



REQUEST FOR PROPOSALS

Invitation to Bid

The Town of Monroe (“Town”) hereby invites sealed proposals from qualified bidders for the following project/service:

RFP#/Department:	2025-01	ENGINEERING	
Title:	REPLACEMENT OF JUDD ROAD BRIDGE OVER MILL RIVER		
Department:	ENGINEERING		
Release Date:	4/21/2025	@ 2:00 pm	
Response Deadline:	5/19/2025	@ 2:00 pm	
Bid Opening:	5/21/2025	@ 10:00 am	
RFP documents may be obtained:	Electronically: www.monroect.gov Bidders shall be responsible for checking the Town website to obtain RFP addenda, if any to ensure compliance.		
RFP Opening Place:	Monroe Town Hall 7 Fan Hill Road Monroe, CT 06468	All Proposals shall be opened publicly and recorded in writing. There shall be no public reading of the RFP or Proposals.	
Key Dates:	Site Visit	5/1/2025	Mandatory <input checked="" type="checkbox"/>
	Contractor Question Deadline	5/8/2025	Mandatory <input type="checkbox"/>
	Town Response	5/13/2025	
	Preliminary Notice of Award	Within sixty (60) days of Response Deadline	
	Contract Execution	Within ten (10) days of Notice of Award	
Proposal Instructions:	<ol style="list-style-type: none"> 1. Proposals are subject to the Standard Instructions to Bidders attached hereto and incorporated herein by reference. 2. Proposals shall be submitted in a single sealed envelope clearly marked with the: (a) name and address of Bidder; (b) RFP # and Title; (c) Release Date/Time; and (d) Response Deadline. 3. Proposals shall consist of: one (1) original, two (2) hard copies and one (1) electronic copy on a USB drive. 4. The Town shall not accept any oral, facsimile or electronic Proposals. 5. The Town shall not accept any Proposals received after the Response Deadline, time being of the essence. 6. Proposals may not be withdrawn, cancelled or modified for ninety (90) calendar days after the opening date. 		
Inquiries: (Written Only)	Procedural: Office of the First Selectman fs_office@monroect.gov	Technical: James DiMeo Town Engineer jdimeo@monroect.gov	Keegan Elder Consultant kelder@wmcengineers.com

STANDARD INSTRUCTIONS TO BIDDERS

1. **INTRODUCTION.** The Town is accepting sealed proposals from qualified bidders (“Bidder”) for the Work, as hereinafter defined. Interested parties shall submit a proposal in accordance with the requirements and directions contained in this RFP. This RFP is not an offer or contract, and the Town shall not be bound, nor shall any right accrue to any Bidder until a written Notice of Award has been issued to the successful Bidder by the First Selectman **and** a contract is executed by the parties, as approved by the Town Council.
2. **RIGHT TO AMEND OR TERMINATE THE RFP.** The Town reserves the right to amend or terminate this RFP, accept or reject any and all proposals, in whole or in part, to waive any informalities, deficiencies, omissions, excess verbiage, or technical defects in any proposal, to give preference to local businesses, and or to award a contract to the Bidder that it determines is in the Town’s best interest. The Town is not under any obligation to award to the lowest price proposal, but will purchase from the lowest, best qualified proposal meeting all selection criteria. Notice of any changes to the RFP shall occur by posting on the Town website at www.monroect.gov. Bidders shall be responsible for checking the Town website to obtain said changes or RFP addenda, if any, to ensure its proposals are submitted in compliance with the RFP as may be amended by any addenda. The Town reserves the right to negotiate fees with the selected Bidder.
3. **KEY DATES.** As set forth in the RFP cover page. All Key Dates are anticipated, not certain and remain subject to change without notice. Notice of any changes to the RFP shall occur by posting on the Town website at www.monroect.gov.
4. **PROPOSAL INSTRUCTIONS.** As set forth in the RFP cover page. The Town, in its sole discretion and without obligation, may accept proposals received after the Response Deadline. Proposal pricing must be submitted on the Fee Proposal Form included in this RFP, unless set forth the contrary, and shall be stated in both words and numbers. All forms submitted in response to the RFP, including without limitation, the Fee Proposal Form, must be executed by an individual with express written authorization from the Bidder, which authorization (eg, Resolution or Consent) shall be included with the proposal. Any errors, alterations, or corrections on Fee Proposal Form shall be initialed.
5. **INQUIRIES.** As set forth in the RFP cover page. Bidders are prohibited from contacting any Town employee, officer, official, agent or volunteer (“Town Representative”) except as listed on the RFP cover page. All inquiries shall be submitted prior to Contractor Question Deadline. No statement by any Town Representative shall be effective to waive, amend or otherwise modify any of the provisions of this RFP. Noncompliance with the foregoing may result in disqualification of the Bidder and proposal.
6. **COMMUNICATION WITH BIDDER.** The Town reserves the right, at any time (before or after the opening of proposals) to communicate with any Bidder to clarify its proposal or to request additional information that the Town, in its sole discretion, deems desirable to evaluate the proposals.
7. **COSTS FOR PREPARING PROPOSAL.** All costs incurred in developing its proposal shall be the sole responsibility of the Bidder. The Town shall have no liability for such costs.
8. **OWNERSHIP OF PROPOSAL.** Upon submission to the Town, the proposal, and its attachments, shall become the Town’s property and shall not be returned to Bidder.
9. **PRE-PROPOSAL MEETING/SITE VISIT.** The Bidder shall visit and physically examine all property, real and personal, subject to the RFP, and thoroughly familiarize itself with all site conditions prior to submission of its proposal. If designated as such on the RFP cover page, attendance at all

scheduled Pre-Proposal Meetings and Site Visits is **mandatory**. Sign-in shall be required at the commencement of each meeting and or visit. No special arrangements or private tours shall be accommodated outside of the scheduled meeting. Noncompliance with the foregoing may result in disqualification of the Bidder and proposal.

10. **FREEDOM OF INFORMATION ACT.** All information submitted in response to this RFP is subject to disclosure under the Connecticut Freedom of Information Act, as may be amended and judicially interpreted. A Bidder's response may contain financial, trade secret or other data that it claims should not be public (the "Confidential Information"). A Bidder must identify the specific pages and portions of its proposal that contain the claimed Confidential Information by visibly marking same in bold red ink with "CONFIDENTIAL INFORMATION". Provided that the Bidder cooperates with the Town as described in this section, the Town shall make good faith efforts, to the extent permitted by law, to protect such Confidential Information from unauthorized disclosure. If the Town receives a request for a Bidder's Confidential Information, it will promptly notify the Bidder in writing of such request and provide the Bidder with a copy of any written disclosure request. The Bidder may provide written consent to the disclosure or may object to the disclosure by notifying the Town in writing to withhold disclosure of the information, identifying in the notice the basis for its objection, including the statutory exemption(s) from disclosure. The Town may, in its sole discretion, choose to release the Confidential Information or withhold the same, in its sole discretion and without liability to the Bidder or any third party. Should the Town choose to withhold the Confidential Information on behalf of the Bidder, the Bidder shall indemnify, defend and hold the Town harmless from any complaint and damages which may arise from said nondisclosure, including but not limited to reasonable attorney's fees and costs for the defense of any matter before the Freedom of Information Commission. Notwithstanding the foregoing, the Town reserves the right to exempt responses to this RFP, and all records in connection with the contract award process, pursuant to C.G.S. 1-210 (b)(24).
11. **REQUIRED DISCLOSURES.** The Town reserves the right to reject any proposal which is incomplete, or which fails to include all submissions in form and substance as required by this RFP, including without limitation, all documents set forth on the Checklist. The Town reserves the right to reject any proposal and or disqualify any Bidder based upon the information provided in the proposal, which, in the sole discretion of the Town, renders the proposal or Bidder unqualified or otherwise not in the best interest of the Town.
12. **LEGAL STATUS/QUALIFICATIONS.** If a Bidder is a business entity, it must be registered and in good standing with the Office of the Connecticut Secretary of the State. The Town may request acceptable evidence of a Bidder's: (a) legal status; (b) that it has been regularly engaged in the business of such work as they propose to perform in response to this RFP; and (c) that they are fully prepared with the necessary capital, personnel, materials, tools and equipment, in order to fully perform the work to be contracted to the satisfaction of the Town and to begin work promptly when awarded.
13. **BIDDER'S REPRESENTATIONS.** The Bidder represents and acknowledges that it: (a) has received, read and understands this RFP, addenda, plans and specifications, if any; (b) is familiar with the project and scope of work associated therewith; (c) has been regularly engaged in the business of such work as they propose to perform in response to this RFP; (d) fully prepared with the necessary capital, personnel, materials, tools and equipment, in order to fully perform the work to be contracted to the satisfaction of the Town and to begin work promptly when awarded without exception or qualification, except as expressly stated in the proposal; (e) is familiar with and shall comply with all federal, state and local laws, regulations, ordinances, codes and orders that in any manner relate to this RFP; (f) has not colluded with any other person or entity in regard to any proposal submitted; (g) is not barred from proposing or performing work in any jurisdiction and, (dg if this RFP includes work to be performed to or upon Town property, has visited and physically examined the property and the surrounding territory, and thoroughly familiarized itself with all conditions of the property, both natural and manmade, as well as all such above grade, at grade and subsurface conditions that may in any way affect the work to be

done and labor and materials to be furnished for the proper completion of the work, before submission of this proposal with the understanding that any claim for labor, equipment, or materials required, or difficulties encountered which could have been foreseen had such an examination been carefully made will not be recognized.

14. **INSURANCE.** The Bidder shall, at its own expense and cost, obtain and keep in force, at a minimum, the insurance set forth in the Mandatory Insurance Requirements, attached hereto and incorporated by reference into this RFP. The Town reserves the right to request from the Bidder a complete, certified copy of each required insurance policy. At least five (5) days before the contract is executed and prior to commencement of any work contemplated thereby, the Bidder shall provide the Town a certificate of insurance, executed by an authorized representative of the insurance company, in form and substance satisfactory to the Town. The Town reserves the right to reject insurance companies. Noncompliance with this article or the Mandatory Insurance Requirements may result in disqualification of the Bidder and proposal and termination of the contract. The Town reserves the right to withhold payment from the Bidder until evidence of satisfactory insurance has been received by the Town.
15. **SECURITY/BONDS.**
 - a. **Proposal Security/Bond.** Proposal security in the form of a certified check or bid surety bond issued by a bonding company licensed to do business in the State of Connecticut, is required in the amount of at least 5% of the total amount set forth on the Fee Proposal Form and shall be payable to the "Town of Monroe."
 - b. **Performance Security/Bond.** The successful Bidder shall, within seven (7) days after receipt of the Notice of Award, furnish the Town with a performance, labor and material payment bond in an amount not less than one hundred percent (100%) of the award, in form and substance satisfactory to the Town. The Town reserves the right to withhold payment from the Bidder until the evidence of performance security/bond in compliance with this article has been received by the Town.
 - c. **Additional Security/Bond-Non-Resident Contractors.** Non-resident contractors shall deposit with the Department of Revenue Services an additional sum equivalent to 5% of the total contract value, as assurance that personal property taxes and/or any other State taxes assessed and due the State during the contract will be paid. If this security/bond is not deposited with the State, the Town shall deduct and submit 5% of the total contract value to the State.
 - d. **Acceptable Bond Companies.** All bonds shall be written by a surety company or companies licensed in the State of Connecticut and shall have at least an A-VII policy holders rating, as reported by A.M. Best Rating Services, or otherwise deemed acceptable by the Town. The Town reserves the right to reject surety companies. If an approved surety bond cannot be provided, the bidder shall be deemed non-responsive. A complete list of certified surety companies can be accessed on the U.S. Government Department of Treasury website at <https://www.fiscal.treasury.gov/surety-bonds/list-certified-companies.html>.
 - e. **Disqualification.** Noncompliance with Security/Bond requirements as set forth in this article shall result in disqualification of the Bidder and proposal.
16. **AWARD CRITERIA/PRELIMINARY SELECTION/CONTRACT EXECUTION.** The Town reserves the right to correct, after Bidder verification, any mistake in a proposal that the Town determines to be a clerical or scrivener's error. If an error exists in an extension of prices, the unit price shall prevail. In the event of a discrepancy between the price quoted in words and in figures, the words shall control.

The Town further reserves the right to award all or any portion of this RFP to any single or combination of separate Bidders or proposals.

The proposals will be evaluated by a Review Committee (“Committee”) which will select the proposal that best meets the criteria set forth in the RFP and is in the best interests of the Town, including without limitation, the fee, proposal, the Bidder’s understanding of the RFP requirements, approach and timeline; the locale of the Bidder’s offices, personnel and staffing; the Bidder’s personnel and staffing, resources, experience, references, capabilities, past performance; and any other criteria it determines relevant and in its best interests. The Town may reject any Bidder if, in the sole judgment of the Town, the Bidder’s past performance gives rise to a substantial risk that the Bidder may not provide satisfactory performance. The Town reserves the right to pursue or reject any and all proposals, in whole or in part, to give preference to local businesses, and to pursue any proposal deemed to be in the best interests of the Town, notwithstanding it may not be the lowest Bidder. The Town is not under any obligation to award a contract to the lowest Bidder.

If interviews are deemed necessary, a short list of Bidders will be developed and specific information required for the interviews will be provided to Bidders at the time of notification.

The Town shall not award the proposal to any person or business (including any person or business under common control with any Bidder) that is in arrears or in default to the Town with regard to any tax, debt, contract, security or any other obligation or, whom, in the discretion of the Town, has been so within the prior five (5) years on a material obligation.

The Town will issue a Preliminary Notice of Award. The Preliminary Notice of Award may be subject to further negotiations with the Bidder. The making of a preliminary award to a Bidder does not provide the Bidder with any rights and does not impose upon the Town any obligations. The Town is free to withdraw a preliminary award at any time and for any reason. A Bidder has rights, and the Town has obligations, only if and when a formal Contract is executed by the Town and the Bidder, as approved by the Monroe Town Council.

If the Bidder fails to provide all required documents and execute the Contract within ten (10) business days of the date of the Preliminary Notice of Award, unless extended by the Town, the Town may call any proposal security provided by the Bidder and may enter into discussions with another Bidder.

17. **EXCEPTION TO SPECIFICATIONS.** No protest regarding the validity or appropriateness of any portion of the RFP, its addenda, plans or specifications will be considered, unless the protest is filed in writing with the Town prior to the Response Deadline. All proposals rendered shall be considered satisfactory and compliant with any specifications unless exceptions are noted on a separate page dated and signed by the Bidder.
18. **LIST SUBCONTRACTORS.** Prior to entering into any subcontract agreement for the work described in the contract, the Bidder shall provide the Town with written notice of the identity (full legal name, business address and telephone number) of each proposed subcontractor on the List of Subcontractors provided. The Town may object to any proposed subcontractor by providing the Bidder with written notice thereof within seven (7) business days of receipt of all required information about the proposed subcontractors, whereupon the Bidder shall not use any such subcontractor for any portion of the work described in the contract.
19. **LIST OF REFERENCES.** The Bidder shall disclose to the Town a list of at least three (3) references (full legal name, business address and telephone number) for past performance on similar projects of comparable size and scope within the last five (5) years.
20. **SELECTION CRITERIA.** Bidder will be evaluated by the Committee based on the following criteria:
 - a. Demonstrated specialized experience and competence in providing the services outlined in this RFP document.

- b. Examples of past performance on similar services and references for services of comparable size and scope within the last five (5) years.
 - c. Competitiveness of the fee proposal and the capacity and capability to complete all work on-time and within budget.
 - d. The knowledge of the Bidder and its relative experience with municipalities and public sector entities in the State of Connecticut.
 - e. Suggestions for improvement, innovation, efficiency and fiscal economy relative to the project.
 - f. Quality of submission and understanding of the project requirements, including timeline, budget and scope of work.
 - g. The Committee will individually review and rank each proposal based on the criteria outlined in the RFP document.
 - h. After the opening of the proposals, one or more Bidder may be asked to provide additional information, to meet with the Committee to discuss their proposal, or to address such other issues as deemed in the best interests of the Town.
 - i. The Committee will meet to discuss Bidder's experience, credentials and qualifications, including its personnel.
 - j. The Committee may short-list Bidders for interview in order to clarify qualifications and verify its evaluation.
 - k. No additional services or significant changes to the proposals during the interview will be entertained.
 - l. The Town reserves the right to amend or terminate this RFP, accept or reject any and all bids, in whole or in part, to waive any informalities, deficiencies, omissions, excess verbiage, or technical defects in any proposal, to give preference to local businesses, and to award a contract to the Bidder that it determines is in its best interest.
 - m. The Town reserves the right to negotiate fees with the selected Bidder.
21. **TAX EXEMPTION.** The Town is exempt from the payment of federal excise taxes and Connecticut sales and use taxes per Federal Tax Exempt #06-6002038 and Conn. Gen. Stat. Chapter 219, § 12-412(1), as may be hereafter amended. No exemption certificates are required, and none will be issued.

22. **REQUIRED BID LANGUAGE FOR STATE-FUNDED PROJECTS.** The Bidder who is selected to perform this State project must comply with CONN. GEN. STAT. §§4a-60, 4a-60a, 4a-60g, and 46a-68b through 46a-68f, inclusive, as amended by June 2015 Special Session Public Act 15-5.

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

For municipal public works contracts and quasi-public agency projects, the Bidder must file a written or electronic project-specific Set-Aside Plan ("SAP") or Affirmative Action Plan ("AAP") as well as completion of other filing requirements as required by and with the Commission on Human Rights and Opportunities.

The Bidder must include in its proposal a fully completed Notification to Bidders/Contract Compliance Monitoring Report.

Forms can be found at: <https://portal.ct.gov/chro/contractcompliance/contractcompliance/contract-compliance-forms-and-reports>

23. **SECURITY/BONDS-IN LIEU.** Pursuant to Conn. Gen. Stat. § 4a-60g(i), Bidder may, in lieu of a performance, bid, labor and materials or other required bonds, provide a letter of credit in an amount equal to ten percent (10%) of the contract for any contract that is less than one hundred thousand dollars (\$100,000) and in an amount equal to twenty five percent (25%) of the contract for any contract that exceeds one hundred thousand dollars (\$100,000) one hundred thousand dollars.
24. **AFFIRMATIVE ACTION/EQUAL OPPORTUNITY EMPLOYER.** The Town is an affirmative action/equal opportunity employer and encourages the participation of legitimate minority business enterprises as bidders, Bidders, subcontractors and suppliers of materials for this project.

END OF STANDARD INSTRUCTIONS TO BIDDERS

REQUIRED GENERAL CONTRACT TERMS

The following provisions are mandatory terms which shall be incorporated into the Town's contract with the successful Bidder.

1. **LIABILITY OF BIDDER/DEFENSE, HOLD HARMLESS AND INDEMNIFICATION.** The Bidder shall safely guard the Town's property from injury or loss in connection with its performance of the work set forth in the RFP and this contract. The Bidder shall take all responsibility for the work and take precautions for preventing injuries to persons and property in or about the work. The Bidder shall, to the fullest extent permitted by law, to defend, indemnify, and hold harmless the Town, its employees, officers, officials, agents, volunteers and independent contractors, jointly and severally, and in their fiduciary and individual capacity, (collectively, the "Town Indemnified Parties"), from and against all proceedings, suits, actions, claims, damages, injuries, awards, judgments, losses or expenses, including attorney's fees and costs, arising out of or relating, directly or indirectly, to the Bidder's acts or omissions relative to the performance of the work, the RFP and the Contract. The Bidder's obligations under this section shall not be limited in any way by any limitation on the amount or type of the Bidder's insurance.

In any and all claims against the Town Indemnified Parties made or brought by any employee or agent of the Bidder, or anyone directly or indirectly employed or contracted with by the Bidder, or anyone for whose acts or omissions the Bidder is or may be liable, the Bidder's obligations under this section shall not be limited by any limitation on the amount or type of damages, compensation or benefits payable by the Bidder under workers' compensation acts, disability benefit acts, or other employee benefits acts.

The Bidder shall pay any and all attorney's fees and costs incurred by the Town Indemnified Parties in enforcing any of the Bidder's obligations under this section. The Bidder's obligations under this section shall survive the termination or expiration of the Contract.

As a municipal agency of the State of Connecticut, the Town shall NOT defend, indemnify, or hold harmless the Bidder.

2. **NO ASSIGNMENT/SUBCONTRACTING.** No rights under the RFP, award or any contract may be assigned or transferred without the consent of the Town. The Bidder may only propose to enter into a subcontract agreement for any work described in the contract with a subcontractor set forth on the List of Subcontractors submitted with the proposal. The Bidder shall provide the Town with written notice of its intention to enter a contract with listed subcontractor whereupon the Town shall have seven (7) business days from receipt of said notice to object. Upon notice of objection, the Bidder shall not use that subcontractor for any portion of the work described in the Contract. All subcontractors shall be subject to the same terms and conditions as the Bidder and notwithstanding any permitted subcontracting the **Bidder shall remain fully and solely liable and responsible to the Town for performance of the work described in the Contract** and for the acts and omissions of its subcontractors and of persons employed, whether directly or indirectly, by its subcontractor(s). The Bidder shall promptly pay each of its subcontractors within thirty (30) days of receipt of payment from the Town or otherwise in accordance with law.
3. **W-9 FORM.** The Bidder shall provide the Town with a completed W-9 form contemporaneous with Contract execution.
4. **PAYMENT.** Except as otherwise set forth in the contract, the Town shall endeavor to make payment within thirty days (30) after the last to occur of: delivery of the item; acceptance of the work; or receipt of a properly completed invoice/pay requisition. All requisitions for payment shall include certified

payrolls from the Bidder. For projects that do not require a performance or proposal bond, the Town reserves the right to retain five percent (5%) of the total contract amount, which shall be payable ninety (90) days after the last to occur of final payment or acceptance of the work by the Town. The Bidder shall provide the Town with proof of payment and subcontractor lien waivers contemporaneously with each requisition submitted to the Town and as a condition of any payment obligation of the Town.

5. **PERFORMANCE OF THE WORK.** The Bidder shall perform all work and furnish all equipment, materials, tools, and appliances necessary or proper to comply with its obligations pursuant to the contract, including the RFP, addenda, plans, specifications and other directives of the Town, as may be given from time to time during the progress of the work, to the satisfaction of the Town and in accordance with and for the consideration herein agreed upon. The Bidder shall perform the work in an first class manner and so as not to interfere with or willfully annoy employees and officials of the Town. The Bidder shall employ only competent employees trained/certified/licensed to perform the work. The Bidder shall forthwith and forever discharge from the work any employee whom, in the Town's opinion, is, incompetent, unfaithful, disorderly, or otherwise unsatisfactory to the Town.
6. **TOWN INSPECTION OF WORK.** The Town reserves the right to and may at all reasonable times inspect the Bidder's work. This right of inspection is solely for the Town's benefit and shall not join the Town in any responsibility for discovering patent or latent defects. The Bidder has the sole and exclusive responsibility for performing the work in accordance with the Contract.
7. **REJECTION OF WORK.** The Bidder, at its sole cost and expense, shall remove from the Town's property all materials, items, commodities and/or work which do not conform to the contract or have or will result in inferior or unsatisfactory work, within forty-eight (48) hours of the Town's notice of rejection, except where safety or health issues are present whereupon immediate removal may be demanded by the Town. The Bidder shall forthwith replace and correct all rejected materials, items, commodities and/or work in the direction of the Town and to its reasonable satisfaction. The Bidder's failure to timely comply with any notice pursuant to this section shall be deemed default of the contract.
8. **GUARANTEE OF THE WORK.** The Bidder hereby guarantees for a minimum period of one (1) year from the date of the Town's final acceptance of all the work as substantially complete, all equipment, materials, and work performed against defective material and workmanship. The cost of all labor, materials, shipping charges, and other expenses in conjunction with the replacement of defective or unsatisfactory work, equipment, or materials shall be borne by solely the Bidder. Upon written notice from the Town, the Bidder, at its sole cost and expense, shall forthwith remedy any and all defects in materials or workmanship resulting from work done under this contract and repair any damage to any property caused by the Bidder incidental to this work, in strict compliance with direction from the Town.
9. **NONDISCRIMINATION/AFFIRMATIVE ACTION.** The Bidder shall not discriminate or permit discrimination in any manner prohibited by the laws of the United States or the State of Connecticut against any person or group of persons on the grounds of race, color, religious creed, age (except minimum age), marital status or civil union status, national origin, ancestry, sex, sexual orientation, gender identity, mental retardation, mental or physical disability or veteran status, in their employment practices, in any contractual arrangements, in all service and accommodation they offer to the public, and in any of their business operations.

The Bidder shall comply with all provisions of federal and state discrimination laws including without limitation, the Civil Rights Act of 1964 and the Equal Employment Opportunity Act of 1972. Executive order #11246 inclusive of all its amendments thereto relative to equal employment opportunities and implementation rules and regulations of the Department of Labor and equal employment opportunities are incorporated herein by specific reference.

Any violation of these provisions shall be considered a material violation of the contract and shall be grounds for the Town's cancellation, termination or suspension, in whole or in part, of the contract and may result in ineligibility for further Town contracts.

10. **COMPLIANCE WITH IMMIGRATION LAWS/AUTHORIZATION TO WORK.** The Bidder confirms that it has complied with the obligations under the Immigration Reform and Control Act (IRCA) and that the employees, independent contractors, and other personnel it provides under this Contract are authorized for employment in the United States. The Bidder further confirms that it has properly completed I-9s for all employees assigned to the Town's place of business. The Bidder agrees to hold harmless and indemnify the Town in the event that any of the employees, independent contractors, and other personnel provided by the Bidder are found to be unauthorized to work under the law or in the event that there is a determination that the obligations set forth under IRCA, including, but not limited to, the failure to correctly prepare and maintain I-9s, have not been complied with by the Bidder. The Bidder agrees to indemnify, defend and hold the Town harmless against any claims brought against the Bidder or the Town as a result of these obligations, including but not limited to, settlement fees, judgments and attorneys' fees and costs. The Bidder's obligations under this section shall survive the termination or expiration of the Contract.
11. **CESSATION OF BUSINESS/BANKRUPTCY/RECEIVERSHIP.** If the Bidder ceases to exist or operate, dissolves as a business entity, files a petition or proceeding under any bankruptcy or insolvency laws or has such a petition or proceeding filed against it, the Town may terminate the contract effective immediately whereupon the Town, may, in its sole discretion as it deems appropriate and without prior notice to the Bidder, make arrangements with another person or business entity to complete the performance of the contract without waiver and with full reservation of the Town's rights to enforce all of its rights at law, in equity and or under the contract.
12. **INDEPENDENT CONTRACTOR STATUS/NON-EMPLOYMENT RELATIONSHIP.** The Town and the Bidder are independent parties. Nothing contained in the contract shall create, or be construed or deemed as creating, the relationships of principal and agent, partnership, joint venture, employer and employee, and/or any relationship other than that of independent parties contracting with each other solely for the purpose of carrying out the terms and conditions of the contract. The Bidder understands and agrees that it is not entitled to employee benefits, including but not limited to workers' compensation and employment insurance coverage, and disability. The Bidder shall be solely responsible for any applicable taxes attributable to the contract or its performance of the work thereunder.
13. **COMPLIANCE WITH LAWS; PERMITS.** All applicable federal, state, and local laws, rules and regulations, codes and orders of governmental bodies having jurisdiction over the locality of the project shall apply to the contract, are deemed to be included herein, and shall be strictly complied with by the Bidder. The Bidder shall indemnify and hold the Town harmless from and against all damages that may be assessed against the Town on account of the Bidder's noncompliance including but not limited to, settlement fees, judgments and attorneys' fees and costs. The Bidder shall, at its own expense, obtain all permits and approvals from all such governmental bodies as may be required for the performance of the contract, and shall notify the Town in writing within twenty-four (24) hours of the loss or suspension of any such approval or permit. Should the total amount of the project, including any current or future change orders, exceed \$100,000.00, all work shall be done in accordance with Connecticut Department of Labor (CT-DOL) rules and regulations. More information may be obtained from: www.ctdol.state.ct.us.

The Bidder confirms compliance with the Davis-Bacon and Related Acts, which apply to contractors and subcontractors performing federally funded or assisted contracts in excess of \$2,000 for the construction, alteration, or repair (including painting and decorating) of public buildings or public works. More information may be obtained from: <https://www.dol.gov/whd/govcontracts/dbra.htm>.

The Town shall apply the most current wage decision applicable at the time of delivery of the Notice of Award. The Bidder certifies that all equipment shall comply with all regulations and conditions stipulated under the Williams-Steiger Occupational Safety and Health Act of 1971, as amended. The Bidder further certifies that all items furnished under this project will conform and comply with Federal and State of Connecticut OSHA standards.

14. **RIGHT OF TOWN TO TERMINATE CONTRACT.** Should the Town, at any time, be of the opinion that: (i) the Bidder has or is willfully violating any of the conditions of this contract; (ii) is not performing the contract in good faith; (iii) the work is unnecessarily delayed and may not be finished within the prescribed contract time; or (iv) the work to be done under this contract has been abandoned, then the Town may provide written notice to the Bidder (and or Surety) demanding the Bidder correct the unsatisfactory conditions within five (5) business days. Should the Bidder fail to correct, or take such measures as will, in the sole judgment of the Town, correct the unsatisfactory conditions and ensure the timely completion of the work, the Town may order the discontinuance of all or any portion of the work whereupon the Bidder shall cease to continue said work. The Town may, in its discretion, thereafter, make arrangements with another person or business entity to complete the performance of the contract without waiver and with full reservation of the Town's rights to enforce all of its rights at law, in equity and or under the contract. The new contractor may use such materials, tools, and appliances found upon the property or to procure other materials, tools, and appliances for the completion of the work and charge the expenses of said labor, materials, tools, and appliances to the Bidder; and the expense so charged shall be deducted and paid by the Town out of such money as may be then due, or may at any time thereafter grow due to the Bidder under and by virtue of this contract, or any part thereof; and in case the expense so charged is less than the sum which would have been payable under this contract if the same had been completed by the Bidder, the Bidder shall be entitled to receive the difference; and in case greater, the Bidder shall pay amount of such excess so due.
15. **APPLICABLE LAW AND FORUM.** Except as provided herein, this contract shall be governed and construed in accordance with the laws of the State of Connecticut without regard to conflicts of law principles. The Parties submit to personal jurisdiction in and for the Connecticut Superior Court for the Judicial District of Fairfield at Bridgeport and hereby waive all objections to same as the place of venue.
16. **HEADINGS AND CAPTIONS.** The headings and captions inserted into this contract are for convenience only and in no way define, limit or otherwise describe the scope or intent of this contract, or any provision hereof, or in any way affect the interpretation of this contract.
17. **MISC. REPRESENTATIONS.** The Bidder represents:
- a. that it, nor any of its officers, directors, members, partners or other person or business who has administrative or managerial control of the Bidder:
 - i. is currently in arrears or in default to the Town with regard to any tax, debt, contract, security or any other obligation or has been so within the prior five (5) years;
 - ii. has secured the contract without collusion or fraud;

- iii. are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from proposing or performing work in any jurisdiction.
- b. that no officer or employee of the Town, nor any member of the immediate family of any such person, has or shall have a financial interest in the performance of the work or business to which it relates, or in any portion of the profits thereof, except as permitted by the Town Code of Ethics, which may be found at <https://ecode360.com/12124160>.
- c. that it shall not name the Town in its advertising, news releases, or promotional efforts without the Town's prior written approval; and,
- d. that it shall maintain all records related to the work described in the RFP for a period of five (5) years after final payment under the contract or until all pending Town, state and federal audits are completed, whichever shall last occur. Such records shall be available for examination and audit by Town, state and federal representatives upon request during that time.

18. **REQUIRED NON-DISCRIMINATION AND AFFIRMATIVE ACTION PROVISIONS FOR STATE-FUNDED PROJECTS.**

(A) (1) The Bidder agrees and warrants that in the performance of the contract such Bidder 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 Bidder 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 Bidder further agrees to take affirmative action to ensure 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 such Bidder that such disability prevents performance of the work involved; (2) The Bidder agrees, in all solicitations or advertisements for employees placed by or on behalf of the Bidder, to state that it is an "affirmative action-equal opportunity employer" in accordance with regulations adopted by the Commission on Human Rights and Opportunities; (3) The Bidder agrees to provide each labor union or representative of workers with which such Bidder has a collective bargaining agreement or other contract or understanding and each vendor with which such Bidder 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 Bidder's commitments under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (4) The Bidder agrees to comply with each provision of this section and sections 46a-68e and 46a-68f and with each regulation or relevant order issued by said commission pursuant to sections 46a-56, 46a-68e, 46a-68f and 46a-86; and (5) The Bidder 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 Bidder as relate to the provisions of this section and section 46a-56.

(B) If the contract is a public works contract, municipal public works contract or contract for a quasi public agency project, the Bidder agrees and warrants that he or she will make good faith efforts to

employ minority business enterprises as subcontractors and suppliers of materials on such public works or quasi-public agency project.

(C) For the purposes of this section, “contract” includes any extension or modification of the contract, “Bidder” includes any successors or assigns of the Bidder, “marital status” means being single, married as recognized by the state of Connecticut, widowed, separated or divorced, and “mental disability” means one or more mental disorders, as defined in the most recent edition of the American Psychiatric Association's “Diagnostic and Statistical Manual of Mental Disorders”, or a record of or regarding a person as having one or more such disorders. For the purposes of this section, “contract” does not include a contract where each Bidder is (1) a political subdivision of the state, including, but not limited to, a municipality, unless the contract is a municipal public works contract or quasi-public agency project contract, (2) any other state, as defined in section 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.

(D) For the purposes of this section, “minority business enterprise” means any small Bidder or supplier of materials fifty-one per cent or more of the capital stock, if any, or assets of which is owned by a person or persons: (1) Who are active in the daily affairs of the enterprise, (2) who have the power to direct the management and policies of the enterprise, and (3) who are members of a REV. 20220808 minority, as such term is defined in subsection (a) of section 32-9n of the Connecticut General Statutes; and “good faith” means that degree of diligence which a reasonable person would exercise in the performance of legal duties and obligations. “Good faith efforts” shall include, but not be limited to, those reasonable initial efforts necessary to comply with statutory or regulatory requirements and additional or substituted efforts when it is determined that such initial efforts will not be sufficient to comply with such requirements.

(E) The Bidder shall develop and maintain adequate documentation, in a manner prescribed by the Commission on Human Rights and Opportunities, of its good faith efforts.

(F) The Bidder shall include the provisions of subsections (a) and (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 in every subcontract entered into in order to fulfill any obligation of a municipal public works contract or contract for a quasi-public agency project, and such provisions shall be binding on a subcontractor, vendor or manufacturer, unless exempted by regulations or orders of the Commission on Human Rights and Opportunities. The Bidder shall take such action with respect to any such subcontract or purchase order as the commission may direct as a means of enforcing such provisions, including sanctions for noncompliance in accordance with section 46a56; provided, if such Bidder becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the commission regarding a state contract, the Bidder 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. The successful Bidder shall comply with all provisions of federal and state discrimination laws including without limitation, the Civil Rights Act of 1964 and the Equal Employment Opportunity Act of 1972.

The Bidder shall complete and to the extent necessary, cooperate with the Town to complete and shall submit all forms and documentation with and as deemed necessary and required by and with the Commission on Human Rights and Opportunities.

Any violation of these provisions shall be considered a material violation of the Contract and shall be grounds for the Town's cancellation, termination or suspension, in whole or in part, of the Contract and may result in ineligibility for further Town contracts.

19. **PREVAILING WAGES-ADDITIONAL TERMS AND CONDITIONS.**

This section shall apply to any public works project for which the total cost for all work by all Bidders and subcontractors is, at least (i) \$100,000 for remodeling, refinishing, refurbishing, rehabilitation, alternation, or repairs; or (ii) \$1,000,000 for new construction.

The Bidder/Bidder hereby acknowledges and affirms that this is a prevailing wage rates project and is subject to all requirements as may be imposed by the Connecticut Department of Labor, including without limitation, the provision of Certified Payroll to the Town. The Bidder shall perform the Work in strict compliance with the provisions of Connecticut General Statutes § 31-53 et seq. ("Connecticut Prevailing Wage Laws").

The Bidder/Bidder further acknowledges that 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 Gen. Stat. Ann. § 31-53(i), 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 of Monroe. Any Bidder 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.

20. **PERFORMANCE CONTRACT BOND AND PAYMENT BOND.** In conformance with Connecticut General Statutes § 49-41a, as may be amended from time to time, the Bidder shall:

- (A) within thirty (30) days after payment to the Bidder by the Town or State, pay any amounts due any subcontractor, whether for labor performed or materials furnished, when charges for such labor or materials have been included in a payment estimate paid by the Town or State; and
- (B) include in each of its subcontracts, a provision requiring each subcontractor to pay any amounts due any of its subcontractors, whether for labor performed or materials furnished, within thirty (30) days after such subcontractor receives a payment from the Bidder which encompasses labor or materials furnished by such subcontractor.
- (C) include a statement with each payment requisition showing the status of all pending construction change orders, other pending change directives and approved changes to the original contract or subcontract. Such statement shall identify the pending construction change orders and other pending change directives, and shall include the date such change orders and directives were initiated, the costs associated with their performance and a description of any work completed. As used in this section, "pending construction change order" or "other pending change directive" means an authorized directive for extra work that has been issued to a Bidder or a subcontractor.

If the Bidder believes that it has a valid reason for withholding payment for particular work or materials from a subcontractor or supplier, then the Bidder, within thirty (30) days of receiving payment from the Town or State for that work or materials, shall notify the subcontractor or supplier, the Town and State of its reasons for withholding payment.

21. **SELF PERFORMANCE.** It is required that the prime Bidder self-perform a minimum of 50% of the total contract value with his own organization.

22. **ADDITIONAL CONTRACT PROVISIONS.** The provisions set forth in that certain document entitled “Construction Contracts – Required Contract Provisions (State Funded Only Contracts) revised June 2024” are incorporated herein by reference and may be referenced at: [Construction Contracts – Required Contract Provisions \(State Funded Only Contracts\) revised June 2024](#).
23. **LIQUIDATED DAMAGES.** Time is of the essence for this project. The Bidder shall pay the Town ONE THOUSAND FIVE HUNDRED AND 00/100 (\$1,500.00) DOLLARS for each day that expires after the time specified for substantial completion of the project.
24. **STATE GRANT AGREEMENT.** A copy of the State Grant Agreement, if any, is attached hereto and the terms and conditions set forth therein are incorporated by reference herein.
25. **LOTICIP FUNDING PROGRAM SIGN REQUIREMENTS.** The State of Connecticut Department of Transportation currently requires that project funding program signs be placed on LOTICIP projects in accordance with the following guidelines/details. Inclusion of the signs is mandatory. The cost of the signs is considered a LOTICIP-eligible contract cost. For this project, the following information is to be included on the sign(s) where shown on the attached detail:
1. NAME OF PROJECT will be: Replacement of Bridge No. 04929 – Judd Road Over Mill River
 2. Funding program will be: LOTICIP
 3. The name of the municipality and name of chief elected official (with title) will also need to be included where indicated on the sign detail.

END OF REQUIRED GENERAL CONTRACT TERMS

Minimum Rates and Classifications for
Heavy/Highway Construction

ID#: 25-4118

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: L084-0002

Project Town: Monroe

State#:

FAP#:

Project: Judd Road Over Mill River: Bridge Replacement

CLASSIFICATION	Hourly Rate	Benefits
1) Boilermaker	48.21	30.01
1a) Bricklayer, Cement Masons, Cement Finishers, Plasterers, Stone Masons	43.14	34.74
2) Carpenters, Piledrivermen	39.54	28.68
2a) Diver Tenders	39.54	28.68
3) Divers	48.0	28.68
03a) Millwrights	43.25	29.13
4) Painters: (Bridge Construction) Brush, Roller, Blasting (Sand, Water, etc.), Spray	57.85	25.95
4a) Painters: Brush and Roller	38.07	25.80
4b) Painters: Spray Only	41.07	25.80

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4c) Painters: Steel Only	40.07	25.80
4d) Painters: Blast and Spray	41.07	25.80
4e) Painters: Tanks, Tower and Swing	40.07	25.80
4f) Elevated Tanks (60 feet and above)	47.07	25.80
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)	45.4	33.57+3% of gross wage
6) Ironworkers: Ornamental, Reinforcing, Structural, and Precast Concrete Erection	45.25	41.27 + 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)	49.58	35.25
----LABORERS-----		
8) Group 1: General Laborers and concrete specialist	35.7	28.85
8) Group 1a: Acetylene Burners (Hours worked with a torch)	36.7	28.85
9) Group 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators, powdermen	35.95	28.85
10) Group 3: Pipelayers	36.2	28.85
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	36.2	28.85

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12) Group 5: Toxic waste removal (non-mechanical systems)	37.7	28.85
13) Group 6: Blasters	37.45	28.85
Group 7: Asbestos/lead removal, non-mechanical systems (does not include leaded joint pipe)	38.7	28.85
Group 8: Traffic control signalmen	21.42	28.85
Group 9: Hydraulic Drills	36.45	28.85
Group 10: Toxic Waste Removers A or B With PPE	38.7	28.85
----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	37.93	28.85 + a
13b) Brakemen, Trackmen, Miners' Helpers and all other men	36.96	28.85 + a
----CLEANING, CONCRETE AND CAULKING TUNNEL----		
14) Concrete Workers, Form Movers, and Strippers	36.96	28.85 + a
15) Form Erectors	37.29	28.85 + a
----ROCK SHAFT LINING, CONCRETE, LINING OF SAME AND TUNNEL IN FREE AIR:----		
16) Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers, Miners Helpers	36.96	28.85 + a

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17) Laborers Topside, Cage Tenders, Bellman	36.85	28.85 + a
18) Miners	37.93	28.85 + a
----TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED AIR: ---		
-		
18a) Blaster	44.42	28.85 + a
19) Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders	44.22	28.85 + a
20) Change House Attendants, Powder Watchmen, Top on Iron Bolts	42.24	28.85 + a
21) Mucking Machine Operator, Grout Boss, Track Boss	45.01	28.85 + a
----TRUCK DRIVERS----(*see note below)		
Two Axle Trucks, Helpers	33.16	32.36 + a
Three Axle Trucks; Two Axle Ready Mix	33.27	32.36 + a
Three Axle Ready Mix	33.33	32.36 + a
Four Axle Trucks	33.39	32.36 + a
Four Axle Ready-Mix	33.44	32.36 + a
Heavy Duty Trailer (40 tons and over)	35.66	32.36 + a

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Specialized earth moving equipment other than conventional type on-the road trucks and semi-trailer (including Euclids)	33.44	32.36 + a
Heavy Duty Trailer (up to 40 tons)	34.39	32.36 + a
Snorkle Truck	33.54	32.36 + a
----POWER EQUIPMENT OPERATORS----		
Group 1: Crane Handling or Erecting Structural Steel or Stone, Hoisting Engineer (2 drums or over). (Trade License Required)	58.19	29.80 + a
Group 1a: Front End Loader (7 cubic yards or over); Work Boat 26 ft. and over.	53.33	29.80 + a
Group 2: Cranes (100 ton rate capacity and over); Bauer Drill/Caisson. (Trade License Required)	57.78	29.80 + a
Group 2a: Cranes (under 100 ton rated capacity).	56.79	29.80 + a
Group 2b: Excavator over 2 cubic yards; Pile Driver (\$3.00 premium when operator controls hammer).	52.92	29.80 + a
Group 3: Excavator; 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)	51.92	29.80 + a
Group 4: Trenching Machines; Lighter Derrick; CMI Machine or Similar; Koehring Loader (Skooper).	51.42	29.80 + a
Group 5: Specialty Railroad Equipment; Asphalt Paver; Asphalt Spreader; Asphalt Reclaiming Machine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24" mandrel)	50.63	29.80 + a

Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller.	50.63	29.80 + a
Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).	50.22	29.80 + a
Group 7: Asphalt Roller; Concrete Saws and Cutters (ride on types); Vermeer Concrete Cutter; Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24" and under Mandrel)	49.77	29.80 + a
Group 8: Mechanic, Grease Truck Operator, Hydroblaster, Barrier Mover, Power Stone Spreader; Welder; Work Boat under 26 ft.; Transfer Machine.	49.25	29.80 + a
Group 9: Front End Loader (under 3 cubic yards), Skid Steer Loader regardless of attachments (Bobcat or Similar); Fork Lift, Power Chipper; Landscape Equipment (including hydroseeder), Vacuum Excavation Truck and Hydrovac Excavation Truck (27 HG pressure or greater).	48.67	29.80 + a
Group 10: Vibratory Hammer, Ice Machine, Diesel and Air Hammer, etc.	45.96	29.80 + a
Group 11: Conveyor, Earth Roller; Power Pavement Breaker (whiphammer), Robot Demolition Equipment.	45.96	29.80 + a
Group 12: Wellpoint Operator.	45.87	29.80 + a
Group 13: Compressor Battery Operator.	45.12	29.80 + a
Group 14: Elevator Operator; Tow Motor Operator (Solid Tire No Rough Terrain).	43.6	29.80 + a
Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.	43.06	29.80 + a
Group 16: Maintenance Engineer.	42.2	29.80 + a

As of: April 17, 2025

Group 17: Portable Asphalt Plant Operator; Portable Crusher Plant Operator; Portable Concrete Plant Operator., Portable Grout Plant Operator, Portable Water Filtration Plant Operator.	47.91	29.80 + a
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Group 18: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (minimum for any job requiring CDL license).	44.7	29.80 + a
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Surveyor: Chief of Party	48.16	29.80 + a
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Surveyor: Assistant Chief of Party	44.41	29.80 + a
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Surveyor: Instrument Man	42.73	29.80 + a
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Surveyor: Rodman or Chairman	36.78	29.80 + a
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**NOTE: SEE BELOW

----LINE CONSTRUCTION----(Railroad Construction and Maintenance)----

20) Lineman, Cable Splicer, Technician	48.84	18.07
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21) Heavy Equipment Operator	42.26	6.5% + 19.88
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22) Equipment Operator, Tractor Trailer Driver, Material Men	40.96	6.5% + 19.21
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23) Driver Groundmen	26.5	6.5% + 9.00
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23a) Truck Driver	40.96	6.5% + 17.76
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----LINE CONSTRUCTION----

24) Driver Groundmen	30.92	6.5% + 9.70
25) Groundmen	22.67	6.5% + 6.20
26) Heavy Equipment Operators	37.1	6.5% + 10.70
27) Linemen, Cable Splicers, Dynamite Men	41.22	6.5% + 12.20
28) Material Men, Tractor Trailer Drivers, Equipment Operators	35.04	6.5% + 10.45

Welders: Rate for craft to which welding is incidental.

Surveyors: Hazardous material removal: \$3.00 per hour premium.

*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

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

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

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

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

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

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

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

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

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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.

~~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.

MANDATORY INSURANCE REQUIREMENTS

1. Without limiting its liability, the Bidder shall provide and maintain in full force and effect at all times until all work required by the contract has been fully completed, except that Products/Completed Operations coverage shall be maintained for five (5) years, insurance coverage related to its services in connection with the work in compliance with the following requirements.
2. The insurance required shall be written for not less than the scope and limits of insurance specified hereunder, or required by applicable federal, state, and/or municipal law, regulation or requirement, whichever coverage requirement is greater. It is agreed and understood that the scope and limits of insurance specified hereunder are minimum requirements and shall in no way limit or preclude the Town from requiring additional limits and coverage to be provided under the Bidder's policies.
3. Minimum Scope and Limits of Insurance:
 - a. **Worker's Compensation and Employers Liability Insurance.**
 - i. In accordance with the requirements of the laws of the State of Connecticut.
 - ii. \$500,000 Employer Liability each accident/each employee by disease.
 - b. **Commercial General Liability Insurance.**
 - i. Bodily Injury, Personal Injury and Property Damage- \$1,000,000 each occurrence/\$2,000,000 aggregate.
 - ii. Products/Completed Operations- \$1,000,000 each occurrence/\$2,000,000 aggregate.
 - c. **Automobile Liability Insurance-** A combined single limit of 1,000,000. This policy shall include all liability of the Bidder arising from the operation of all self-owned motor vehicles used in the performance of the contract; and shall also include a "non-ownership" provision covering the operation of motor vehicles not owned by the Bidder, but used in the performance of the work, and rider CA9948 or equivalent.
 - d. **Cyber Liability Insurance-** \$1,000,000 each occurrence/\$1,000,000 aggregate.
 - e. **Professional/Errors and Omissions Insurance-** \$1,000,000 each occurrence/ \$2,000,000 aggregate.
 - f. **Umbrella/Excess Liability Insurance-** \$3,000,000 each occurrence/\$3,000,000 aggregate. Such coverage must follow form over Worker's Compensation, Commercial General Liability, Pollution Liability and Automobile Liability.
4. **Indemnification:** The Bidder shall defend, indemnify and save harmless the Town and its officers, agents, servants, officials, employees, volunteers, boards and commissions from and against any and all claims, demands, suits, proceedings, liabilities, judgments, awards, losses, damages, costs and expenses of any nature, including but not limited to attorneys' fees, on account of bodily injury, sickness, disease, death or any other damages or loss sustained by any person or persons or injury or damage to or destruction of any property, directly or indirectly arising out of, relating to, or in connection with the work called for in the contract, whether or not due or claimed to be due in whole or in part to the active, passive or concurrent negligence, fault or contractual default of the Bidder, its officers, agents, servants or employees, any of its sub-contractors, the Town, any of its respective officers, agents, servants, officials, employees, volunteers, boards and commissions and/or any other person or persons, and whether or not such claims, demands, suits or proceedings are just, unjust, groundless, false, or fraudulent, and the Bidder shall and does hereby assume and agrees to pay for the defense of all such claims, demands, suits and proceedings, provided, however, that the Bidder shall not be required to

indemnify the Town, its officers, agents, servants, officials, employees, volunteers, boards and commissions, against any such damages occasioned solely by acts or omissions of the Town, its officers, agents, servants, officials, employees, volunteers, boards and commissions, other than supervisory acts or omissions of the Town, its officers, agents, servants, officials, employees, volunteers, boards and commissions, in connection with the work called for in the contract.

5. **“Tail” Coverage:** If any of the required liability insurance is on a claims-made basis, "tail" coverage will be required at the completion of this contract for a duration of 36 months, or the maximum time period reasonably available in the marketplace. The Bidder shall furnish certification of "tail" coverages described or continuous "claims made" liability coverage for 36 months following contract completion. Continuous "claims made" coverage will be acceptable in lieu of "tail" coverage provided its retroactive date is on or before the effective date of this contract. If continuous "claims made" coverage is used, the Bidder shall be required to keep the coverage in effect for duration of not less than 36 months from the end of the contract.
6. **Acceptability of Insurers:** The Bidder's policies shall be written by insurance companies licensed to do business in the State of Connecticut, with an A.M. Best rating of A- XV or otherwise acceptable by the Town.
7. **Subcontractors:** The Bidder shall require subcontractors to provide the same "minimum scope and limits of insurance" as required herein, with the exception of Errors and Omissions/Professional Liability insurance/Fiduciary Liability, unless Errors and Omissions/Professional Liability/Fiduciary Liability insurance is applicable to the work performed by the subcontractor. All Certificates of Insurance shall be provided to and approved by the Town prior to the commencement of work, as required herein.
8. **Aggregate Limits:** The Bidder shall notify the Town when fifty percent (50%) of the aggregate limits are eroded during the contract term. If the aggregate limit is eroded for the full limit, the Bidder shall reinstate or purchase additional limits to meet the minimum limit requirements stated herein. The premium shall be paid by the Bidder.
9. **Deductibles and Self-Insured Retentions:** Any deductible or self-insured retention must be declared to, and approved by, the Town. All deductibles or self-insured retentions are the sole responsibility of the Bidder to pay and/or to indemnify. Under no circumstances will the Town be responsible for paying any deductible or self-insured retentions related to this contract.
10. **Notice of Cancellation or Non-renewal:** Each insurance policy required shall be endorsed to state that coverage shall not be suspended, voided, cancelled, or reduced in coverage or in limits except after 30 days prior written notice by certified mail, return receipt requested, has been given to the Town, (provided ten (10) days' prior written notice shall be sufficient in the case of termination for nonpayment).
11. **Waiver of Governmental Immunity:** Unless requested otherwise by the Town, the Bidder and its insurer shall waive governmental immunity as defense and shall not use the defense of governmental immunity in the adjustment of claims or in the defense of any suit brought against the Town.
12. **Additional Insured:** The liability insurance coverage, except Errors and Omissions, Professional Liability, or Workers Compensation, if included, required for the performance of the contract shall include the Town & the State of Connecticut as Additional Insured. Coverage shall be primary and non-contributory with any other insurance and self-insurance and contain no special limitations on the scope of protection afforded to the Town & the State of Connecticut. The Town& the State of Connecticut and/or its representative retain the right to make inquiries to the Bidder, its agents or broker and insurer directly.
13. **Waiver of Subrogation:** A waiver of subrogation in favor of the Town.
14. **Waiver/Estoppel:** Neither approval by the Town nor failure to disapprove the insurance furnished by the Bidder shall relieve the Bidder of its full responsibility to provide insurance as required under this contract.
15. **Bidder's Insurance Additional Remedy:** Compliance with the insurance requirements of this contract shall not limit the liability of the Bidder or its sub-contractors/firms, employees or agents to the Town or

TOTAL PROPOSAL:	\$

TOTAL PROPOSAL *(written out in words)*

2. **ACKNOWLEDGEMENT.** In submitting this Fee Proposal Form, the undersigned Bidder acknowledges that the Total Proposal set forth above is all-inclusive and the guaranteed maximum price, including without limitation, all labor, materials, transportation, hauling, fees, insurances, bonds/ letters of credit, profit, security, permits and licenses, and any and all other costs required to complete the work set forth in the RFP. Except as otherwise expressly stated in the RFP, no additional payment of any kind will be made for the products and/or services called for in the RFP.

3. **REQUIRED DISCLOSURES.**

a. **Exceptions to/Clarifications of/Modifications of the RFP**

This proposal **does not** take exception to or seek to clarify or modify any requirement of the RFP, including without limitation, the Plans, Specifications, or Required Contract Terms as set forth in this RFP. **The Bidder agrees to each requirement, term, provision and condition of this RFP.**

OR

This proposal **does** take exception to or seeks to clarify or modify certain of the RFP requirements, including the Required Contract Terms.

Attached is a sheet fully describing each such exception.

b. **State Debarment List**

Is the Bidder on the State of Connecticut’s Debarment List?

Yes No

c. **Occupational Safety and Health Law Violations**

Has the Bidder, including any person or business in which it has an interest or in which it has any common control: (i) been cited for three (3) or more willful or serious violations of any occupational safety and health act or of any standard, order or regulation promulgated pursuant to such act, during the three (3) year period preceding the proposal (provided such violations were cited in accordance with the provisions of any state occupational safety and health act or the Occupational Safety and Health Act of 1970, and not abated within the time fixed by the citation and such citation has not been set aside following appeal to the appropriate agency or court having jurisdiction); or (ii) received one or more criminal convictions related to the injury or death of any employee in the three (3) year period preceding the proposal?

Yes No

If “yes,” attach a sheet fully describing each such matter.

d. Arbitration/Litigation

Has either the Bidder, including any person or business in which it has an interest or in which it has any common control, or any of its principals (regardless of place of employment), been involved for the most recent ten (10) years in any pending or resolved arbitration, litigation or disciplinary action whether pending or resolved?

Yes No

If “yes,” attach a sheet fully describing each such matter.

e. Criminal Proceedings

Has either the Bidder, including any person or business in which it has an interest or in which it has any common control, or any of its principals (regardless of place of employment), ever been the subject of any criminal proceedings?

Yes No

If “yes,” attach a sheet fully describing each such matter.

f. Ethics and Offenses in Public Projects or Contracts

Has either the Bidder, including any person or business in which it has an interest or in which it has any common control, or any of its principals (regardless of place of employment), ever been found to have violated any federal, state or local ethics law, regulation, ordinance, code, policy or standard, or to have committed any other offense arising out of the submission of proposals or bids or the performance of work on public works projects or contracts with any governmental body?

Yes No

If “yes,” attach a sheet fully describing each such relationship.

g. No Conflict of Interest

Is the Bidder aware of any personal or business relationship between a Town officer, employee or volunteer and an officer, director, member, manager or partner of the Bidder that could be regarded as creating a conflict of interest?

Yes No

If “yes,” attach a sheet fully describing each such matter.

h. Binding Effect.

The undersigned is an authorized representative of the Bidder and hereby acknowledges that the proposal and accompanying documents shall be valid and binding upon the Bidder for a period of not less than ninety (90) days from the Response Deadline.

Yes No

NOTE: THIS DOCUMENT, IN ORDER TO BE CONSIDERED A VALID PROPOSAL, MUST BE SIGNED BY A DULY AUTHORIZED PRINCIPAL, OFFICER OR OWNER OF THE BUSINESS ENTITY THAT IS SUBMITTING THE PROPOSAL (“BIDDER”). SIGNATURE BELOW CONSTITUTES THE BIDDER’S REPRESENTATION THAT IT HAS READ, UNDERSTOOD AND FULLY ACCEPTED EACH AND EVERY PROVISION OF EACH DOCUMENT COMPROMISING THE RFP, UNLESS AN EXCEPTION IS DESCRIBED ABOVE.

(Print Bidder’s Full Legal Name)

By: _____
(Signature) (Date)

(Print Name and Title)

END OF BIDDER’S FEE PROPOSAL FORM

BIDDER’S NON-COLLUSION AFFIDAVIT

The undersigned Bidder, having fully informed himself/herself/itself regarding the accuracy of the statements made herein, certifies that:

1. the proposal is genuine, not collusive nor a sham proposal;
2. the Bidder developed the proposal independently and submitted it without collusion and without any agreement, understanding, communication or planned common course of action with any other person or entity designed to limit independent competition;
3. the Bidder has not communicated the contents of its proposal to any person not an employee or agent of the Bidder and will not communicate its proposal to any such person prior to the official opening of the proposal; and,
4. no elected or appointed official or other officer or employee of the Town of Monroe is directly or indirectly interested in the Bidder’s proposal, or in the supplies, materials, equipment, work or labor to which it relates, or in any of the profits thereof.

The undersigned Bidder further certifies that this affidavit is executed for the purpose of inducing the Town of Monroe to consider its proposal and make an award in accordance therewith.

(Print Bidder’s Full Legal Name)

By: _____
(Signature) (Date)

(Print Name and Title)

Subscribed and sworn to before me, the undersigned Notary Public, this ____ day of _____, 2025.

Notary Public
My Commission Expires:

END OF NON-COLLUSION AFFIDAVIT

BIDDER’S LEGAL STATUS DISCLOSURE

Each Bidder must complete the applicable section below, attaching a separate sheet if additional space is required.

For purposes of this disclosure, “permanent place of business” means an office continuously maintained, occupied and used by the Bidder’s employees to carry on the Bidder’s business in the Bidder’s own name. An office maintained, occupied and used by a Bidder only for the duration of a contract will not be considered a permanent place of business. An office maintained, occupied and used by a person affiliated with a Bidder will not be considered a permanent place of business of the Bidder.

Business Structure: **Sole Proprietorship** **Partnership**
 Limited Liability Company **Corporation**

Bidder’s Full Legal Name: _____

Trade Name(s) (DBA): _____

Business Address: _____

Mailing Address: _____

Number of years engaged in business under business name or trade name: _____

The Bidder scope of business is primarily (check one): local regional national international

Does the Bidder have a “permanent place of business” in Connecticut, as defined above?

Yes No

If yes, please state the address: _____

If a Sole Proprietorship:

Owner’s Name: _____

Owner’s Home Address: _____

If a Partnership:

List the Name, Title, Ownership Interest and Address of each Partner

Name/Title/Interest: _____

Home Address: _____

Name/Title/Interest: _____

Home Address: _____

If a LLC:

List the Name, Title, Ownership Interest and Address of each Member:

Name/Title/Interest: _____

Home Address: _____

Name/Title/Interest: _____

Home Address: _____

Name/Title/Interest: _____

Home Address: _____

Name/Title/Interest: _____

Home Address: _____

If a Corporation:

List the Name, Title, Ownership Interest (if any) and Address of each Director and Officer:

Name/Title/Interest: _____

Home Address: _____

Name/Title/Interest: _____

Home Address: _____

Name/Title/Interest: _____

Home Address: _____

Name/Title/Interest: _____

Home Address: _____

Name/Title/Interest: _____

Home Address: _____

Name/Title/Interest: _____

Home Address: _____

END OF STATEMENT OF BIDDER'S STATUS LEGAL DISCLOSURE

BIDDER'S STATEMENT OF REFERENCES

Provide at least three (3) references and samples of the work performed:

1. BUSINESS NAME: _____
ADDRESS: _____
CITY, STATE, ZIP: _____
EMAIL: _____ PHONE: _____
CONTACT NAME: _____ TITLE: _____

2. BUSINESS NAME: _____
ADDRESS: _____
CITY, STATE, ZIP: _____
EMAIL: _____ PHONE: _____
CONTACT NAME: _____ TITLE: _____

3. BUSINESS NAME: _____
ADDRESS: _____
CITY, STATE, ZIP: _____
EMAIL: _____ PHONE: _____
CONTACT NAME: _____ TITLE: _____

4. BUSINESS NAME: _____
ADDRESS: _____
CITY, STATE, ZIP: _____
EMAIL: _____ PHONE: _____
CONTACT NAME: _____ TITLE: _____

5. BUSINESS NAME: _____
ADDRESS: _____
CITY, STATE, ZIP: _____
EMAIL: _____ PHONE: _____
CONTACT NAME: _____ TITLE: _____

END OF STATEMENT OF REFERENCES

BIDDER'S LIST OF SUBCONTRACTORS

List all subcontractors which you intend to work on the project (add additional pages if required):

1. BUSINESS NAME: _____
ADDRESS: _____
CITY, STATE, ZIP: _____
EMAIL: _____ PHONE: _____
CONTACT NAME: _____ TITLE: _____
PROPOSED WORK: _____

2. BUSINESS NAME: _____
ADDRESS: _____
CITY, STATE, ZIP: _____
EMAIL: _____ PHONE: _____
CONTACT NAME: _____ TITLE: _____
PROPOSED WORK: _____

3. BUSINESS NAME: _____
ADDRESS: _____
CITY, STATE, ZIP: _____
EMAIL: _____ PHONE: _____
CONTACT NAME: _____ TITLE: _____
PROPOSED WORK: _____

4. BUSINESS NAME: _____
ADDRESS: _____
CITY, STATE, ZIP: _____
EMAIL: _____ PHONE: _____
CONTACT NAME: _____ TITLE: _____
PROPOSED WORK: _____

5. BUSINESS NAME: _____
ADDRESS: _____
CITY, STATE, ZIP: _____
EMAIL: _____ PHONE: _____
CONTACT NAME: _____ TITLE: _____
PROPOSED WORK: _____

END OF STATEMENT OF REFERENCES

RFP CHECKLIST
PROPOSAL FORMAT & SUBMISSION

The Bidder shall provide and submit in the sequence set forth below, the following documents, fully completed and executed where required:

BIDDER MUST CHECK OFF EACH BOX ACKNOWLEDGING SUBMISSION		# of Pages
<input type="checkbox"/>	1. Cover Letter (optional)	
<input type="checkbox"/>	2. RFP Checklist/Proposal Format & Submission	
<input type="checkbox"/>	3. Fee Proposal Form	
<input type="checkbox"/>	4. RFP Invitation to Bid	
<input type="checkbox"/>	a. Standard Instructions to Bidders	
<input type="checkbox"/>	b. Required General Contract Terms	
<input type="checkbox"/>	c. Mandatory Insurance Requirements	
<input type="checkbox"/>	d. Fee Proposal Form	
<input type="checkbox"/>	e. Bidder’s Non-Collusion Affidavit Form	
<input type="checkbox"/>	f. Bidder’s Legal Status Disclosure	
<input type="checkbox"/>	g. Bidder’s Statement of References	
<input type="checkbox"/>	h. Bidder’s List of Subcontractors	
<input type="checkbox"/>	i. Addenda Nos. _____	
<input type="checkbox"/>	5. Scope of Work	
<input type="checkbox"/>	a. Plans:	
<input type="checkbox"/>	b. Specifications:	
<input type="checkbox"/>	c. Other:	
<input type="checkbox"/>	6. Size, history and organizational structure of business, including project specific key personnel (“proposed project team”), including their relative education, experience and qualifications.	
<input type="checkbox"/>	7. A single-page narrative describing your approach to the project.	
<input type="checkbox"/>	8. A detailed project schedule and timeline.	
<input type="checkbox"/>	9. A statement of financial responsibility including all financial information sufficient to evidence the financial ability to perform and fund the entire cost of the project throughout the term.	
<input type="checkbox"/>	10. [Description]: _____	
<input type="checkbox"/>	[Description]: _____	
<input type="checkbox"/>	[Description]: _____	

END OF RFP CHECKLIST, PROPOSAL FORMAT AND SUBMISSION

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

(Revised 09/3/15)

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 fifteen million dollars in the most recently completed fiscal year, and at least fifty-one percent of the ownership of which is held by a person or persons who are active in the daily affairs of the company, and have the power to direct the management and policies of the company, except that a nonprofit corporation shall be construed to be a small contractor if such nonprofit corporation meets the requirements of subparagraphs (A) and (B) of subdivision [4a-60g](#) CONN. GEN. STAT.

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

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.

3) Definition of Racial and Ethnic Terms (as used in Part IV Bidder Employment Information) (Page 3)

<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 1 – Bidder Information

<p>Company Name: Street Address: City & State: Chief Executive:</p>	<p>Bidder Federal Employer Identification Number: Or Social Security Number:</p>
<p>Major Business Activity: (brief description)</p>	<p>Bidder Identification (response optional/definitions on page 1)</p> <p>-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 is certified as above by State of CT? Yes No</p>
<p>Bidder Parent Company: (If any)</p>	
<p>Other Locations in CT: (If any)</p>	

PART II - Bidder Nondiscrimination Policies and Procedures

<p>1. Does your company have a written Affirmative Action/Equal Employment Opportunity statement posted on company bulletin boards? Yes No</p>	<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.? Yes No</p>
<p>2. Does your company have the state-mandated sexual harassment prevention in the workplace policy posted on company bulletin boards? Yes No</p>	<p>8. Do you, upon request, provide reasonable accommodation to employees, or applicants for employment, who have physical or mental disability? Yes No</p>
<p>3. Do you notify all recruitment sources in writing of your company's Affirmative Action/Equal Employment Opportunity employment policy? Yes No</p>	<p>9. Does your company have a mandatory retirement age for all employees? Yes No</p>
<p>4. Do your company advertisements contain a written statement that you are an Affirmative Action/Equal Opportunity Employer? Yes No</p>	<p>10. If your company has 50 or more employees, have you provided at least two (2) hours of sexual harassment training to all of your supervisors? Yes No N/A</p>
<p>5. Do you notify the Ct. State Employment Service of all employment openings with your company? Yes No</p>	<p>11. If your company has apprenticeship programs, do they meet the Affirmative Action/Equal Employment Opportunity requirements of the apprenticeship standards of the Ct. Dept. of Labor? Yes No N/A</p>
<p>6. Does your company have a collective bargaining agreement with workers? Yes No</p> <p>6a. If yes, do the collective bargaining agreements contain non-discrimination clauses covering all workers? Yes No</p> <p>6b. Have you notified each union in writing of your commitments under the nondiscrimination requirements of contracts with the state of CT? Yes No</p>	<p>12. Does your company have a written affirmative action Plan? Yes No If no, please explain.</p> <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:</p>

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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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)

SCOPE OF WORK

1. PROJECT OVERVIEW.

Replacement of the existing bridge located along Judd Road over Mill River.

2. GENERAL SCOPE OF WORK AND CLARIFICATIONS.

See plans and specifications provided

3. PROJECT TIMELINE/SCHEDULE.

244 calendar days

4. PROJECT SPECIFIC PROPOSAL EVALUATION CRITERIA.

All proposals must be in conformance with the contract documents, CHRO and Town of Monroe requirements

5. PLANS/SPECIFICATIONS/ DOCUMENTS. The following plans, specifications and other documents are attached hereto:

- a. **PLANS:**
- b. **SPECIFICATIONS:**
- c. **OTHER:**

END OF SCOPE OF WORK

SPECIAL PROVISIONS, SECTIONS AND NOTICES
TO CONTRACTOR INDEX PAGE

Section 1.07 – Legal Relations and Responsibilities

Section 1.08 – Prosecution and Progress

Section 8.22 – Temporary Traffic Barrier

Notice to Contractor – Contract Time and Liquidated Damages

Notice to Contractor – General Construction Best Management Practices for Site within a Public
Drinking Water Supply Area

Notice to Contractor – Material Testing Requirements

Item #0202216A – Excavation and Reuse of Existing Channel Bottom Material

Item #0204151A – Handling Water

Item #0406194A – Joint and Crack Sealing of Bituminous Concrete Pavement

Item #0406303A – Sawing and Sealing Joints

Item #0406312A – Gutter Line Sealing for Bridges

Item #0520036A – Asphaltic Plug Expansion Joint System

Item #0601088A – Concrete Form Liners

Item #0703011A – Intermediate Riprap

Item #0707009A – Membrane Waterproofing (Cold Liquid Elastomeric)

Item #0819002A – Penetrating Sealer Protective Compound

Item #0904051A – 3 Tube Curb Mounted Bridge Rail

Item #0969060A – Construction Field Office (Small)

Item #0971001A – Maintenance and Protection of Traffic

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:

Charter Communications Entertainment I, LLC dba Charter Communications of Western Conn.

Mr. Keith Cournoyer,
Construction Supervisor
207 Tuckie Road
North Windham, CT 06256
PHONE: (860) 456-8346 EXT: 53029 Mobile:
E-MAIL: Keith.Cournoyer@charter.com
Special Instructions:
Utility Ownership: Privately owned

Crown Castle Fiber, LLC

Mr. Mark Bonanno,
Manager, Network Construction
1800 West Park Dr., Suite 250
Westborough, MA 01581
PHONE: 508-616-7818 EXT: Mobile: 617-828-1415
E-MAIL: Mark.Bonanno@crowncastle.com
Special Instructions: Send Map Requests to: fiber.dig@crowncastle.com
Utility Ownership: Privately owned

The Southern New England Telephone Company dba Frontier Communications of Connecticut

Ms. Lynne DeLucia,
Manager - Engineering & Construction
1441 North Colony Road
Meriden, CT 06450-4101
PHONE: (203) 238-5000 EXT: Mobile: 860-967-4389
E-MAIL: Lynne.m.delucia@ftr.com
Special Instructions: Map Requests: FTR-CT-MAPREQUEST@ftr.com
Utility Ownership: Privately owned

WilTel Communications, LLC aka CenturyLink Communications, LLC

Mr. David Vega,
Project Manager, OSP Relocations
71 Clinton Road
Garden City, NY 11530
PHONE: 917-207-4604 EXT: Mobile:
E-MAIL: David.Vega@CenturyLink.com
Special Instructions: Send NU Letter and map requests to: relocations@lumen.com

Utility Ownership: Privately owned

The Connecticut Light and Power Company dba Eversource Energy - Electric Transmission

Ms. Carissa P. Sedlacek,
Director, Transmission Interconnections
56 Prospect Street
Hartford, CT 06103
PHONE: (860) 728-4636 EXT: Mobile: 413-530-2904
E-MAIL: carissa.sedlacek@eversource.com
Special Instructions: Map Requests: numaprequest@eversource.com
Utility Ownership: Privately owned

Yankee Gas Services Company dba Eversource Energy - Gas

Mr. Kenneth Cook,
Lead Engineer, Gas Project Engineering
107 Selden Street, Mail Stop NUE2
Berlin, CT 06037
PHONE: 860-978-5465 EXT: Mobile:
E-MAIL: kenneth.cookiii@eversource.com
Special Instructions: Select this link for Eversource Energy map requests:
<https://portal.ct.gov/-/media/DOT/documents/dutilities/Eversource-Energy-Process-to-requestmapping.pdf>
Utility Ownership: Privately owned

Housatonic Railroad

Mr. Matt Boardman,
Chief Project Engineer
P.O. Box 1146
Canaan, CT 06018-1146
PHONE: (860) 824-0850 EXT: 17 Mobile:
E-MAIL: m.boardman@hrrc.com

Aquarion Water Company of Connecticut

Mr. Carlos Vizcarrondo,
Relocations Coordinator
600 Lindley Street
Bridgeport, CT 06606
PHONE: (203) 337-5950 EXT: Mobile: (203) 395-3097
E-MAIL: cvizcarrondo@aquarionwater.com
Special Instructions:
Utility Ownership: Privately owned

SECTION 1.08 - PROSECUTION AND PROGRESS

Article 1.08.04 - Limitation of Operations - Add the following:

TIME RESTRICTIONS

Judd Road

The Contractor will be allowed to close Judd Road and detour traffic for the full duration of construction. Work at the site is restricted to Monday through Friday (except legal holidays) from 7:00AM to 6:00PM. Work at the site will not be permitted on Saturday, Sunday, or legal Holidays without authorization from the Towns of Monroe and Easton Connecticut.

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:

The Contractor shall notify the Towns of Monroe and Easton Connecticut and the Engineer at least 14 days in advance of the start of the Judd Road bridge closure.

All Other Roadways

Monday through Friday between 6:00 a.m. and 9:00 a.m. & between 3:00 p.m. and 6:00 p.m.
Saturday, Sunday or Holidays: By request from the Towns of Monroe and Easton.

Additional Lane Closure Restrictions

It is anticipated that work on adjacent projects will be ongoing simultaneously with this project. The Contractor shall be aware of those projects and anticipate that coordination will be required to maintain proper traffic flow at all times on all project roadways, in a manner consistent with these specifications and acceptable to the Engineer.

The Contractor will not be allowed to perform any work that will interfere with traffic operations on a roadway when traffic operations are being restricted on that same roadway, unless there is at least a one mile clear area length where the entire roadway is open to traffic or the closures have been coordinated and are acceptable to the Engineer. The one mile clear area length shall be measured from the end of the first work area to the beginning of the signing pattern for the next work area.

SECTION 8.22 - TEMPORARY TRAFFIC BARRIER

Section 8.22 is hereby replaced with the following:

8.22.01—Description: Work under this item shall consist of furnishing, installing, relocating and removing temporary traffic barrier.

8.22.02—Materials: The precast concrete materials for temporary traffic barrier shall meet the requirements of Article 8.21.02 except that reinforcing steel does not need to be galvanized.

Any temporary precast concrete barrier curb that was fabricated after December 31, 2019 that does not, at a minimum, meet AASHTO MASH (TL-3) is not allowed to be used as temporary traffic barrier. The condition of all precast concrete temporary traffic barrier must meet the “acceptable” or “marginal” definitions in the ATSSA “Quality Guidelines for Temporary Traffic Control Devices and Features.”

An alternate to the temporary traffic barrier shown on the plans may be requested. The alternate temporary traffic barrier must be documented to meet the minimum crash performance for MASH (TL-3) and its dynamic deflection distance must not exceed the values indicated on the plans for the type of temporary traffic barrier proposed.

The delineator shall be fabricated of aluminum, steel, plastic, or of a material approved by the Engineer. The retroreflective sheeting shall be Type IV, Type V, or Type IX as specified in Article M.18.09. Delineator fastening hardware or adhesive shall be suitable for the purpose intended.

The connection rod and anchors shall be manufactured in accordance with AASHTO M 314, Grade 55. Threads shall be UNC Series as specified in ANSI B1.1 and shall have Class 2A threaded tolerances before galvanizing.

Plain steel washers shall be manufactured in accordance with ANSI B18.22.

Heavy hex nuts shall be Grade A, manufactured in accordance with AASHTO M 291.

Connection loop bars shall be bent from smooth bars that meet the requirements of ASTM A36.

Steel tube for the connection key shall meet the requirements of ASTM A500, Grade B or C.

Steel plate shall be AASHTO M270 Grade 36 or 50.

Adhesive bonding material shall meet the requirements of Article 6.10.02.

Non-shrink, non-staining grout shall meet the requirements of Article M.03.05.

Membrane waterproofing (cold liquid elastomeric) shall be selected from the Qualified Products List and shall be able to be applied by brush.

8.22.03—Construction Methods:

1. Submittals:

- a. When used temporary traffic barrier is furnished, the Contractor shall provide documentation stating where the material originated, the Department project for which it was produced, the casting dates, and certification that the barrier meets the Contract requirements.
- b. When an alternative temporary traffic barrier is requested, the Contractor shall submit to the Engineer a Materials Certificate, in accordance with Article 1.06.07, and a copy of the Federal-aid eligibility letter issued to the manufacturer documenting that the device complies with the minimum requirements of MASH (TL-3).

- c. Submit Materials Certificates for the steel plate, connection rods, anchors and non-shrink, non-staining grout.
 - d. A Materials Certificate for the membrane waterproofing (cold liquid elastomeric) shall be submitted to the Engineer, in accordance with Article 1.06.07, along with the manufacturer's written installation instructions for application of the membrane when repair of deck membrane is required after removal of anchors.
 - e. Submit Product Data for the selected adhesive bonding material, in accordance with Article 6.10.03-A.
2. **Precast Unit:** Concrete temporary traffic barrier units shall be precast in accordance with the pertinent requirements of Article 8.21.03, except the penetrating sealer protective compound need not be applied to the precast unit.
3. **Installation & Removal:** Temporary traffic barrier units shall be placed as shown on the plans or as directed by the Engineer, on a firm even surface to produce a smooth continuous length of barrier.

Any damaged material shall be removed and replaced by the Contractor at their expense. The Contractor shall maintain the condition and alignment of the temporary traffic barrier during all stages of construction.

The Contractor shall relocate the temporary traffic barrier and its appurtenances to locations within the Project limits when shown on the plans or as ordered by the Engineer. When the temporary traffic barrier is no longer required, it shall be removed completely from the Project and shall remain the property of the Contractor.

Any holes in concrete decks created for anchoring shall be filled with non-shrink, non-staining grout up to the concrete surface after barrier removal. Anchors secured to the deck using adhesive bonding material shall be cut flush with the concrete surface when no longer needed. If the temporary traffic barrier is set on a bituminous wearing surface on top of the concrete deck and the existing membrane is to remain, a six-inch diameter pavement core shall be drilled around each anchor to the top of deck to remove the wearing surface and to provide access to cut off the anchor or fill the hole in the deck. All loose or poorly adhering membrane and other materials that could adversely affect the bond of the membrane to the deck shall be removed from the concrete surface. Cold liquid elastomeric membrane shall be brush-applied to the exposed concrete surface in accordance with the accepted installation instructions submitted by the manufacturer. The minimum thickness of membrane shall be 80 mils which shall be measured using a wet film gage. After the membrane is cured in accordance with the manufacturer's written recommendations, the core hole shall be filled using a bituminous concrete mixture at a minimum temperature of 240°F containing the same or smaller nominal maximum aggregate size and compacted with a hand compactor or other mechanical means to the maximum compaction possible. The bituminous concrete shall be compacted to 1/8 inch above the finished pavement.

4. **Delineator:** The delineator shall be installed in the center on top of all barriers on the roadway and those installed within 8 feet from the edge of road, and at the locations designated on the plans. They shall be fastened by adhesive or hardware and must be maintained in good condition at all times. The color of the delineator shall match the color of the adjacent pavement marking edge line.

DE-7 (One Way White) delineators shall be used when the barriers are on the right side of traffic or dividing traffic in the same direction.

DE-7A (One Way Yellow) delineators shall be used when the barriers are on the left side of traffic.

DE-7B (Two Way Yellow) delineators shall be used when the barriers divide opposing traffic lanes.

DE-7D (Two Way White) delineators shall be used when the barriers are installed in an alternating one-way traffic operation.

Spacing of delineators on temporary traffic barriers shall be as specified on Traffic Standard Sheet TR-1205_01.

5. **Connection:** Nuts for the connection rod pin and loop connection shall be turned until the washer is drawn up against the connection loop. The connection loops must not be bent in the tightening process. For ease in removing the nuts, the threads may be waxed. Connection keys shall be installed as shown on the Plans
6. **Anchoring:** Anchoring temporary traffic barrier shall be with adhesive bonding material, thru-bolting, or pinning as shown on the plans, except only threaded inserts shall be used on new prestressed concrete members and shall be cast into the deck in locations that accommodate the stage construction. Shop drawings for the new prestressed concrete members shall reflect the use of inserts. Drilling into prestressed concrete members is not permitted. Installation of anchors with adhesive bonding material shall be in accordance with Article 6.10.03.

The terminal units of temporary barrier curb shall be 20 feet in length and shall be anchored with pins on both sides as shown on the plans.

Method of Measurement: This work will be measured for payment along the centerline of the top of the temporary traffic barrier and will be the actual number of linear feet of temporary traffic barrier furnished, installed and accepted.

Relocated temporary traffic barrier will be measured along the centerline of the top of the barrier each time the barrier has been satisfactorily relocated as directed by the Engineer, including to and from the storage area. Storage of barrier will not be measured for payment. Relocation of temporary traffic barrier for access to the work area, or for the convenience of the Contractor, shall be considered incidental to Maintenance and Protection of Traffic and will not be measured for payment.

The terminal units will not be measured separately. Their length will be included in the length of temporary traffic barrier installed.

Delineators will not be measured for payment.

Anchoring materials, filling of holes, cutting off adhesive bonded anchors, coring, furnishing and applying waterproofing membrane and filling in core holes with bituminous concrete will not be measured for payment.

Basis of Payment: This work will be paid for at the Contract unit price per linear foot for "Temporary Traffic Barrier" or "Temporary Traffic Barrier (Type)," complete in place, which price shall include all furnishing, transportation, initial installation, final removal, storage, materials, reinforcing steel, connecting rods, anchoring materials, equipment, tools and labor incidental thereto. Each temporary traffic barrier will be paid for once regardless of the number of times it is used on the Project. Any temporary traffic barrier that become lost, damaged or defaced shall be replaced by the Contractor at no cost to the State.

The relocation of the temporary traffic barrier will be paid for at the Contract unit price per linear foot for "Relocated Temporary Traffic Barrier" or "Relocated Temporary Traffic Barrier (Type)," which price shall include all transportation, installation, removal, materials, equipment , tools, storage and labor incidental thereto.

Pay Item	Pay Unit
Temporary Traffic Barrier	l.f.
Temporary Traffic Barrier (Pinned)	l.f.
Temporary Traffic Barrier (Bolted)	l.f.
Relocated Temporary Traffic Barrier	l.f.
Relocated Temporary Traffic Barrier (Pinned)	l.f.
Relocated Temporary Traffic Barrier (Bolted)	l.f.

CONTRACT TIME AND LIQUIDATED DAMAGES

A total of Two Hundred and Seventy Days (270) calendar days will be allowed for completion of all work on this project.

Two Hundred and Seventy Days (270) 2024 calendar days will be allowed for completion of all work, excluding the planting and the liquidated damages charge to apply will be One Thousand Two Hundred Dollars (\$1,200.00) per calendar day.



General Construction Best Management Practices for Sites within a Public Drinking Water Supply Area

DRINKING WATER SECTION • JULY 2014

Emergency Response Plan

A response plan should be written for actions to be taken for the containment of accidental fuel or chemical spills or the failure of temporary erosion and sedimentation controls that may occur during construction. Spill response equipment should be available on-site at all times along with personnel trained in the proper use of such equipment. A person or persons should be designated by the contractor for emergency response coordination on a 24/7 basis.

** All contractors and their employees should be informed that they are working in an important public water supply area. Fuel or other hazardous material spills must be reported immediately to the CT DEEP Oil and Chemicals Spills Unit (860-424-3338) and to Aquarion (203-445-7310).*

Vehicles and Machinery

Designate one area for auto parking, vehicle refueling and routine equipment maintenance. The designated area should be well away from exposed surfaces or storm drains. Methods and locations of refueling, servicing, and storage of vehicles and machinery should be addressed and included as notes on the final site plans. Minor servicing and refueling of machinery should be completed on a fueling pad with containment. All major equipment repairs must be made off site. Onsite fuel storage should be discouraged.

General Site Conditions

Keep pollutants off exposed surfaces. The burying of stumps or construction debris must not be allowed on the job site. Sediment fences and hay bales must be strategically placed, inspected and maintained to prevent sedimentation and erosion. Temporary storm water ponds and basins must be routinely inspected and maintained. If unexpected conditions occur, additional fences and hay bales should be available for use as needed to prevent runoff. Protect exposed stockpiles of soil to prevent runoff. Use as little water as possible for dust control. Clean up leaks, drips and other spills immediately to prevent or minimize soil contamination. Never hose down "dirty" pavement or surfaces where materials have spilled. Use dry cleanup methods whenever possible.

Hazardous Materials Storage

Paints, paint products and other hazardous materials should be removed from the site during non-work hours or otherwise stored in a secure area to prevent vandalism. Place covered trashcans and recycling receptacles around the site. Cover and maintain dumpsters, check frequently for leaks, and never clean a dumpster by hosing it down on site.

Sanitation

Make sure portable toilets are in good working order. Check frequently for leaks.

Notification

Notification of the project start date should be sent to the Public Water System as soon as it has been determined. Public Water System personnel should be granted daily site access to review compliance with site best management practices. The Public Water System, DPH Drinking Water Section (860-509-7333 OR after hours at 860-509-8000), and appropriate sections of the Department of Energy and Environmental Protection must be notified immediately of any chemical/fuel spill or any major failure of an erosion and sedimentation control at the construction site. Emergency telephone numbers and a statement identifying the construction site as a sensitive public water supply area should be posted where they are readily visible to contractors and other on-site personnel. A note should be added to the construction documents stating the sensitivity of the area.

**NOTICE TO CONTRACTOR
MATERIAL TESTING REQUIREMENTS**

Appendix I

Local Transportation Capital Improvement Program (LOTICIP)

4/2/2019

*ONLY Applies to Municipal Adminstered LOTICIP Projects **not** on National Highway System*

Material Name	Unit	Test/Documentation	Frequency 1 per	Notes
Anchor Bolts	ea.	MC	project	1 per size
Asphalt Emulsions (CSS-1, RS-1 or SS-1)	gal	MC	10k	
Bituminous Concrete (HMA)	ton	D 2950 FLDT	day	See Note 3
Cement - Portland Type I/II	bag	FLDT	project	empty bag
Chemcial Anchor	lb.	QPL MC	project	
Concrete-Ready Mixed	c.y.	T22 FLDL	75	4 cylinders
Construction Signing	ea.	MC	project	
Geotextile	s.y.	QPL MC	project	
Gravel (Bank Run or Crushed)	c.y.	T27 LABT	5k	
Grout, Non-shrink	bag	MC	project	
Masonry Brick & Block (Solid)	ea.	FLDT	project	See Note 1
Pipe - Reinforced Concrete	l.f.	PC-1	project	See Note 1
Pipe (Metal & Plastic) All types	lf	MC	project	See Note 1
Pipe Arch - Aluminum	lf	MC	project	See Note 1
Precast Concrete Items (not pipe)	ea.	PC-1	Item type	
Prestressed Concrete Members	ea.	LABT	1	See Note 2 & 3
Reclaimed Misc. Aggregate	c.y.	T27/Chem Analysis	2500	See Note 5
Reclaimed Waste	c.y.	T180 LABT	50k	See Note 5
Sand (Masonry /Trenching & Backfilling)	c.y.	T27 LABT	2500	
Sheet Piling	l.f.	MC	project	See Note 4
Sign Post	ea	MC	project	See Note 1
Span Pole - Steel or Wood	ea.	MC	project	See Note 3
Steel Reinforcing Bars (Plain or Epoxy)	lb.	T244 MC	200t	
Stone (Broken/Crushed)	c.y.	T27 LABT	20k	
Structural Steel	cw	Shop Drawings	project	Notes 2, 3 & 4
Traffic Signal Equipment	ea.	MC	project	NA

Notes

1	Material should be inspected on the project site prior to use. Suspect material should be physically tested to determine conformance.
2	QC Inspection should be provided and documented during fabrication.
3	Contact the Department of Transportation Division of Materials Testing to determine vendor qualifications and QA inspection availability.
4	Documentation should be provided to determine conformance to Buy America requirements.
5	FORM MAT-212 should be completed and provided by the Contractor prior to use of material.

Test Method/Test Type

LABT	Laboratory Test
FLDT	Test performed in the field
QPL	ConnDOT Qualified Products List (http://www.ct.gov/dot/lib/dot/documents/dresearch/conndot_qpl.pdf)
PC-1	MAT-308 Required from producer with shipment
MC*	Materials Certificate

*Should comply with ConnDOT Standard Specification Section 1.06.07

ITEM #0202216A – EXCAVATION AND REUSE OF EXISTING CHANNEL BOTTOM MATERIAL

Description: This work shall consist of excavating existing channel bottom material in areas where the channel bottom is to be disturbed and regraded to create a work area for a bridge, culvert, articulated concrete block placement or cofferdam installation. This item shall also include the stockpiling and protecting of the excavated material on the Site, subsequent placement of the stockpiled material in the channel, and the removal and proper disposal of all unused and unacceptable material.

Materials: The material for this item shall consist of the existing naturally-formed rocks, cobbles, gravel, soils and clean natural sediments from within the channel.

Any material excavated from ledge (bedrock) formations or broken from larger boulders will not be accepted. Broken concrete will not be accepted.

Construction Methods: The Contractor shall submit for the Engineer's approval a proposed location for stockpiling material. The proposed location shall be upland where disruption to the stream channel or impact to wetland areas caused by moving the excavated channel bottom material to and from the stockpile are minimized during the placement of material. The Contractor shall prepare the area approved by the Engineer, suitable in size and location for stockpiling the existing channel bottom material.

The stockpile shall be located where it can remain undisturbed for the duration of the stream channel construction and shall be protected using sedimentation control measures. The stockpile area shall be cleared and cleaned adequately to prevent mixing with underlying soil or other materials, including the use of a separation barrier such as: structural fabric, polyethylene sheeting, or similar. The stockpile area shall be adequately covered to protect the excavated channel bottom material from erosion by rain or other forces.

After clearing and grubbing, the Engineer will identify the limits of the exposed channel bottom material to be excavated under this item. The Engineer will identify the bottom limit of excavation, an amount up to but not exceeding 24 inches in depth, based upon visual inspection of the channel bottom material, unless otherwise specified in the Contract. After the limits of excavation have been determined, the Contractor shall excavate the channel bottom material, separate from any other roadway, structure, channel or unsuitable material excavation in the area. After the channel bottom material, and approved supplemental streambed channel material if needed, has been placed in the stockpile area, no other excavated or off-Site material shall be placed in the stockpile.

The stockpiled channel bottom material shall be placed at the designated location(s) to the required thickness as shown on the plans, denoted on the permit application, or as directed by the Engineer. Equipment and placement techniques shall prevent integration with the surrounding material and shall keep the channel bottom material relatively homogenous. Channel material shall be placed in a manner that replicates the original condition of the channel prior to excavation.

The Contractor shall perform all containment, diversion, or other separation of the channel flow when placing the channel bottom material to minimize sediment transport downstream.

The disposal of any surplus or unsuitable material shall be in accordance with Section 2.02. Restore the stockpile area as directed by the Engineer.

If it is agreed by the Engineer that there is an insufficient quantity of excavated channel bottom material within the Project limits, the Contractor shall obtain Supplemental Streambed Channel Material as specified under that item.

Method of Measurement: This work will be measured for payment by the number of cubic yards of channel bottom material excavated, stockpiled, maintained, and accepted, including disposal of unacceptable and surplus materials.

The Engineer will delineate the horizontal pay limit prior to the start of excavation. The vertical pay limit will be measured from the top of the existing channel bottom to the bottom of excavation required specifically for the stockpiling of channel bottom material.

Any material excavated beyond the approved horizontal pay limits or deeper than the depth of channel bottom material identified and approved by the Engineer will not be measured for payment under this item. Should such additional excavation be required to complete the Contract work, it will be measured for payment separately under the applicable pay items.

Basis of Payment: Payment for this work will be made at the Contract unit price per cubic yard for "Excavation and Reuse of Existing Channel Bottom Material." The price shall include all materials, equipment, tools and labor incidental to the preparation of the stockpile area, excavation of channel bottom, hauling of the material to the stockpile, and separation of any rock ledge or concrete debris, storing, and protecting (including but not limited to sedimentation controls and covering of excavated material).

Payment for clearing and grubbing of the approved stockpile area will be included in the item "Clearing and Grubbing."

Payment for the removal and proper disposal of all unused and unacceptable material will be in accordance with Article 1.09.04 – Extra and Cost-Plus Work.

Payment for supplemental streambed channel material will be included in the item "Supplemental Streambed Channel Material." If no item appears in the proposal, the work will be in accordance with Article 1.09.04 – Extra and Cost-Plus Work.

Payment for all containment, diversion or other separation of stream flow from the excavation of channel bottom material will be included in the item "Cofferdam and Dewatering" or special provision for "Handling Water."

Excavation of material not identified by the Engineer for stockpiling and reuse in accordance with this specification will be paid in accordance with Section 2.02.

Pay Item	Pay Unit
Excavation and Reuse of Existing Channel Bottom Material	c.y.

ITEM #0204151A - HANDLING WATER

Description: Work under this item shall consist of designing, furnishing, installing, maintaining, removing and disposing of a temporary water handling system. This may include water-handling-cofferdams (temporary barriers), bypass pipes, bypass pumps/hoses, temporary energy dissipation, sumps, drainage channels, and equipment and work necessary for dewatering.

A temporary water handling system redirects surface water beyond, through, or around the limits of construction to allow work to be done in the dry.

Materials: The materials required for this work shall be as shown on the plans, on the accepted working drawings, or as ordered by the Engineer.

Construction Methods: The Contractor shall prepare and submit written procedures for handling water. Working drawings, in accordance with Article 1.05.02, shall also be prepared and submitted.

The Contractor shall consider stream conditions and water elevations associated with the Site to determine the type of temporary water handling system required to redirect water away from work being performed. The system shall be designed to be compatible with the stage construction and Maintenance and Protection of Traffic, as indicated in the Contract, and shall conform to Section 1.10.

The Contractor shall be responsible for maintenance of the water handling system. If the system becomes damaged or displaced during construction, the system shall be corrected as required.

Unless otherwise provided or directed, all temporary water handling system components shall be removed and disposed of in an acceptable manner when no longer required.

Method of Measurement: The work under this item, being paid on a lump sum basis, will not be measured for payment.

Basis of Payment: This work will be paid for at the Contract lump sum price for “Handling Water” complete and accepted, which price shall include designing (including submittals and working drawings), furnishing, installing, maintaining, removing, and disposing of all temporary water handling system components as are necessary for completion of the work. This price shall include all materials, equipment, tools, labor and work incidental thereto.

A schedule of values for payment shall be submitted to the Engineer for review and comment.

Pay Item	Pay Unit
Handling Water	L.S.

ITEM #0406194A – JOINT AND CRACK SEALING OF BITUMINOUS CONCRETE PAVEMENT

Description: This work consists of furnishing and applying hot-applied asphalt crack sealer to bituminous concrete pavement joints and cracks. It shall be constructed in close conformity with the lines, grades, thicknesses, and typical cross sections shown on the plans or established by the Engineer. Joint and Crack Sealing of Bituminous Concrete Pavement may be used in conjunction with other repair treatments including joint and crack filling or patching, in which case the sequence of treatments will be provided in the Plans or directed by the Engineer.

For the purposes of this document, the word “crack” includes all longitudinal (along the direction of travel) and transverse (perpendicular to the direction of travel) cracks and joints. All work specified for “crack(s)” herein shall apply to all types of cracks and joints unless otherwise specified.

Materials:

1. Crack Seal: The crack seal material shall be composed of a hot-applied asphalt meeting ASTM D6690 Type II requirements. The Contractor must submit to the Engineer all Material Safety Data Sheet documents from the material manufacturer prior to the commencement of work. During work progress, the Contractor must submit to the Engineer the manufacturer’s Material Certificate for compliance to ASTM D6690 Type II requirements for each batch or lot of material utilized on the Contract.
2. Optional Barrier Material – Backer Rod: The backer rod shall be a heat resistant material compatible with the crack sealant and acceptable to the manufacturer of the sealant. No bond or reaction shall occur between the sealant and the rod. It shall be of a non-water absorbent material and shall not melt or shrink when hot sealant is poured on it.

The backer rod shall have a maximum of 5% absorption when immersed in water for 24 hours with the ends sealed. The backer rod shall be of such a size that compression is required for installation in the crack, so that it maintains its position during the sealing operation. Backer rod shall be dry.

3. Optional Barrier Material – Hot Mix Asphalt (HMA): Any HMA placed in the bottom of a crack between 1.5 and 2 inches wide shall be HMA S0.25 Traffic Level 2 and shall meet all requirements of Section 4.06 - Bituminous Concrete.

The Contractor must submit to the Engineer all Material Safety Data Sheet documents from the material manufacturer(s) prior to the commencement of work. During work progress, the Contractor must submit to the Engineer the manufacturer’s Material Certificate for compliance to applicable specifications for each batch or lot of material utilized on the Contract.

Construction Methods: The crack sealing operation shall proceed in accordance with the requirements of the “Maintenance and Protection of Traffic” and “Prosecution and Progress” specifications.

1. Equipment: The equipment used by the Contractor shall include, but not be limited to, the following:
 - a. **Melter Applicator:** The unit shall consist of a boiler kettle equipped with pressure pump, hose, and applicator wand; the boiler kettle may be a combination melter and pressurized applicator of a double-boiler type with space between the inner and outer shells filled with heat transfer oil. Heat transfer oil shall have a flash point of not less than 600°F. The kettle shall include a temperature control indicator. The kettle shall be capable of maintaining the crack seal material at the manufacturer’s specified application temperature range. The kettle shall include an insulated applicator hose and application wand. The hose shall be equipped with a shutoff control. The kettle shall include a mechanical full sweep agitator to provide continuous blending. The unit shall be equipped with thermometers to monitor the material temperature and the heating oil temperature. The unit shall be equipped with thermostatic controls that allow the operator to regulate material temperature up to at least 425°F.
 - b. **Application Wand and Squeegee Applicator:** The material shall be applied with a wand followed by a squeegee applicator. The squeegee applicator shall be of commercial/industrial quality designed with a “U” shaped configuration. It shall be of a size adequate to strike off, flush with the surrounding pavement surface and without overflow around the sides, all crack seal material placed. This tool shall be either attached to the applicator wand or used separately as its own long handled tool.
 - c. **Hot Air Lance:** The unit shall be designed for cleaning and drying the pavement surface cracks. Minimum compressed air capacity shall be 100 psi. The compressed air emitted from the tip of the lance shall be capable of achieving a temperature of at least 1500°F.
 - d. **Vertically Mounted Power Driven Wire Brush:** This tool shall be used to remove any dirt, debris, or vegetation to the depths specified that cannot be removed by the hot air lance. It shall be of adequate size and power to remove all material from cracks as specified.
2. Weather Requirements: Work shall not be performed unless the pavement is dry. No frost, snow, ice, or standing water may be present on the roadway surface or within the cracks. The ambient temperature must be 40°F and rising during the field application operations for work to proceed.
3. Material Mixing Procedure: The prepackaged material shall be added to the melter applicator in the presence of the Engineer. It shall then be mixed and heated to the recommended application temperature. The crack seal material shall never exceed 400°F.

4. Determination of Cracks to be Sealed: The width and depth requirements for cracks to be sealed are as follows:

All crack width determinations shall be made by measuring the crack width flush at the surface of the pavement prior to being sealed. A straightedge shall be used whenever necessary to establish the location or limits of the flush surface of the pavement.

All cracks from $\frac{1}{8}$ inch up to 1.5 inches wide shall be prepared and sealed as stated below. Cracks that are between $\frac{1}{8}$ inch and 1.5 inches wide, but eventually taper in width below the minimum $\frac{1}{8}$ inch, shall also be prepared and sealed as stated below. Only cracks that are less than $\frac{1}{8}$ inch wide throughout their entire length shall be excluded.

Transverse cracks, where a portion of the crack (50% or less) exceeds a width of 1.5 inches, up to 2 inches, shall also be prepared and sealed as stated below.

All joints to be sealed that are raveled (loss of the pavement surface material) shall be at least $\frac{1}{2}$ inch in depth at the joint's deepest point. The minimum width of a raveled joint must be $\frac{1}{2}$ inch. The maximum width of a raveled joint to be sealed is 3 inches.

Any cracks exceeding the width and depth requirements specified above shall be repaired using separate items.

5. Crack Preparation: Cracks to be sealed shall be treated with a hot air lance prior to application of the crack seal material. Two (2) passes minimum shall be made with the hot air lance. The hot air lance operation shall proceed at a rate no greater than 120 feet per minute. There shall be no more than 10 minutes between the second hot air lance treatment and the material application.

The use of the hot air lance is not intended to heat the crack. It is to be used to blow all debris from the crack to the depths specified below and to remove any latent moisture from the crack until the inside of the crack is completely dry as determined by the Engineer. "Moisture" does not include standing water. The hot air lance is not to be used to boil off or blow standing water from the bottom of a crack. If standing water is present in the bottom of any crack, the sealing operation shall be postponed until such time that the standing water evaporates naturally. The Contractor may use compressed, oil-free air (not heated) to blow standing water from a crack to help accelerate the natural evaporation process. If standing water remains after using compressed air, the crack shall be allowed to dry naturally until remaining standing water evaporates. The hot air lance shall be used after visible water has evaporated. If a crack is already completely dry as determined by the Engineer, the hot air lance shall be operated at its lowest temperature possible.

The hot air lance is to be used to blow all debris from cracks (not including raveled joints) to a depth of at least $\frac{3}{4}$ inch for cracks between $\frac{1}{8}$ inch and $\frac{3}{4}$ inch wide, and to a depth of 1.25 inches for cracks between $\frac{3}{4}$ inch and 2 inches wide. The hot air lance shall be used to blow

all debris from raveled joints to a depth of 1 inch or the full depth of the joint, whichever is smaller.

In the event that cracks are packed tightly with debris, dirt, vegetation, or other material, except previously placed sealant or filler, the Contractor shall use a vertically mounted power driven wire brush to remove all material and burnish the sides of the crack to the depths specified above. Cracks treated with the power driven wire brush shall subsequently be treated with a hot air lance as described in this section. The use of both the power driven wire brush and the hot air lance shall result in the complete removal of all material in the crack (except previously placed sealant or filler) to the depths specified above such that the sides of the crack are completely free and clean of any debris and moisture.

In the event that cracks have depths greater than 2 inches below the pavement surface, the Contractor may place a barrier composed of backer rod as specified herein. The backer rod shall be placed in a manner leaving 1.25 inches below the elevation of the pavement surface for crack seal material. Use of backer rod will not be allowed for cracks wider than 1.5 inches or less than ½ inch wide. For cracks between 1.5 and 2 inches wide, HMA S0.25 Traffic Level 2 may be placed in the bottom of the prepared crack. HMA shall be placed and compacted with a steel T-bar approved by the Engineer in a manner leaving 1.25 inches below the elevation of the pavement surface for crack seal material.

6. Crack Sealing: As soon as cracks have been prepared, they shall be filled to refusal along their entire length with the crack sealant material. The treatment material shall be maintained at the manufacturer's specified/recommended application temperature range at all times. The sealing operation shall be suspended if the temperature of the crack seal material falls outside the specified temperature range and shall remain suspended until the crack seal material is brought within the specified temperature range. Sealed cracks are to be squeegeed immediately following application of the crack seal material, striking excess sealer flat to the adjacent pavement surface. There shall be no build-up of treatment material above or adjacent to the crack at any time. If the initial application of crack sealant material fails to fill the crack or shrinks upon cooling such that there is a depression formed of at least ¼ inch or greater, a second application of sealant shall be placed over the first application.
7. Protection of Sealed Cracks: Traffic shall not be permitted on the pavement until the crack seal material is set so that the material does not track and is not deformed or pulled out by tires. If the work under this item is being performed prior to placing a hot mix overlay or other surface treatment, a detackifier or blotting agent will not be allowed. If work under this item is not followed by placement of an overlay of any kind, a detackifier or blotting agent may be used. If a detackifier or blotting agent is used, it shall be one recommended by the supplier of the crack seal material and shall be used as recommended by the supplier, except that no paper, cotton, or other organic materials shall be allowed. Information on the type and usage of a detackifier or blotting agent shall be presented to the Engineer for their written acceptance prior to use.

8. Removal and Disposal of Material: All debris generated from the operations described above shall be removed from the roadway by the Contractor.

Treatment material remaining in the Contractor's kettle at the close of the daily work session shall be discarded. At no time shall treatment material be re-heated for use in subsequent crack sealing applications unless permitted by the Engineer following a review of specific circumstances.

All debris and surplus treatment material shall be properly disposed in accordance with Article 1.10.03 and State of Connecticut law.

9. Acceptance of Work: When work is complete, an inspection shall be scheduled with the Engineer. The Engineer will note all deficiencies including, but not limited to, areas exhibiting adhesion failure, cohesion failure, tracking of sealant material, and missed cracks. Work identified by the Engineer as not acceptable shall be repaired at the Contractor's expense. The Contractor shall notify the Engineer upon completion of any corrective work performed.

Method of Measurement: This work will be measured by the total number of linear feet of cracks sealed as indicated in the Contract plans and as measured, verified, and accepted by the Engineer.

Basis of Payment: This work will be paid for at the Contract unit price per linear foot for "Joint and Crack Sealing of Bituminous Concrete Pavement" complete and accepted in place. The price shall include all submittals, materials, equipment, tools, and labor incidental thereto. No payment will be made to the Contractor prior to submittal of required documents.

Pay Item	Pay Unit
Joint and Crack Sealing of Bituminous Concrete Pavement	l.f.

ITEM #0406303A – SAWING AND SEALING JOINTS

Description: This work shall consist of sawing bituminous concrete pavement and applying hot-applied asphalt crack sealant to create a sealed pavement joint at the locations specified on the Plans. It shall be constructed in close conformity with the lines, grades, thicknesses, and typical cross sections shown on the Plans or established by the Engineer.

Materials:

1. Crack Seal: The crack seal material shall be composed of a hot-applied asphalt meeting ASTM D6690 Type II requirements.

Prior to the start of work, the Contractor shall submit a Materials Certification (MC) in accordance with Article 1.06.07 certifying the joint seal material meets these requirements. The Contractor must submit to the Engineer all Safety Data Sheets (SDS) from the material manufacturer prior to the commencement of work.

2. Blotting Agent – Detackifier: This material shall be a fine-graded granular material with 100% aggregate passing the 3/16-inch sieve and no more than 5% passing the #200 sieve when tested in accordance with AASHTO T 27 and T 11.

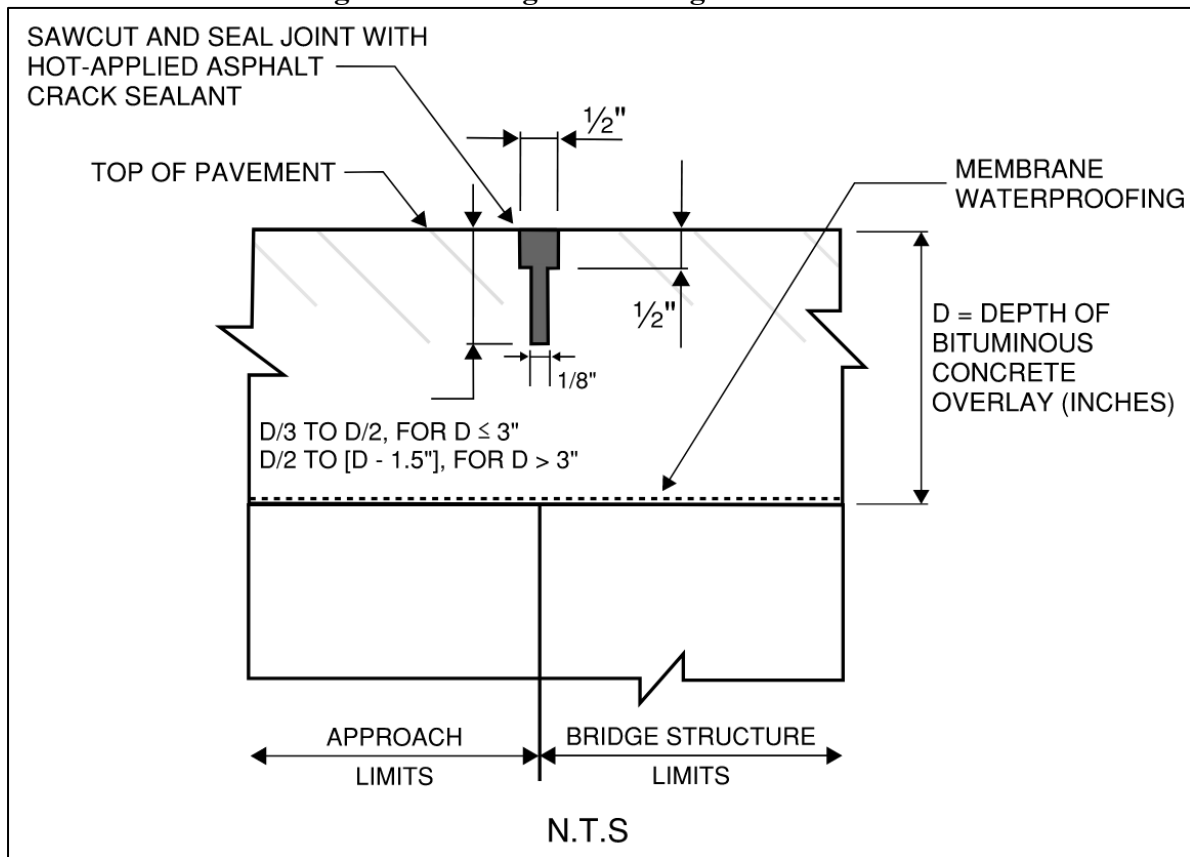
The material shall be one recommended by the supplier of the crack sealant and shall be used as recommended by the supplier, except that no paper, cotton, or other organic materials will be allowed. Product Data shall be submitted to the Engineer for review in accordance with Article 1.05.02.

Construction Methods: The sawing and sealing operation shall proceed in accordance with the requirements of the “Maintenance and Protection of Traffic” and “Prosecution and Progress” specifications.

1. Equipment: The equipment used by the Contractor shall include the following:
 - a. Saw and Blades: A minimum of one (1) power saw shall be used for the cutting of bituminous concrete. The saw shall be capable of providing straight, clean cuts of uniform depth and width to the dimensions shown on the Plans. The saw(s) shall be capable of making both a single, deeper cut (for reflective crack control) as well as a wider, shallower cut (to form the upper sealant reservoir), in one single pass, using multiple blades mounted side-by-side in “gang blade” arrangement. The saw shall have diamond-tipped blades.
 - b. Melter Applicator: This shall consist of a boiler kettle equipped with pressure pump, hose, and applicator wand; the boiler kettle may be a combination melter and pressurized applicator of a double-boiler type with space between the inner and outer shells filled with heat transfer oil. Heat transfer oil shall have a flash point of not less than 600°F. The kettle shall include a temperature control indicator. The kettle shall be

- capable of maintaining the crack seal material at the manufacturer's specified application temperature range. The kettle shall include an insulated applicator hose and application wand. The hose shall be equipped with a shutoff control. The kettle shall include a mechanical full sweep agitator to provide continuous blending. Thermometers shall monitor the material temperature and the heating oil temperature. Thermostatic controls shall allow the operator to regulate material temperature up to at least 425°F.
- c. **Application Wand and Squeegee Applicator:** The material shall be applied with a wand followed by a squeegee applicator. The squeegee applicator shall be of commercial/industrial quality designed with a "U" shaped configuration. It shall be of a size adequate to strike off, flush with the surrounding pavement surface and without overflow around the sides, all crack seal material placed. This tool shall be either attached to the applicator wand or be a separate long handled tool.
 - d. **Hot Air Lance:** This shall be designed for cleaning and drying the pavement saw cuts. Minimum compressed air capacity shall be 100 psi. The compressed air emitted from the tip of the lance shall be oil free and capable of achieving a temperature of at least 1500°F.
2. **Weather Requirements:** Work shall be performed only when the pavement is dry. No frost, snow, ice, or standing water may be present on the roadway surface or within the pavement saw cuts. The ambient temperature must be at least 40°F during field application operations.
 3. **Material Mixing Procedure:** The prepackaged material shall be added to the melter applicator in the presence of the Engineer. It shall then be mixed and heated to the recommended application temperature. The crack sealant shall never exceed 400°F.
 4. **Delineation of Transverse Joints:** Prior to the sawing and sealing operation, the Contractor shall establish sufficient controls to determine the exact location of each transverse joint. This shall include setting markers at each joint to reference its location and alignment, while having each of these markers tied. Survey shall be established while the joint elements are exposed and must be done before placement of the proposed pavement, base, or other fill materials. A written procedure for this work shall be submitted to the Engineer for review prior to commencement.
 5. **Cutting of Bituminous Concrete:** Saw cutting shall be performed a minimum of 48 hours and a maximum of 5 days after the surface lift of the bituminous concrete overlay is placed. After final paving is completed, the proposed saw cut lines shall be marked on the overlay by the Contractor. The saw cut lines must be approved by the Engineer before performing the work.

The joint shall consist of a gang-blade saw cut made in a single pass and shall span from edge-of-road to edge-of-road, as shown on the Plans. The cuts shall be made using blades of appropriate thickness to achieve the joint detail shown in Figure 1.

Figure 1: Sawing and Sealing – Joint Detail

The inner 1/8-inch-wide cut shall be made in a straight line across the pavement directly over the transverse joint. For total bituminous concrete overlay depths of 3 inches and less, the depth of the inner saw cut shall be between one third ($D/3$) and one half ($D/2$) the specified depth of the overlay as shown on the Plans. For total overlay depths exceeding 3 inches, the minimum required depth of the inner saw cut shall be one half ($D/2$) the specified depth of the bituminous concrete overlay as shown on the Plans, and a maximum of 1.5 inches above the bottom of the overlay ($D - 1.5$). The saw cut shall not damage or impact any portion of the membrane waterproofing, bridge deck, joint, or other structural element.

The outer cuts shall be made using a gang blade arrangement within the same pass as the inner cut to form the 1/2-inch by 1/2-inch upper reservoir and properly support the installation of the sealant.

The saw cut shall provide straight, clean vertical faces with no cracking, tearing, or breakage along the cut edge.

6. **Saw Cut Preparation:** Saw cuts to be sealed shall be treated with a hot air lance immediately prior to application of the crack seal material. Two (2) passes minimum shall be made with the hot air lance. There shall be no more than 10 minutes between the second hot air lance treatment and the material application.

The use of the hot air lance is not intended to heat the saw cut. It is to be used to blow all debris from the saw cut to the depths specified below and to remove any latent moisture from the saw cut until the inside of the saw cut is completely dry as determined by the Engineer. "Moisture" does not include standing water. The hot air lance is not to be used to boil off or blow standing water from the bottom of a saw cut. If standing water is present in the bottom of any saw cut, the sealing operation shall be postponed until such time that the standing water evaporates naturally. The Contractor may use compressed, oil-free air (not heated) to blow standing water from a saw cut to help accelerate the natural evaporation process. If standing water remains after using compressed air, the saw cut shall be allowed to dry naturally until remaining standing water evaporates. The hot air lance shall be used after visible water has evaporated. If a saw cut is already completely dry as determined by the Engineer, the hot air lance shall be operated at its lowest temperature possible.

7. Crack Sealing: Immediately after saw cuts have been prepared, they shall be filled to refusal along their entire length with the crack sealant material. The treatment material shall be maintained at the manufacturer's specified/recommended application temperature range at all times. The sealing operation shall be suspended if the temperature of the crack seal material falls outside the specified temperature range and shall remain suspended until the crack seal material is brought within the specified range.

Sealed saw cuts shall be squeegeed immediately following application of the crack sealant material, striking the excess even with the adjacent pavement surface. There shall be no build-up of treatment material above or adjacent to the crack. If the initial application of crack sealant material fails to fill the saw cut or shrinks upon cooling with a depression of 1/8 inch or greater, a second application of sealant shall be placed. Care shall be taken during the sealing operation to ensure that overfilling and spilling of material is avoided.

8. Protection of Sealed Joints: Traffic shall not be permitted on the pavement until the crack seal material is set, so that the material does not deform or track and be pulled out by tires. If work under this item is not followed by placement of an overlay of any kind, a detackifier or blotting agent shall be used. If the work under this item is being performed prior to placing a surface treatment (e.g., chip seal), a detackifier or blotting agent will not be allowed.
9. Removal and Disposal of Material: All debris generated from the operations described above shall be removed by the Contractor. Treatment material remaining in the Contractor's kettle at the end of the work shift shall be discarded. Treatment material shall not be re-heated for use in subsequent crack sealing applications unless permitted by the Engineer. All debris and surplus treatment material shall be properly disposed of in accordance with Article 1.10.03 and State of Connecticut regulations.
10. Acceptance of Work: When work is complete, an inspection shall be scheduled. The Engineer will note all deficiencies including areas exhibiting adhesion failure, cohesion failure, tracking of sealant material, locations of missing, incompletely, or incorrectly constructed joints, or other factors that show the work is not acceptable. Work identified by the Engineer as not acceptable shall be repaired at the Contractor's expense. The Contractor shall notify the Engineer upon completion of any corrective work performed.

Any reflective cracking attributable to improper joint referencing or construction methods shall be repaired at the expense of the Contractor, in a manner approved by the Engineer.

Method of Measurement: This work will be measured by the total number of linear feet of sawn and sealed joints, verified and accepted by the Engineer.

Basis of Payment: This work will be paid for at the Contract unit price per linear foot for “Sawing and Sealing Joints” complete and accepted in place. The price shall include all submittals, materials, equipment, tools, and labor incidental thereto. No payment will be made to the Contractor prior to submittal of required documents.

Pay Item
Sawing and Sealing Joints

Pay Unit
l.f.

ITEM #0406312A – GUTTER LINE SEALING FOR BRIDGES

Description: This work shall consist of applying hot-applied asphalt crack sealant along the gutter line of bridges after paving to seal the joint between the bituminous concrete overlay and parapet, curb, or barrier at the locations and to the limits shown on the Plans.

Materials:

1. Crack Seal: The crack seal material shall be composed of a hot-applied asphalt meeting ASTM D6690 Type II requirements.

Prior to the start of work, the Contractor shall submit a Materials Certification (MC) in accordance with Article 1.06.07 certifying the joint seal material meets these requirements. The Contractor must submit to the Engineer all Safety Data Sheets (SDS) from the material manufacturer prior to the commencement of work.

2. Blotting Agent – Detackifier: This material shall be a fine-graded granular material with 100% aggregate passing the 3/16-inch sieve and no more than 5% passing the #200 sieve when tested in accordance with AASHTO T 27 and T 11.

The material shall be as recommended by the supplier of the crack sealant and shall be used as recommended by the supplier, except that no paper, cotton, or other organic materials will be allowed. Product Data shall be submitted to the Engineer for review in accordance with Article 1.05.02.

Construction Methods: The sealing operation shall proceed in accordance with the requirements of the “Maintenance and Protection of Traffic” and “Prosecution and Progress” specifications.

1. Equipment: The equipment used by the Contractor shall include the following:
 - a. Melter Applicator: This shall consist of a boiler kettle equipped with pressure pump, hose, and applicator wand; the boiler kettle may be a combination melter and pressurized applicator of a double-boiler type with space between the inner and outer shells filled with heat transfer oil. Heat transfer oil shall have a flash point of not less than 600°F. The kettle shall include a temperature control indicator. The kettle shall be capable of maintaining the crack seal material at the manufacturer’s specified application temperature range. The kettle shall include an insulated applicator hose and application wand. The hose shall be equipped with a shutoff control. The kettle shall include a mechanical full sweep agitator to provide continuous blending. Thermometers shall monitor the material temperature and the heating oil temperature. Thermostatic controls shall allow the operator to regulate material temperature up to at least 425°F.
 - b. Application Wand and Squeegee Applicator: The material shall be applied with a wand followed by a squeegee applicator. The squeegee applicator shall be of

- commercial/industrial quality and be designed with a configuration to properly strike off the sealant placed along the gutter line of the bridge, adjacent bituminous concrete overlay and parapet, curb, or barrier to the dimensions specified. It shall be of a size adequate to strike off, flush with the surrounding areas, all crack seal material placed. This tool shall be either attached to the applicator wand or be a separate long handled tool.
- c. **Hot Air Lance:** This shall be designed for cleaning and drying the pavement edge along the curb parapet or barrier. Minimum compressed air capacity shall be 100 psi. The oil-free compressed air emitted from the tip of the lance shall be oil free and capable of achieving a temperature of at least 1500°F.
 2. **Weather Requirements:** The pavement shall be dry without frost, snow, ice, or standing water on the roadway surface and within the areas to be sealed. The ambient temperature must be at least 40°F and rising during application.
 3. **Material Mixing Procedure:** The prepackaged material shall be added to the melter applicator in the presence of the Engineer. It shall then be mixed and heated to the recommended application temperature. The crack sealant shall never exceed 400°F. The treatment material shall be maintained at the manufacturer's specified/recommended application temperature range during application. The sealing operation shall be suspended if the temperature of the crack sealant falls outside the specified temperature range and shall remain suspended until the crack sealant is brought within the specified range.
 4. **Delineation of Areas to be Sealed:** Prior to the sealing operation, the Contractor shall locate and mark out the start and end limits of the work. The sealing shall span the entire length of the structure and be done along each side of the bridge such that both gutter lines are completely sealed, as shown on the Plans. Sealing shall be performed after the surface lift of the bituminous concrete overlay is placed, at a time determined by the Engineer, not to exceed 4 weeks after final paving is completed. The sealing operation shall not damage or otherwise negatively impact the performance of any portion of the overlay, membrane waterproofing, bridge deck, joint, or other structural element.

Sealing Preparation: Areas to be sealed shall be treated with a hot air lance prior to application of the crack seal material. A minimum of two (2) passes shall be made. Within 10 minutes of the second hot air lance treatment the sealant shall be applied. The use of the hot air lance is not intended to heat the areas to be sealed. It is to be used to blow away all debris and remove any latent moisture from the areas to be sealed until the area is completely dry as determined by the Engineer. "Moisture" does not include standing water. The hot air lance is not to be used to boil off or blow standing water. If standing water is present, the sealing operation shall be postponed until such time that the standing water evaporates naturally. The Contractor may use compressed, oil-free air (not heated) to blow standing water to help accelerate the natural evaporation process. If standing water remains after using compressed air, the area shall be allowed to dry naturally until remaining standing water evaporates. The hot air lance shall be used after visible water has evaporated. If an area is already completely dry as determined by the Engineer, the hot air lance shall be operated at its lowest temperature possible.

The parapet, curb, or barrier face shall be masked off above the sealant line to ensure straight, clean, and neat lines are provided along the vertical surface and that crack seal material is placed within the dimensions specified below.

5. Sealing Operation: Once prepared, all specified areas shall be sealed along their entire length with the crack seal applicator. Crack seal shall be placed 2 inches up onto the parapet, curb, or barrier face and 4 to 6 inches onto the adjacent bituminous concrete overlay. There shall be no build-up of sealant material above or adjacent to the sealed areas beyond these limits. Sealed areas are to be flattened with the squeegee applicator immediately following application of the crack sealant, striking excess material flat and even with the adjacent surface(s). If the initial application of crack sealant fails to fill the area flush or shrinks upon cooling with a depression of 1/8 inch or greater, additional applications of sealant shall be placed where necessary. Care shall be taken during the sealing operation to ensure that overfilling and spilling of material is avoided.

6. Protection of Sealed Areas: Traffic shall not be permitted on the sealed area of pavement along the gutter line until the crack sealant is set, so that the material does not deform or track and be pulled out by tires. If work under this item is not followed by placement of an overlay of any kind, a detackifier or blotting agent shall be used. If the work under this item is being performed prior to placing a surface treatment (e.g., chip seal), a detackifier or blotting agent will not be allowed.

7. Removal and Disposal of Material: All debris generated from the operations described above shall be removed by the Contractor. Treatment material remaining in the Contractor's kettle at the end of the work shift shall be properly discarded. Treatment material shall not be re-heated for use in subsequent crack sealing applications unless permitted by the Engineer. All debris and surplus treatment material shall be properly disposed of in accordance with Article 1.10.03 and State of Connecticut regulations.

8. Acceptance of Work: When work is complete, an inspection shall be scheduled. The Engineer will note all deficiencies including areas exhibiting adhesion failure, cohesion failure, tracking of sealant material, locations of missing, incompletely or incorrectly constructed sealant, or other factors that show the work is not acceptable. Work identified by the Engineer as not acceptable shall be repaired at the Contractor's expense. The Contractor shall notify the Engineer upon completion of any corrective work performed.

Method of Measurement: This work will be measured by the total number of linear feet sealed, verified and accepted by the Engineer.

Basis of Payment: This work will be paid for at the Contract unit price per linear foot for "Gutter Line Sealing for Bridges" complete and accepted in place. The price shall include all submittals, materials, equipment, tools, and labor incidental thereto. No payment will be made to the Contractor prior to submittal of required documents.

Pay Item	Pay Unit
Gutter Line Sealing for Bridges	l.f.

ITEM #0520036A - ASPHALTIC PLUG EXPANSION JOINT SYSTEM

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

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

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

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

Aggregate: The aggregate shall meet the following requirements:

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

Table A

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

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

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

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

Bridging Plate: The bridging plates shall be steel conforming to the requirements of ASTM A36 and be a minimum ¼" thick and 8" wide. For joint openings in excess of 3" the minimum plate dimensions shall be ⅜" thick by 12" wide. Individual sections of plate shall not exceed

4' in length. Steel locating pins for securing the plates shall be size 16d minimum, hot-dip galvanized, and spaced no more than 12" apart.

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

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

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

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

Table B

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

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

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

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

Table C

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

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

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

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

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

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

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

The APJ shall not be installed when bituminous concrete overlay or joint cutout is wet. The APJ shall only be installed when the bridge superstructure surface temperature is within the limits specified in Table D and when the ambient air temperature is within the range of 45°F to 95°F. The bridge superstructure surface temperature range is determined using the thermal movement

range provided on the contract plans for the proposed APJ deck installation location and the selected APJ product.

Table D

Installation Restrictions	
Designed Deck Joint Thermal Movement Range²	Bridge Superstructure Surface Temperature¹
0" to 1"	45° F to 95° F
1-1/8"	45° F to 90° F
1-1/4"	45° F to 80° F
1-3/8"	45° F to 70° F
1-1/2"	45° F to 65° F

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

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

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

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

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

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

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

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

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

Bridging plates shall be abrasive blast-cleaned on-site prior to installation and then placed over the deck joint opening in the joint cutout. The plates shall be centered over the joint opening and secured with locating pins along its centerline. The plates shall be placed end to end, without overlap, such that the gap between plates does not exceed ¼". The plates shall extend to the gutter line and be cut to match the joint's skew angle, where concrete support exists on both sides of the joint. Within APJ installation limits, where concrete support does not exist at both sides of the joint opening (such as where a bridge deck end abuts a bituminous concrete roadway shoulder), bridging plates shall not be installed. Installed bridging plates shall not rock or deflect in any way.

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

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

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

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

Traffic shall not be permitted over the joint until it has cooled to 130° F when measured with a digital infrared thermometer. Use of water to cool the completed joint is permitted.

Sidewalk, parapet, and/or curb joint openings

Before placement of any sealing materials in parapets, curbs, or sidewalks, the joints shall be thoroughly cleaned of all scale, loose concrete, dirt, dust, or other foreign matter by abrasive blast cleaning. Residual dust and moisture shall then be removed by blasting with oil free compressed

air using a hot air lance. Projections of concrete into the joint space shall also be removed. The backer rod shall be installed in the joint as shown on the plans. The joint shall be clean and dry before the joint sealant is applied. Under no circumstances is the binder material to be used as a substitute for the joint sealant.

Whenever abrasive blast cleaning is performed under this specification, the Contractor shall take adequate measures to ensure that the abrasive blast cleaning will not cause damage to adjacent traffic or other facilities.

The joint sealant shall be prepared and placed in accordance with the manufacturer's instructions and with the equipment prescribed by the manufacturer. Extreme care shall be taken to ensure that the sealant is placed in accordance with the manufacturer's recommended thickness requirements.

The joint sealant shall be tooled, if required, in accordance with the manufacturer's instructions.

Primer, if required, shall be supplied by the sealant manufacturer and applied in accordance with the manufacturer's instructions.

When the sealing operations are completed, the joints shall be effectively sealed against infiltration of water. Any sealant which does not effectively seal against water shall be removed and replaced at the Contractor's expense.

Any installed joint that exhibits evidence of failure, as determined by the Engineer, such as debonding, cracking, rutting, or shoving of the APJ mixture shall be removed and replaced full-width and full-depth to a length determined by the Engineer at no additional cost to the State.

Method of Measurement: This work will be measured for payment by the number of cubic feet of "Asphaltic Plug Expansion Joint System" installed and accepted within approved horizontal limits. No additional measurement will be made for furnishing and installing backer rod and joint sealant in the parapets, concrete medians, curbs and/or sidewalks.

Basis of Payment: This work will be paid for at the contract unit price per cubic foot for "Asphaltic Plug Expansion Joint System," complete in place, which price shall include the saw-cutting, removal and disposal of bituminous concrete, membrane waterproofing, existing joint components and sealing elements, the furnishing and placement of the leveling compound, cleaning of the joint surfaces, furnishing and installing bridging plates, the furnishing and installing of the asphaltic plug joint mixture, the cost of furnishing and installing joint sealant in the parapets, concrete medians, curbs and sidewalks, and all other materials, equipment including, but not limited to, portable lighting, tools, and labor incidental thereto. No additional payment shall be made for the 12" wide bridging plates that are required for deck joint openings with widths in excess of 3".

If directed by the Engineer, additional deck repairs will be addressed and paid for under the applicable concrete deck repair items in the Contract.

ITEM # 0601088A - CONCRETE FORM LINERS

Description: Work under this item shall include construction of textured, colored formed concrete surfaces using simulated stone form liners, a color stain system designed to closely duplicate the appearance of natural stone. This item shall include the following:

- 1) Furnishing, installing, and removing a concrete form liner that will be used to produce a simulated stone facing on exposed surfaces and to the limits shown on the contract documents or requested by the engineer.
- 2) Grouting, patching and hand or tool finishing work after the forms are removed as necessary to remove lines and irregularities on the finished facing that are not in keeping with the intended “look” of the simulated stone facing.
- 3) Color staining of the concrete surfaces as may be required by the style of simulated stone facing used, including test panels to establish colors and patterns of staining before initiating this portion of the work.
- 4) Preparation, submittal and approval of pattern layout drawings, maximizing re-use and minimizing cutting of form liners, for each surface shown on the plans, or other surface where form liners are to be used.

Materials: Acceptable concrete form liner manufacturers and form liner patterns are:

- Custom Rock Formliners, as manufactured by Custom Rock International, Inc., St. Paul, MN 55116, (800) 637-2447. Pattern: No. 2209 – New England Drystack
- Fitzgerald Formliners, as manufactured by Fitzgerald Formliners, 1500 East Chestnut Street, Santa Ana CA 92701, (800) 547-7760. Pattern: No. 17033 – Sierra Drystack
- Spec Formliners as manufactured by Spec Formliners, Inc., 1038 E 4th Street, Santa Ana, CA 92701, (888) 429-9550. Pattern: No. 1587 – California Dry Stack
- An equal form liner approved by the Engineer, which conforms to the parameters and is of similar appearance to the patterns of the above.

Form Liners - The form liners shall be reusable, made of high strength urethane and not compress more than ¼” when concrete is placed at a rate of 10 vertical feet per hour. Form liners shall be removable without causing deterioration of surface or underlying concrete.

Release Agent - The release agent shall be compatible with the form liners, simulated stone masonry and with the color stain system, as recommended by the manufacturer.

Form Ties - The form ties shall be designed to separate at least one inch back from the finished surface, leaving only a neat hole that can be plugged with patching material.

Color Stain - Special penetrating stain mix as provided by the manufacturer, shall achieve color variations present in the natural stone being simulated by the pattern selected for the project. The Engineer/Town shall select a color pattern from photos of completed projects. The stain shall

create a surface finish that is breathable (allowing water vapor transmission), and that resists deterioration from water, alkali, fungi, sunlight or weathering. The stain shall be a water borne, low V.O.C. material less than 6.25 lb/cf and shall meet requirements for; weathering resistance - 2000 hours accelerated exposure in accordance with the 3-bulb test of ASTM G152, scrub test - 100 revolutions, abrasion resistance (Tabor CF-10) - 500 cycles, adhesion – 0.04” cross cuts on glass pass 3 or higher on a scale of 1 to 5 in accordance with ASTM D3359, chemical resistance - ASTM D1308.

Construction Methods: General: The manufacturer of the simulated stone form liners and custom coloring systems shall demonstrate at least three (3) years of experience making custom simulated stone form liners and color stains to create formed concrete surfaces to match natural stone shapes, surface textures and colors. Evidence and color pictures of projects actually constructed over the last three years shall be submitted prior to approval.

The contractor or subcontractor who is to install the form liners and perform the work shall demonstrate at least three (3) years of experience placing vertically formed architectural concrete, including training in the manufacturer’s special techniques as may be required in achieving realistic surfaces.

An authorized representative from both the form liner manufacturer and the color stain manufacturer (if color stain is used) shall be present at the site for installation of the facing test panel and during placing of all structural concrete utilizing form liners.

Prior to initiating any work, a meeting shall be scheduled by the contractor to assure full understanding of the work by all parties involved and to coordinate the work. Included for attendance shall be the manufacturer’s authorized representatives, the contractor, the subcontractor (installer), the Engineer and the Town.

The Contractor shall submit the following for approval by the Engineer/Town prior to beginning the form operations:

Photographs - Color photographs of at least three (3) similar projects recently performed by the contractor (or his subcontractor) and at least three (3) similar projects recently produced by the manufacturer.

Form Tie Sample - A sample, description, and demonstration of the form tie the Contractor proposes to use.

Pattern Layout Drawings (3 copies) - Layout drawings shall be the plan, elevation, and details showing the overall pattern, joint locations, form tie locations, weephole locations, drainage and other protrusions, and any other special considerations. These drawings shall maximize re-use of form liners and minimize cutting of form liners and shall be approved prior to installation of the form liners.

Concrete Facing Test Panel - At least 30 days prior to placing structural concrete requiring form liners, a concrete test panel shall be built on-site, using the same materials and methods of work force that will be used for the project. Location of the test panel shall be approved by the Engineer and the concrete test panel shall conform to the following:

1. The size of the test panel shall be 5 square yards, or larger if needed to adequately illustrate the pattern selected.
2. The test panel shall contain an area demonstrating simulated stone masonry butt joint, the continuation of the pattern through an expansion joint and an outside corner.
3. The test panel shall include staining as may be required for the selected pattern.
4. The test panel shall be removed when it is no longer needed, to the satisfaction of the Engineer.

The test panel requirement may be waived, if in the opinion of the engineer, all parties involved adequately understand the requirements and the intended look of the final finished surfaces.

All work associated with the process of form lining, texturing and color staining of the hardened concrete shall be performed in strict accordance with the manufacturer's recommendations and as approved by the Engineer/Town. The contractor shall:

- Provide, cut and install the form liners in accordance with the approved pattern drawings for each structural component
- Provide and apply manufacturer's release agent
- Hand carve top exposed texture surfaces (as applicable)
- Remove form liner after concrete is sufficiently set to avoid damage
- Patch, grind or bush hammer form liner seams as required
- Power wash hardened concrete just prior to staining
- Power wash and patch form liners as may be required before re-use

Form Liners: Design and pattern of the form lined concrete surfaces shall follow the manufacturer's standard drawing and the approved pattern layout drawings. The completed color and formed concrete surfaces shall match the pattern, color and texture of the approved test panel and shall accurately simulate the appearance of real stone, demonstrating the colors that may be apparent due to aging, rusting, and staining from oxidation, soil and/or vegetation.

All form liners shall be placed with less than ¼" separation between form liners. Form liners shall be securely attached to the forms with wood or sheet metal screws, securely bolted through the forms with bolts secured into threaded inserts in the back of the form liners, or securely bolted through the form liner and forming system with flat head bolts inserted in a pattern joint, all according to manufacturer's recommendations for the pattern and form liner used. Construction adhesives may be used but not on re-usable form liners.

Release of Form Liners: Only manufacturer recommended form release agents shall be utilized and shall be applied to the form liners before the concrete is placed. Release agents shall be applied in strict accordance with release agent manufacturer recommendations. Hand-charged sprayers will only be allowed if a thin uniform coating of release agent is obtained on the form liner.

Form liners shall be removed from the wall within 24 hours of placing the concrete. The form liners may be detached from the forms and then removed from the concrete, or they may remain attached to the forms and the entire forming system removed from the concrete. Remove the

form liners from the top, down. Curing of concrete may be accomplished with form liners and forms placed back against the wall after the initial detachment. **Curing compounds shall not be used**, as they are incompatible with the color staining material.

Care & Cleaning of Form Liners: Form liners shall be cleaned the same day they are removed from the wall with a power wash and mild detergent. Synthetic brushes with stiff bristles may be used on stubborn areas. Mild acid washes may also be used. **Solvents shall not be used**. If necessary, patching of holes shall be performed with 100% clear silicone caulk. Form liners shall be stored inside or under a protective, non-transparent cover, in a vertical position.

Wall Patching and Preparation: After form liners are removed from the hardened concrete, the textured uncolored surface shall be prepared for color staining. All holes larger than 3/8" in greatest principal dimension shall be filled with concrete patching material from the approved product list, as approved by the Engineer. All honeycombed areas shall be filled and textured to match surrounding areas. Seam lines and other unnatural protrusions shall be ground down to match adjacent areas with a hand-held power grinder using discs made for concrete. Grinding of seams shall be performed immediately after removal of the form liners. Perform final bush hammering to blend defects and ground areas into the final rock texture. In particular, the process of wall patching and preparation shall be subject to approval of the manufacturer and Engineer.

Color Staining: All color staining shall be performed by the manufacturer, or their authorized representative, and the hardened concrete shall be a minimum of 30 days old before color staining is applied. The Contractor shall power wash the wall to free it from latent, dirt, oil and other objectionable materials. After the wall has dried, the color staining process shall be applied using colors approved by the Engineer/Town. Color staining shall be applied in such a way that the stones shall have individual colorations from one to the other. Water-based stains shall be used in air temperatures ranging from 50 degrees F to 100 degrees F. Stains shall be used in air temperatures of 50 degrees F and below, but in no case when the temperature of the hardened concrete is 40 degrees F and falling.

All staining work shall be scheduled after backfilling is completed to avoid contaminating or damaging of the surfaces. After staining is complete and approved, topsoil and rip rap shall be placed in a way that does not damage the finished surfaces.

Method of Measurement:

The work covered under this special provision and associated with construction of textured and colored formed concrete surfaces using simulated stone form liners and a color stain system, will be measured for payment by the actual number of square feet of concrete patterned on cast-in-place concrete surfaces, within the pay limits shown on the drawings or as approved by the Engineer.

Basis of Payment:

This work will be paid for at the contract unit price per square foot for "Concrete Form Liners", complete in place, which price shall include all work and materials incidental thereto, including

form liners, release agents, form ties, color stains or additives, pattern drawings, test panels, scaffolding, patching, preparation, cleaning, staining and all other work, materials, tools, and labor incidental thereto.

Pay Item

Concrete Form Liners

Pay Unit

S.F.

ITEM #0703011A – INTERMEDIATE RIPRAP

Description: This work shall consist of furnishing material for and constructing a vegetated riprap with bushlayering and pole planting in accordance with these specifications and in reasonably close conformity to the lines, grades, and dimensions shown on the plans or as directed by the Engineer.

Riprap shall consist of angular shaped stones used to protect foundations of piers, abutments, walls, slopes of embankments and waterways from water damage.

Materials: Materials shall conform to the following requirements

Materials for this works shall include riprap as shown on the plans, rock toe protection, bushlayering, pole planting, live stakes, fiber roll willow wattle or fascine, cobble/gravel soil fill, filter layer graded aggregate and/or filter fabric or any other materials requested by the Engineer during the construction of the vegetated riprap.

1. **Stone:** The stone for this work shall be the type called for on the plans and shall meet the requirements of M.12.02.
2. **Bedding:** The bedding material for riprap shall conform to the specifications of the material indicated on the plans.

Construction Methods:

The Contractor shall construct the vegetated riprap as shown on the plans or as directed by the Engineer. The contractor shall coordinate with the Engineer before any work is to begin on the vegetated riprap. The contractor shall submit to the Engineer all materials and methods of construction of the vegetated riprap 30 days before start of work of the vegetated riprap.

The area to be protected by riprap shall be accurately shaped prior to placing of any bedding material or riprap. Where bedding material is called for, it shall be placed on the prepared area and compacted to the depth, lines and grades indicated on the plans.

The riprap shall be placed to its full course thickness in one operation in such a manner as to produce a reasonably well-graded mass of rock without causing displacement of the underlying material. The finished surface shall be free from pockets of small stones and clusters of larger stones. Placing this material by methods likely to cause segregation of the various sizes of stone will not be permitted.

Rearranging of individual stones by mechanical or hand methods will be required to the extent necessary to obtain a reasonably well-graded distribution of the specified stone sizes. The completed course shall be of the specified thickness and to the lines and grades as shown on the plans or as ordered by the Engineer.

Method of Measurement: The quantity of intermediate riprap measured for payment shall be the number of cubic yards whose length and width are measured in place as accepted and the thickness as shown on the plans.

Basis of Payment: This work will be paid for at the Contract unit price per cubic yard for the type of intermediate riprap indicated, complete in place, including all materials, but not limited to the following: supply and installation of rock toe protection, bushlayering, pole planting, live stakes, and fiber roll willow wattle or fascine, cobble/gravel soil fill, filter layer graded aggregate and/or filter fabric. The price shall also include all tools, labor, equipment, and material incidental thereto.

Excavation and bedding material will be measured and each paid for under its particular pay item.

Pay Item	Pay Unit
Intermediate Riprap	c.y.

ITEM #0707009A - MEMBRANE WATERPROOFING (COLD LIQUID ELASTOMERIC)

Description: Work under this item consists of furnishing and installing a seamless elastomeric waterproofing membrane system applied to a concrete or steel surface as shown on the plans, in accordance with this specification and as directed by the Engineer. Work shall also include conditioning of the surface to be coated and all quality-control testing noted herein.

The completed membrane system shall be comprised of a primer coat, two layers of the membrane coating (minimum total thickness of 80 mil and maximum total thickness not to exceed 120 mil), an additional 40 mil membrane layer with aggregate broadcast into the material while still wet, reinforcing material at deck panel joints and two applications of asphalt emulsion (tack coat) at a rate of 0.05-0.07 gal/s.y. each, allowing the first application to break prior to applying the second.

Materials: The Contractor shall select a waterproofing membrane system from the Department's current Qualified Product List (QPL) for Spray-Applied Membrane Waterproofing System. All materials incorporated in the works shall meet the Manufacturer's specification for the chosen system. The Engineer will reject any system that is not on the QPL.

Reinforcing material shall be as recommended by the manufacturer.

Materials Certificate: The Contractor shall submit to the Engineer a Materials Certificate for the primer, membrane and aggregate in accordance with the requirements of Article 1.06.07.

Construction Methods: At least 30 days prior to installation of the membrane system, the Contractor shall submit to the Engineer a Site-specific Installation Plan that includes the manufacturer's recommended procedure for preparing the deck surface, pre-treatment or preparing at cracks and gaps, treatment at curbs, vertical surfaces or discontinuities, applying the primer and membrane, placing of aggregated coat and all Quality Control (QC Plan) testing operations to be performed during the membrane system's installation. Procedures shall also include recommended repairs of system non-compliant issues identified during application. The system shall be applied to the prepared area(s) as defined or shown in the plans, strictly in accordance with the Installation Plan.

A technical representative, in the direct employ of the manufacturer, shall be present on-Site immediately prior to and during application of the membrane. The representative shall inspect and approve the surface prior to priming, and provide guidance on the handling, mixing and addition of components and observe application of the primer and membrane. The technical representative shall perform all required QC testing and remain on the Project site until the membrane has fully cured.

All QC testing, including verbal direction or observations at the time of installation, shall be recorded and submitted to the Engineer for inclusion in the Project records. The QC testing data

shall be received by the Department's project personnel prior to any paving over the finished membrane, or within 24 hours following completion of any staged portion of the work.

1. **Applicator Approval:** The Contractor's membrane Applicator shall be fully trained and licensed by the membrane manufacturer and shall have successfully completed at least three spray membrane projects in the past five years. The Contractor shall furnish references from those projects, including names of contact persons and the names, addresses and phone numbers of persons who supervised the projects. This information shall be submitted to the Engineer prior to the submittal of the Installation Plan. The Engineer shall have sole authority to determine the adequacy and compliance of the submitted information. Inadequate proof of ability to perform the work will be grounds to reject proposed applicators.

2. **Job Conditions:**

(a) **Environmental Requirements:** Air and substrate temperatures shall be between 32°F and 104°F and the substrate shall be above the dew point. Outside of this range, the Manufacturer shall be consulted.

The Applicator shall be provided with adequate disposal facilities for nonhazardous waste generated during installation of the membrane system. The applicator shall follow safety instructions regarding respirators and safety equipment.

(b) **Safety Requirements:** All open flames and spark producing equipment shall be removed from the work area prior to commencement of application.

"No Smoking" signs shall be visibly posted at the Site during application of the membrane waterproofing.

Personnel not involved in membrane application shall be kept out of the work area.

3. **Delivery, Storage and Handling:**

(a) **Packaging and Shipping:** All components of the membrane system shall be delivered to the Site in the Manufacturer's packaging, clearly identified with the product type and batch number.

(b) **Storage and Protection:** The Applicator shall be provided with a storage area for all components. The area shall be cool, dry and out of direct sunlight and shall be in accordance with the Manufacturer's recommendations and relevant health and safety regulations.

Copies of Material Safety Data Sheets (MSDS) for all components shall be kept on Site for review by the Engineer or other personnel.

- (c) Shelf Life - Membrane Components: Packaging of all membrane components shall include a shelf life date sealed by the Manufacturer. No membrane components whose shelf life has expired shall be used.

4. Surface Preparation:

- (a) Protection: The Applicator shall be responsible for the protection of equipment and adjacent areas from over spray or other contamination. Parapets and bridge joints shall be masked prior to application of the materials.
- (b) Surface Preparation: Sharp peaks and discontinuities shall be ground smooth. Any peak greater than ¼ inch above the surface profile of the prepared substrate shall be ground to the surrounding elevation. Any valley or minor surface deterioration of ½ inch or greater shall also be repaired. The extent and location of surface patches require the approval of the Engineer before the membrane system is applied.

Surfaces shall be free of oil, grease, curing compounds, loose particles, moss, algae, growth, laitance, friable matter, dirt, bituminous products, and previous waterproofing materials. If required, degreasing shall be done by detergent washing in accordance with ASTM D4258.

The surface shall be abrasively cleaned, in accordance with ASTM D4259, to provide a sound substrate free from laitance.

Voids, honeycombed areas, and blow holes on vertical surfaces shall be repaired as indicated in the Installation Plan.

All steel components to receive membrane waterproofing shall be blast cleaned in accordance with SSPC SP6 and shall be coated with the membrane waterproofing system within the same work shift.

5. Inspection and Testing: Prior to priming of the surface, the Engineer, Applicator and Manufacturer's technical representative shall inspect and approve the prepared substrate.

- (a) Random tests for deck moisture content shall be conducted on the substrate by the Contractor at the Site using a "Sovereign Portable Electronic Moisture Master Meter," a "Tramex CMEXpertII Concrete Moisture Meter" or approved equal. The minimum frequency shall be one test per 1000 s.f. but not less than three tests per shift for each contiguous section worked on during that shift. Additional tests may be required if atmospheric conditions change and retesting of the substrate moisture content is warranted.

The membrane system shall not be installed on substrate with a moisture content greater than 6%, or at a moisture content above the amount recommended by the system's Manufacturer, whichever is less.

- (b) Random tests for adequate tensile bond strength shall be conducted by the Contractor on the substrate using an adhesion tester in accordance with the requirements of ASTM D4541. The minimum frequency shall be one test per 5,000 s.f. but not less than three adhesion tests per shift for each contiguous section worked on during that shift. The locations of the pull tests shall be at least a distance from each other equal to or greater than 1/3 of the width or length (whichever is greater) of the area being worked in that section. The location of the pull tests shall be located in accordance with ASTM D3665 or a statistically-based procedure of stratified random sampling approved by the Engineer.

Adequate surface preparation will be indicated by tensile bond strengths of primer to the substrate greater than or equal to 150 psi or failure in a concrete surface and greater than or equal to 300 psi for steel surfaces.

If the tensile bond strength is lower than the minimum specified, the Engineer may request additional substrate preparation. Any primer not adequately applied shall be removed and new primer applied at the Contractor's expense, as directed by Engineer.

- (c) Grouted joints, materials that the membrane cannot bond to, and cracks or discontinuities that cannot be bridged over by the membrane material shall be covered by a reinforcing material recommended by the membrane system's Manufacturer prior to application of membrane layers as approved or directed by the Engineer.

6. Application:

- (a) The System shall be applied in the following distinct steps as follows:
 - 1) Substrate preparation
 - 2) Priming
 - 3) Reinforcing material application over grouted joints, cracks, etc.
 - 4) Membrane application (minimum 2 layers)
 - 5) Membrane with aggregate
- (b) Immediately prior to the application of any components of the System, the surface shall be adequately dry (see Section 5(a) of this specification) and any remaining dust or loose particles shall be removed using clean, dry, oil-free compressed air or industrial vacuum.
- (c) Where the area to be treated is bound by a vertical surface (e.g. curb or wall), the membrane system shall be continued up the vertical, if shown on the plans or directed by the Engineer.
- (d) The handling, mixing and addition of components shall be performed in a safe manner to achieve the desired results, in accordance with the Manufacturer's recommendations or as approved or directed by the Engineer.

- (e) A neat finish with well defined boundaries and straight edges shall be provided by the Applicator.
- (f) Primer: The primer shall consist of one coat with an overall coverage rate of 125 to 175 s.f./gal unless otherwise recommended in the Manufacturer's written instructions.

All components shall be measured and mixed in accordance with the Manufacturer's recommendations.

The primer shall be spray applied using a single component spray system approved for use by the Manufacturer. If required by Site conditions and allowed by the manufacturer brush, squeegee or roller application will be allowed.

The primer shall be allowed to cure tack-free for a minimum of 30 minutes or as required by the Manufacturer's instructions, whichever time is greater, prior to application of the first lift of waterproofing membrane.

Porous concrete (brick) may require a second coat of primer should the first coat be absorbed.

- (g) Membrane and Reinforcing Material: Application of the membrane on the primed surface shall not commence until the primer is cured as described in Section 6(f) of this specification and the adhesion pull tests are completed in accordance with Section 5(b) of this specification.

The waterproofing membrane shall consist of two coats for a total dry film thickness of a minimum 80 mils but not to exceed 120 mils. Adjacent coats shall be of a contrasting color to aid in Quality Assurance and inspection. Any reinforcing material shall be applied immediately before the first coat of membrane in accordance with the Manufacturer's recommendations.

The membrane shall be comprised of Components A and B and a hardener powder which is to be added to Component B in accordance with the Manufacturer's recommendations.

The substrate shall be coated in a methodical manner.

Thickness checks: For each layer, checks for wet film thickness using a gauge pin or standard comb-type thickness gauge shall be carried out once every 100 s.f. Where rapid set time of the membrane does not allow for wet film thickness checks, ultrasonic testing (steel surfaces only), calibrated point-penetrating (destructive) testing, in-situ sampling (cutout of small sections for measuring thicknesses), or other methods approved by the Engineer shall be employed for determination of dry film

thickness. The measured thickness of each and every individual test of the membrane shall be greater than or equal to the required thickness.

Bond Strength: Random tests for adequate tensile bond strength shall be conducted on the membrane in accordance with the requirements of ASTM D4541. The minimum test frequency shall be one test per 5,000 s.f. but no less than three adhesion tests per bridge. Adequate adhesion will be indicated by tensile bond strengths of the membrane to the substrate of greater than or equal to 150 psi or failure in a concrete surface, and greater than or equal to 300 psi for steel surfaces.

Repair the membrane system following destructive testing and correct any deficiencies in the membrane system or substrate noted during QC testing in accordance with the Manufacturer's recommendations to the satisfaction of the Engineer at no additional cost to the State.

- (h) Repairs: If an area is left untreated or the membrane becomes damaged, a patch repair shall be carried out to restore the integrity of the system. The damaged areas shall be cut back to sound materials and wiped with solvent (e.g. acetone) up to a width of at least four inches on the periphery, removing any contaminants unless otherwise recommended by the Manufacturer. The substrate shall be primed as necessary, followed by the membrane layers. A continuous layer shall be obtained over the substrate with a four-inch overlap onto existing membrane.

Where the membrane is to be joined to existing cured material, the new application shall overlap the existing by at least four inches. Cleaning and surface preparation on areas to be lapped shall be as recommended in the Manufacturer's written instructions.

- (i) Aggregated Finish:
 - 1) Apply an additional 40 mil thick layer of the membrane material immediately followed by an aggregate coating, before the membrane cures, at a rate to fully cover the coated area to a point where no membrane material is visible. The membrane and aggregate shall be fully integrated after the aggregate has been applied and the membrane cured.
 - 2) Localized areas not fully coated shall be touched-up with additional membrane and aggregate as needed.
 - 3) Using motorized mechanical sweepers or a vacuum sweeper apparatus, remove all loose and excess aggregate from the surface to the satisfaction of the Engineer and dispose of properly after application prior to allowing traffic onto finished surface or application of tack coat. Any areas not fully coated after sweeping shall be touched up with additional membrane and aggregate as needed.
7. Final Review: The Engineer and the Applicator shall jointly review the area(s) over which the completed system has been installed. Any irregularities or other criteria that do not meet the requirements of the Engineer shall be addressed at this time.

Method of Measurement: This item shall be measured by the number of square yards of waterproofed surface completed and accepted.

Basis of Payment: This item will be paid for at the Contract unit price per square yard of “Membrane Waterproofing (Cold Liquid Elastomeric),” complete and accepted in place, which price shall include all surface preparation, furnishing, storing and applying the system, technical representative and Quality Control testing, and any necessary repairs and remediation work as well as all materials, equipment, tools, labor incidental to this work.

Pay Item	Pay Unit
Membrane Waterproofing (Cold Liquid Elastomeric)	s.y.

ITEM #0819002A - PENETRATING SEALER PROTECTIVE COMPOUND

Description: Work under this item shall consist of cleaning concrete surfaces of dirt, dust, and debris, and furnishing and applying a clear, penetrating sealer to concrete surfaces where shown on the plans, to provide a barrier against the intrusion of moisture and chlorides. This work also includes furnishing, installing, and removing platforms, scaffolding, ladders, and other means of access as well as shields, as required, to protect adjacent areas and traffic from overspray.

Materials: The penetrating sealer shall conform to Article M.03.09. A Materials Certificate shall be submitted for the penetrating sealer in accordance with Article 1.06.07. A product not listed on the Qualified Products List (QPL) may be considered for approval. A Certified Test Report shall be submitted in accordance with Article 1.06.07 indicating that the product being considered conforms to the Test Requirements listed on the QPL.

Construction Methods:

Submittals: The Contractor shall submit to the Engineer Safety Data Sheets (SDS), Technical Data Sheets and product literature for the approved sealer. The literature shall include written instructions how to apply the sealer to vertical and horizontal surfaces, and where required, overhead surfaces. Application rate and number of applications of sealer shall be addressed.

The Contractor shall submit to the Engineer, in accordance with Article 1.05.02, written procedures for cleaning the concrete surfaces prior to sealer application. The submittal shall include proposed equipment and materials and shall address how adjacent traffic and other areas shall be protected from dust, debris and overspray during the cleaning and application processes. Where the sealer is to be applied to parapets before pavement is placed, the submittal shall address protection of the deck and curb to which membrane waterproofing will be applied. Should the membrane already be present, the submittal shall address shielding of the membrane. It shall also indicate how vegetation and regulated areas shall be protected from overspray. The submittal shall address the conditions under which work may proceed, including wind speed, temperature and precipitation. It shall also include procedures to be followed to protect the work should unfavorable weather conditions occur before the product has been absorbed.

The Contractor shall inspect the surfaces to be sealed to identify surface cleaning needs before submitting the procedures. The Contractor shall identify concrete surfaces that:

- Need repair
- Require special attention or cleaning procedures
- Have been previously treated with coatings or curing compounds that would hinder penetration of the sealer into the concrete
- Will be new or newly repaired

Written procedures shall include observations listed above. Application of penetrating sealer to new concrete shall be addressed in the application procedures. Forms for surfaces of new concrete to receive penetrating sealer shall not be treated using form release oil, which can inhibit or prevent penetration of the sealer into the concrete.

Surface Preparation: Concrete surfaces to which penetrating sealer will be applied shall be clean and free of grease, oil, and other surface contaminants, including biological growth. Dry surfaces may be cleaned by sweeping with brushes or brooms, and blowing clean with oil-free, compressed air. The Contractor shall take care not to damage the concrete surface finish during cleaning operations. Care shall be taken so that cleaning methods do not damage joint sealant or other components of the structure that are to remain.

Application: Application of the sealer may begin only after the Engineer evaluates the concrete surfaces and determines that conditions for installation comply with the accepted written application procedures.

The sealer shall be applied in accordance with the accepted application procedures at the rate specified by the manufacturer. The Contractor shall monitor and record the number of square feet of concrete surface sealed and the number of gallons of sealer applied over that surface area to verify that the required application rate is being met. A minimum of three applications of sealer shall be assumed to be needed. After the first application of the sealer, curing time shall be recorded and submitted to the Engineer. Additional applications of sealer shall be applied as specified in the application instructions, provided adequate time between applications and appropriate curing of the sealer have occurred. For each application, the Contractor shall record the area and number of gallons of sealer applied as well as the curing time for that application. The Contractor may be directed to apply sealer in up to three separate applications if concrete surfaces readily absorb the previous application.

If the Contractor is directed to apply more than three applications of sealer, the additional applications will be compensated as extra work. Should salts, oil or other visually undesirable materials be evacuated from the concrete by the penetrating sealer and remain on the surface after sufficient rain events have occurred, the Engineer may order surface cleaning of the concrete as extra work.

The Engineer shall be provided access to inspect the concrete surface during application and after the sealer has had adequate time to cure.

Method of Measurement: This work will be measured for payment by the actual number of square yards of concrete, sealed and accepted, within the designated limits. The area will be measured once, regardless of the number of applications required.

Basis of Payment: This work will be paid for at the Contract unit price per square yard for "Penetrating Sealer Protective Compound," complete, which price shall include all equipment tools, labor and materials, incidental thereto, including the preparation of the concrete surfaces and proper disposal of debris.

The following are not included in the cost of this item and will be considered Extra Work:

- Special cleaning procedures ordered by the Engineer to properly prepare the concrete surface for application of the penetrating sealer (such as removal of tightly adherent biological growth, graffiti, or other difficult-to-remove surface contaminants)

- Additional applications of sealer as noted in the Construction Methods
- Cleaning of evacuated material from sealed surfaces as ordered by the Engineer.

Pay Item	Pay Unit
Penetrating Sealer Protective Compound	s.y.

ITEM #0904051A – 3-TUBE CURB MOUNTED BRIDGE RAIL

Description: Work under this item shall consist of fabricating, galvanizing, transporting and erecting a curb mounted bridge rail comprised of anchorages, concrete inserts, plates, posts, rails, fasteners and epoxy grout in accordance with the plans.

Materials: Structural steel shapes and plates shall meet the requirements of ASTM A572, Grade 50. Hollow structural sections shall meet the requirements ASTM A500, Grade C or ASTM A501, Grade B. Certified Test Reports and Materials Certificates shall be submitted in accordance with Article 1.06.07. The Certified Test Reports shall address that the steel meets the requirements of Article 1.06.01, Buy America.

All exposed steel shapes, plates and hollow structural sections shall have a controlled content of silicon within the range 0.0% to 0.4% or 0.15% to 0.25%. Before galvanizing, mill test certificates verifying silicon content shall be submitted to the Engineer and the galvanizer.

All steel shapes, plates and hollow structural sections shall be hot-dip galvanized in accordance with ASTM A123.

All high strength bolts shall meet the requirements of ASTM F3125, Grade A325, Type 1. Nuts shall conform to ASTM A563, Grade DH. Circular, flat, hardened steel washers shall meet the requirements of ASTM F436. The bolts, nuts and washers shall be galvanized in accordance with ASTM F2329 or ASTM B695, Class 55.

The anchor rods shall be fully threaded rods in accordance with ASTM F1554, Grade 105. The nuts shall meet the requirements of ASTM A563, Grade DH. The washers shall meet the requirements of ASTM F436. The bolts, nuts and washers shall be galvanized in accordance with ASTM F2329 or ASTM B695, Class 55.

Dome head bolts with wrench slots shall meet the requirements of ASTM F3125, Grade A325, Type 1 or ASTM A449, Grade 1. The nuts shall meet the requirements of ASTM A563, Grade DH. The washers shall meet the requirements of ASTM F436. The bolts, nuts and washers shall be galvanized in accordance with ASTM F2329 or ASTM B695, Class 55.

Concrete inserts shall meet the requirements shown on the plans. The concrete inserts shall be hot dip galvanized in accordance with ASTM A153. The bolts shall meet the requirements of ASTM A307 and the washers shall meet the requirements of ASTM F436. The bolts and washers shall be galvanized in accordance with ASTM F2329.

Epoxy grout shall capable of being installed in the void below the baseplate and meet the following requirements:

- Compressive strength, ASTM C579, @ 73 degrees F, 10,000 psi
- Tensile strength, ASTM C307 @ 7 days or ASTM D638 @ 7 days, 2,000 psi
- Bond strength to concrete, ASTM C882, concrete failure
- Bond strength to steel, ASTM C882, 2,500 psi

Volatile organic compounds (VOC), 0.0
Color, gray or concrete gray

Damaged areas of the hot-dip galvanized coatings shall be repaired in accordance with ASTM A780 amended as follows:

Paints containing zinc dust used for repairs shall contain either between 65% to 69% metallic zinc by weight or greater than 92% metallic zinc by weight in dry film.

Construction Methods:

A. Submittals: Prior to fabrication, the Contractor shall submit shop drawings for the bridge rail at each location in accordance with Article 1.05.02 and welding procedures in accordance with Article 1.05.17.

Prior to placing the epoxy grout, the Contractor shall submit the following to the Engineer for review in accordance with Article 1.05.02 Product Data requirements:

1. A copy of the epoxy grout manufacture's data sheet documenting the grout meets the specification requirements.
2. A copy of the epoxy grout manufacturer's printed installation instructions (MPII)
3. A copy of the epoxy grout manufacturer's printed safety instructions

B. Fabrication Requirements: The steel fabricator shall meet the requirements of the AISC Certification Program for Manufacturers of Bridge and Highway Components (CPT).

Shop fabrication of the bridge rail shall meet the requirements of Article 6.03.03-3. Structural steel elements of the bridge rail shall be prepared for galvanizing in accordance with Article M.06.02.

After galvanizing, surfaces with inadequate zinc thickness shall be repaired in the shop according to ASTM A780 and ASTM A123, with the exception that only brush applied flat, light gray zinc rich coating shall be permitted. Aerosol spray or galvanizing repair stick products shall not be used. Surfaces of galvanized steel that are damaged after the galvanizing operation shall be repaired in accordance with ASTM A780 whenever damage exceeds 0.1875 inch in width or 4 inches in length. Damage that occurs in the shop shall be repaired in the shop.

C. Installation Requirements: The anchor rods shall be securely bolted to anchor plates to create anchorage assemblies. The anchorage assemblies shall be accurately positioned and restrained to prevent movement during field placement of the concrete. The concrete inserts shall be accurately positioned and restrained against movement during the placement of concrete.

Field installation of the rail components shall be as shown on the plans.

The connection of the post baseplate to the anchor rods shall be a double nut connection. The post baseplate shall be installed on washers supported by leveling nuts. The baseplate shall be secured in place with a washer topped with a nuts at each anchor rod.

High-strength bolts, including nuts and washers, shall be installed and tensioned in accordance with Subarticle 6.03.03-5(f).

Dome headed bolts shall be installed with a washer, a lock washer and nut.

Epoxy grout shall be placed between the concrete curb and the baseplate at all post locations. The concrete and steel surfaces that will be in contact with the grout shall be dry, clean and free of all loose concrete and contaminants. The galvanized surface of the baseplate shall not be abrasively cleaned. Solvent cleaning is acceptable if allowed by the epoxy grout manufacturer. The grout shall be placed within an area formed around each baseplate. The forms shall be liquid tight and treated with a form release agent. The forms shall have chamfer strips placed along all vertical and horizontal finished grout edges. The vertical faces of the grout shall extend beyond the vertical edges of the baseplate.

Prior to placing the epoxy grout, the curb concrete shall have obtained the compressive strength shown on the plans.

The grout shall be mixed and placed in accordance with the manufacturer's printed installation and safety instructions. Conditions, including the temperature of the mixed grout, air and substrate, at the time of the installation shall meet the manufacturer's recommendations. The grout shall be placed from one side allowing it to flow beneath the baseplate to the formed surfaces and avoid air entrapment. After removal of the forms, rough surfaces and edges shall be trimmed or ground down to provide smooth surfaces and defined edges.

Damage that occurs to the hot-dip galvanized surfaces during transport or during installation shall be repaired in accordance with the requirements of ASTM A780. If paint containing zinc dust is used for repairs, the dry coating thickness shall be at least 50% greater than the thickness of the adjacent hot-dip galvanized coating, but no greater than 4.0 mils. The paint shall be brush applied. The use of aerosol spray cans or galvanizing repair stick is not permitted. The color of the finished repair area shall match the color of the adjacent hot-dip galvanized surface at the time of the repair to the satisfaction of the Engineer.

During installation of the rail and any component parts, the Contractor shall take necessary precautions to prevent any injury or property damage from any falling materials.

All work shall proceed in accordance with the special provisions "Maintenance and Protection of Traffic" and "Prosecution and Progress."

Method of Measurement: This work will be measured for payment by the number of linear feet of bridge rail installed, complete and accepted, measured within the pay limits shown on the plans.

Basis of Payment: This work will be paid for at the Contract unit price per linear foot for "3-Tube Curb Mounted Bridge Rail," complete and accepted in place, which price shall include all materials, equipment, tools, and labor incidental thereto.

Pay Item

Pay Unit

3-Tube Curb Mounted Bridge Rail L.F.

ITEM #0969060A - CONSTRUCTION FIELD OFFICE, SMALL

Description: Under the item included in the bid document, adequate weatherproof office quarters with related furnishings, materials, equipment and other services, shall be provided by the Contractor for the duration of the work, and if necessary, for a close-out period determined by the Engineer. The office, furnishings, materials, equipment, and services are for the exclusive use of Municipal forces and others who may be engaged to augment Municipal forces with relation to the Contract. The office quarters shall be located convenient to the work site and installed in accordance with Article 1.08.02. This office shall be separated from any office occupied by the Contractor. Ownership and liability of the office quarters shall remain with the Contractor.

Furnishings/Materials/Supplies/Equipment: All furnishings, materials, equipment and supplies shall be in like new condition for the purpose intended and require approval of the Engineer.

Office Requirements: The Contractor shall furnish the office quarters and equipment as described below:

Description \ Office Size	Small
Minimum Sq. Ft. of floor space with a minimum ceiling height of 7 ft.	400
Minimum number of exterior entrances.	2
Minimum number of parking spaces.	7

Office Layout: The office shall have a minimum square footage as indicated in the table above and shall be partitioned as shown on the building floor plan as provided by the Engineer.

Unless otherwise approved by the Engineer, office space shall be partitioned into segregated work areas for each user as follows:

- Each work area (or cubicle) shall be a minimum of 8 feet x 8 feet, with full height walls or tall cubicle partitions (minimum 6 feet high), placed to provide a minimum of 6 feet walking space around and between each user work area (for social distancing).
- Only one user (workstation/desk) per work area.
- Desks, tables and other work surfaces shall be arranged so that adjacent users do not face each other.

Tie-downs and Skirting: Modular offices shall be tied-down and fully skirted to ground level.

Lavatory Facilities: For field offices sizes Small and Medium the Contractor shall furnish a toilet facility at a location convenient to the field office for use by Municipal personnel and such assistants as they may engage; and for field offices sizes Large and Extra Large the Contractor shall furnish two (2) separate lavatories with toilet (men and women), in separately enclosed rooms that are properly ventilated and comply with applicable sanitary codes. Each lavatory shall have hot and cold running water and flush-type toilets. For all facilities the Contractor shall supply lavatory and sanitary supplies as required.

Windows and Entrances: The windows shall be of a type that will open and close conveniently, shall be sufficient in number and size to provide adequate light and ventilation, and shall be fitted with

locking devices, blinds and screens. The entrances shall be secure, screened, and fitted with a lock for which four keys shall be furnished. All keys to the construction field office shall be furnished to the Municipality and will be kept in their possession while personnel are using the office. Any access to the entrance ways shall meet applicable building codes, with appropriate handrails. Stairways shall be ADA/ABA compliant and have non-skid tread surfaces. An ADA/ABA compliant ramp with non-skid surface shall be provided with the Extra-Large field office.

Lighting: The Contractor shall equip the office interior with electric lighting that provides a minimum illumination level of 100 foot-candles at desk level height, and electric outlets for each desk and drafting table. The Contractor shall also provide exterior lighting that provides a minimum illumination level of 2 foot-candles throughout the parking area and for a minimum distance of 10 ft. on each side of the field office.

Parking Facility: The Contractor shall provide a parking area, adjacent to the field office, of sufficient size to accommodate the number of vehicles indicated in the table above. If a paved parking area is not readily available, the Contractor shall construct a parking area and driveway consisting of a minimum of 6 inches of processed aggregate base graded to drain. The base material will be extended to the office entrance.

Field Office Security: Physical Barrier Devices - This shall consist of physical means to prevent entry, such as: 1) All windows shall be barred or security screens installed; 2) All field office doors shall be equipped with dead bolt locks and regular day operated door locks; and 3) Other devices as directed by the Engineer to suit existing conditions.

Electric Service: The field office shall be equipped with an electric service panel, wiring, outlets, etc., to serve the electrical requirements of the field office, including: lighting, general outlets, computer outlets, electronics, etc., and meet the following minimum specifications:

- A. 120/240 volt, 1 phase, 3 wire
- B. Ampacity necessary to serve all equipment. Service shall be a minimum 100 amp dedicated to the construction field office.
- C. The electrical panel shall include a main circuit breaker and branch circuit breakers of the size and quantity required.
- D. Additional 120 volt, single phase, 20 amp, isolated ground dedicated power circuit with dual NEMA 5-20 receptacles will be installed at each desk and personal computer table (workstation) location.
- E. Additional 120 volt, single phase, 20 amp, isolated ground dedicated power circuit with dual NEMA 5-20 receptacles will be installed, for use by the Telephone Company.
- F. Additional 120-volt circuits and duplex outlets as required meeting National Electric Code requirements.
- G. One exterior (outside) wall mounted GFI receptacle, duplex, isolated ground, 120 volt, straight blade.
- H. After work is complete and prior to energizing, the Municipality's electrical inspector, must be contacted.

Heating, Ventilation and Air Conditioning (HVAC): The field office shall be equipped with sufficient and properly operating, heating, air conditioning, and ventilation equipment to maintain a temperature range of 68°-80° Fahrenheit within the field office. The Contractor shall increase ventilation rates and increase the percentage of outdoor air that circulates into the system where possible.

Telephone Service: The Contractor shall provide telephone service with unlimited nation-wide calling plan. For a Small, Medium and Large field office this shall consist of the installation of two (2) telephone lines: one (1) line for phone/voice service and one (1) line dedicated for the facsimile machine. For an Extra-Large field office this shall consist of four (4) telephone lines: three (3) lines for phone/voice service and one (1) line dedicated for facsimile machine. The Contractor shall pay all charges.

Additional Equipment, Facilities and Services: The Contractor shall provide at the field Office at least the following to the satisfaction of the Engineer:

Furnishing Description	Office Size	
	Small	
	Quantity	
Office desk (2.5 ft. x 5 ft.) with drawers, locks, and matching desk chair that have pneumatic seat height adjustment and dual wheel casters on the base.	1	
Standard secretarial type desk and matching desk chair that has pneumatic seat height adjustment and dual wheel casters on the base.	-	
Personal computer tables (4 ft. x 2.5 ft.).	2	
Drafting type tables (3 ft. x 6 ft.) and supported by wall brackets and legs; and matching drafter's stool that have pneumatic seat height adjustment, seat back and dual wheel casters on the base.	1	
Conference table, 3 ft. x 12 ft.	-	
Table – 3 ft. x 6 ft.	-	
Office Chairs.	2	
Mail slot bin – legal size.	-	
Non-fire-resistant cabinet.	-	
Fire resistant cabinet (legal size/4 drawer), locking.	1	
Storage racks to hold 3 ft. x 5 ft. display charts.	-	
Vertical plan racks for 2 sets of 2 ft. x 3 ft. plans for each rack.	1	
Double door supply cabinet with 4 shelves and a lock – 6 ft. x 4 ft.	-	
Case of cardboard banker boxes (Min 10 boxes/case)	1	
Open bookcase – 3 shelves – 3 ft. long.	-	
White Dry-Erase Board, 36" x 48" min. with markers and eraser.	1	
Interior partitions – 6 ft. x 6 ft., soundproof type, portable and freestanding.	-	

Coat rack with 20 coat capacity.	-	
Wastebaskets - 30 gal., including plastic waste bags.	1	
Wastebaskets - 5 gal., including plastic waste bags.	1	
Electric wall clock.	-	
Electronic Level	1	
Furnishing Description		Office Size
	Small	
		Quantity
Telephone.	1	
Full size stapler 20 (sheet capacity, with staples)	1	
Desktop tape dispensers (with Tape)	1	
8 Outlet Power Strip with Surge Protection	3	
Rain Gauge	1	
Business telephone system for three lines with ten handsets, intercom capability, and one speaker phone for conference table.	-	
Mini refrigerator - 3.2 c.f. min.	1	
Hot and cold-water dispensing unit. Disposable cups and bottled water shall be supplied by the Contractor for the duration of the project.	1	
Microwave, 1.2 c.f. , 1000W min.	1	
Fire extinguishers - provide and install type and *number to meet applicable State and local codes for size of office indicated, including a fire extinguisher suitable for use on a computer terminal fire.	*	
Electric pencil sharpeners.	1	
Electronic office type printing calculators capable of addition, subtraction, multiplication and division with memory and a supply of printing paper.	1	
Small Multi-Function Laser Printer/Copier/Scanner/Fax combination unit, network capable, as specified below under <u>Computer Related Hardware and Software</u> .	1	
Large Multi-Function Laser Printer/Copier/Scanner/Fax combination unit, network capable, as specified below under <u>Computer Related Hardware and Software</u> .		
Field Office Wi-Fi Connection as specified below under <u>Computer Related Hardware and Software</u>	1	
Wi-Fi Printer as specified below under Computer Related Hardware and Software.	1	
Digital Camera as specified below under Computer Related Hardware and Software.	1	
Video Projector as specified below under Computer Related Hardware and Software.	-	

Smart Board as specified below under Computer Related Hardware and Software.	-
Conference Room Presentation Television as specified below under Computer Related Hardware and Software.	-
Infrared Thermometer, including annual third-party certified calibration, case, and cleaning wipes.	1
Concrete Curing Box as specified below under Concrete Testing Equipment.	1
Concrete Air Meter and accessories as specified below under Concrete Testing Equipment as specified below. Contractor shall provide third party calibration on a quarterly basis.	1
Concrete Slump Cone and accessories as specified below under Concrete Testing Equipment.	1
First Aid Kit	1
Disinfecting wipes, sprays, and other supplies (** as specified below under Maintenance).	**
Hand sanitizer stations (***) maintain one full station at each entrance, restroom, and conference area).	***
Flip Phones as specified under <u>Computer Related Hardware and Software</u> .	-
Smart Phones as specified under <u>Computer Related Hardware and Software</u> .	-

The furnishings and equipment required herein shall remain the property of the Contractor. Any supplies required to maintain or operate the above listed equipment or furnishings shall be provided by the Contractor for the duration of the project.

Computer Related Hardware and Software: The Municipality will supply by its own means the actual Personal Computers for the Municipal representatives. The Contractor shall supply the Field Office Wi-Fi Connection, Wi-Fi Printer, Digital Camera(s), Flip Phones, Smart Phones, Multifunction Laser Printer/Copier/Scanner/Fax, Video Projectors, and Smart Board(s), Conference Room Presentation Television, as well as associated hardware and software, meeting the requirements of this specification as well as the latest minimum specifications posted, as of the project advertising date, at CTDOTs web site <http://www.ct.gov/dot/cwp/view.asp?a=1410&q=563904>

Within 10 calendar days after the signing of the Contract but before ordering/purchasing the Wi-Fi Printer (separate from the Multifunction Laser Printer/Copier/Scanner/Fax), Field Office Wi-Fi, Digital Camera(s), Flip Phones, Smart Phones, Multifunction Laser Printer/Copier/Scanner/Fax, Video Projector(s) and Smart Board(s) as well as associated hardware, the Contractor must submit a copy of their proposed order(s) with catalog cuts and specifications to the Municipality or their representatives for review and approval. The Wi-Fi Printer, Wi-Fi Router, Flip Phones, Smart Phones, digital cameras, Projector(s) and Smart Board(s) will be reviewed by Municipal personnel or their representatives. The Multifunction Laser Printer/Copier/Scanner/Fax will be reviewed by the Municipality or their representatives. The Contractor shall not purchase the hardware, software, or services until the Municipality or their representatives informs them that the proposed

equipment, software, and services are approved. The Contractor will be solely responsible for the costs of any hardware, software, or services purchased without approval.

The Contractor and/or their internet service provider shall be responsible for the installation and setup of the field office Wi-Fi, Wi-Fi printer, and the configuration of the wireless router as directed by the Municipality or their representative. Installation will be coordinated with Municipal and Project personnel.

After the approval of the hardware and software, the Contractor shall contact the designated representatives of the Municipality, a minimum of 2 working days in advance of the proposed delivery or installation of the Field Office Wi-Fi Connection, Wi-Fi Printer, Digital Camera(s), Flip Phones, Smart Phones, Multifunction Laser Printer/Copier/Scanner/Fax, Video Projectors and Smart Board(s), as well as associated hardware, software, supplies, and support documentation.

The Contractor shall provide all supplies, paper, maintenance, service and repairs (including labor and parts) for the Wi-Fi printers, copiers, field office Wi-Fi, fax machines and other equipment and facilities required by this specification for the duration of the Contract. All repairs must be performed with-in 48 hours. If the repairs require more than 48 hours, then an equal or better replacement must be provided.

Once the Contract has been completed, the hardware and software will remain the property of the Contractor.

First Aid Kit: The Contractor shall supply a first aid kit adequate for the number of personnel expected based on the size of the field office specified and shall keep the first aid kit stocked for the duration that the field office is in service.

Rain Gauge: The Contractor shall supply install and maintain a rain gauge for the duration of the project, meeting these minimum requirements. The rain gauge shall be installed on the top of a post such that the opening of the rain gauge is above the top of the post an adequate distance to avoid splashing of rainwater from the top of the post into the rain gauge. The location of the rain gauge and post shall be approved by the Engineer. The rain gauge shall be made of a durable material and have graduations of 0.1 inches or less with a minimum total column height of 5 inches. If the rain gauge is damaged the Contractor shall replace it prior to the next forecasted storm event at no additional cost.

Electronic Level: The Contractor shall supply and maintain in working order, for the duration of the Contract, the number of electronic levels, identified in the Additional Equipment, Facilities and Services table of this specification. The electronic levels shall meet the following requirements:

- A. 48-inch length, box beam type
- B. IP65 water and dust proof
- C. 0.1-degree accuracy
- D. Backlit display
- E. Carrying case included
- F. New or like new condition

Concrete Testing Equipment: If the Contract includes items that require compressive strength cylinders for concrete, in accordance with the Schedule of Minimum Testing Requirements for Sampling Materials for Test, the Contractor shall provide the following equipment.

- A. Concrete Cylinder Curing Box – meeting the requirements of Section 6.12 of the Standard Specifications.
- B. Air Meter – The air meter provided shall be in good working order and meet the requirements of AASHTO T 152.
- C. Slump Cone Mold – Slump cone, base plate, and tamping rod shall be provided in like-new condition and meet the requirements of AASHTO T119, Standard Test Method for Slump of Hydraulic-Cement Concrete.

All testing equipment will remain the property of the Contractor at the completion of the project.

Insurance Policy: The Contractor shall provide a separate insurance policy, with no deductible, in the minimum amount of five thousand dollars (\$5,000) in order to insure all Municipal-owned data equipment and supplies used in the office against all losses. The Contractor shall be named insured on that policy, and the Municipality shall be an additional named insured on the policy. These losses shall include, but not be limited to theft, fire, and physical damage. The Municipality will be responsible for all maintenance costs of Municipal owned computer hardware. In the event of loss, the Contractor shall provide replacement equipment in accordance with current Municipal equipment specifications, within seven days of notice of the loss. If the Contractor is unable to provide the required replacement equipment within seven days, the Municipality may provide replacement equipment and deduct the cost of the equipment from monies due or which may become due the Contractor under the Contract or under any other contract. The Contractor's financial liability under this paragraph shall be limited to the amount of the insurance coverage required by this paragraph. If the cost of equipment replacement required by this paragraph should exceed the required amount of the insurance coverage, the Municipality will reimburse the Contractor for replacement costs exceeding the amount of the required coverage.

Maintenance: During the occupancy by the Municipality or their representatives, the Contractor shall maintain all facilities and furnishings provided under the above requirements, and shall maintain and keep the office quarters clean through the use of professional cleaning including, but not limited to, vacuuming carpet, washing & waxing floors, cleaning restrooms, removal of trash, general cleaning, etc. The general cleaning of the office shall be at least twice weekly. Restrooms, portable toilets and all other high touch areas shall be cleaned and disinfected at least every two days using CDC and Department of Health recommended and non-hazardous techniques. High touch areas to be cleaned include but are not be limited to (depending on the facilities supplied):

- A. Arms on chairs
- B. Table/Desktops
- C. Handrails
- D. Doorknobs and handles
- E. Countertops
- F. Elevator buttons
- G. Coffee pots

- H. Refrigerator / microwave / dishwasher / toaster handles
- I. Water dispensers
- J. Cabinet and file drawer knobs / handles
- K. Phones and keypads
- L. Copier / printer / fax control buttons
- M. Sinks and faucets
- N. Light switches

In addition, the Contractor shall supply appropriate (CDC and Department of Health recommended and non-hazardous), cleaning and disinfection supplies (wipes and sprays), and single use gloves for the use of the Municipal representatives, for disinfection of surfaces and equipment in between the 2 day interval noted above. The Contractor shall always maintain a minimum of 500 wipes and 100 pairs of disposable gloves in the field office.

Exterior areas shall be mowed and clean of debris. A trash receptacle (dumpster) with weekly pickup (trash removal) shall be provided. Snow removal, sanding and salting of all parking, walkway, and entrance ways areas shall be accomplished during a storm if on a workday during work hours, immediately after a storm and prior to the start of a workday. If snow removal, salting and sanding are not completed by the specified time, the Municipality will provide the service and all costs incurred will be deducted from the next payment estimate.

Method of Measurement: The furnishing and maintenance of the construction field office will be measured for payment by the number of calendar months that the office is in place and in operation, rounded up to the nearest month.

There will not be any price adjustment due to any change in the minimum computer related hardware and software requirements.

Basis of Payment: The furnishing and maintenance of the Construction Field Office will be paid for at the Contract unit price per month for “Construction Field Office, (Small),” which price shall include all material, equipment, labor, service contracts, licenses, software, repair or replacement of hardware and software, related supplies, utility services, parking area, external illumination, trash removal, snow and ice removal, and work incidental thereto, as well as any other costs to provide requirements of this specified this specification.

<u>Pay Item</u>	<u>Pay Unit</u>
Construction Field Office, (Small)	Month

ITEM NO. 0971001A – MAINTENANCE AND PROTECTION OF TRAFFIC

Article 9.71.01 – Description is supplemented by the following:

The Contractor shall maintain and protect traffic as described by the following and as limited in the Special Provision "Prosecution and Progress":

Judd Road

The contractor shall be allowed to close Judd Road to through traffic in each direction as shown on the Detour Plan contained in the contract plans.

All Other Roadways

The contractor shall maintain and protect a minimum of one lane of traffic in each direction, each lane on a paved travel path not less than 11 feet in width.

Excepted therefrom will be those periods, during the allowable periods, when the Contractor is actively working, at which time the Contractor shall maintain and protect at least an alternating one-way traffic operation, on a paved travel path not less than 11 feet in width. The length of the alternating one-way traffic operation shall not exceed 300 feet and there shall be no more than one alternating one-way traffic operation within the project limits without prior approval of the Engineer.

Commercial and Residential Driveways

The Contractor shall maintain access to and egress from all commercial and residential driveways throughout the project limits. The Contractor will be allowed to close said driveways to perform the required work during those periods when the businesses are closed, unless permission is granted from the business owner to close the driveway during business hours. If a temporary closure of a residential driveway is necessary, the Contractor shall coordinate with the owner to determine the time period of the closure.

Article 9.71.03 - Construction Method is supplemented as follows:

General

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

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

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

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

If applicable, when an existing sign is removed, it shall be either relocated or replaced by a new sign during the same working day.

The Contractor shall not store any material on-site which would present a safety hazard to motorists or pedestrians (e.g. fixed object or obstruct sight lines).

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

Existing Signing

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

Requirements for Winter

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

Signing Patterns

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

Pavement Markings -Non-Limited Access Multilane Roadways Secondary and Local Roadways

During construction, the Contractor shall maintain all pavement markings on paved surfaces on all roadways throughout the limits of the project.

Interim Pavement Markings

The Contractor shall install painted pavement markings, which shall include centerlines, shoulder edge lines, lane lines (broken lines), lane-use arrows, and stop bars, on each intermediate course of bituminous concrete pavement and on any milled surface by the end of the work day/night. If the next course of bituminous concrete pavement will be placed within seven days, shoulder edge lines are not required. The painted pavement markings will be paid under the appropriate items.

If the Contractor will install another course of bituminous concrete pavement within 24 hours, the Contractor may install Temporary Plastic Pavement Marking Tape in place of the painted pavement markings by the end of the work day/night. These temporary pavement markings shall include centerlines, lane lines (broken lines) and stop bars; shoulder edge lines are not required. Centerlines shall consist of two 4 inch wide yellow markings, 2 feet in length, side by side, 4 to 6 inches apart, at 40-foot intervals. No passing zones should be posted with signs in those areas where the final centerlines have not been established on two-way roadways. Stop bars may consist of two 6 inch wide white markings or three 4 inch wide white markings placed side by side. The Contractor shall remove and dispose of the Temporary Plastic Pavement Marking Tape when another course of bituminous concrete pavement is installed. The cost of furnishing, installing and removing the Temporary Plastic Pavement Marking Tape shall be at the Contractor's expense.

If an intermediate course of bituminous concrete pavement will be exposed throughout the winter, then Epoxy Resin Pavement Markings should be installed unless directed otherwise by the Engineer.

Final Pavement Markings

The Contractor should install painted pavement markings on the final course of bituminous concrete pavement by the end of the work day/night. If the painted pavement markings are not installed by the end of the work day/night, then Temporary Plastic Pavement Marking Tape shall be installed as described above and the painted pavement markings shall be installed by the end of the work day/night on Friday of that week.

If Temporary Plastic Pavement Marking Tape is installed, the Contractor shall remove and dispose of these markings when the painted pavement markings are installed. The cost of furnishing, installing and removing the Temporary Plastic Pavement Marking Tape shall be at the Contractor's expense.

The Contractor shall install permanent Epoxy Resin Pavement Markings in accordance with Section 12.10 entitled "Epoxy Resin Pavement Markings, Symbols, and Legends" after such time as determined by the Engineer.

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 the safe and 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. 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 so as to command respect from the motorist.

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

If a lane reduction taper is required to shift traffic, the entire length of the taper should be installed on a tangent section of roadway so that the entire taper area can be seen by the motorist.

Any existing signs that are in conflict with the traffic control patterns shall be removed, covered, or turned so that they are not readable by oncoming traffic.

When installing a traffic control pattern, a Buffer Area should be provided and this area shall be free of equipment, workers, materials and parked vehicles.

Typical traffic control plans 19 through 25 may be used for moving operations such as line striping, pot hole patching, mowing, or sweeping when it is necessary for equipment to occupy a travel lane.

Traffic control patterns will not be required when vehicles are on an emergency patrol type activity or when a short duration stop is made and the equipment can be contained within the shoulder. Flashing lights and appropriate trafficperson shall be used when required.

Although each situation must be dealt with individually, conformity with the typical traffic control plans contained herein is required. In a situation not adequately covered by the typical traffic control plans, the Contractor must contact the Engineer for assistance prior to setting up a traffic control pattern.

PLACEMENT OF SIGNS

Signs must be placed in such a position to allow motorists the opportunity to reduce their speed prior to the work area. Signs shall be installed on the same side of the roadway as the work area. On 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 TRAFFIC CONTROL PLANS

The traffic control plans contained herein show the location and spacing of signs and devices under ideal conditions. Signs and devices should be installed as shown on these plans whenever possible.

The proper application of the traffic control plans and installation of traffic control devices depends on actual field conditions.

Adjustments to the traffic control plans shall be made only at the direction of the Engineer to improve the visibility of the signs and devices and to better control traffic operations. Adjustments to the traffic control plans shall be based on safety of work forces and motorists, abutting property requirements, driveways, side roads, and the vertical and horizontal curvature of the roadway.

The Engineer may require that the traffic control pattern be located significantly in advance of the work area to provide better sight line to the signing and safer traffic operations through the work zone.

Table I indicates the minimum taper length required for a lane closure based on the posted speed limit of the roadway. These taper lengths shall only be used when the recommended taper lengths shown on the traffic control plans cannot be achieved.

TABLE I – MINIMUM TAPER LENGTHS

POSTED SPEED LIMIT MILES PER HOUR	MINIMUM TAPER LENGTH IN FEET FOR A SINGLE LANE CLOSURE
30 OR LESS	180
35	250
40	320
45	540
50	600
55	660
65	780

SECTION 1. WORK ZONE SAFETY MEETINGS

- 1.a) Prior to the commencement of work, a work zone safety meeting will be conducted with representatives of 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. 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 should include:
 - Review Project scope of work and time
 - Review Section 1.08, Prosecution and Progress
 - Review Section 9.70, Trafficpersons
 - Review Section 9.71, Maintenance and Protection of Traffic
 - Review Contractor's schedule and method of operations.
 - Review areas of special concern: ramps, turning roadways, medians, lane drops, etc.
 - Open discussion of work zone questions and issues
 - Discussion of review and approval process for changes in contract requirements as they relate to work zone areas

SECTION 2. GENERAL

- 2.a) If the required minimum number of signs and equipment (i.e. one High Mounted Internally Illuminated Flashing Arrow for each lane closed, two TMAs, Changeable Message Sign, etc.) are not available; the traffic control pattern shall not be installed.
- 2.b) The Contractor shall have back-up equipment (TMAs, High Mounted Internally Illuminated Flashing Arrow, Changeable Message Sign, construction signs, cones/drums, etc.) available at all times in case of mechanical failures, etc. The only exception to this is in the case of sudden equipment breakdowns in which the pattern may be installed but the Contractor must provide replacement equipment 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 loss time.
- 2.d) In cases of legitimate differences of opinion between the Contractor and the Inspection staff, the Inspection staff shall err on the side of safety. 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.

SECTION 3. INSTALLING AND REMOVING TRAFFIC CONTROL PATTERNS

- 3.a) Lane Closures shall be installed beginning with the advanced warning signs and proceeding forward toward the work area.
- 3.b) Lane Closures shall be removed in the reverse order, beginning at the work area, or end of the traffic control pattern, and proceeding back toward the advanced warning signs.
- 3.c) Stopping traffic may be allowed:
 - As per the contract for such activities as blasting, steel erection, etc.
 - During paving, milling operations, etc. where, in the middle of the operation, it is necessary to flip the pattern to complete the operation on the other half of the roadway and traffic should not travel across the longitudinal joint or difference in roadway elevation.

 - To move slow moving equipment across live traffic lanes into the work area.
- 3.d) Under certain situations when the safety of the traveling public and/or that of the workers may be compromised due to conditions such as traffic volume, speed, roadside obstructions, or sight line deficiencies, as determined by the Engineer and/or State Police, traffic may be briefly impeded while installing and/or removing the advanced warning signs and the first ten traffic cones/drums only. Appropriate measures shall be taken to safely slow traffic. If required, traffic slowing techniques may be used and shall include the use of Truck Mounted Impact Attenuators (TMAs) as appropriate, for a minimum of one mile in advance of the pattern starting point. Once the advanced warning signs and the first ten traffic cones/drums are installed/removed, the TMAs and sign crew shall continue to install/remove the pattern as described in Section 5 and traffic shall be allowed to resume their normal travel.
- 3.e) The Contractor must adhere to using the proper signs, placing the signs correctly, and ensuring the proper spacing of signs.
- 3.f) 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/exiting with/from the main line traffic. This shall be completed before installing the mainline pattern past the ramp or intersecting roadway.
- 3.g) Prior to installing a pattern, any conflicting existing signs shall be covered with an opaque material. Once the pattern is removed, the existing signs shall be uncovered.
- 3.h) On limited access roadways, workers are prohibited from crossing the travel lanes 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.

SECTION 4. USE OF HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

- 4.a) On limited access roadways, one Flashing Arrow shall be used for each lane that is closed. The Flashing Arrow shall be installed concurrently with the installation of the traffic control pattern and its placement shall be as shown on the traffic control plan. For multiple lane closures, one Flashing Arrow is required for each lane closed. If conditions warrant, additional Flashing Arrows should be employed (i.e.: curves, major ramps, etc.).
- 4.b) On non-limited access roadways, the use of a Flashing Arrow for lane closures is optional. The roadway geometry, sight line distance, and traffic volume should be considered in the decision to use the Flashing Arrow.
- 4.c) The Flashing Arrow shall not be used on two lane, two-way roadways for temporary alternating one-way traffic operations.
- 4.d) The Flashing Arrow board display shall be in the “arrow” mode for lane closure tapers and in the “caution” mode (four corners) for shoulder work, blocking the shoulder, or roadside work near the shoulder. The Flashing Arrow shall be in the “caution” mode when it is positioned in the closed lane.
- 4.e) The Flashing Arrow shall not be used on a multi-lane roadway to laterally shift all lanes of traffic, because unnecessary lane changing may result.

SECTION 5. USE OF TRUCK MOUNTED IMPACT ATTENUATOR VEHICLES (TMAs)

- 5.a) For lane closures on limited access roadways, a minimum of two TMAs shall be used to install and remove traffic control patterns. If two TMAs are not available, the pattern shall not be installed.
- 5.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 should be considered in the decision to utilize the TMAs.
- 5.c) Generally, to establish the advance and transition signing, one TMA shall be placed on the shoulder and the second TMA shall be approximately 1,000 feet ahead blocking the lane. The flashing arrow board mounted on the TMA should be in the “flashing arrow” mode when taking the lane. The sign truck and workers should be immediately 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 Changeable Message Signs, signs, Flashing Arrows, and cones/drums are installed. The flashing arrow board mounted on the TMA should be in the “caution” mode when traveling in the closed lane.

- 5.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 flashing arrow board mounted on the TMA should be in the “caution” mode when in the closed lane.
- 5.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 the specification entitled “Type ‘D’ Portable Impact Attenuation System”. 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) should be placed at the beginning of the work area and shall be advanced as the paving or concrete operations proceed.
- 5.f) TMAs should be paid in accordance with how the unit is utilized. When it is used as a TMA and is in the proper location as specified, and then it should be paid at the specified hourly rate for “Type ‘D’ Portable Impact Attenuation System”. When the TMA is used as a Flashing Arrow, it should be paid at the daily rate for “High Mounted Internally Illuminated Flashing Arrow”. If a TMA is used to install and remove a pattern and then is used as a Flashing Arrow, the unit should be paid as a “Type ‘D’ Portable Impact Attenuation System” for the hours used to install and remove the pattern, typically 2 hours (1 hour to install and 1 hour to remove), and is also paid for the day as a “High Mounted Internally Illuminated Flashing Arrow”.

SECTION 6. USE OF TRAFFIC DRUMS AND TRAFFIC CONES

- 6.a) Traffic drums shall be used for taper channelization on limited-access roadways, ramps, and turning roadways and to delineate raised catch basins and other hazards.
- 6.b) 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.
- 6.c) Traffic Cones less than 42 inches in height shall not be used on limited-access roadways or on non-limited access roadways with a posted speed limit of 45 mph and above.
- 6.d) Typical spacing of traffic drums and/or cones shown on the Traffic Control Plans in the Contract are maximum spacings and may be reduced to meet actual field conditions as required.

SECTION 7. USE OF (REMOTE CONTROLLED) CHANGEABLE MESSAGE SIGNS (CMS)

- 7.a) For lane closures on limited access roadways, one CMS shall be used in advance of the traffic control pattern. Prior to installing the pattern, the CMS shall be installed and in operation,

displaying the appropriate lane closure information (i.e.: Left Lane Closed - Merge Right). The CMS shall be positioned ½ - 1 mile ahead of the lane closure taper. If the nearest Exit ramp is greater than the specified ½ - 1 mile distance, than an additional CMS shall be positioned a sufficient distance ahead of the Exit ramp to alert motorists to the work and therefore offer them an opportunity to take the exit.

- 7.b) CMS should not be installed within 1000 feet of an existing CMS.
- 7.c) On non-limited access roadways, the use of CMS for lane closures is optional. The roadway geometry, sight line distance, and traffic volume should be considered in the decision to use the CMS.
- 7.d) The advance CMS is typically placed off the right shoulder, 5 feet from the edge of pavement. In areas where the CMS cannot be placed beyond the edge of pavement, it may be placed on the paved shoulder with a minimum of five (5) traffic drums placed in a taper in front of it to delineate its position. The advance CMS shall be adequately protected if it is used for a continuous duration of 36 hours or more.
- 7.e) When the CMS are no longer required, they should be removed from the clear zone and have the display screen cleared and turned 90° away from the roadway.
- 7.f) The CMS generally should not be used for generic messages (ex: Road Work Ahead, Bump Ahead, Gravel Road, etc.).
- 7.g) The CMS should be used for specific situations that need to command the motorist's attention which cannot be conveyed with standard construction signs (Examples include: Exit 34 Closed Sat/Sun - Use Exit 35, All Lanes Closed - Use Shoulder, Workers on Road - Slow Down).
- 7.h) Messages that need to be displayed for long periods of time, such as during stage construction, should be displayed with construction signs. For special signs, please coordinate with the Office of Construction and the Division of Traffic Engineering for the proper layout/dimensions required.
- 7.i) The messages that are allowed on the CMS are as follows:

<u>Message No.</u>	<u>Frame 1</u>	<u>Frame 2</u>	<u>Message No.</u>	<u>Frame 1</u>	<u>Frame 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	WORKERS ON ROAD	REDUCE SPEED
4	2 LEFT LANES CLOSED	REDUCE SPEED	12	WORKERS ON ROAD	SLOW DOWN
5	RIGHT LANE CLOSED	MERGE LEFT	13	EXIT XX CLOSED	USE EXIT YY
6	2 RIGHT LANES CLOSED	MERGE LEFT	14	EXIT XX CLOSED USE YY	FOLLOW DETOUR
7	RIGHT LANE CLOSED	REDUCE SPEED	15	2 LANES SHIFT AHEAD	USE CAUTION
8	2 RIGHT LANES CLOSED	REDUCE SPEED	16	3 LANES SHIFT AHEAD	USE CAUTION

For any other message(s), approval must be received from the Office of Construction prior to their use. No more than two (2) displays shall be used within any message cycle.

SECTION 8. USE OF STATE POLICE OFFICERS

- 8a) State Police may be utilized only on limited access highways and secondary roadways under their primary jurisdiction. One Officer may be used per critical sign pattern. Shoulder closures and right lane closures can generally be implemented without the presence of a State Police Officer. Likewise in areas with moderate traffic and wide, unobstructed medians, left lane closures can be implemented without State Police presence. Under some situations it may be desirable to have State Police presence, when one is available. Examples of this include: 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.
- 8b) Once the pattern is in place, the State Police Officer should be positioned in a non-hazardous location in advance of the pattern. If traffic backs up beyond the beginning of the pattern, then the State Police Officer shall be repositioned prior to the backup to

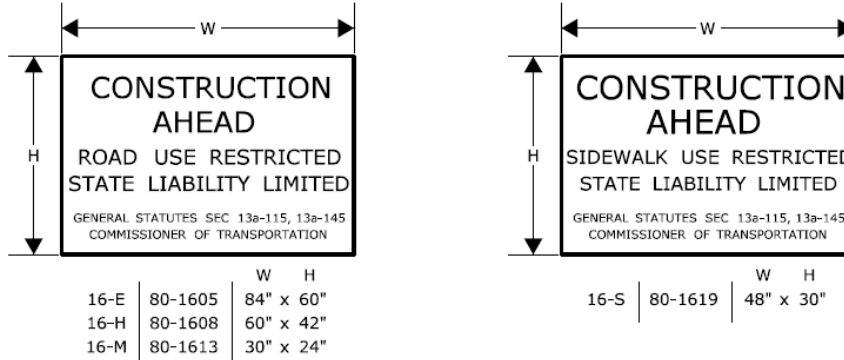
give warning to the oncoming motorists. The State Police Officer and TMA should not be in proximity to each other.

8c) Other functions of the State Police Officer(s) may include:

- Assisting entering/exiting construction vehicles within the work area.
- Enforcement of speed and other motor vehicle laws within the work area, if specifically requested by the project.

8d) State Police Officers assigned to a work site are to only take direction from the Engineer.

SERIES 16 SIGNS



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

THE LOCATION OF SERIES 16 SIGNS CAN BE FOUND ELSEWHERE IN THE PLANS OR INSTALLED AS DIRECTED BY THE ENGINEER.

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

SIGN 16-E SHALL BE USED ON ALL EXPRESSWAYS.

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

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

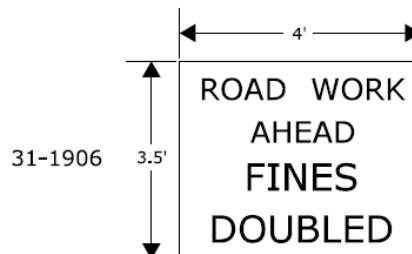
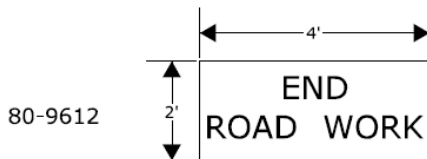
REGULATORY SIGN "ROAD WORK AHEAD, FINES DOUBLED"

THE REGULATORY SIGN "ROAD WORK AHEAD FINES DOUBLED" SHALL BE INSTALLED FOR ALL WORK ZONES THAT OCCUR ON ANY STATE HIGHWAY IN CONNECTICUT WHERE THERE ARE WORKERS ON THE HIGHWAY OR WHEN THERE IS OTHER THAN EXISTING TRAFFIC OPERATIONS.

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.

"END ROAD WORK" SIGN

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



SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN
REQUIRED SIGNS

NOTES FOR TRAFFIC CONTROL PLANS

1. IF A TRAFFIC STOPPAGE OCCURS IN ADVANCE OF SIGN (A), THEN AN ADDITIONAL SIGN (A) SHALL BE INSTALLED IN ADVANCE OF THE STOPPAGE.
2. SIGNS (AA), (A), AND (D) SHOULD BE OMITTED WHEN THESE SIGNS HAVE ALREADY BEEN INSTALLED TO DESIGNATE A LARGER WORK ZONE THAN THE WORK ZONE THAT IS ENCOMPASSED ON THIS PLAN.
3. SEE TABLE 1 FOR ADJUSTMENT OF TAPERS IF NECESSARY.
4. IF THIS PLAN REMAINS IN CONTINUOUS OPERATION FOR MORE THAN 36 HOURS, THEN TRAFFIC DRUMS SHALL BE USED IN PLACE OF TRAFFIC CONES.
5. ANY LEGAL SPEED LIMIT 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 36 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 < 40 MPH).
8. IF THIS PLAN IS TO REMAIN IN OPERATION DURING THE HOURS OF DARKNESS, INSTALL BARRICADE WARNING LIGHTS - HIGH INTENSITY ON ALL POST-MOUNTED DIAMOND SIGNS IN THE ADVANCE WARNING AREA.
9. A CHANGEABLE MESSAGE SIGN SHALL BE INSTALLED ONE HALF 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' (55m)
35	250' (75m)
40	320' (100m)
45	540' (165m)
50	600' (180m)
55	660' (200m)
65	780' (240m)

METRIC CONVERSION CHART (1" = 25mm)

ENGLISH	METRIC	ENGLISH	METRIC	ENGLISH	METRIC
12"	300mm	42"	1050mm	72"	1800mm
18"	450mm	48"	1200mm	78"	1950mm
24"	600mm	54"	1350mm	84"	2100mm
30"	750mm	60"	1500mm	90"	2250mm
36"	900mm	66"	1650mm	96"	2400mm

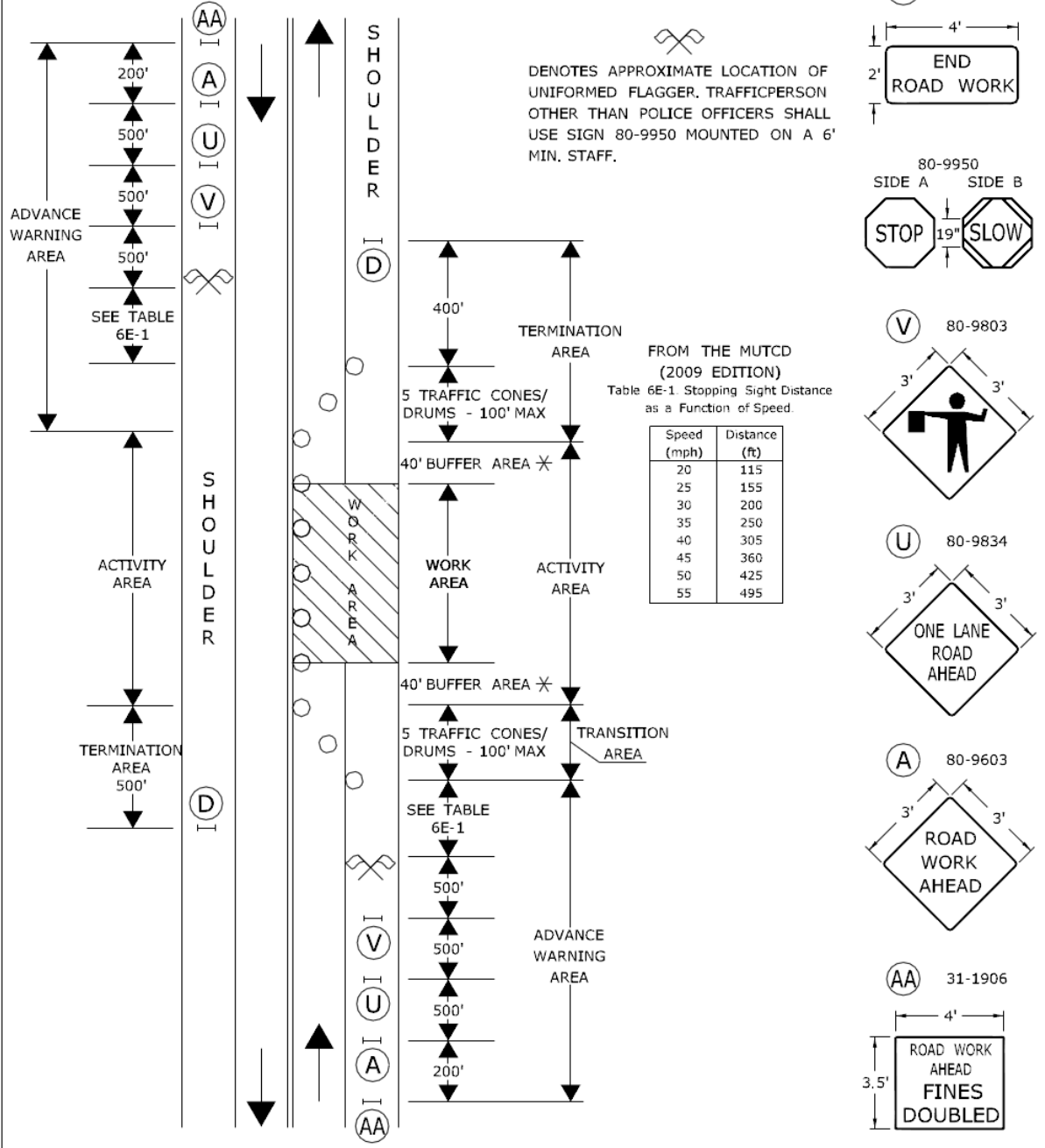


SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN NOTES

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



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
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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

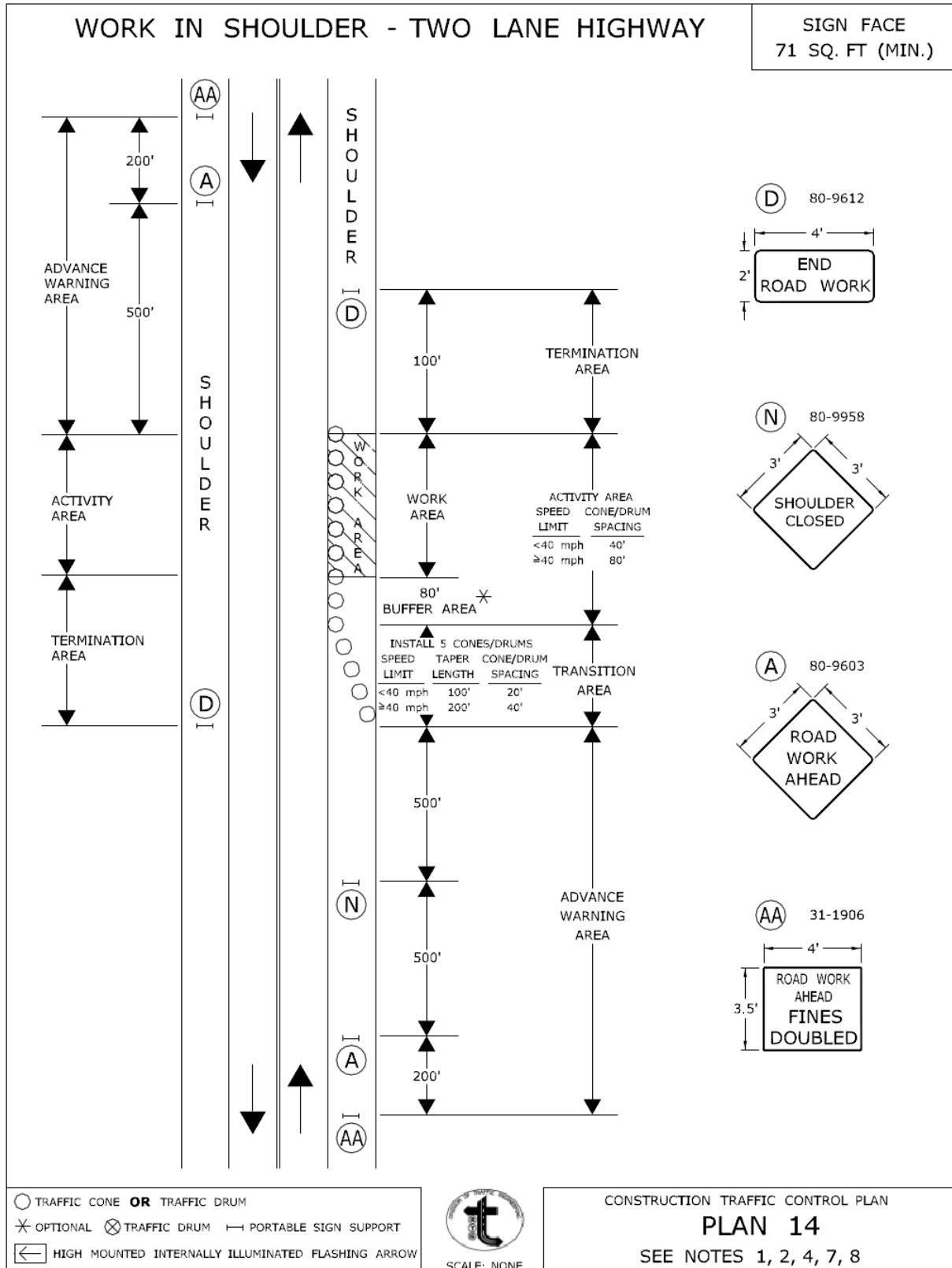


SCALE: NONE

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

CONNECTICUT DEPARTMENT OF TRANSPORTATION
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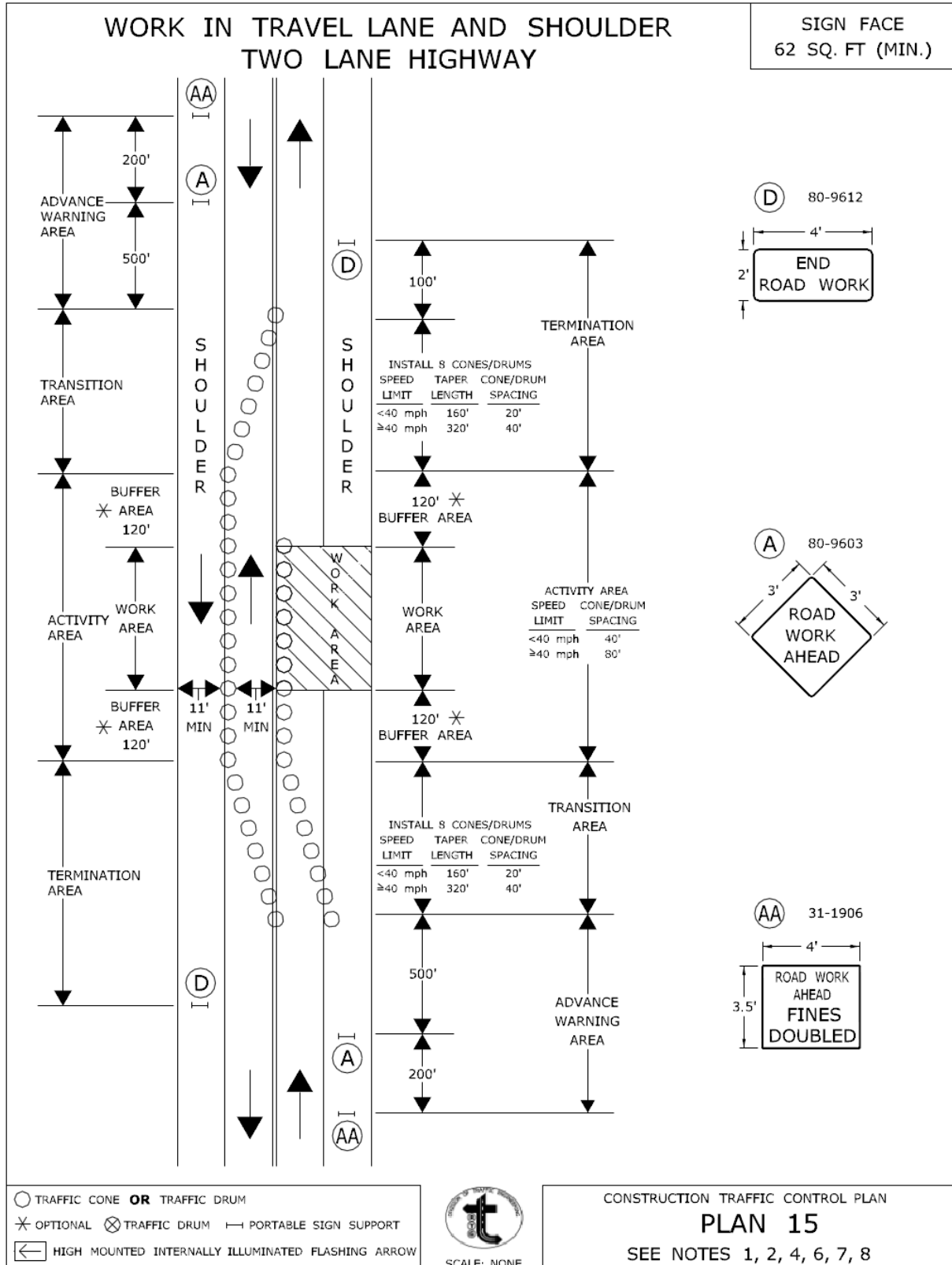
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PRINCIPAL ENGINEER
Charles S. Harlow
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○ TRAFFIC CONE **OR** TRAFFIC DRUM
 ✱ OPTIONAL ⊗ TRAFFIC DRUM — PORTABLE SIGN SUPPORT
 ◀ HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW



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



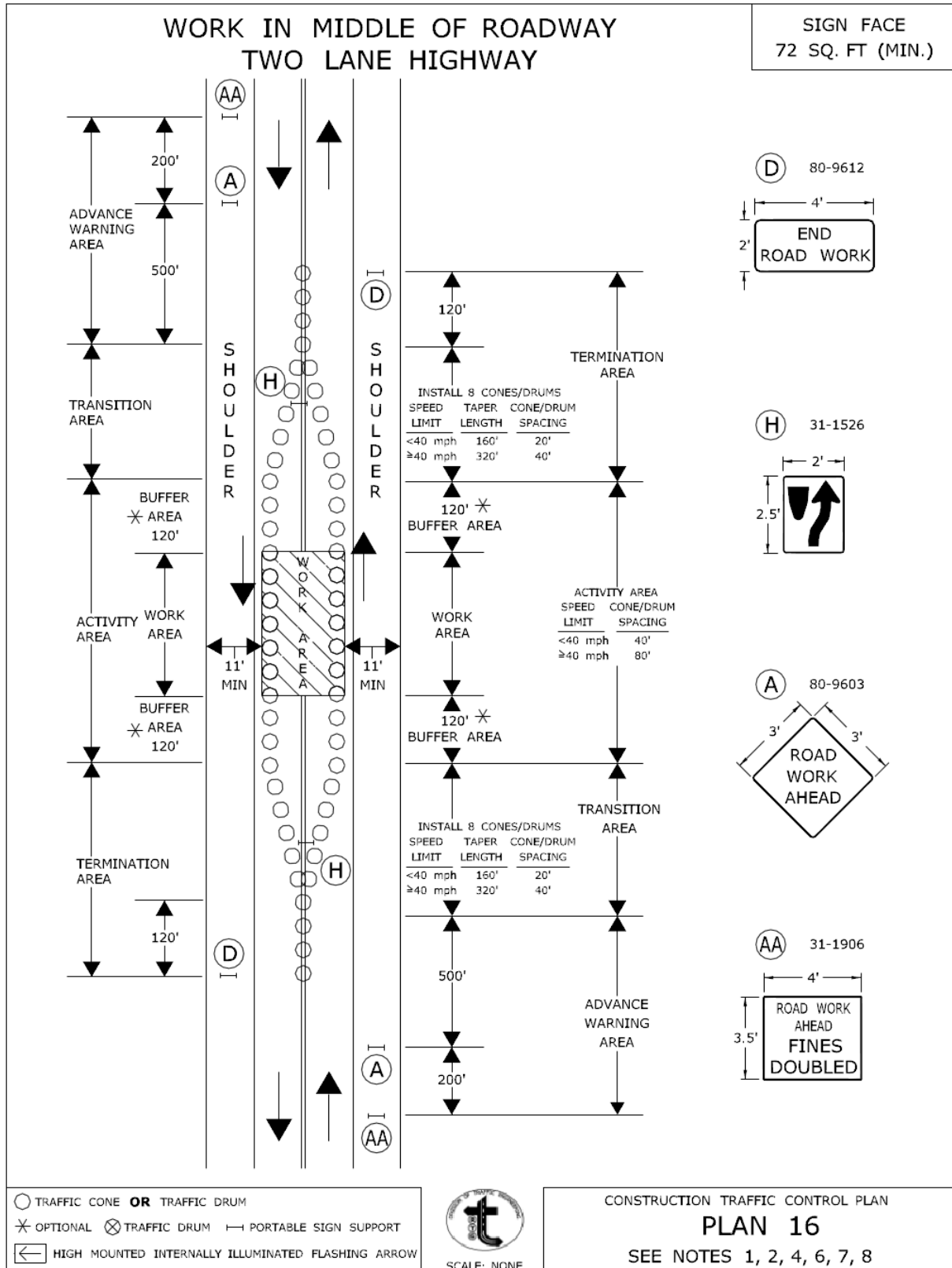
- TRAFFIC CONE **OR** TRAFFIC DRUM
- ✱ OPTIONAL ⊗ TRAFFIC DRUM — PORTABLE SIGN SUPPORT
- ← HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW



CONSTRUCTION TRAFFIC CONTROL PLAN
PLAN 15
SEE NOTES 1, 2, 4, 6, 7, 8

CONNECTICUT DEPARTMENT OF TRANSPORTATION
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PRINCIPAL ENGINEER



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.”

<u>Pay Item</u>	<u>Pay Unit</u>
Maintenance and Protection of Traffic	L.S.