimated project tonnage equal to or less than 500 tons. The Contractor's representative obtaining mix samples must be a certified NETTCP HMA Paving Inspector, NETTCP HMA Plant Technician, or has successfully completed the HMA Field Sampling Course administered by the Connecticut Advanced Pavement Laboratory. Regardless of sampling location, the sample shall be quartered by the Contractor in accordance with AASHTO R 47 and placed in an approved container. For samples obtained at the project site, a Type A Mechanical Splitter shall be used to quarter the sample in accordance with AASHTO R 47. The container shall be sealed with a security tape provided by the Department and labelled to include the project number, date of paving, mix type, lot and subplot numbers and daily tonnage. The minimum weight of each quartered sample shall be 14000 grams. The Contractor shall transport one of the containers to the Departments Central Laboratory in Rocky Hill, retain one of the sealed containers for potential use in dispute resolution and test the remaining samples for acceptance in accordance with past practice.

The Contractor shall submit all acceptance 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 and may be disposed of with the approval of the Engineer. All quality control specimens shall be clearly labeled and separated from the acceptance specimens.

Contractor personnel performing QC and acceptance testing must be present at the facility prior to, during, and until completion of production, and be certified as a NETTCP HMA Plant Technician and be in good standing. Production of material for use on State projects must be suspended by the Contractor if such personnel are not present. Technicians found by the Engineer to be non-compliant with NETTCP policies and procedures or Department policies may be removed by the Engineer from participating in the acceptance testing process for Department projects until their actions can be reviewed.

Verification and dispute resolution testing will be performed by the Engineer in accordance with the Department's QA Program for Materials.

Should the Department be unable to validate the Contractor's acceptance test result(s) for a lot of material, the Engineer will use results from verification testing and re-calculate the pay adjustment for that lot. The Contractor may request to initiate the dispute resolution process in writing within 24 hours of receiving the adjustment and must include supporting documentation or test results to justify the request.

Replace Table M.04.03-1 with the following:

TABLE M.04.03-1: Curb Mix Acceptance Test Procedures

Protocol	Reference	Description
1	AASHTO T 30(M)	Mechanical Analysis of Extracted Aggregate
2	AASHTO R 97	Sampling of Bituminous Concrete
3	AASHTO T 308	Binder Content by Ignition Oven Method (adjusted for aggregate correction factor)
4	AASHTO T 209(M) ⁽²⁾	Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
5	AASHTO T 312 ⁽²⁾	⁽¹⁾ Superpave Gyratory Molds Compacted to N _{des}
6	AASHTO T 329	Moisture Content of Hot-Mix Asphalt (HMA) by Oven Method

Replace Table M.04.03-2 with the following:

**TABLE M.04.03-2:
Superpave Acceptance Testing Frequency per Type/Level/Plant for Non-PWL Lots**

Daily Quantity Produced in Tons (Lot)	Number of Sub Lots/Tests
0 to 125	0, Unless requested by the Engineer
126 to 500	1
501 to 1,000	2
1,001 to 1,500	3
1,501 or greater	1 per 500 tons or portions thereof

Replace Table M.04.03-3 with the following:

TABLE M.04.03-3: Superpave Acceptance Testing Procedures

Protocol	Procedure	Description
1	AASHTO R 97	Sampling of bituminous concrete
2	AASHTO R 47	Reducing samples to testing size
3	AASHTO T 308	Binder content by ignition oven method (adjusted for aggregate correction factor)
4	AASHTO T 30(M)	Gradation of extracted aggregate for bituminous concrete mixture
5	AASHTO T 312	⁽¹⁾ Superpave gyratory molds compacted to N _{des}
6	AASHTO T 166	⁽²⁾ Bulk specific gravity of bituminous concrete
7	AASHTO R 35	⁽²⁾ Air voids, VMA
8	AASHTO T 209(M)	Maximum specific gravity of bituminous concrete (average of 2 tests)
9	AASHTO T 329	Moisture content of bituminous concrete

**SECTION M.07
PAINT****M.07.01—General for All Paints and Enamels****M.07.02—Coating Systems for Structural Steel****M.07.03 through M.07.19—Vacant****M.07.20—Waterborne Pavement Marking Paint****M.07.21—Hot-Applied Waterborne Pavement Marking Paint****M.07.22—Epoxy Resin Pavement Markings****M.07.23—Vacant****M.07.24—Preformed Black Line Mask Pavement Marking Tape****M.07.25—Vacant****M.07.30—Glass Beads****M.07.01—General for All Paints and Enamels:**

1. Paints and enamels shall consist of pigments of the required fineness and composition, ground in the required vehicle by a suitable grinding machine to the required fineness. All pigments, resins, oils, thinners and driers shall be free from adulterants.

2. Proportions: All proportions in formulas are by weight unless otherwise specified.

3. Fineness: All pigments, except aluminum, unless otherwise specified, shall be finely ground with 100% passing the No. 200 sieve; with no less than 97% passing the No. 325 sieve.

4. Curdling, Livering, Leveling: The paint or enamel shall not liver or curdle. The pigment shall remain in suspension in a satisfactory manner through the expected shelf life specified on the label. The enamel type paints shall level properly and not show brush marks.

5. Colors: All paints and enamels shall be matched to the Department's standard shades.

6. Time of Drying: All paints or enamels, unless otherwise specified, shall dry to full gloss in not more than 18 hours.

7. Weight per Gallon: The weight per gallon of all paints and enamels shall be determined at 77°F.

8. Shipping: All paints and enamels shall be shipped in containers plainly marked with the name, net weight and volume of paint or enamel content. The manufacturer's name, address, date and lot number shall be marked on every package.

9. Samples, Sampling, and Testing: The manufacturer shall supply a Certified Test Report per lot for any pigment, oil, resin, thinner, drier or paint. When a portion of the lot is delivered, a Material Certificate is required. Upon request by the Engineer, the manufacturer shall submit a sample in accordance with the latest edition of the Materials Testing Manual's "[Minimum Schedule for Acceptance Testing](#)."

Sampling and testing shall be performed in accordance with ASTM, Federal Standards, or by methods established by the Department.

M.07.02—Coating Systems for Structural Steel: The coating system used shall be specified in the Contract and shall be selected from the [Northeast Protective Coating Committee's](#) (NEPCOAT's) Specification Criteria for Protective Coatings qualified products list.

Color: The color of the topcoat material shall be as noted on the plans ([AMS-STD-595 Color Number](#)).

Packaging and Labeling of Coating Material: The container shall be designed to store the specific coating material. Each container of coating material shall bear a label that identifies the name of the coating manufacturer, the name of the product, the lot and batch numbers, the date of manufacture and the shelf life expiration date. The label shall also include complete specific instructions for opening the container and for mixing, thinning, and applying the coating material contained therein. If the coating material cannot be positively identified from the label on the container, it shall not be used.

Delivery: Coating material shall be furnished in the manufacturer's original sealed and undamaged container.

Control of Materials: For each coating material, a Materials Certificate shall be submitted in conformance with 1.06.07. The Material Certificate shall indicate compliance with NEPCOAT Acceptance Criteria for Protective Coatings, List A or B.

M.07.03 through M.07.19—Vacant

M.07.20—Waterborne Pavement-Marking Paint: Pavement-marking paint shall be waterborne paint and shall be white or yellow, depending on its use, for application on bituminous concrete and Portland cement concrete pavement. This paint shall be compatible with the stripe-painting equipment to be used on

the Project. All requirements shall be as specified in M.07.21, except as follows:

1. Total nonvolatile compounds shall not be less than 70% by weight.
2. Pigment shall be 50 to 60% by weight.
3. Drying time for no-pick-up shall be 15 minutes or less when tested in accordance with ASTM D711.
4. The Contractor shall provide a Materials Certificate in accordance with 1.06.07 for each portion of a batch or lot delivered to the Project site.

M.07.21—Hot-Applied Waterborne Pavement-Marking Paint: Fast-drying waterborne pavement-marking paint to be applied on bituminous concrete and Portland cement concrete pavements shall be the color specified on the plans. This paint shall be capable of being applied with stripe-painting equipment at an application temperature of 130 to 145°F and shall have good spraying characteristics. The Contractor shall provide a Materials Certificate in accordance with 1.06.07 for each portion of a batch or lot delivered to the Project site.

General: Specifications and publications that apply are as follows:

- FS TT-P-1952 - Paint, Traffic and Air Field Marking, Waterborne
- Federal Test Method Standard (FTMS) No.141 - Paint, Varnish, Lacquer and Related Materials, Methods of Inspection, Sampling and Testing
- **The MUTCD**

ASTM Standards:

- D211 - Specifications for Chrome Yellow and Chrome Orange Pigments
- D476 - Classification for Dry Pigmentary for Titanium Dioxide Pigments

Detailed Requirements, Formulation and Manufacture: The paint shall be formulated and manufactured from first-grade raw materials and shall be free from defects and imperfections. The materials shall not exhibit settling or jellying after storage in the sealed containers upon receipt. The paint shall provide the proper anchorage, refraction and reflection for the finished glass spheres when applied as specified.

Composition: The composition of the paint material shall meet the requirements of any applicable Federal, State or Local regulation for products of this type and shall meet the following requirements:

1. Paint shall not contain more than 0.06% lead when tested in accordance with ASTM D3335
2. Total nonvolatile organic compounds shall be a minimum of 76% by weight
3. Pigment shall be 58 to 63% by weight when tested in accordance with ASTM D3723
4. Resin solids shall be composed of 100% acrylic emulsion polymer
5. Volatile organic compounds shall not exceed 1.25 lb./gal. excluding water when tested in accordance with ASTM D2369
6. Flash Point: Closed-cup flash point shall not be less than 145°F
7. Density: Weight per gallon shall not be less than 12.5 lb./gal. when tested in accordance with ASTM D1475

Viscosity: The consistency of the paint shall not be less than 80, nor more than 90 Krebs units when tested in accordance with ASTM D562.

Flexibility: The paint shall not show cracking or flaking when tested in accordance with ASTM D522. The panels shall be lightly buffed with steel wool and thoroughly cleaned with solvent before being used for tests.

Dry Opacity: Both white and yellow paints shall have a minimum contrast ratio of 0.96 when tested in accordance with ASTM D2805. Contrast ratio shall be determined by applying a wet film thickness of 0.005 inch to a standard hiding-power chart. After drying, the black- and- white-reflectance values shall be determined using a suitable reflectometer and the contrast ratio determined.

Bleeding: The paints shall have a minimum bleeding ratio of 0.97 when tested in accordance with FS TT-P-1952.

Abrasion Resistance: No less than 210 liters of sand shall be required to remove paint film when tested in accordance with FS TT-P-1952.

Color: The paint shall not discolor in sunlight and shall maintain colorfastness throughout its life. Color determination shall be made without beads, after a minimum of 24 hours. **Paint color shall be in accordance with the MUTCD.**

Glass Bead Adhesion: The paint with glass beads conforming to M.07.30, applied at the rate of 6.0 lb./gal. of paint, shall require not less than 150 liters of sand to remove paint film and glass beads.

Scrub Resistance: The paint shall pass 300 cycles minimum when tested in accordance with ASTM D2486.

Drying Time: Drying time to no pick-up shall be 3 minutes or less when tested in accordance with ASTM D711.

M.07.22—Epoxy Resin Pavement Markings:

General Requirements:

Identification: Each container must be labeled with the following information: Name and address of manufacturer, production batch number, date of manufacture, grade name and/or identification number, type of material, number of gallons, Contract number, directions for mixing and application.

Certification: The Contractor shall provide a Material Certificate in accordance with 1.06.07 for each portion of a batch or lot delivered to the Site.

Detailed Requirements:

(a) **Epoxy Resin Material:** The material shall be composed of epoxy resins and pigments only. The white and the yellow epoxy resin materials shall be composed of approved materials and be lead- and chromium-free.

(b) **Composition:**

WHITE (percent by weight)	YELLOW (percent by weight)
20% ± 2% Titanium Dioxide (ASTM D476 Type III)	
80% ± 2% Epoxy Resins	75% ± 2% Epoxy Resins

(c) **Color:** The white material shall be **in accordance with the MUTCD**, when the material is placed in a type EH weatherometer for a period of 500 hours and weathered according to ASTM G152. The yellow material shall be **in accordance with the MUTCD**.

(d) **Adhesion Capabilities:** When the adhesion of the material to Portland cement concrete is tested in accordance with AASHTO T 237, the failure of the system must take place in the concrete.

(e) **Abrasion Resistance:** When the abrasion resistance of the material is tested according to ASTM D4060 with a CS-17 wheel under a load of 1000 grams for 1000 cycles, the wear index shall be no greater than 82.

(f) **Hardness:** The Type D durometer hardness of the material shall be not less than 75 nor more than 90 when tested in accordance with ASTM D2240 after the material has cured for 72 hours at 73°F ± 3.5°F.

(g) **Tensile Strength:** The tensile strength of the material, when tested in accordance with ASTM D638, shall not be less than 6,000 psi after 72 hours cure at 73°F ± 3.5°F.

(h) **Compressive Strength:** The compressive strength of the material, when tested in accordance with ASTM D695, shall not be less than 12,000 psi after 72 hours cure at 73°F ± 3.5°F.

(i) **Shelf Life:** The individual components shall not require mixing prior to use when stored for a period of 12 months.

(j) **Glass Beads:** The glass beads shall meet the requirements of M.07.30.

M.07.23—Vacant

M.07.24—Preformed Black-Line Mask Pavement-Marking Tape:

General Requirements: The preformed, patterned black-line mask pavement-marking tape shall consist of a matte black, non-reflective tape in widths or sizes sufficiently large to mask the existing markings which are to be temporarily covered.

The patterned masking tape shall be pre-coated with a pressure sensitive adhesive and shall be capable of being adhered to existing markings, on bituminous concrete pavement or Portland cement concrete in accordance with the manufacturer's instructions without the use of heat, solvents or other additional adhesives, and shall be immediately ready for traffic use after application. The Contractor shall identify equipment necessary for proper application and removal, and make recommendations for application that will assure effective product performance.

The preformed, patterned black-line masking pavement-marking tape shall be suitable for use for 1 year after the date of receipt when stored in accordance with the manufacturer's recommendations.

Detailed Requirements:

(a) **Composition:** The non-reflective, patterned black-line mask pavement-marking tape shall not contain metallic foil and shall consist of a mixture of high quality polymeric materials, pigments and

inorganic fillers distributed throughout its base cross-sectional area, with a matte black non-reflective top layer. The patterned surface shall have a minimum of 20% of the surface area raised and coated with non-skid particles. The channels between the raised areas shall be substantially free of particles. The film shall be pre-coated with a pressure sensitive adhesive. A non-metallic medium shall be incorporated to facilitate removal.

- (b) **Skid Resistance:** The surface of the patterned, non-reflective black-line mask pavement-marking tape shall provide an initial average skid resistance value of 60 British Pendulum Number when tested in accordance with ASTM E303.
- (c) **Thickness:** The patterned material, without adhesive, shall have a minimum thickness of 0.065 inch at the thickest portion of the patterned cross-section and a minimum thickness of 0.02 inch at the thinnest portion of the cross-section.
- (d) **Adhesion:** The black-line mask pavement-marking tape shall adhere to the pavement and existing pavement markings under climatic and traffic conditions normally encountered in the construction work zone.
- (e) **Removability:** The black-line mask pavement-marking tape shall be capable of being removed after its intended use without the use of heat, solvents, grinding, sand or water blasting.

M.07.25—Vacant

M.07.30—Glass Beads: The glass beads shall meet the requirements of AASHTO M 247, Type 1 or 4, depending on application.

**SECTION M.15
HIGHWAY ILLUMINATION**

In the list of Articles, change the title of Article M.15.16 as follows:

| **M.15.16—Vacant**

Replace Article M.15.16 with the following:

| **M.15.16—Vacant**

SECTION M.16
TRAFFIC CONTROL SIGNALS

In the list of Articles, change the title of Articles M.16.08 and M.16.13 as follows:

M.16.08—Pedestrian Pushbutton
M.16.13—Vacant

Replace Subarticle M.16.06-9 in its entirety as follows:

M.16.06—Traffic Signals:

9. Painting: All surfaces of the signal housing, housing door, visors, inside and out, the back surface of the backplate and all brackets and hardware shall be cleaned and coated with a Primer conforming to FS TT-P-1757. The surfaces shall then be finished with 3 coats of infrared oven baked paint applied by the manufacturer, before assembly.

First Coat: The primer shall be iron oxide baking primer and shall meet or exceed the requirements of FS TT-P-664.

Second Coat: Shall be light gray exterior baking enamel and shall comply with FS TT-E-489, either No. 16251, No. 16314, or No. 16376 Gray.

Third Coat: Shall be exterior baked enamel and shall comply with FS A-A-2962.

The housing, housing door, the back surface of the backplate, and all brackets and hardware shall be painted black by the manufacturer. The color shall be Aerospace Material Specification – Standard 595 (AMS-STD-595) Color No. 17038.

At intersections at Merritt Parkway interchanges, the housing, housing door, the back surface of the backplate, and all brackets and hardware shall be painted black by the manufacturer. The color shall be AMS-STD-595 Color No. 14056.

The outside of the visors shall have a dull black finish that meets FS TT-E-527.

The inside of the visors and front surface of the backplate per the MUTCD shall have a dull black finish to minimize light reflection and to increase contrast between the signal indication and its background. The dull black finish shall meet FS TT-E-527.

Replace Subarticle M.16.07-C-2 in its entirety with the following:

M.16.07—Pedestrian Signal:

2. LED: The optical unit shall consist of multiple LED light sources and a regulated power supply assembled as a sealed unit. The diodes shall be arranged to display a full-hand symbol side by side with a full pedestrian symbol. The optical unit shall fit into a standard pedestrian signal housing so that it may be installed into an existing incandescent pedestrian signal. The LED optical unit shall be capable of maintaining message symbol integrity despite any partial loss of LEDs. The beam color shall match that of the incandescent message: walking symbol - lunar white, hand - Portland orange. The beam pattern and intensity shall meet ITE specifications. The intensity may not degrade by more than 10% per annum. The optical unit shall be warranted by the manufacturer for a period of 5 years.

Electrical Requirements:

- Input Voltage: 89 VAC to 135 VAC
- Wattage: 15 Watts
- Input Impedance at 60 Hz must satisfy all conflict monitor requirements.
- A regulated power supply shall be engineered to protect the LEDs from electrical surges and transient voltages.

Replace Subarticles M.16.07-E and M.16.07-F with the following:

E. Hardware: All exposed screws and fasteners shall be stainless steel. All internal screws, fasteners and metal parts shall be stainless steel, non-corrosible materials; or cadmium-plated ferrous materials.

F. Painting: All surfaces of the signal housing, door, all brackets and hardware, and visors, inside and out, shall be finished with 3 coats of infrared-oven- baked paint applied by the manufacturer before

assembly. All brackets and hardware shall be painted **black** by the manufacturer. The color shall be **AMS-STD-595 Color No. 17038**.

First Coat: The primer shall be iron oxide baking primer and shall meet or exceed the requirements of FS TT-P-645.

Second Coat: Shall be light gray exterior baking enamel and shall meet the requirements of FS TT-E-489, No. 16251, No. 16314 or No. 16376 gray.

Third Coat: Shall be exterior-baking enamel and shall meet the requirements of FS A-A-2962.

The housing, housing door, outside of the visor, and all brackets and hardware shall be painted black by the manufacturer. The color shall be **AMS-STD-595 Color No. 17038**.

At intersections at Merritt Parkway interchanges, the housing, housing door, outside of visor, and all brackets and hardware shall be painted dark green by the manufacturer. The color shall be **AMS-STD-595 Color No. 14056**.

The inside of the visor shall have a dull black finish to minimize light reflection and to increase contrast between the signal indication and its background. The dull black finish shall meet FS TT-E-527.

In Article M.16.08, replace the "Painting" Subarticle with the following:

M.16.08—Pedestrian Pushbutton:

Painting: All surfaces of the unit shall be finished with 3 coats of infrared oven-baked paint **applied by the manufacturer**, before assembly.

First Coat: Primer, shall be **iron** oxide baking primer and shall meet **or** exceed performance specification of FS TT-P-664.

Second Coat: Gray Enamel, shall be lusterless and shall comply with FS TT-E-527.

Third Coat: **Black** Enamel, shall be **BLACK** exterior-baking enamel and shall meet the requirements of FS A-A 2962. The color shall be **AMS-STD-595 Color No. 17038**. **At intersections at Merritt Parkway interchanges, the color shall be AMS-STD-595 Color No. 14062**.

Replace Article M.16.13 with the following:

M.16.13—Vacant

In Article M.16.09, replace the "Painting" Subarticle with the following:

M.16.09—Controllers:

Painting: All outside surfaces of the cabinet and door shall be finished with 3 coats of infrared oven-baked paint before assembly.

First Coat: The primer shall be **iron** oxide baking primer and shall meet or exceed FS TT-P-636.

Second and Third Coats: The second and third coats will be aluminum paint meeting the requirements of FS TT-P-320, and Federal Test Method Standard 141. The color shall be **AMS-STD-595 Color No. 17178**.

Replace the last paragraph in Article M.16.17 with the following:

M.16.17—Illuminated Signs:

A weatherproof housing of the dimensions specified on the plans shall be provided to enclose the fiber optic module assembly with bifurcated output fiber bundles, color filters, light sources and transformers. The sign housing frame shall be manufactured from extruded aluminum, 6061-T6, ASTM B221. This assembly shall be provided with a hinged access door. The hinge shall be stainless steel piano type hinge mounted on the left side of the door. All external hardware shall be stainless steel, internal hardware shall be corrosion resistant. The housing shall have a minimum of four 1 inch diameter drainage holes. The entire front face of the sign shall be protected by a 1/8 inch thick sheet of clear polycarbonate mounted in the door frame. The housing shall be Federal **Black** according to **AMS-STD-595 Color No. 17038** and the aluminum front panel shall be flat black according to **AMS-STD-595 Color No. 37031** unless otherwise specified on the plans. **At intersections at Merritt Parkway interchanges, the housing shall be AMS-STD-595 Color No. 14062**. The complete sign assembly shall not weigh more than 150 pounds.

The legend displayed for an "Overhead Illuminated 'Stop Ahead' Sign" shall consist of letters 12 inches high and approximately 9 inches wide formed by fiber optic bundles spaced approximately 1 1/2 inches apart. The sign shall be supplied completely assembled and ready to be checked out.

**DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS**

Naugatuck, CT
PROPOSAL continued

SECTION J

Certificate of Compliance

STATE OF CONNECTICUT
Certificate of Compliance with
Connecticut General Statute Section 31 - 57b

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

The _____ **HAS / HAS NOT**
Company Name (Cross out Non-applicable)

been cited for three (3) or more willful or serious or serious violations of any Occupational Safety and Health Act (OSHA) or of any standard, order or regulation promulgated pursuant to such act, during the three year period preceding the bid, provided such violations were cited in accordance with the provisions of any State Occupational Safety and Health Act of 1970, and not abated within the time fixed by the citation and such citation has not been set aside following appeal to the appropriate agency of court having jurisdiction or **HAS / HAS NOT** (Cross out Non-applicable) received one or more criminal convictions related to the injury or death of any employee in the three-year period preceding the bid.

The list of violations (if applicable) is attached.

(Name of Firm, Organization or Corporation)

Signed:

Written Signature:

Name Typed: (Corporation Seal)

Title:

(Title of Above Person, typed)

Dated:

State of _____)
County of _____) *ss: A.D., 20* _____)

Sworn to and personally appeared before me for the above, _____,
(Name of Firm, Organization, Corporation)

Signer and Sealer of the foregoing instrument of and acknowledged the same to be the free act and deed of

_____, and his/her free act and deed as
(Name of Person appearing in front of Notary or Clerk)

(Title of Person appearing in front of Notary or Clerk)

My Commission Expires:

(Notary Public) (Seal)

**DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS**

Naugatuck, CT
PROPOSAL continued

SECTION K

Commission on Human Rights and Opportunities

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

(Revised 09/17/07)

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

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

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

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

INSTRUCTIONS AND OTHER INFORMATION

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

1) **Definition of Small Contractor**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

PART I - Bidder Information

Company Name Street Address City & State Chief Executive	Bidder Federal Employer Identification Number _____ Or Social Security Number _____
Major Business Activity (brief description)	Bidder Identification (response optional/definitions on page 1) -Bidder is a small contractor. Yes__ No__ -Bidder is a minority business enterprise Yes__ No__ (If yes, check ownership category) Black__ Hispanic__ Asian American__ American Indian/Alaskan Native__ Iberian Peninsula__ Individual(s) with a Physical Disability__ Female__
Bidder Parent Company (If any)	- Bidder is certified as above by State of CT Yes__ No__
Other Locations in Ct. (If any)	

PART II - Bidder Nondiscrimination Policies and Procedures

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

1. Will the work of this contract include subcontractors or suppliers? Yes__ No__

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

1b. Will the work of this contract require additional subcontractors or suppliers other than those identified in 1a. above?

Yes__ No__

PART IV - Bidder Employment Information

Date:

JOB CATEGORY *	OVERALL TOTALS	WHITE (not of Hispanic origin)		BLACK (not of Hispanic origin)		HISPANIC		ASIAN or PACIFIC ISLANDER		AMERICAN INDIAN or ALASKAN NATIVE	
		Male	Female	Male	Female	Male	Female	Male	Female	male	female
Management											
Business & Financial Ops											
Marketing & Sales											
Legal Occupations											
Computer Specialists											
Architecture/Engineering											
Office & Admin Support											
Bldg/ Grounds Cleaning/Maintenance											
Construction & Extraction											
Installation , Maintenance & Repair											
Material Moving Workers											
Production Occupations											
TOTALS ABOVE											
Total One Year Ago											
FORMAL ON THE JOB TRAINEES (ENTER FIGURES FOR THE SAME CATEGORIES AS ARE SHOWN ABOVE)											
Apprentices											
Trainees											

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

1. Which of the following recruitment sources are used by you? (Check yes or no, and report percent used)				2. Check (X) any of the below listed requirements that you use as a hiring qualification (X)		3. Describe below any other practices or actions that you take which show that you hire, train, and promote employees without discrimination
SOURCE	YES	NO	% of applicants provided by source			
State Employment Service					Work Experience	
Private Employment Agencies					Ability to Speak or Write English	
Schools and Colleges					Written Tests	
Newspaper Advertisement					High School Diploma	
Walk Ins					College Degree	
Present Employees					Union Membership	
Labor Organizations					Personal Recommendation	
Minority/Community Organizations					Height or Weight	
Others (please identify)					Car Ownership	
					Arrest Record	
					Wage Garnishments	

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

(Signature)	(Title)	(Date Signed)	(Telephone)
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**DOWNTOWN COMMUNITY CONNECTIVITY BIKE AND PEDESTRIAN
IMPROVEMENTS**

Naugatuck, CT
PROPOSAL continued

SECTION L

Construction Contracts

**Construction Contracts - Required Contract Provisions
(State Funded Only Contracts)**

Index

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

18. Tangible Personal Property
19. Bid Rigging and/or Fraud – Notice to Contractor
20. Consulting Agreement Affidavit

Index of Exhibits

- EXHIBIT A – Title VI Contractor Assurances (page 13)
- EXHIBIT B – Contractor Work Force Utilization / Equal Employment Opportunity (page 14)
- EXHIBIT C – Health Insurance Portability and Accountability Act of 1996 (HIPAA) (page 17)
- EXHIBIT D - Campaign Contribution Restriction (page 25)
- EXHIBIT E - State Wage Rates (Attached at the end)

1. Title VI of the Civil Rights Act of 1964 / Nondiscrimination Requirements

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

2. Contractor Work Force Utilization / Equal Employment Opportunity

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

3. Contract Wage Rates

The Contractor shall comply with:

The State wage rate requirements indicated in Exhibit E hereof are hereby made part of this Contract.

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

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

4. Americans with Disabilities Act of 1990, as Amended

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

5. Connecticut Statutory Labor Requirements

(a) Construction, Alteration or Repair of Public Works Projects; Wage Rates. The Contractor shall comply with Section 31-53 of the Connecticut General Statutes, as revised. The wages paid on an hourly basis to any person performing the work of any mechanic, laborer or worker on the work herein contracted to be done and the amount of payment or contribution paid or payable on behalf of each such person to any employee welfare fund, as defined in subsection (i) of section 31-53 of the Connecticut General Statutes, shall be at a rate equal to the rate customary or prevailing for the same work in the same trade or occupation in the town in which such public works project is being constructed. Any contractor who is not obligated by agreement to make payment or contribution on behalf of such persons to any such employee welfare fund shall pay to each mechanic, laborer or worker as part of such person's wages the amount of payment or contribution for such person's classification on each pay day.

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

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

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

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

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

(e) Residents Preference in Work on Other Public Facilities. NOT APPLICABLE TO FEDERAL AID CONTRACTS. Pursuant to Section 31-52a of the Connecticut General Statutes, as revised, in the employment of mechanics, laborers or workmen to perform the work specified herein, preference shall be given to residents of the state who are, and continuously for at least six months prior to the date hereof have been, residents of this state, and if no such person is available, then to residents of other states

6. Tax Liability - Contractor's Exempt Purchase Certificate (CERT – 141)

The Contractor shall comply with Chapter 219 of the Connecticut General Statutes pertaining to tangible personal property or services rendered that is/are subject to sales tax. The Contractor is responsible for determining its tax liability. If the Contractor purchases materials or supplies pursuant to the Connecticut Department of Revenue Services' "Contractor's Exempt Purchase Certificate (CERT-141)," as may be revised, the Contractor acknowledges and agrees that title to such materials and supplies installed or placed in the project will vest in the State simultaneously with passage of title from the retailers or vendors thereof, and the Contractor will have no property rights in the materials and supplies purchased.

Forms and instructions are available anytime by:

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

7. Executive Orders

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

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

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

- (1) "Commission" means the Commission on Human Rights and Opportunities;
- (2) "Contract" and "contract" include any extension or modification of the Contract or contract;
- (3) "Contractor" and "contractor" include any successors or assigns of the Contractor or contractor;
- (4) "Gender identity or expression" means a person's gender-related identity, appearance or behavior, whether or not that gender-related identity, appearance or behavior is different from that traditionally associated with the person's physiology or assigned sex at birth, which gender-related identity can be shown by providing evidence including, but not limited to, medical history, care or treatment of the gender-related identity, consistent and uniform assertion of the gender-related identity or any other evidence that the gender-related identity is sincerely held, part of a person's core identity or not being asserted for an improper purpose.
- (5) "good faith" means that degree of diligence which a reasonable person would exercise in the performance of legal duties and obligations;

- (6) "good faith efforts" shall include, but not be limited to, those reasonable initial efforts necessary to comply with statutory or regulatory requirements and additional or substituted efforts when it is determined that such initial efforts will not be sufficient to comply with such requirements;
- (7) "marital status" means being single, married as recognized by the state of Connecticut, widowed, separated or divorced;
- (8) "mental disability" means one or more mental disorders, as defined in the most recent edition of the American Psychiatric Association's "Diagnostic and Statistical Manual of Mental Disorders", or a record of or regarding a person as having one or more such disorders;
- (9) "minority business enterprise" means any small contractor or supplier of materials fifty-one percent or more of the capital stock, if any, or assets of which is owned by a person or persons: (1) who are active in the daily affairs of the enterprise, (2) who have the power to direct the management and policies of the enterprise, and (3) who are members of a minority, as such term is defined in subsection (a) of Connecticut General Statutes § 32-9n; and
- (10) "public works contract" means any agreement between any individual, firm or corporation and the State or any political subdivision of the State other than a municipality for construction, rehabilitation, conversion, extension, demolition or repair of a public building, highway or other changes or improvements in real property, or which is financed in whole or in part by the State, including, but not limited to, matching expenditures, grants, loans, insurance or guarantees.

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

- (b) (1) The Contractor agrees and warrants that in the performance of the Contract such Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, status as a veteran, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such Contractor that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the State of Connecticut; and the Contractor further agrees to take affirmative action to insure that applicants with job-related qualifications are employed and that employees are treated when employed without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, status as a veteran, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by the Contractor that such disability prevents performance of the work involved; (2) the Contractor agrees, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, to state that it is an "affirmative action-equal opportunity employer" in accordance with regulations adopted by the Commission; (3) the Contractor agrees to provide each labor union or representative of workers with which the Contractor has a collective bargaining agreement or other contract or understanding and each vendor with which the Contractor has a contract or understanding, a notice to be provided by the Commission, advising the labor union or workers' representative of the Contractor's commitments under this section and to post copies of the notice in conspicuous places available to employees and applicants for employment; (4) the Contractor

agrees to comply with each provision of this Section and Connecticut General Statutes §§ 46a-68e and 46a-68f and with each regulation or relevant order issued by said Commission pursuant to Connecticut General Statutes §§ 46a-56, 46a-68e and 46a-68f; and (5) the Contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the Commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor as relate to the provisions of this Section and Connecticut General Statutes § 46a-56. If the contract is a public works contract, the Contractor agrees and warrants that he will make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such public works projects.

- (c) Determination of the Contractor's good faith efforts shall include, but shall not be limited to, the following factors: The Contractor's employment and subcontracting policies, patterns and practices; affirmative advertising, recruitment and training; technical assistance activities and such other reasonable activities or efforts as the Commission may prescribe that are designed to ensure the participation of minority business enterprises in public works projects.
- (d) The Contractor shall develop and maintain adequate documentation, in a manner prescribed by the Commission, of its good faith efforts.
- (e) The Contractor shall include the provisions of subsection (b) of this Section in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the State and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the Commission. The Contractor shall take such action with respect to any such subcontract or purchase order as the Commission may direct as a means of enforcing such provisions including sanctions for noncompliance in accordance with Connecticut General Statutes §46a-56; provided if such Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Commission, the Contractor may request the State of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the State and the State may so enter.
- (f) The Contractor agrees to comply with the regulations referred to in this Section as they exist on the date of this Contract and as they may be adopted or amended from time to time during the term of this Contract and any amendments thereto.
- (g) (1) The Contractor agrees and warrants that in the performance of the Contract such Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of sexual orientation, in any manner prohibited by the laws of the United States or the State of Connecticut, and that employees are treated when employed without regard to their sexual orientation; (2) the Contractor agrees to provide each labor union or representative of workers with which such Contractor has a collective bargaining agreement or other contract or understanding and each vendor with which such Contractor has a contract or understanding, a notice to be provided by the Commission on Human Rights and Opportunities advising the labor union or workers' representative of the Contractor's commitments under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (3) the Contractor agrees to comply with each provision of this section and with each regulation or relevant order issued by said Commission pursuant to Connecticut General Statutes § 46a-56; and (4) the Contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the Commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor which relate to the provisions of this Section and Connecticut General Statutes § 46a-56.
- (h) The Contractor shall include the provisions of the foregoing paragraph in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the State and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the Commission. The Contractor shall take such action with respect to any such subcontract or purchase order as the Commission may direct as a means of enforcing such

provisions including sanctions for noncompliance in accordance with Connecticut General Statutes § 46a-56; provided, if such Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Commission, the Contractor may request the State of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the State and the State may so enter.

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

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

9. Whistleblower Provision

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

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

10. Connecticut Freedom of Information Act

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

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

11. Service of Process

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

12. Substitution of Securities for Retainages on State Contracts and Subcontracts

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

13. Health Insurance Portability and Accountability Act of 1996 (HIPAA)

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

14. Forum and Choice of Law

Forum and Choice of Law. The parties deem the Contract to have been made in the City of Hartford, State of Connecticut. Both parties agree that it is fair and reasonable for the validity and construction of the Contract to be, and it shall be, governed by the laws and court decisions of the State of Connecticut, without giving effect to its principles of conflicts of laws. To the extent that any immunities provided by Federal law or the laws of the State of Connecticut do not bar an action against the State, and to the extent that these courts are courts of competent jurisdiction, for the purpose of venue, the complaint shall be made returnable to the Judicial District of Hartford only or shall be brought in the United States District Court for the District of Connecticut only, and shall not be

transferred to any other court, provided, however, that nothing here constitutes a waiver or compromise of the sovereign immunity of the State of Connecticut. The Contractor waives any objection which it may now have or will have to the laying of venue of any Claims in any forum and further irrevocably submits to such jurisdiction in any suit, action or proceeding.

15. Summary of State Ethics Laws

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

16. Audit and Inspection of Plants, Places of Business and Records

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

17. Campaign Contribution Restriction

For all State contracts, defined in Conn. Gen. Stat. §9-612(f)(1) as having a value in a calendar year of \$50,000 or more, or a combination or series of such agreements or contracts having a value of \$100,000 or more, the authorized signatory to this contract expressly acknowledges receipt of the State Elections Enforcement Commission's notice advising state contractors of state campaign contribution and solicitation prohibitions, and will inform its principals of the contents of the notice, as set forth in "Notice to Executive Branch State Contractors and Prospective State Contractors of Campaign Contribution and Solicitation Limitations," a copy of which is attached hereto and hereby made a part of this contract, attached as Exhibit D.

18. Tangible Personal Property

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

19. Bid Rigging and/or Fraud – Notice to Contractor

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

A toll-free "HOT LINE" telephone number 800-424-9071 has been established to receive information from contractors, subcontractors, manufacturers, suppliers or anyone with knowledge of bid rigging and/or fraud, either past or current. The "HOT LINE" telephone number will be available during normal working hours (8:00 am – 5:00 pm EST). Information will be treated confidentially and anonymity respected.

20. Consulting Agreement Affidavit

The Contractor shall comply with Connecticut General Statutes Section 4a-81(a) and 4a-81(b), as revised. Pursuant to Public Act 11-229, after the initial submission of the form, if there is a change in

the information contained in the form, a contractor shall submit the updated form, as applicable, either (i) not later than thirty (30) days after the effective date of such change or (ii) prior to execution of any new contract, whichever is earlier.

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

EXHIBIT A**TITLE VI CONTRACTOR ASSURANCES**

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

EXHIBIT B

CONTRACTOR WORKFORCE UTILIZATION / EQUAL EMPLOYMENT OPPORTUNITY

1. Project Workforce Utilization Goals:

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

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

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

STATE FUNDED PROJECTS (only)
APPENDIX A
(Labor Market Goals)

LABOR MARKET AREA GOAL
Female

Minority

Bridgeport				22.7%
1.4%				
Ansonia	Beacon Falls	Bridgeport	Derby	
Easton	Fairfield	Milford	Monroe	
Oxford	Seymour	Shelton	Stratford	
Trumbull				
Danbury				10.7%
3.8%				
Bethel	Bridgewater	Brookfield	Danbury	
Kent	New Fairfield	New Milford	Newtown	
Redding	Ridgefield	Roxbury	Sherman	
Washington				
Danielson				4.3%
1.8%				
Brooklyn	Eastford	Hampton	Killingly	
Pomfret	Putnam	Scotland	Sterling	
Thompson	Voluntown	Union	Woodstock	
Hartford				13.7%
2.1%				
Andover	Ashford	Avon	Barkhamsted	

Belin	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
Harwinton	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

Lower River				4.3%
1.8%				

Chester	Deep River	Essex	Old Lyme
Westbrook			

LABOR MARKET AREA GOAL

Minority

Female

New Haven				17.9%
3.1%				

Bethany	Branford	Cheshire	Clinton
East Haven	Guilford	Hamden	Killingworth
Madison	Meriden	New Haven	North Branford
North Haven	Orange	Wallingford	West Haven
Woodbridge			

New London				7.4%
3.1%				

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 Rhode Island		

Stamford				33.2%
2.1%				

Darien	Greenwich	New Canaan	Norwalk
Stamford	Weston	Westport	Wilton

Torrington				4.3%
1.8%				

Canaan	Colebrook	Cornwall	Goshen
Hartland	Kent	Litchfield	Morris
Norfolk	North Canaan	Salisbury	Sharon

Torrington

Warren

Waterbury				12.4%
1.6%				
Bethlehem	Middlebury	Naugatuck	Prospect	
Southbury	Thomaston	Waterbury	Watertown	
Wolcott	Woodbury			

Rev. 4/24/2019

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

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

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

- (5) Business Associate agrees to report to Covered Entity any use or disclosure of PHI not provided for by this Section of the Contract or any security incident of which it becomes aware.
- (6) Business Associate agrees to insure that any agent, including a subcontractor, to whom it provides PHI received from, or created or received by Business Associate, on behalf of the Covered Entity, agrees to the same restrictions and conditions that apply through this Section of the Contract to Business Associate with respect to such information.
- (7) Business Associate agrees to provide access, at the request of the Covered Entity, and in the time and manner agreed to by the parties, to PHI in a Designated Record Set, to Covered Entity or, as directed by Covered Entity, to an Individual in order to meet the requirements under 45 C.F.R. § 164.524.
- (8) Business Associate agrees to make any amendments to PHI in a Designated Record Set that the Covered Entity directs or agrees to pursuant to 45 C.F.R. § 164.526 at the request of the Covered Entity, and in the time and manner agreed to by the parties.
- (9) Business Associate agrees to make internal practices, books, and records, including policies and procedures and PHI, relating to the use and disclosure of PHI received from, or created or received by, Business Associate on behalf of Covered Entity, available to Covered Entity or to the Secretary in a time and manner agreed to by the parties or designated by the Secretary, for purposes of the Secretary determining Covered Entity's compliance with the Privacy Rule.
- (10) Business Associate agrees to document such disclosures of PHI and information related to such disclosures as would be required for Covered Entity to respond to a request by an Individual for an accounting of disclosures of PHI in accordance with 45 C.F.R. § 164.528 and section 13405 of the HITECH Act (42 U.S.C. § 17935) and any regulations promulgated thereunder.
- (11) Business Associate agrees to provide to Covered Entity, in a time and manner agreed to by the parties, information collected in accordance with clause h. (10) of this Section of the Contract, to permit Covered Entity to respond to a request by an Individual for an accounting of disclosures of PHI in accordance with 45 C.F.R. § 164.528 and section 13405 of the HITECH Act (42 U.S.C. § 17935) and any regulations promulgated thereunder. Business Associate agrees at the Covered Entity's direction to provide an accounting of disclosures of PHI directly to an individual in accordance with 45 C.F.R. § 164.528 and section 13405 of the HITECH Act (42 U.S.C. § 17935) and any regulations promulgated thereunder.
- (12) Business Associate agrees to comply with any state or federal law that is more stringent than the Privacy Rule.
- (13) Business Associate agrees to comply with the requirements of the HITECH Act relating to privacy and security that are applicable to the Covered Entity and with the requirements of 45 C.F.R. sections 164.504(e), 164.308, 164.310, 164.312, and 164.316.

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

individuals or the posting required under section 13402 of the HITECH Act would impede a criminal investigation or cause damage to national security and; if so, include contact information for said official.

- D. Business Associate agrees to provide appropriate staffing and have established procedures to ensure that individuals informed by the Covered Entity of a breach by the Business Associate have the opportunity to ask questions and contact the Business Associate for additional information regarding the breach. Such procedures shall include a toll-free telephone number, an e-mail address, a posting on its Web site and a postal address. Business Associate agrees to include in the notification of a breach by the Business Associate to the Covered Entity, a written description of the procedures that have been established to meet these requirements. Costs of such contact procedures will be borne by the Contractor.
 - E. Business Associate agrees that, in the event of a breach, it has the burden to demonstrate that it has complied with all notifications requirements set forth above, including evidence demonstrating the necessity of a delay in notification to the Covered Entity.
- (i) Permitted Uses and Disclosure by Business Associate.
- (1) General Use and Disclosure Provisions Except as otherwise limited in this Section of the Contract, Business Associate may use or disclose PHI to perform functions, activities, or services for, or on behalf of, Covered Entity as specified in this Contract, provided that such use or disclosure would not violate the Privacy Rule if done by Covered Entity or the minimum necessary policies and procedures of the Covered Entity.
 - (2) Specific Use and Disclosure Provisions
 - (A) Except as otherwise limited in this Section of the Contract, Business Associate may use PHI for the proper management and administration of Business Associate or to carry out the legal responsibilities of Business Associate.
 - (B) Except as otherwise limited in this Section of the Contract, Business Associate may disclose PHI for the proper management and administration of Business Associate, provided that disclosures are Required by Law, or Business Associate obtains reasonable assurances from the person to whom the information is disclosed that it will remain confidential and used or further disclosed only as Required by Law or for the purpose for which it was disclosed to the person, and the person notifies Business Associate of any instances of which it is aware in which the confidentiality of the information has been breached.
 - (C) Except as otherwise limited in this Section of the Contract, Business Associate may use PHI to provide Data Aggregation services to Covered Entity as permitted by 45 C.F.R. § 164.504(e)(2)(i)(B).
- (j) Obligations of Covered Entity.

- (1) Covered Entity shall notify Business Associate of any limitations in its notice of privacy practices of Covered Entity, in accordance with 45 C.F.R. § 164.520, or to the extent that such limitation may affect Business Associate's use or disclosure of PHI.
 - (2) Covered Entity shall notify Business Associate of any changes in, or revocation of, permission by Individual to use or disclose PHI, to the extent that such changes may affect Business Associate's use or disclosure of PHI.
 - (3) Covered Entity shall notify Business Associate of any restriction to the use or disclosure of PHI that Covered Entity has agreed to in accordance with 45 C.F.R. § 164.522, to the extent that such restriction may affect Business Associate's use or disclosure of PHI.
- (k) Permissible Requests by Covered Entity. Covered Entity shall not request Business Associate to use or disclose PHI in any manner that would not be permissible under the Privacy Rule if done by the Covered Entity, except that Business Associate may use and disclose PHI for data aggregation, and management and administrative activities of Business Associate, as permitted under this Section of the Contract.
- (l) Term and Termination.
- (1) Term. The Term of this Section of the Contract shall be effective as of the date the Contract is effective and shall terminate when the information collected in accordance with clause h. (10) of this Section of the Contract is provided to the Covered Entity and all of the PHI provided by Covered Entity to Business Associate, or created or received by Business Associate on behalf of Covered Entity, is destroyed or returned to Covered Entity, or, if it is infeasible to return or destroy PHI, protections are extended to such information, in accordance with the termination provisions in this Section.
 - (2) Termination for Cause Upon Covered Entity's knowledge of a material breach by Business Associate, Covered Entity shall either:
 - (A) Provide an opportunity for Business Associate to cure the breach or end the violation and terminate the Contract if Business Associate does not cure the breach or end the violation within the time specified by the Covered Entity; or
 - (B) Immediately terminate the Contract if Business Associate has breached a material term of this Section of the Contract and cure is not possible; or
 - (C) If neither termination nor cure is feasible, Covered Entity shall report the violation to the Secretary.
 - (3) Effect of Termination
 - (A) Except as provided in (1)(2) of this Section of the Contract, upon termination of this Contract, for any reason, Business Associate shall return or destroy all PHI received from Covered Entity, or created or received by Business Associate on behalf of Covered Entity. Business Associate shall also provide the information collected in accordance with clause h. (10) of this Section of the Contract to the Covered Entity

within ten business days of the notice of termination. This provision shall apply to PHI that is in the possession of subcontractors or agents of Business Associate. Business Associate shall retain no copies of the PHI.

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

(m) Miscellaneous Provisions.

(1) Regulatory References. A reference in this Section of the Contract to a section in the Privacy Rule means the section as in effect or as amended.

(2) Amendment. The Parties agree to take such action as is necessary to amend this Section of the Contract from time to time as is necessary for Covered Entity to comply with requirements of the Privacy Rule and the Health Insurance Portability and Accountability Act of 1996, Pub. L. No. 104-191.

(3) Survival. The respective rights and obligations of Business Associate shall survive the termination of this Contract.

(4) Effect on Contract. Except as specifically required to implement the purposes of this Section of the Contract, all other terms of the Contract shall remain in force and effect.

(5) Construction. This Section of the Contract shall be construed as broadly as necessary to implement and comply with the Privacy Standard. Any ambiguity in this Section of the Contract shall be resolved in favor of a meaning that complies, and is consistent with, the Privacy Standard.

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

(7) Indemnification. The Business Associate shall indemnify and hold the Covered Entity harmless from and against any and all claims, liabilities, judgments, fines, assessments, penalties, awards and any statutory damages that may be imposed or assessed pursuant to HIPAA, as amended or the

April 2019

HITECH Act, including, without limitation, attorney's fees, expert witness fees, costs of investigation, litigation or dispute resolution, and costs awarded thereunder, relating to or arising out of any violation by the Business Associate and its agents, including subcontractors, of any obligation of Business Associate and its agents, including subcontractors, under this section of the contract, under HIPAA, the HITECH Act, the Privacy Rule and the Security Rule.

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

This notice is provided under the authority of Connecticut General Statutes §9-612(g)(2), as amended by P.A. 10-1, and is for the purpose of informing state contractors and prospective state contractors of the following law (*italicized words are defined on the reverse side of this page*).

CAMPAIGN CONTRIBUTION AND SOLICITATION LIMITATIONS

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

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

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

DUTY TO INFORM

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

PENALTIES FOR VIOLATIONS

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

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

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

CONTRACT CONSEQUENCES

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

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

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

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

DEFINITIONS

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

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

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

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

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

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

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

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

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

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

Labor Wages

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

ID#: 21-23578

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

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

Project Number: Naugatuck

Project Town: Naugatuck

State#: Naugatuck

FAP#: Naugatuck

Project: Downtown Community Connectivity Bike and Pedestrian Improvements (Naugatuck)

CLASSIFICATION	Hourly Rate	Benefits
1) Boilermaker	33.79	34% + 8.96
1a) Bricklayer, Cement Masons, Cement Finishers, Plasterers, Stone Masons	36.45	34.44
2) Carpenters, Piledrivermen	35.57	25.65
2a) Diver Tenders	35.57	25.65
3) Divers	44.03	25.65
03a) Millwrights	35.64	26.49
4) Painters: (Bridge Construction) Brush, Roller, Blasting (Sand, Water, etc.), Spray	52.25	22.55
4a) Painters: Brush and Roller	35.62	22.55
4b) Painters: Spray Only	38.62	22.55
4c) Painters: Steel Only	37.62	22.55
4d) Painters: Blast and Spray	38.62	22.55
4e) Painters: Tanks, Tower and Swing	37.62	22.55

Project: Downtown Community Connectivity Bike and Pedestrian Improvements (Naugatuck)

5) Electrician (Trade License required: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9)	40.4	30.07+3% of gross wage
6) Ironworkers: Ornamental, Reinforcing, Structural, and Precast Concrete Erection	38.17	38.02 + a
7) Plumbers (Trade License required: (P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2) and Pipefitters (Including HVAC Work) (Trade License required: S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4 G-1, G-2, G-8, G-9)	44.63	32.95
----LABORERS-----		
8) Group 1: Laborer (Unskilled), Common or General, acetylene burner, concrete specialist	31.5	23.25
9) Group 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators, powdermen	31.75	23.25
10) Group 3: Pipelayers	32.0	23.25
11) Group 4: Jackhammer/Pavement breaker (handheld); mason tenders (cement/concrete), catch basin builders, asphalt rakers, air track operators, block paver, curb setter and forklift operators	32.0	23.25
12) Group 5: Toxic waste removal (non-mechanical systems)	33.5	23.25
13) Group 6: Blasters	33.25	23.25
Group 7: Asbestos/lead removal, non-mechanical systems (does not include leaded joint pipe)	32.5	23.25
Group 8: Traffic control signalmen	18.0	23.25
Group 9: Hydraulic Drills	32.25	23.25
----LABORERS (TUNNEL CONSTRUCTION, FREE AIR). Shield Drive and Liner Plate Tunnels in Free Air.----		
13a) Miners, Motormen, Mucking Machine Operators, Nozzle Men, Grout Men, Shaft & Tunnel Steel & Rodmen, Shield & Erector, Arm Operator, Cable Tenders	33.73	23.25 + a
13b) Brakemen, Trackmen	32.76	23.25 + a
----CLEANING, CONCRETE AND CAULKING TUNNEL----		

14) Concrete Workers, Form Movers, and Strippers	32.76	23.25 + a
15) Form Erectors	33.09	23.25 + a
----ROCK SHAFT LINING, CONCRETE, LINING OF SAME AND TUNNEL IN FREE AIR:----		
16) Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers	32.76	23.25 + a
17) Laborers Topside, Cage Tenders, Bellman	32.65	23.25 + a
18) Miners	33.73	23.25 + a
----TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED AIR: ----		
18a) Blaster	40.22	23.25 + a
19) Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders	40.02	23.25 + a
20) Change House Attendants, Powder Watchmen, Top on Iron Bolts	38.04	23.25 + a
21) Mucking Machine Operator	40.81	23.25 + a
----TRUCK DRIVERS----(*see note below)		
Two axle trucks	30.16	27.16 + a
Three axle trucks; two axle ready mix	30.27	27.16 + a
Three axle ready mix	30.33	27.16 + a
Four axle trucks, heavy duty trailer (up to 40 tons)	30.39	27.16 + a
Four axle ready-mix	30.44	27.16 + a
Heavy duty trailer (40 tons and over)	30.66	27.16 + a

Project: Downtown Community Connectivity Bike and Pedestrian Improvements (Naugatuck)

Specialized earth moving equipment other than conventional type on- 30.44 27.16 + a
the road trucks and semi-trailer (including Euclids)

----POWER EQUIPMENT OPERATORS----

Group 1: Crane handling or erecting structural steel or stone, 43.88 25.80 + a
hoisting engineer (2 drums or over), front end loader (7 cubic yards or
over), Work Boat 26 ft. & Over, Tunnel Boring Machines. (Trade
License Required)

Group 2: Cranes (100 ton rate capacity and over); Excavator over 2 43.53 25.80 + a
cubic yards; Piledriver (\$3.00 premium when operator controls
hammer); Bauer Drill/Caisson. (Trade License Required)

Group 3: Excavator/Backhoe under 2 cubic yards; Cranes (under 100 42.72 25.80 + a
ton rated capacity), Gradall; Master Mechanic; Hoisting Engineer (all
types of equipment where a drum and cable are used to hoist or drag
material regardless of motive power of operation), Rubber Tire
Excavator (Drott-1085 or similar); Grader Operator; Bulldozer Fine
Grade (slopes, shaping, laser or GPS, etc.). (Trade License Required)

Group 4: Trenching Machines; Lighter Derrick; Concrete Finishing 42.3 25.80 + a
Machine; CMI Machine or Similar; Koehring Loader (Skooper)

Group 5: Specialty Railroad Equipment; Asphalt Paver; Asphalt 41.65 25.80 + a
Spreader; Asphalt Reclaiming Machine; Line Grinder; Concrete
Pumps; Drills with Self Contained Power Units; Boring Machine; Post
Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24

Group 5 continued: Side Boom; Combination Hoe and Loader; 41.65 25.80 + a
Directional Driller.

Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough 41.31 25.80 + a
grade dozer).

Group 7: Asphalt Roller; Concrete Saws and Cutters (ride on types); 40.94 25.80 + a
Vermeer Concrete Cutter; Stump Grinder; Scraper; Snooper; Skidder;
Milling Machine (24

Group 8: Mechanic, Grease Truck Operator, Hydroblaster, Barrier 40.51 25.80 + a
Mover, Power Stone Spreader; Welder; Work Boat under 26 ft.;
Transfer Machine.

Group 9: Front End Loader (under 3 cubic yards), Skid Steer Loader 40.04 25.80 + a
regardless of attachments (Bobcat or Similar); Fork Lift, Power
Chipper; Landscape Equipment (including hydroseeder).

Group 10: Vibratory Hammer, Ice Machine, Diesel and Air Hammer, 37.81 25.80 + a
etc.

Group 11: Conveyor, Earth Roller; Power Pavement Breaker 37.81 25.80 + a
(whiphammer), Robot Demolition Equipment.

Group 12: Wellpoint Operator. 37.74 25.80 + a

As of: June 15, 2021

Project: Downtown Community Connectivity Bike and Pedestrian Improvements (Naugatuck)

Group 13: Compressor Battery Operator.	37.11	25.80 + a
Group 14: Elevator Operator; Tow Motor Operator (Solid Tire No Rough Terrain).	35.87	25.80 + a
Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.	35.43	25.80 + a
Group 16: Maintenance Engineer/Oiler	34.72	25.80 + a
Group 17: Portable asphalt plant operator; portable crusher plant operator; portable concrete plant operator.	39.42	25.80 + a
Group 18: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (minimum for any job requiring CDL license).	36.77	25.80 + a
**NOTE: SEE BELOW		
----LINE CONSTRUCTION----(Railroad Construction and Maintenance)---		
-		
20) Lineman, Cable Splicer, Technician	48.19	6.5% + 22.00
21) Heavy Equipment Operator	42.26	6.5% + 19.88
22) Equipment Operator, Tractor Trailer Driver, Material Men	40.96	6.5% + 19.21
23) Driver Groundmen	26.5	6.5% + 9.00
23a) Truck Driver	40.96	6.5% + 17.76
----LINE CONSTRUCTION----		
24) Driver Groundmen	30.92	6.5% + 9.70
25) Groundmen	22.67	6.5% + 6.20
26) Heavy Equipment Operators	37.1	6.5% + 10.70
27) Linemen, Cable Splicers, Dynamite Men	41.22	6.5% + 12.20

As of: June 15, 2021

28) Material Men, Tractor Trailer Drivers, Equipment Operators 35.04 6.5% + 10.45

Project: Downtown Community Connectivity Bike and Pedestrian Improvements (Naugatuck)

Welders: Rate for craft to which welding is incidental.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

As of: June 15, 2021

Project: Downtown Community Connectivity Bike and Pedestrian Improvements (Naugatuck)

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

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

As of: June 15, 2021

Important Information:

For use with Building, Heavy/Highway, and Residential

Welders: Rate for craft to which welding is incidental.

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

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

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

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

Crane with boom including jib, 150 feet - \$1.50 extra.

Crane with boom including jib, 200 feet - \$2.50 extra.

Crane with boom including jib, 250 feet - \$5.00 extra.

Crane with boom including jib, 300 feet - \$7.00 extra.

Crane with boom including jib, 400 feet - \$10.00 extra.

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

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

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

- The Prevailing wage rates applicable to this project are subject to annual adjustments each July 1st for the duration of the project.
- Each contractor shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.
- It is the contractor's responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's website.
- The annual adjustments will be posted on the Department of Labor's Web page: www.ctdol.state.ct.us.
- The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project.
- All subsequent annual adjustments will be posted on our Web Site for contractor access.

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

- All Persons who perform work ON SITE must be paid prevailing wage for the appropriate mechanic, laborer, or worker classification.
- All certified payrolls must list the hours worked and wages paid to All Persons who perform work ON SITE regardless of their ownership i.e.: (Owners, Corporate Officers, LLC Members, Independent Contractors, et. al)
- Reporting and payment of wages is required regardless of any contractual relationship alleged to exist between the contractor and such person.

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

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